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Conservation  
Directory

2017



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# The Building Conservation Directory 2017

*24th edition*

A guide to specialist suppliers, consultants and craftspeople in traditional building conservation, refurbishment and design

# CATHEDRAL COMMUNICATIONS

THE BUILDING CONSERVATION DIRECTORY  
The Twenty-fourth Edition of the Directory

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Tel 01747 871717  
Fax 01747 871718  
Email [info@buildingconservation.com](mailto:info@buildingconservation.com)  
[www.buildingconservation.com](http://www.buildingconservation.com)

## MANAGING DIRECTOR

Gordon Sorensen

## EXECUTIVE EDITOR

Jonathan Taylor

## MARKETING DIRECTOR

Elizabeth Coyle-Camp

## DEPUTY EDITOR

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## PRODUCTION CO-ORDINATOR

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## ADMINISTRATION

Lydia Porter

## ADVERTISING DEPARTMENT

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## TYPESETTING & DESIGN

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# The Building Conservation Directory

*The Building Conservation Directory* provides specifiers of works to historic buildings, their contents and surroundings a starting point in the search for appropriate products and services and expert advice. Approximately 1,000 different companies and organisations are represented in this edition.

The many technical editorial articles are written by leaders in this field and cover a wide range of important issues. The articles are not intended to be comprehensive but rather to raise awareness and stimulate dialogue amongst those involved with old buildings. Other reference information points the way on current legislation, continuing education and sources for further information and advice.

## HOW TO FIND WHAT YOU NEED

- 1 The table of contents on page 5 together with the products and services index and the specialists index at the back should help you find the product, service or supplier you are looking for. Products/Services Selector tables, listing suppliers and their products and services head up each main section.
- 2 Follow the index or Selector table page reference to the appropriate section or company and start the selection process. It may be helpful to contact more than one supplier. And please remember to tell each that you found them in *The Building Conservation Directory*.
- 3 If you still can't find what or who you need, don't despair. You can visit our industry leading website at [www.buildingconservation.com](http://www.buildingconservation.com) or ring us on 01747 871717 and we'll try to put you in touch with a supplier who can help.

All suppliers in the Directory pay a fee to be included and although Cathedral Communications does not formally approve or recommend them we do screen out inappropriate suppliers and products to maintain the established integrity of the Directory. This ensures that it remains a useful and credible forum in which appropriate suppliers can promote their businesses. Directory users should seek more detailed information and advice from suppliers before undertaking any sensitive project.

We are always looking for ideas to improve the Directory so please write to let us know if you have any suggestions for improvements to its content or presentation which will help you in your work with old buildings. And don't forget, our website at [www.buildingconservation.com](http://www.buildingconservation.com) is the primary internet gateway to the building conservation and restoration industry and offers loads of supplier and technical information. You'll also find the Directory in its entirety on the website as a flipping-page digital book, one more way to access the useful information it contains. Please see page 185 of this edition for more information on the website, or why not click in to have a look for yourself?

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# Foreword

**WE ARE CLEARLY** entering a period of significant uncertainty, and opportunity. At the time of writing, the implications of the referendum vote to take the United Kingdom out of the European Union remain unclear but while discussions are ongoing the building conservation sector must seize the opportunity to make our case for the contributions we make, not only to the economy, but to social and cultural wellbeing. Built Environment Forum Scotland (BEFS), like our counterpart Heritage Alliance, fulfils an advocacy role for the historic environment and with its members takes this message to all levels of government.

The built environment is a physical record of historical change across the centuries. Among other things, it tells of the changing relationships of the home nations, the influence of global migration on what was built and how it was built, the impact of (de-)industrialisation and changes in social structure. Importantly, it is often the local, idiosyncratic built environment that makes people feel 'at home', rooted and connected to places they care about passionately. The companies and organisations listed in this directory help maintain that connection by providing specialist products and services to help protect what makes places special, from expansive landscapes to the fine details of material choices.

It is crucial for the sector to make sure that the legislative protections we currently enjoy are not diminished. In times of economic uncertainty there can be a push towards relaxing these protections to stimulate economic activity in the short term while overlooking the economic benefits of building maintenance and the value of the embodied carbon and social value contained within existing buildings. There are also opportunities we must take within the changing legislative landscape, possibly none greater than to equalise the rate of VAT between maintenance of existing buildings and the construction of new ones.

BEFS takes a people-focussed approach to our built heritage, recognising its value in terms of social engagement and wellbeing. Empowering communities can achieve positive results at a time of public sector retrenchment. But if communities are to assume greater responsibility in relation to the conservation of historic buildings, we must ensure that they are able to access the resources and expert support they need – that's where *The Building Conservation Directory* comes into play as a vital resource for everyone in the sector.

In changing times, it is important that the building conservation sector makes its voice heard in the political arena and BEFS and its members will be working hard in 2017 to ensure that it is.



Graeme Purves  
Chair  
Built Environment Forum Scotland



*Discussing heritage and diversity at Built Environment Forum Scotland's 2016 conference*





The architectural practice of 5th Studio Ltd in a converted warehouse in Camden, London  
(Photo: Jonathan Taylor)

# Chapter 1

## Professional services

# 1 PROFESSIONAL SERVICES

PROFESSIONAL SERVICE PROVIDERS	Pg	Design Services	Survey & Investigation	Development Services	SCOTLAND	NORTH	WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST	EU
A K S Ward Lister Beare	39		st									
A R P Anthony Richardson & Partners	13	ar		cm qs								
A R P L Architects	13	ar	po	cm qs								
Aaron Evans Architects Ltd	13	ar ud	hi ms	cm pc				W H				
Acanthus Clews Architects Ltd	14	ar id	hi po su	cm hs								
Adrian Cox Associates	39		st									
AECOM (Building Engineering)	39		ae st su	cm hs pc								
Andrew's Building Conservation Ltd	33	ar ud	he ms su	cm da hs								
Anthony Short and Partners LLP	13	ar id	he ms su									
Antony Gibb Ltd	27	id	po su									
Archaeology South-East	36		ae dn hi ms po									
Architectural Archaeology	26		ae he									
The Architectural History Practice Limited	27		hi po									
Armour Heritage Ltd	27		ae he po									
Arrol & Snell Ltd	13	ar	ae he ms po su									
Arte Conservation	164		pa									
Artemis Heritage	27		po									
Atelier Heritage	28	ar	hi po									
B D P	13	ar	st su	pc qs								
B E A M S Ltd	28		po									
Bailey Partnership	33		su	cm								
Barton Engineers Ltd	39		st									
Bates Zambelli	13	ar id ud	hi	cm pc								
Beacon Planning Ltd	23	ud	hi po	lg pc								
Blackett-Ord Conservation Limited	39	ar	hi st su									
Bosence & Co	33		su	cm								
Bosence Building Conservation	28		ma nd									
Britain & Co Ltd	155		pa									
Brundell Woolley Limited	35			qs								
Building Research Establishment Ltd	28		he ma									
Built Heritage Consultancy	28		hi po									
Butler Hegarty Architects Ltd	13	ar								L		
C T P Consulting Engineers	39		st su									
Carden & Godfrey Architects	14	ar id	po									
Caroe & Partners	15	ar	ae hi po									
Caroe Architecture Ltd	14	ar	he									
Carthy Conservation Ltd	97		ma pa po									
Catalina Architecture Ltd	14	ar										
Catherine Woolfitt Associates Ltd	28		ae he po su									
Cavendish Bloor	35			qs								
Chalk Down Lime Ltd	140		ma									
Chedburn Dudley	14	ar	hi ms po su					W H L				
Chilcroft Ltd	29	ud	hi po	pc								
Chris Reading & Associates	151			fs						H		
Christopher Rayner Architects	14	ar id	he ms po	cm pc								
Cliveden Conservation Workshop Ltd	36		he ma pa									
Collins & Curtis Masonry Ltd	97			cm								
Conisbee	39		st su									
Conservation Architecture & Planning	15	ar ud	po	pc								
Conservation Building Services Ltd	52		pa									
Conservation PD Ltd	15	ar ud		ed em						L		
The Conservation Studio	29	ud	hi po	pc								
Court Design and Conservation	33		he hi ms su									
Crane & Associates	14	ar							H			
Cube Property Surveyors & Architects	33	ar	he ms po su	cm da em hs								
Curtins	39		he st									
D B R Conservation	155	id	he pa									

PROFESSIONAL SERVICE PROVIDERS	Pg	Design Services	Survey & Investigation	Development Services	SCOTLAND	NORTH	WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST	EU
Donald Insall Associates Ltd	15	ar id	he hi ms po	cm fs pc								
Eastern Heritage Restorations	54		su	cm								
The English Listed Building Company	15	ar		cm pc								
Exova BM TRADA	33		he nd st su tt									
Feilden & Mawson LLP	15	ar id	hi po su	cm								
Ferguson Mann Architects	15	ar ud	po	pc								
Ferrey and Mennim Chartered Architects	16	ar										
Floydconsult	143		he ma su tt					W				
Fothergill	40		st									
Frazer Stannard Ltd	125	ar		cm pc								
G L S Architects	16	ar										
Gaches Plasterwork	170	id										
Giles Quarme & Associates	16	ar	hi po su	pc								
Gilmore Hankey Kirke Ltd	16	ar id	po	cm								
Hall & Ensom Chartered Building Surveyors	33	ar	ms su	cm qs				W H L				
Harding Bond Property Consultants	34		po su	pc								
Hare & Humphreys Ltd	156		pa									
Hartigan	40		he hi ms nd po st su tt	cm ed hs pc								
Hawkes Edwards & Cave	17	ar										
Helen Hughes Historic Interiors Research & Conservation	158	id	hi pa po									
Heritage Project Contracts	112		he po	cm								
Heritage Project Management	32		he po	cm								
Heritage Surveys Limited	34	ar	ms po su	cm								
Heritage Testing Ltd	36		ma nd pa									
Hibbs and Walsh Associates	17	ar						H				
Hirst Conservation Ltd	29	ar	ae ma pa po									
Historic Building Advisory Service	29		ae hi ms po su	pc								
Historic Metalwork Conservation Company Ltd	112		he po									
Hockley & Dawson Consulting Engineers Ltd	40		po st							S		
Huntley Cartwright	35			cm qs								
Hurst Peirce & Malcolm LLP	40		st									
Hutton + Rostrom Environmental Investigations Limited	30		dn he nd su tt	cm								
Ingram Consultancy Limited	30	ar	he ma po su									
James Brennan Associates	36		ms pe ph su									
James Dunnett Architects	17	ar										
Jane Jones-Warner Associates	17	ar id	hi	aa								
John C Goom Architects	17	ar										
Johnston and Wright	17	ar id ud	su	cm hs								
Jonathan Rhind Architects	17	ar id	he									
Julian Harrap Architects LLP	18	ar id	hi su									
Kathryn Sather & Associates	30		hi po									
Knox-McConnell Architects Ltd	18	ar						Y				
L U C	23	ud	po	ed pc								
Lathams	18	ar ud										
Lendlease Consulting (EMEA) Ltd	32	ar	su									
Lloyd Evans Prichard	17	ar	po su	cm				W H				
M O L A (Museum of London Archaeology)	26		ae hi ms ph po									
M R D A	19	ar id	he hi po su							L		
Mann Williams	40		st su	hs								
Manorwood	43		he hi ms po su tt	aa pc								

PROFESSIONAL SERVICE PROVIDERS	Pg	Design Services	Survey & Investigation	Development Services	SCOTLAND	NORTH	WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST	EU
Marbas	40		st							H		
Martin Ashley Architects	18	ar id	he hi po su	cm da					H			
Martin Thomas Associates Limited	151			fs								
Maybank Buildings Conservation	34		hi po su	cm em						H		
Messenger	158		pa									
Mildred, Howells & Co	35			qs								
The Morton Partnership Ltd	40	ar	st su							L		
N G M Surveys LLP	36		ms su									
Nicholas Jacob Architects	18	ar										
Nicholson Price Associates	34		he po su			W	W					
Nick Cox Architects	18	ar										
Nye Saunders Chartered Architects	19	ar		da								
Oculus Building Consultancy Ltd	30		su	fs								
Lisa Oestreicher	135		pa									
Oliver West and John Scott Architects Limited	18	ar							H	LH		
Owlsorth I J P	58	ar	he ma	cm								
P C A Consulting Engineers	40		st su	cm hs								
P D P Green Consulting	18	ar ud	ma po st	cm da hs pc								
P P I Y Ltd	20	ar	hi ms nd po su	aa da hs								
P W P Architects	20	ar		cm pc								
Pegasus Group	23		po	ed pc								
Peregrine Bryant LLP	20	ar id										
Peter Codling Architects	20	ar	su									
Peter Rogan & Associates Limited	20	ar						E				
Philip Hughes Associates	34	ar	he su									
Priory Heritage Ltd	31		he ms su	cm						L		
Purcell	20	ar id	hi su	aa pc								
R Hilton & Co Ltd	30		pe su	cm pc								
R M A Heritage	31	ud	hi po	pc								
Radley House Partnership Ltd	20	ar										
Recclesia Ltd	31		he									
Rees Bolter Architects	21	ar						E				
Richard Crooks Partnership	21	ar id		cm		Y						
Richard Griffiths Architects Ltd	20	ar	po	cm da								
Richard Ireland Plaster & Paint	172		he pa									
Robert Kilgour Architects Ltd	21	ar										
Robin Kent Architecture & Conservation	21	ar	ae hi ms po su	da hs								
Rodney Melville + Partners	21	ar	he po	cm pc								
Roger Mears Architects	21	ar	he									
Ian Russell	40		nd st su									
S F K Consulting	40		st									
Sawyer & Fisher	35			cm qs		WY						
Scott and Twine LLP	22	ar id ud	he	aa cm								
Scottish Lime Centre Trust	177		he ma									
Smith & Garratt	34		he ms nd su	lg								
St Ann's Gate Architects LLP	22	ar	he hi po su	da								
Stone Central (NW) Ltd	102		ms su									
Stone Edge Limited	104		ma									
Stonewest Limited	61		he hi ma ms nd pa pe po su	cm								
Stride Treglown Ltd	32	ar	po su									
Studio Astragal Ltd	32		po	pc								
Synergy Bare Leaning & Bare	36			cm hs qs								
Szerelme Conservation	103		ma									
T R A C Structural Ltd	144		st				W		L			
Taylor Pearce Restoration Services Limited	104	id										
Topp & Co	114		he									
Turley Heritage	32	ud	po	pc								
Verity & Beverley	21	ar							L			
W R Dunn & Co Ltd	35	ar	po su	cm hs								

PROFESSIONAL SERVICE PROVIDERS	Pg	Design Services	Survey & Investigation	Development Services	SCOTLAND	NORTH	WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST	EU
Watson Bertram & Fell Ltd	22	ar	su									
Weald & Downland Open Air Museum	23		hi									
West Waddy ADP LLP	22	ar ud	po	cm hs lg pc						H		
Whitworth	22	ar	su	lg pc				E		LH		
Robin Wolley Chartered Architect	22	ar										
Woodhall Planning and Conservation Ltd	32	ar ud	hi po	pc								

**KEY PROFESSIONAL SERVICES**

Design services	
ar	architects
id	interior designers & consultants
ud	urban designers
Survey & investigation	
ae	archaeologists
dn	dendrochronology
he	heritage science & technology
hi	historical researchers
ma	materials analysis
ms	measured surveys
nd	non-destructive investigations
pa	paint research & analysis
pe	photogrammetry
ph	photographic services
po	conservation plans & policy consultants
st	structural engineers
su	surveyors
tt	structural timber testing
Development services	
aa	architectural technicians
cm	project management
da	access audits
ed	environmental consultants
em	estate management
fs	fire safety consultants
hs	health & safety
lg	legal services
pc	planning consultants
qs	quantity surveyors

**KEY REGION CODES**

Region codes		
North of England	N	Cumbria, Durham and counties to the north
	W	North West
	Y	Yorkshire and the Humber
Midlands	E	East Midlands
	W	West Midlands
East	E	East Anglia
	H	Northern Home Counties
South East	L	Greater London
	H	Southern Home Counties
South West	S	Berks, Hants and Oxfordshire
	W	Glos, Wilts, Dorset and counties to the west

A full key to the two-character codes used in the product/ service selector tables which appear throughout the *Directory* can be found on our website at: [www.buildingconservation.com/home/pscodes.htm](http://www.buildingconservation.com/home/pscodes.htm)

# BARNNS

Use, reuse and misconceptions

BOB EDWARDS



*A Grade II listed barn in West Felton, Shropshire, currently undergoing residential conversion*

**M**OST PROFESSIONALS working in building conservation will have at one time or another been involved in the conversion of farm buildings, particularly barns. Wherever they work, conservation professionals should be familiar with the local variations in form, such as the large threshing barns of the south east and East Anglia, or bank barns in the north west, which were built into the hillside so they could be accessed from two levels. A variation on the bank barn can also be found in the south west where crop storage and threshing was combined with cattle housing. In some areas where there was extensive rebuilding of farmsteads in the mid- to late 19th century, the barn was reduced to little more than a room in a range where machinery was used to thresh the grain crops.

Although there is often great interest in farm buildings, there can also be a surprising lack of awareness and understanding of the development and features of traditional farm buildings. From experience, there is sometimes a rather simplistic view of what a barn was and how it should be converted.

A farmer in the Welsh Marches lamented to a heritage consultant the difficulty he had with his local conservation officer over the conversion of his barn. He had wanted more first floor space and windows to the upper storey, but this had not been permitted and he had been encouraged to use a large existing opening for light. The heritage consultant examined the building, then in the process of being converted, and quickly identified it as a nationally rare example of a 17th-century timber-framed cow house. The building would have been floored end to end and with a series of pitching doors along the front elevation, and had been converted for crop storage by removing the loft floor. Originally, the large opening would not have existed, and had been created more recently to allow machinery to access the building.

Through insufficient assessment and understanding of the origins of the building (and the fault for this lies with all parties involved) we now have a 17th-century cow house converted to residential use but made to look like a threshing barn. From any

perspective this has to be regarded as a poor outcome which could easily have been avoided.

Historic England's farmsteads and landscape character statements, which have already been published for large parts of the country (and are soon to be completed), aim to give an overview of the various building types and their features that might be expected in a particular area. Awareness of what one might find on a farmstead is important – not knowing what to look for obviously makes finding it problematic.

This article will focus on threshing barns, examining some of the smaller features of their construction and evidence for original uses or reuse which is not always identified and thus may not be considered in assessments of significance or proposals for conversion. It is hoped that this brief study will make clear that more frequent use should be made of recording of buildings prior to conversion, so that whether these features are concealed or removed by the development, a publicly accessible record will be available for present and future researchers.

## UNDERSTANDING FORM AND FUNCTION

The most obvious function of the barn was to store the grain crop and process it by beating small quantities of the crop with a flail to shake the grain out from the ears. This process took place on the threshing floor, usually, but not always, lit by large double door openings to both sides. Whereas it was common for barns to have floors of beaten earth, the threshing floor needed to be more durable. The large double doors to either side do not always indicate that carts were driven through the threshing bay to unload but often this was the case (if not, the cart would be backed out) and so the threshing floor had to withstand vehicles and horses passing over it as well as threshing. Threshing floors were usually formed in stone flags, timber boards or brick, timber being recommended by some agricultural writers in the late 18th and early 19th centuries as it was considered less likely to bruise the grain.

Today, many barns have had their historic floors replaced or at least covered with concrete to facilitate modern machinery, but occasionally evidence for traditional threshing floors survives and so has evidential value. The distinction between the threshing floor and other parts of the floor of the barn could easily be incorporated into conversion schemes, reflecting the distinct use of this part of the barn.

Once threshed, the loose grain had to be separated, initially from the stalks and then from the chaff, through a process known as winnowing. While a sufficient quantity of grain was built up through threshing, the grain and chaff mix collected after each round of threshing could be stored in corn holes. These features are most often found in aisled barns where the temporary storage area would be created by forming boarded walls to the aisle section of the bay adjacent to the threshing floor. An alternative form of storage was to create a raised floor area where the sacks of grain could be stored while awaiting winnowing, the raised floor keeping the grain off the floor and out of the immediate reach of rodents. The form of construction of such features may give them a rather ad hoc appearance and they are easily mistaken for later additions of little note. As a result, such features are increasingly rare and their presence should be at least adequately recorded, even if conversion cannot retain them in the new use.

Historically, crop storage and threshing were, however, rarely the sole purpose of barns. Before the 18th century, the barn was probably the largest working building on the farmstead, and in many cases it would have been the only working building. As such, it would be pressed into performing many functions. In some areas there is evidence to show that barns which now stand as a single space open to the roof, were in fact subdivided, sometimes with floored bays defining areas that could serve as cattle housing and stables with haylofts. It has been shown in the Weald of Kent and Sussex that this was a common arrangement in the medieval period and into the 17th century.



*Brick threshing floor*



*Stave holes for wattle and daub infill panels*

Some early barns in Hampshire also show a similar multi-functional arrangement in their primary form. Clearly, when considering the possibilities of reuse, the evidence for such subdivision and flooring is of high significance and is contrary to the belief sometimes encountered that barns were always single spaces open to the roof.

The evidence for partitions or floors can be slight; in timber framed buildings it may be some void mortises in the soffit of the tie beam or mortises in the inward faces of principal posts. Such evidence, if identified, may easily be dismissed as signs of the reuse of timbers from earlier buildings rather than evidence of the original form of the host building. In one large Hampshire barn formed by two linked barns set at right angles to each other, one of the barns incorporated a three-bay structure that was evidently fully floored in its original form and had been reused to form an aisled barn. This earlier framed building, possibly a 17th-century or earlier stable, was probably of greater interest than the barn range (which was otherwise cobbled together with bits of

other buildings) because pre-18th-century farm buildings other than barns are relatively uncommon. It did, however, guide the proposals for conversion in terms of where to insert upper floors within the barn.

The removal of partitions from early multi-functional barns may have been associated with increasing yields or expansion of the arable area being farmed, with new purpose-built structures being erected for cattle in particular, sometimes within lean-to structures built against the sides or ends of the barn, bringing the original barn structure into a single-function use.

## FURTHER EVOLUTION

Barns in many parts of the country show that at some stage there has been a local shift away from arable agriculture towards pastoral farming. Former barns in the Peak District, for example, had their threshing doors blocked up when they were converted to animal housing. This was sometimes associated with the development of regional specialisation or in response to market



Sliding grille to cattle housing



An apotropaic or witches' mark: intended to ward off witches and evil spirits, they typically consist of circles, arcs, crosses or the letter 'M' to signify the Virgin Mary

conditions, as in the chalklands of central southern England in the late 19th century when the sheep and corn farming systems came under heavy economic pressure due to plummeting wheat and wool prices.

In some cases farmers responded to this by attempting to increase production of corn, ploughing up the downland and replacing the massive sheep flocks, which had for centuries maintained the fertility of the soil, with cattle housed in fold yards, sometimes created as 'outfarms' in the downland some distance from the main farmsteads. Here the manure from the cattle would be trampled with the straw to be used as fertiliser on the fields. However, some farmers responded to the challenging market conditions by diversifying into dairying, particularly producing liquid milk which at that time was not threatened by cheap imports. This change resulted in a large number of barns finding a new use as cow houses and milking parlours.

The evidence for this change of use may only be tethering irons to show that cattle were

stalled in the building. Occasionally timber partitions forming the stalls survive but, as with most cattle housing, these fittings are increasingly rare. What significance do we now put on the evidence for the cow house phase of a barn's history? From experience, it is an aspect which architects, owners or conservation officers have little interest in either retaining or recording.

#### WALL COVERINGS AND INFILL

In the case of timber-framed barns, walls covered by horizontal weatherboarding are a common sight. However, before the 18th century this form of boarding was not universal. Barns of 17th-century date in the Weald are known to have had wattle and daub infill panels at least to the upper panels of the barn, leaving the framing exposed as is more common in some areas such as the West Midlands.

Vertically set boarding is also known. In a Hampshire barn dated to 1296–1304 the boards were set into a groove in the underside of the wall plate, while a cruck barn of 1441 had vertical boarding set into a rebate around the external edges of the framing. A small amount of this vertical boarding, nailed into place, survives in the gable end of the latter barn which was extended, so preserving a small fragment of this early boarding on what became an internal wall. Similarly, where aisles or later lean-tos have been added to barns, early wall cladding can survive.

#### APOTROPAIC MARKS AND GRAFFITI

It can be easy to forget just how differently the occupants of, for example, 17th-century houses would have viewed some aspects of their world, particularly in regard to superstitions and customs.

For some there was a real and tangible fear of witchcraft and people would take preventative action to ward off witches and other evil spirits from their homes and buildings important to their livelihoods. Apotropaic marks in farm buildings provide important evidence of attitudes to dealing

with risks that were perceived as real. Many apotropaic marks are circles – singular, decreasing within each other, or in the familiar petal pattern. Others use arcs, crosses and the letter 'M' to signify the Virgin Mary. This aspect of the lives of rural folk and their approach to securing their homes, animals and crops deserves greater attention.

Alongside apotropaic marks, the importance of historic graffiti is perhaps now being given a greater level of significance than it has in the past and Historic England has produced guidance on recording historic graffiti. Occasionally, inscriptions or dates relating to the construction of barns are found but more commonly one finds initials, sometimes with dates, being carved or written by children living on the farm. In some cases these initials and dates can be identified. Tallies and records of crops can also be found.

Such graffiti, particularly that recording names, has historic and evidential value as it probably provides the only surviving physical link to these individuals. The conservation and recording of apotropaic marks and graffiti should be carefully considered in proposals for alterations and reuse.

#### VITAL EVIDENCE

Once the principle of converting a barn to an alternative use, whether residential or commercial, is agreed upon, it has been accepted that there will be a level of change to ensure that the building can serve its new use as sustainably as possible. Inevitably, some historic fabric will be concealed from view and some lost. The point at which planning permission and, where required, listed building consent is granted for a conversion scheme is likely to be the last time the barn will be available for study as a historic farm building (although during building works more of the fabric may be exposed for examination).

While the concept of recording to create an archive which will be available to future researchers is a standard process in archaeology, it is still, sadly, an approach which some in building conservation seem unwilling to embrace. Coming from an archaeological background, it is difficult to understand why there is such resistance to securing an appropriate written, drawn and photographic record of a building before and during its transition to a new use that may at least obscure important evidence for the foreseeable future.

The application of a condition to secure a programme of building recording must be regarded as best practice and is fully supported by Historic England's guidance on the levels of recording that are industry standard. It is up to conservation and planning officers to ensure that best practice and appropriate standards are applied and upheld so that we can extract as much information as possible from these fascinating buildings to add to and build upon the knowledge and understanding we already have and, perhaps, to allow those who follow to ask new questions of these buildings.

**BOB EDWARDS** is a director of **Forum Heritage Services**.

## ARCHITECTS

■ **A R P ANTHONY RICHARDSON AND PARTNERS**

31 Oval Road, London NW1 7EA  
Tel 020 7485 0991 Fax 020 7482 4622  
Email [mail@arparchitects.co.uk](mailto:mail@arparchitects.co.uk)  
[www.arparchitects.co.uk](http://www.arparchitects.co.uk)

ARCHITECTS, QUANTITY SURVEYORS, PROJECT MANAGERS, PRINCIPAL DESIGNERS: A R P Anthony Richardson and Partners offers a service for the repair and alteration of old buildings and sites. The practice has wide experience in surveying, specifying and managing building works and projects throughout the UK.

■ **A R P L ARCHITECTS**

11 Wellington Square, Ayr, Scotland KA7 1EN  
Tel 01292 289777 Fax 01292 288896  
Email [office@arpl.co.uk](mailto:office@arpl.co.uk)  
[www.arpl.co.uk](http://www.arpl.co.uk)

CONSERVATION ARCHITECTS: The firm has a long tradition of conservation works to historic buildings and scheduled ancient monuments. ARPL is currently handling a wide variety of projects throughout Scotland, from Orkney to Galloway and throughout the Western Isles involving structures which date from the 12th to 20th centuries. Clients include the Church of Scotland, NTS, BPTs, local and national authorities along with private individuals. The firm maintains close working relationships with specialist engineers, archaeologists, conservators and consultants. Rebecca Cadie and Patrick Lorimer have attained RIAS conservation accreditation with Rebecca Cadie accredited at an advanced level.

■ **AARON EVANS ARCHITECTS LTD**

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Tel 01225 466234  
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[www.aaronevans.com](http://www.aaronevans.com)

ARCHITECTS: Aaron Evans Architects Ltd is an award-winning practice based in Bath and working throughout the South and West of England and Wales. Established 38 years, the practice has specialist experience of repairs to listed buildings, enabling development, conversion to new uses, sustainable refurbishment and the careful design of new buildings for the historical environment. A full range of services is offered from measured surveys and feasibility studies to contract administration, urban regeneration and master planning. Clients include the Duchy of Cornwall, Bath Preservation Trust, St John's Hospital, local authorities, private individuals and companies.

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Email [architects@acanthusclews.co.uk](mailto:architects@acanthusclews.co.uk)  
[www.acanthusclews.co.uk](http://www.acanthusclews.co.uk)

CONSERVATION ARCHITECTS AND HISTORIC BUILDING CONSULTANTS:  
*See also: display entry in this section, page 14.*

■ **ANTHONY SHORT AND PARTNERS LLP**

34 Church Street, Ashbourne, Derbyshire DE6 1AE  
Tel 01335 340890 Fax 01335 300624  
Email [info@asap-architects.com](mailto:info@asap-architects.com)  
[www.asap-architects.com](http://www.asap-architects.com)

Partner Mark Parsons BA, BArch, RIBA, AABC, IHBC

CONSERVATION ARCHITECTS: Established in 1966, Anthony Short and Partners specialises in conservative repair and reuse of historic buildings. The firm's client list includes private individuals, church and cathedral bodies, trusts, societies, country estates and local authorities. It is currently appointed architect for some 130 churches, including Grade I and II\*, in two dioceses, and has successfully completed numerous church reorderings and repairs. Secular work includes sympathetic listed building repair and refurbishment, conversions and extensions, surveys and feasibility and conservation studies. CAD facilities are used where appropriate. Client satisfaction and attention to detail are the highest priorities.

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[www.arrolandsnell.co.uk](http://www.arrolandsnell.co.uk)

ARCHITECTS: Over 30 years experience of high-end conservation work and challenging new-build developments in historic settings. Major schemes include those at Chester Cathedral and York Minster. Clients include English Heritage, many historic buildings preservation trusts, local authorities and private bodies. Services offered include building and landscape design, grant applications, feasibility studies, building surveys and historical research.

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■ **BATES ZAMBELLI**

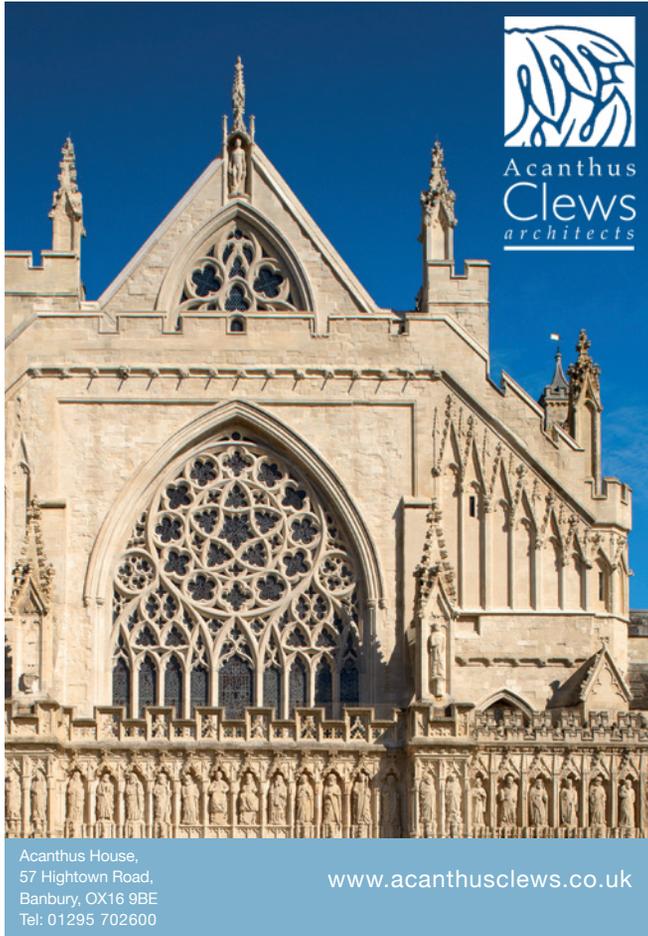
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ARCHITECTS, PLANNING AND HISTORIC BUILDING CONSULTANTS, PROJECT MANAGERS AND SAFETY CONSULTANTS: Bates Zambelli designs high quality, innovative buildings and offers conservation, architecture and urban design. The company believes the interrelationship of building and setting is important and that the historic fabric of our towns and countryside is precious. With extensive experience from medieval to 20th century buildings including churches, country houses and listed secular public buildings, Bates Zambelli undertakes feasibility studies, historic research, conservation management plans, sympathetic repairs, extension and remodelling of listed buildings and new design in a historic context. It also offers in-house planning consultancy, development advice and CDM consultancy. Sherry Bates is AABC registered.

■ **BUTLER HEGARTY ARCHITECTS LTD**

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[www.butlerhegartyarchitects.co.uk](http://www.butlerhegartyarchitects.co.uk)

ARCHITECTS: Butler Hegarty Architects Ltd is an award winning practice with over twenty years' experience in conservation, ranging from small-scale alterations to Grade I listed buildings, through to the assessment and repair of large complex historic structures. The practice prioritises careful consideration of clients' needs and complements this with a thorough understanding of their buildings and the craft techniques used to create them. Gary Butler is AABC accredited, and is an RIBA Specialist Conservation Architect.



**Acanthus Clews architects**

Acanthus House,  
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[www.acanthusclews.co.uk](http://www.acanthusclews.co.uk)

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Ian Angus Dip Arch RIBA AABC  
Andy Burrell BSc BArch RIBA AABC  
Email [mail@cardenandgodfrey.co.uk](mailto:mail@cardenandgodfrey.co.uk)  
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ARCHITECTS: Specialists in all aspects of historic architecture: conservation, repairs, new buildings in sensitive sites, sympathetic alterations and additions, interior design and landscape design. Sound technical knowledge with a scholarly approach to historic detail and innovative design. Clients include Worcester College, Historic Royal Palaces, City of London, Beverley Minster, English Heritage, churches, developers and private clients, on projects ranging from small to large.

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CONSERVATION ARCHITECTS AND HISTORIC BUILDING CONSULTANTS: Caroe Architecture Ltd, with studios in Cambridge and London, is dedicated to the care and conservation of historic places and the creation of innovative new buildings. Oliver Caroe is Surveyor to the Fabric of St Paul's and Ripon cathedrals and in 2016, Mark Hammond joined this dedicated team with expertise in conservation and cultural buildings. Successful HLF funding applications include major projects for the Norris Museum, St Ives, and St Marylebone, London. Delivering accomplished projects for small and large clients, including Oxbridge Colleges (New College and St John's) Landmark Trust and the National Trust.

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[www.craneassociates.com](http://www.craneassociates.com)

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[www.catalinaarchitecture.co.uk](http://www.catalinaarchitecture.co.uk)  
Contact Rory Wilson RIBA IHBC

ARCHITECTS: Catalina Architecture has extensive experience in conservation and conversion projects, including the sensitive reuse of listed buildings. The practice's projects combine contemporary design with respect for historic buildings and structures to meet the expectations of 21st century users. Please refer to the company's website.

■ **CHEDBURN DUDLEY**

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Tel 01225 859999 Email [chedburn@chedburn.com](mailto:chedburn@chedburn.com)  
[www.chedburn.com](http://www.chedburn.com)

CONSERVATION ARCHITECTS: Chedburn Dudley aims to produce imaginative, sensitive and environmentally-aware design solutions, set within the historic built environment. The practice's work covers the conservation, restoration, alteration and refurbishment of historic buildings that require a specific set of skills and rigorous attention to detail. With over 40 years experience across a broad spectrum of projects, Chedburn Dudley offers an approachable alternative to the larger practices in this field.

■ **CHRISTOPHER RAYNER ARCHITECTS**

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Tel 01732 461806  
Email [info@raynerarchitects.co.uk](mailto:info@raynerarchitects.co.uk)  
[www.raynerarchitects.co.uk](http://www.raynerarchitects.co.uk)

Principal Christopher Rayner BA MArch(California) RIBA  
CHARTERED ARCHITECTS: Christopher Rayner Architects is a small architectural practice specialising in all aspects of work to churches and other historic buildings. Projects have included conservation, repairs and sympathetic alterations/extensions to Wealden hallhouses, post-medieval domestic buildings, barns, churches and buildings at risk.

## ARCHITECTS continued



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[www.caroe.co.uk](http://www.caroe.co.uk)

■ **CONSERVATION ARCHITECTURE & PLANNING**

Wey House, Standford Lane, Headley, Hampshire GU35 8RH  
Tel 01420 472830 Email [jack@capstudios.co.uk](mailto:jack@capstudios.co.uk)  
[www.capstudios.co.uk](http://www.capstudios.co.uk)  
Contact Jack Warshaw BArch DipTP AADipCons ARB RIBA (SCA) RTPI  
IHBC FRSA RPUDG  
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■ **CONSERVATION PD LTD**

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Tel 020 7096 1504 Fax 020 7841 7482 Mobile 07789 988484  
Email [elenimakri@conservationpd.com](mailto:elenimakri@conservationpd.com)  
[www.conservationpd.co.uk](http://www.conservationpd.co.uk)

CONSERVATION PLANNING AND DESIGN: The practice offers comprehensive and AABC accredited conservation architect expertise which has achieved national awards. Services include the repair and re-use of listed buildings, sensitive designs in conservation areas, the appraisal, management and regeneration of the historic environment, buildings at risk, grants, listed building consent applications, appeals and energy saving measures.

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Email [london@feildenandmawson.com](mailto:london@feildenandmawson.com)

[www.feildenandmawson.com](http://www.feildenandmawson.com)

ARCHITECTS, HISTORIC BUILDINGS CONSULTANTS, PROJECT MANAGERS: Feilden+Mawson believes in the necessity of preserving the integrity of our built heritage and sites, and in the importance of keeping them alive and relevant by balancing conservation issues with sustainability. The practice's knowledge of historical conservation methods and materials informs its work in like-for-like repairs, conservation and restoration. This technical expertise, commercial acumen and experience in all statutory matters underpins Feilden+Mawson's approach to adaptation and the design of new buildings in historic sites. Key clients include: the Parliamentary Estate, Cabinet Office, Portman Estate, British Academy, Honourable Society of Gray's Inn and Ministry of Justice.

■ **FERGUSON MANN ARCHITECTS**

6 King Street, Bristol BS1 4EQ  
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Email [info@fm-architects.co.uk](mailto:info@fm-architects.co.uk)

[www.fm-architects.co.uk](http://www.fm-architects.co.uk)

DESIGN AND CONSERVATION ARCHITECTS: Ferguson Mann's conservation team has a national reputation for its passionate commitment to safeguarding the long-term future of our heritage. Rigorous historical and technical assessment informs its problem solving and design work. Intellectual issues are balanced with aesthetic, practical and economic considerations to deliver projects with enhanced environmental, social and economic benefits, whilst maintaining cultural values. The practice undertakes both large and small projects, but with its unique expertise of master planning, architecture and conservation it has a particularly strong track record in dealing with difficult heritage sites. Individual members of the conservation team are accredited (AABC and RIBA SCA).

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### ■ FERREY AND MENNIM CHARTERED ARCHITECTS

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York YO10 5DG

Tel 01904 561533

Email info@ferreyandmennim.co.uk

www.ferreyandmennim.co.uk

DESIGN AND CONSERVATION ARCHITECTS AND HISTORIC BUILDING

CONSULTANTS: Since 1922 Ferrey and Mennim has been one of the foremost conservation practices in the North of England. The practice has worked from Orkney to Cambridge providing the full scope of architectural services. These projects range from intricate solutions for the repair and alteration of complex historic buildings to the skilful design of one-off new buildings. They are the architects for St Magnus' Cathedral, Hull Minster and over 100 churches throughout the York, Leeds, and Sheffield dioceses, for which the practice carries out quinquennial inspections, repairs and improvements. Ferrey and Mennim is also experienced in the education and high quality residential sectors. ARB, RIBA, RIAS, AABC architects.

### ■ G L S ARCHITECTS

1 Dock Road, Royal Victoria Dock, London E16 1AH

Tel 020 7404 1000

Email enquiries@glsarchitects.co.uk

www.glsarchitects.co.uk

ARCHITECTS: GLS Architects' 40 years of experience working within conservation areas and on listed buildings throughout the country includes the Grade II Royal Hotel (1792) on the cliffs, Southend-on-Sea, Grade I 47 Belgrave Square, the Grade II 105 Piccadilly and Ford Place in Essex. The practice received a Civic Trust Award for the restoration of Grove House Farm in Malton, Yorkshire. Finding new profitable uses for these buildings is the firm's special talent which has paid dividends for both buildings and owners. GLS Architects' experience is to propose enabling development to allow restoration to happen, which follows Historic England's Enabling Development and the Conservation of Significant Places.

### ■ GILES QUARME & ASSOCIATES

7 Bishops Terrace, London SE11 4UE

Tel 020 7582 0748

Email mail@quarme.com

www.quarme.com

CONSERVATION ARCHITECTS AND PLANNING CONSULTANTS:

The team is led by Giles Quarme SCA AABC with his associates Natasha Brown and Julian Cripps who are architects, designers and historians with considerable planning experience. The practice has worked on a wide variety of historic buildings and prides itself on providing the same care and attention to the repair of small historic buildings as for large country mansions. It provides solutions combining modern innovation and design with traditional conservation methods. Responsible for the Princess Diana Museum at Althorp, advising Foster & Partners on the British Museum, other projects include Chilham Castle, Hawksmoor's St Mary Woolnoth, Wren's St Edmund, King & Martyr, Royal Naval College Greenwich, Bentley Priory, Gibbs' Building, King's College Cambridge and the Royal Mausoleum at Frogmore. See also: display entry on this page.

### ■ GILMORE HANKEY KIRKE LTD (GHK ARCHITECTS)

Contact Richard Young

Tel 020 7471 8000

Email richard.young@ghkarchitects.co.uk

www.ghkarchitects.co.uk

ARCHITECTS AND CONSERVATION SPECIALISTS: Based in London and Hampshire, GHK Architects has an extensive track record in the conservation, repair, refurbishment and re-use of listed and historic properties as well as the design of new buildings for sensitive and historic sites in the UK and abroad. Experience includes the conversion into luxury apartments of an historic warehouse building in Moscow; refurbishment of barristers chambers within the historic Inns of Court; remodelled and extension of historic houses for private clients and work for Historic Royal Palaces and Royal Parks. Awards include the RICS Conservation Award, to Richard Young for his work on Lulworth Castle, Dorset.

## ARCHITECTS continued

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CHARTERED ARCHITECTS AND HISTORIC BUILDING CONSULTANTS: Shaping the future and caring for the past; Hawkes Edwards & Cave believes in creative and conservative repair. The practice is design led, with long experience and award-winning conservation projects. Work includes repair and extension, alteration and reuse, churches, development and conversion for farms and country estates, new houses and sustainable buildings. The practice is especially skilled in providing bespoke design solutions and handling sensitive and difficult planning and listed building consent applications.

## ■ HIBBS AND WALSH ASSOCIATES LIMITED

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[www.hibbsandwalsh.co.uk](http://www.hibbsandwalsh.co.uk)

Contact Mike Hibbs ARB, Janet Hayes ARB, Sebastian Walsh BSc Arch ARCHITECTS: Hibbs and Walsh Associates Limited is an architects' practice based in Saffron Walden, an area which has the highest concentration of listed buildings in Essex. Its work ranges from sensitive renovation and extension of the many 17th century timber framed houses in the area to the more unusual projects involving conservation and repair; amongst others a medieval dovecote, an Elizabethan hunting lodge and a locally listed 1960s church. Other work includes new projects in conservation areas and advising on sustainability and the reuse of listed buildings.

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Tel 020 7833 3451 Email [info@jamesdunnettarchitects.com](mailto:info@jamesdunnettarchitects.com)

[www.jamesdunnettarchitects.com](http://www.jamesdunnettarchitects.com)

Contact James Dunnett MA Dipl Arch (Cantab) RIBA

CHARTERED ARCHITECT: Experienced in the conservation, extension, and improvement of 18th, 19th and 20th century houses, listed social housing and church projects. Winner of Kensington and Chelsea Environment Award for Restoration and Conversion 1994, SPAB and Twentieth Century Society member, past chair of DOCOMOMO-UK.

## ■ JANE JONES-WARNER ASSOCIATES

Duncannons, Stansted House, Stansted Park, Rowlands Castle, Hampshire PO9 6DX

Tel 02393 190065 Email [jane@janejoneswarner.com](mailto:jane@janejoneswarner.com)

[www.janejoneswarner.com](http://www.janejoneswarner.com)

Chichester office Tel 01243 767151

DESIGN AND CONSERVATION ARCHITECTS: Jane Jones-Warner RIBA SCA AABC IHBC is an architect accredited in building conservation. The team specialises in all aspects of work to historic buildings including churches, museums, monuments, stately homes, farm buildings and many private houses. The practice's work involves Grade I, Grade II\* and Grade II listed buildings as well as some unlisted in historic settings. Jane Jones-Warner and Laurence Hall take pride in a contemporary approach to design using traditional materials and have won awards for a particular type of approach and detailing.

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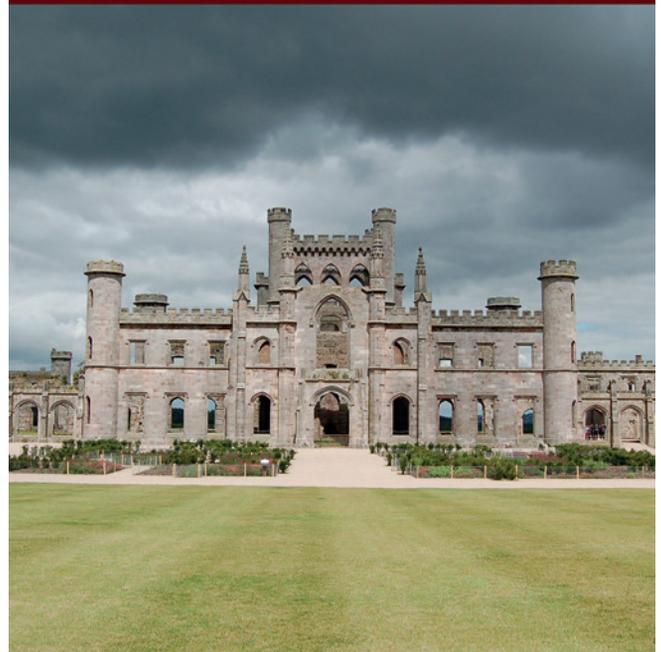
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ARCHITECTS AND HISTORIC BUILDING CONSULTANTS: The practice has wide experience in conservation, repair and adaptation of historic buildings and the sensitive design of new buildings in historic settings. John C Goom Architects has built a reputation for working in urban and rural environments with active projects throughout the Midlands and the South of England. Work ranges from large conservation projects to small domestic works and includes repair and conservation of churches, country houses, adaptation and extension of many listed properties and redundant buildings as well as new buildings in historic settings. Please visit the website or telephone to discuss your project.

## LLOYD EVANS PRICHARD



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## ■ JOHNSTON AND WRIGHT

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Tel 01228 525161 Fax 01228 515559

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[www.jwarchitects.co.uk](http://www.jwarchitects.co.uk)

CHARTERED ARCHITECTS: Founded in 1885, award-winning Johnston and Wright has an extensive track record in repair, restoration, conservation and alteration of historic buildings and their surroundings utilising practical experience of traditional building materials and innovative contemporary design. Conservation plans, feasibility studies, design proposals, maintenance, repair and development management. Alastair McGregor is AABC accredited.

## ■ JONATHAN RHIND ARCHITECTS

The Old Rectory, Shirwell, Barnstaple, Devon EX31 4JU

Tel 01271 850416

■ Coach House, Rumwell Hall, Taunton, Somerset TA4 1EL

Tel 01823 462300

Email [architects@jonathan-rhind.co.uk](mailto:architects@jonathan-rhind.co.uk)

[www.jonathan-rhind.co.uk](http://www.jonathan-rhind.co.uk)

CONSERVATION ARCHITECTS: Award-winning practice specialising in the sensitive repair and reuse of historic and listed buildings. With studios in Devon and Somerset, Jonathan Rhind Architects has over 30 years' experience working on some of the South West's finest, ancient and interesting buildings as well as providing high-quality innovative designs for new buildings on challenging sites. Led by four AABC and RIBA conservation accredited architects, the team works from initial design brief to project completion and also has the expertise to advise on surveys, feasibility and planning to whole, complex projects.

■ **JULIAN HARRAP ARCHITECTS LLP**

95 Kingsland Road, London E2 8AG

Tel 020 7729 5111

Email [admin@julianharraparchitects.co.uk](mailto:admin@julianharraparchitects.co.uk)

[www.julianharraparchitects.co.uk](http://www.julianharraparchitects.co.uk)

DESIGN AND CONSERVATION ARCHITECTS: Julian Harrap Architects is a specialist practice offering a range of architectural services for the repair and restoration of historic buildings and for new buildings in an historic context. Established in 1975, the practice has a reputation for scholarly and innovative conservation with attention to fine detail. Clients include the Neues Museum, Berlin, the National Trust, English Heritage, the Royal Academy of Arts and Sir John Soane's Museum. The practice has received several national and international awards including nomination and success at the 2010 RIBA Stirling Awards for its projects at the Neues Museum, the Medieval Galleries at the V&A and The Monument, London.

■ **KNOX-McCONNELL ARCHITECTS LTD**

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Tel 01274 773388

Email [info@knoxmcconnell.com](mailto:info@knoxmcconnell.com)

[www.knoxmcconnell.com](http://www.knoxmcconnell.com)

HISTORIC BUILDINGS AND ACCREDITED SPECIALIST CONSERVATION ARCHITECTS (AABC): Knox McConnell Architects provides specialist architectural conservation services for individuals and organisations responsible for historic buildings. Its design expertise and vision provides solutions that make sense of historic sites and make them work in the context of changing client requirements.

■ **LATHAMS**

12 St Mary's Gate, Derby DE1 3JR

Tel 01332 365777

■ Knight & Whitehall House, 4 Carlton Street, Nottingham NG1 1NN

Tel 0115 828 0422

Email [enquiries@lathamarchitects.co.uk](mailto:enquiries@lathamarchitects.co.uk)

[www.lathamarchitects.co.uk](http://www.lathamarchitects.co.uk)

ARCHITECTS, PLANNERS AND URBAN DESIGNERS: Lathams is a specialist in: the repair, conservation and creative reuse of listed buildings; the design of new buildings in historic environment; and the production of area based historic assessment work. Services provided by RIBA, AABC and SCA registered architects and RTPI and IHBC registered planners and heritage consultants include; heritage assessments, heritage impact assessments, historic area assessments, conservation and maintenance plans, statements of significance, phasing and master plans, repair schedules/production information and grant applications.

■ **MARTIN ASHLEY ARCHITECTS**

46-48 London Road, Twickenham TW1 3RJ

Tel 020 8948 7788

Email [enquiries@ma-arch.co.uk](mailto:enquiries@ma-arch.co.uk)

[www.ma-arch.co.uk](http://www.ma-arch.co.uk)

CONSERVATION ARCHITECTS AND SURVEYORS: Martin Ashley Architects provides a full range of architectural and surveying services to assist owners, occupiers and custodians of historic buildings and estates towards their conservation, repair, adaptation, alteration, change and development for ongoing beneficial use in the 21st century. The range of buildings within the practice's portfolio has allowed it to develop significant expertise in historic building conservation design and techniques over many years. On site, Martin Ashley Architects takes great pride in encouraging close collaboration with others such as conservationists and specialist trades - an approach that allows project partners to learn from each other and bring their best to each project. RIBA, ARB, AABC, RICS. *See also: display entry in this section, page 19.*

■ **NICHOLAS JACOB ARCHITECTS**

89 Berners Street, Ipswich, Suffolk IP1 3LN

Tel 01473 221150

Email [nicholas.jacob@njarchitects.co.uk](mailto:nicholas.jacob@njarchitects.co.uk)

[www.njarchitects.co.uk](http://www.njarchitects.co.uk)

ARCHITECTS: The practice specialises in the repair and conservation of historic buildings. Sensitive alterations or extension of ecclesiastical and secular buildings, condition surveys and quinquennial inspections, working mainly in East Anglia and London; creating imaginative design solutions for sensitive locations. The practice is a RIBA chartered practice with AABC, RIBA and CIAT conservation accreditation professionals.

■ **NICK COX ARCHITECTS**

77 Heyford Park, Upper Heyford, Oxfordshire OX25 5HD

Tel 01869 238092 Fax 01869 238001

Email [info@nickcoxarchitects.co.uk](mailto:info@nickcoxarchitects.co.uk)

[www.nickcoxarchitects.co.uk](http://www.nickcoxarchitects.co.uk)

ARCHITECTS: Nick Cox Architects combines experience and expertise in conservation with an enthusiasm for new design. The practice comprises a team of architects and technical staff. As well as working on new buildings in historic contexts, it advises on architectural matters for Blenheim Palace, Woburn Abbey, the National Trust, Wells and Winchester Cathedrals and the Churches Conservation Trust. The practice adopts a creative approach to finding appropriate solutions to construction and design challenges.

■ **OLIVER WEST AND JOHN SCOTT ARCHITECTS LIMITED**

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Email [studio@westscottarchitects.co.uk](mailto:studio@westscottarchitects.co.uk)

[www.westscottarchitects.co.uk](http://www.westscottarchitects.co.uk)

ARCHITECTS: Architects experienced in sensitive repair and imaginative alteration of historic buildings and design of new buildings in sensitive locations. Clients include churches in the dioceses of London, Exeter, Bath and Wells and others, Church Commissioners and private clients. The restoration of landscape buildings and new café building at Hawkstone Park won a Civic Trust Award and Europa Nostra Diploma. Experienced in working with private clients on domestic projects and in communicating with Historic England and conservation organisations. The firm is committed to providing a personal and practical approach, and high quality design. John Scott is an Architect Accredited in Building Conservation (AABC).

■ **P D P GREEN CONSULTING**

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Email [reception@pdpgreen.co.uk](mailto:reception@pdpgreen.co.uk)

[www.pdpgreen.co.uk](http://www.pdpgreen.co.uk)

CHARTERED DESIGN AND CONSERVATION ARCHITECTS: An integrated architectural and engineering firm, the practice is involved in all aspects of building conservation, including repairs, alterations, extensions, design of new buildings in the context of historic buildings, and conversions to new uses. In addition to design services, the practice also undertakes condition surveys and feasibility studies. Conservation projects are led by a director with an MA in architectural conservation, whose experience covers all grades of listed buildings together with scheduled ancient monuments. Clients include the National Trust, Cornwall Buildings Preservation Trust, MoD, local authorities and private individuals. Roger Green is an AABC registered architect.

ARCHITECTS continued



Restoration of the roman cement parapet of the Blue Drawing Room at St Michael's Mount for the National Trust



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**MARTIN ASHLEY**  
**ARCHITECTS**

DESIGN AND CONSERVATION  
CONSULTANTS



Hampton Court Palace Base Court - Conservation Grand Finalist, RICS Awards 2016

Photograph: Historic Royal Palaces

Martin Ashley Architects are specialists in the field of conservation and regeneration of outstanding historic buildings and provide expertise in contemporary design for new buildings in historic contexts.

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Email: admin@rgarchitects.com  
Website: www.rgarchitects.com

Richard Griffiths Architects has an outstanding reputation for the creative and sustainable adaptation of historic buildings, providing new community uses and access for all, including Eastbury Manor, Southwark Cathedral, Lambeth Palace and St Pancras Hotel.

Richard Griffiths Architects also carries out conservation and development plans to map out a sustainable future for historic buildings and to form the basis for successful Heritage Lottery funding applications. The practice has been awarded RIBA, Civic Trust and Europa Nostra awards.

■ **P P I Y LIMITED**

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Tel 01904 623034  
Email post@ppiy.co.uk  
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CHARTERED CONSERVATION ARCHITECTS, SURVEYORS AND HISTORIC BUILDING CONSULTANTS: PPIY, founded in 1979, is an established architectural practice based in the historic City of York, working throughout the North of England. PPIY works in the heritage and conservation sectors, caring for existing buildings and is passionate about the built environment. The practice provides expertise in conservation, renovation, adaptation, re-ordering, intervention, extension and new build. For every commission, large or small, PPIY provides a service of the highest professional quality receiving the personal attention of one of the directors. RIBA ARB AABC architects. RICS BCAS surveyors. IMA PS CDM co-ordination.

■ **P W P ARCHITECTS**

Newnham House, 61 South Street, Havant,  
Hampshire PO9 1BZ  
Tel 023 9248 2494 Fax 023 9248 1152  
Email design@pwp-architects.com  
www.pwp-architects.com  
Contact Jeremy Sayer

ARCHITECTS AND PLANNING CONSULTANTS: Established in 1921 the practice handles the conservation, restoration and re-development of historic buildings in sites of special landscape interest, working with a broad range of conservators, landscape architects, archaeologists and environmentalists. PWP's clients use the firm repeatedly because it balances budget and time constraints against essential and urgent conservation needs. The practice has special expertise adapting and extending Grade I and Grade II buildings at risk, and negotiating viable new uses with English Heritage and the amenity societies. The practice carries out developments across the country and also undertakes feasibility studies and concept designs.

■ **PEREGRINE BRYANT LLP**

The Courtyard, Fulham Palace, Bishop's Avenue, London SW6 6EA  
Tel 020 7384 2111 Fax 020 7384 2112 Email info@peregrine-bryant.co.uk  
www.peregrine-bryant.co.uk

ARCHITECTURE AND BUILDING CONSERVATION: Peregrine Bryant LLP is an award winning practice that specialises in working with historic buildings and structures, conserving, refurbishing and adding to existing fabric. The practice also has proven skill designing and delivering new buildings. It offers full architectural services, in collaboration with trusted structural engineers and other specialists as necessary. Clients over the past 21 years include the National Trust, Landmark Trust (RICS Award 2016), Vivat Trust, Royal Hospital Chelsea (RIBA Award 2016), Crown Estate, as well as London clubs and private owners of historic buildings. Please see the practice's website for examples of past work.

■ **PETER CODLING ARCHITECTS**

7 The Old Church, St Matthews Road, Norwich, Norfolk NR1 1SP  
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■ **PETER ROGAN & ASSOCIATES LIMITED**

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Tel 0115 950 8047 Email email@pr-architects.net  
www.pr-architects.net

CONSERVATION ARCHITECTS: A growing architectural practice specialising in the conservation and development of historic buildings, church architects to over 100 Anglican churches, a significant number of Catholic churches and the Cathedral Church of St Barnabas in Nottingham. Specialists in the field of historic building conservation, mainly related to church and charity projects, experienced in and willing to provide architectural services for various construction projects including community initiatives, private dwellings and housing developments, commercial and other schemes.

■ **PHILIP HUGHES ASSOCIATES**

Old Manor Stables, Tout Hill, Wincanton, Somerset BA9 9DL  
Tel 01963 824240 Email info@pha-building-conservation.co.uk  
www.pha-building-conservation.co.uk

HISTORIC BUILDINGS CONSERVATION CONSULTANTS: *See also: profile entry in Surveyors, page 34.*

■ **PURCELL**

15 Bermondsey Square, London SE1 3UN  
Tel 020 7397 7171 Email info@purcelluk.com  
www.purcelluk.com Twitter @Purcelluk

ARCHITECTS, HERITAGE CONSULTANTS AND BUILDING SURVEYORS: For seven decades, Purcell has remained at the forefront of building conservation, working with some of the UK's most admired buildings and places. As architects, designers and heritage leaders, clients come to Purcell to help them make sense of complex scenarios involving historic sites, existing buildings and designing new structures and spaces. The practice provides expert guidance on the management and protection of listed buildings and sensitive sites, assessing and balancing historic significance against condition and vulnerability, working in collaboration with its clients and communities. *See also: display entry in this section, page 19.*

■ **RADLEY HOUSE PARTNERSHIP LTD**

Radley House, St Cross Road, Winchester, Hampshire SO23 9HX  
Tel 01962 842228 Fax 01962 842401  
Email architects@radleyhouse.co.uk  
www.radleyhouse.co.uk

CHARTERED ARCHITECTS AND HISTORIC BUILDING CONSULTANTS: AABC registered accredited architects. Founded in 1933. Expert in the conservation and adaptation of historic buildings, as well as new design in an historic context. Management plans. Clients include English Heritage, Historic Royal Palaces, local authorities, well-known country houses and their estates, churches and private clients.

## ARCHITECTS continued

## ■ REES BOLTER ARCHITECTS

New North House, 202 New North Road, London N1 7BJ  
Tel 020 7354 8347 Fax 020 7354 8366  
Email [mail@reesbolter.co.uk](mailto:mail@reesbolter.co.uk)  
[www.reesbolter.co.uk](http://www.reesbolter.co.uk)

CONSERVATION ARCHITECTS: Founded in 1989 the practice specialises in the conservation, repair and sensitive alteration of historic buildings and buildings in historic settings. Clients include the Churches Conservation Trust, many Anglican churches, the National Trust and many of the London boroughs.

## ■ RICHARD CROOKS PARTNERSHIP

14 Calverley Lane, Horsforth, Leeds LS18 4DZ  
Tel 0113 281 8080 Fax 0113 258 4070  
Email [info@rcparchitects.net](mailto:info@rcparchitects.net)  
[www.rcparchitects.net](http://www.rcparchitects.net)

RIBA CHARTERED PRACTICE: All conservation projects personally directed by Richard Crooks, AABC accredited since 1999 and member of IHBC, EASA and SPAB. Current projects encompass repairs, reorderings, alterations, extensions and conservation; including new use of redundant buildings. Condition surveys, quinquennial inspections and guidance regarding the ongoing care of historic buildings.

## ■ RICHARD GRIFFITHS ARCHITECTS LTD

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[www.rgarchitects.com](http://www.rgarchitects.com)

ARCHITECTS: See also: display entry in this section, page 20.

## ■ ROBERT KILGOUR ARCHITECTS LTD

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Tel 01299 409040  
Email [office@robertkilgour.co.uk](mailto:office@robertkilgour.co.uk)  
[www.robertkilgour.co.uk](http://www.robertkilgour.co.uk)  
Twitter @RKA\_Architects

ARCHITECT: The practice specialises in the repair and conservation of historic buildings. Clients include the Dean and Chapter of Lichfield Cathedral, Hereford Cathedral and Derby Cathedral, the Churches Conservation Trust, churches in the diocese of Worcester and the National Trust, working at Powis Castle and Sudbury Hall. Robert Kilgour is AABC registered.

## ■ ROBIN KENT ARCHITECTURE &amp; CONSERVATION

Newtown Street, Duns, Scottish Borders TD11 3AS  
Tel 01361 884401 Email [rk@robinkent.co.uk](mailto:rk@robinkent.co.uk)  
[www.robinkent.co.uk](http://www.robinkent.co.uk)

CONSERVATION ARCHITECTS: Robin Kent Architecture & Conservation specialises in works to listed buildings and scheduled monuments, from ruin stabilisation through conservation to exciting new designs that enhance historic settings, throughout Scotland and the north of England. The consultancy also carries out recording, research, conservation plans, character appraisals, quinquennial/condition surveys and defects investigations.

## ■ RODNEY MELVILLE AND PARTNERS

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■ 7 Unity Street, Bristol BS1 5HH  
Tel 0117 316 9451 Email [architects@rmpuk.com](mailto:architects@rmpuk.com)  
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CONSERVATION ARCHITECTS: See also: display entry on this page.

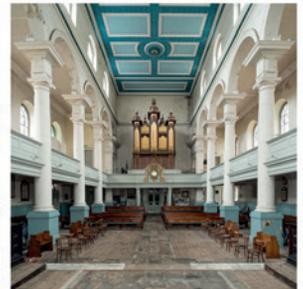
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[www.verity-beverley.co.uk](http://www.verity-beverley.co.uk)

CHARTERED ARCHITECTS AND DESIGNERS: The practice is experienced in the conservation, restoration and refurbishment of listed buildings, modern structures within historic environments, and architectural interior design.

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Email info@wrdunn.co.uk  
www.wrdunn.co.uk

CHARTERED BUILDING SURVEYORS, ARCHITECTS AND HISTORIC BUILDINGS CONSULTANTS: *See also: profile entry in Surveyors, page 35.*

■ **WATSON BERTRAM & FELL LTD**

5 Gay Street, Bath, Somerset BA1 2PH  
Tel 01225 337273

Email mail@wbf-bath.co.uk  
www.wbf-bath.co.uk

ARCHITECTS: Watson Bertram & Fell has an enviable reputation in the restoration and alteration of listed buildings and the creation of new buildings in conservation areas. The practice has a fine design team led by Mark Watson, experienced in designing innovative and traditional extensions and alterations to important listed buildings and new houses in highly sensitive areas. It also has widespread conservation experience founded on sound ecological principles, specialising in works to numerous historic buildings, whether small rural dwellings or grand mansions.

■ **WEST WADDY ADP**

The Malthouse, 60 East St Helen Street, Abingdon, Oxfordshire OX14 5EB

Tel 01235 523139 Fax 01235 521662

Email p.waddy@westwaddy-adp.co.uk  
www.westwaddy-adp.co.uk

ARCHITECTS, PLANNING AND CONSERVATION CONSULTANTS: West Waddy ADP is an experienced conservation practice with a long track record of successfully completed heritage projects. Originally founded in 1885, the company employs both an accredited AABC conservation architect and an IHBC conservation planner. The company's service includes conservation appraisals and heritage assessments; restoration and repair of listed buildings and scheduled ancient monuments; conservation and re-use schemes and energy conservation within historic structures. West Waddy ADP has won many awards for its work in the conservation sector and is familiar in dealing with English Heritage and the Heritage Lottery Fund. Contact Philip Waddy RIBA FRSA AABC.

■ **WHITWORTH**

18 Hatter Street, Bury St Edmunds, Suffolk IP33 1NE  
Tel 01284 760421 Fax 01284 704734

■ 1 The Close, Norwich NR1 4DH  
Tel 01603 626782

Email info@whitworth.co.uk  
www.whitworth.co.uk

Contact Matthew Stearn

CHARTERED ARCHITECTS AND SURVEYORS: Services include extensions and alterations to existing buildings, new build, surveys and defect analysis, conservation and repair of historic buildings, planning, party wall and expert witness appointments. Each project is approached with care and sensitivity, bringing together a range of expertise appropriate for the project. The partners, Philip Orchard (a Lethaby Scholar), Matthew Stearn and Mark Cleveland are chartered architects, and Tony Redman and Stephen Boniface are chartered surveyors. Philip Orchard, Tony Redman and Stephen Boniface are all conservation accredited.

■ **ROBIN WOLLEY CHARTERED ARCHITECT**

The Studio, Efenechtyd, Ruthin, Denbighshire LL15 1PW  
Tel 01824 703279 Fax 01824 705523

Email robin.wolley@btconnect.com

CHARTERED ARCHITECT AND HISTORIC BUILDINGS CONSULTANT: Accredited architect in building conservation. Extensive experience in the conservation, repair and regeneration of historic buildings. Quinquennial inspections, surveys, feasibility studies, Heritage Lottery Fund funded works. Listed building advice. Clients include dioceses of Bangor, Chester, Liverpool and St Asaph, United Reformed and Methodist churches. Surveyor to St Asaph Cathedral.



**ST. ANN'S GATE ARCHITECTS**





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St. Ann's Gate Architects has established a reputation over more than 30 years for award winning, imaginative design solutions within sensitive historic settings. The practice is responsible for the care of some of the country's most important historic buildings; existing clients include the National Trust, owners of listed buildings and those responsible for parish churches and cathedrals. Projects includes conservation and repair, adaptations, alterations and re-ordering of existing buildings and new building within a historic context.

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[www.landuse.co.uk](http://www.landuse.co.uk)

■ Branch offices in Bristol, Edinburgh and Glasgow

PLANNING CONSULTANTS: *See also: profile entry in Landscape Architects, page 131.*

■ **PEGASUS GROUP**

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Email [Cirencester@pegasuspg.co.uk](mailto:Cirencester@pegasuspg.co.uk)

[www.pegasuspg.co.uk](http://www.pegasuspg.co.uk)

PLANNING, DESIGN AND ENVIRONMENTAL CONSULTANCY:

Pegasus Group is an independent planning, design and environmental consultancy, comprising a focused team of professionals committed to securing success for clients. The service combines the personal commitment of staff with the best modern practices and resources. Pegasus Group acts for a large number of private and public clients advising on all aspects of the heritage sector including building analysis, impact assessments, architectural and landscape design and arboricultural services. The knowledge offered by a strongly resourced team of over 200 members of staff in the UK, also means the company is able to offer national coverage. *See also: display entry on this page.*

■ **SMITH & GARRATT**

The Guildhall, Ladykirk, Berwick-Upon-Tweed TD15 1XL

Tel 01289 382209 Mobile 0770 209 1626

Email [info@smithandgarratt.com](mailto:info@smithandgarratt.com)

[www.smithandgarratt.com](http://www.smithandgarratt.com)

PLANNING CONSULTANTS: *See also: display entry in Surveyors section, page 34.*

## ARCHITECTURAL HISTORIANS

■ **THE ARCHITECTURAL HISTORY PRACTICE LIMITED**

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Email [mail@architecturalhistory.co.uk](mailto:mail@architecturalhistory.co.uk)

[www.architecturalhistory.co.uk](http://www.architecturalhistory.co.uk)

ARCHITECTURAL HISTORY AND DOCUMENTARY RESEARCH: *See also: display entry and profile entry in Heritage Consultants, page 27.*

■ **WEALD AND DOWNLAND OPEN AIR MUSEUM**

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CONSERVATION SUPPLIES AND SERVICES: *See also: profile entry in Courses & Training, page 177.*

# HERITAGE PROTECTION IN THE UK

JONATHAN TAYLOR

**S**CHEDULED MONUMENTS and buildings which are listed or in conservation areas are protected by law throughout the United Kingdom, and it is a criminal offence to carry out certain works to them without the necessary consent. As conviction can lead to fines and even imprisonment, it is essential that owners, their contractors and consultants know what can and cannot be done without consent, and when it is necessary to seek specialist advice.

Although the controls protecting the historic environment differ in England, Northern Ireland, Scotland and Wales, the essence of the system remains the same. This article provides a brief guide to the key controls.

Applications for listed building consent (LBC) are generally made to the local planning authority and, if necessary, they are then referred to the statutory authority (Historic England, Northern Ireland's Department for Infrastructure, Historic Environment Scotland or the Welsh Government's Historic Environment Service, Cadw).

## ECCLESIASTICAL EXEMPTION

Most ecclesiastical buildings which are listed and in use as places of worship are exempt from usual LBC requirements under the ecclesiastical exemption. However, the exemption only applies while the building remains in use as a place of worship: demolition therefore falls under secular listed building control because the building is no longer in use at the point of demolition.

## LEGISLATION AND GUIDANCE

**Listed buildings** are graded according to a variety of factors such as significance, rarity and completeness, with Grade I or (in Scotland) category A being the most important. While the degree of alteration permissible may vary with grade/category, all listed buildings are equally protected in law, inside and out. All three planning acts listed in the table above state that LBC is required for 'any works for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest' (England and Wales, 1990 Act Section 7; Scotland, 2011 Act Article 85; NI, 1997 Act Section 6) – the wording is identical. Repairs may also require consent as even like-for-like repairs often effect a degree of alteration. The criterion for approval is 'the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses' (Sections 16 and 14 respectively and Article 85).

**Unlisted buildings in conservation areas** are protected, but to a lesser extent. All three

DESIGNATION	WORKS REQUIRING CONSENT	CONSENT REQUIRED
<b>Scheduled monument</b>	All works including demolition, destruction, damage, removal, repairs, alterations, additions etc	Scheduled monument consent
<b>Listed building</b>	All demolition work and alterations which affect its character as a listed building – this includes works to the interior, objects and structures fixed to the building, and objects and structures within its curtilage built before 1948 or, in Northern Ireland, 1973, unless specifically excluded from protection.	Listed building consent
<b>Unlisted building in a conservation area</b>	Demolition work – generally 'substantial', not partial demolition  Some external alterations to houses, which elsewhere would be permitted by right, may require consent under an Article 4 direction	Conservation area consent: planning permission in England  Planning permission
<b>Others</b>	Planning permission may also be required for: • development affecting the exterior of a heritage asset in England • demolition work affecting an unlisted building in a designated Area of Townscape/Village Character in Northern Ireland	

	PRIMARY LEGISLATION AND PRINCIPAL MODIFICATIONS	GOVERNMENT POLICY AND GUIDANCE
<b>England</b>	<ul style="list-style-type: none"> <li>✦ <i>Planning (Listed Buildings and Conservation Areas) Act 1990</i></li> </ul>	<ul style="list-style-type: none"> <li>✦ <i>The National Planning Policy Framework</i></li> <li>✦ <i>Planning Practice Guidance; Conserving and Enhancing the Historic Environment</i></li> </ul>
<b>Northern Ireland</b>	<ul style="list-style-type: none"> <li>✦ <i>Planning Act (Northern Ireland) 2011</i></li> <li>✦ <i>The Planning (Listed Buildings) Regulations (Northern Ireland) 2015</i></li> </ul>	<ul style="list-style-type: none"> <li>✦ <i>The Strategic Planning Policy Statement (SPPS) (2015)</i></li> <li>✦ <i>Planning Policy Statement 6 (PPS6): Planning, Archaeology and the Built Heritage (1999)</i></li> </ul>
<b>Scotland</b>	<ul style="list-style-type: none"> <li>✦ <i>Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997</i></li> <li>✦ <i>Historic Environment Scotland Act 2014</i></li> <li>✦ <i>Planning (Listed Building Consent and Conservation Area Consent Procedure) (Scotland) Regulations 2015</i></li> </ul>	<ul style="list-style-type: none"> <li>✦ <i>Historic Environment Scotland Policy Statement (2016)</i></li> <li>✦ <i>Historic Environment Circular 1</i></li> <li>✦ <i>Guidance notes in the Managing Change in the Historic Environment series</i></li> </ul>
<b>Wales</b>	<ul style="list-style-type: none"> <li>✦ <i>Planning (Listed Buildings and Conservation Areas) Act 1990</i></li> <li>✦ <i>The Historic Environment (Wales) Act 2016 and associated regulations</i></li> </ul>	<ul style="list-style-type: none"> <li>✦ <i>Planning Policy Wales</i></li> <li>✦ <i>Government circulars 61/96, 60/96 and 1/98</i></li> <li>✦ <i>Technical advice notes</i></li> </ul>

GRADE/CATEGORIES (and proportion in each)			
<b>England</b>	Grade I (2.5%)	Grade II* (5.5%)	Grade II (92%)
<b>Northern Ireland</b>	Grade A (2.5%)	Grade B+ (6.5%)	Grades B, B1 & B2 (91%)
<b>Scotland</b>	Category A (8%)	Category B (50%)	Category C (42%)
<b>Wales</b>	Grade I (2%)	Grade II* (6%)	Grade II (92%)

acts state that a building in a conservation area 'shall not be demolished' without the consent of the appropriate authority, and that when considering a proposal the local authority must take into account 'the desirability of preserving or enhancing the character or appearance' of the conservation area.

Article 4 directions may be introduced in a conservation area to restrict 'permitted development rights' for certain specific alterations. The effect is that certain specified changes (window alterations for example) which would otherwise be permitted by right will require planning permission where visible from the street or other public areas.

In England alterations to primary legislation introduced under the *Enterprise and Regulatory Reform Act 2013* mean that planning permission is now required for the demolition of an unlisted building in a conservation area. (In all other home nations the permission required is 'conservation area consent').

In Northern Ireland urban areas which exhibit 'distinct character and intrinsic qualities, often based on their historic built form or layout', may be designated as areas

of townscape character (ATCs). Planning permission is required for the demolition of unlisted buildings in an ATC, and proposals for development are required to 'respect the appearance and qualities of each townscape area and maintain or enhance their distinctive character'.

**Scheduled monuments** are protected in England, Scotland and Wales under the *Ancient Monuments and Archaeological Areas Act 1979* and in Northern Ireland under the *Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995*. Both acts prohibit all kinds of work to a protected monument unless consent has been granted by the relevant authority. This includes works of demolition or destruction, damage, removal, repairs, flooding and tipping (Section 4 and Article 4 respectively). The use of metal detectors on land relating to a scheduled monument in Britain is also prohibited without written consent of the relevant authority (Section 42), while in Northern Ireland the restriction extends to excavating any land in search of archaeological objects or artefacts of archaeological interest without a licence (Section 41).

## LISTED BUILDINGS IN ENGLAND

In England buildings are listed by the Secretary of State (DCMS) on the advice of Historic England. (English Heritage, as the organisation was known, is now a charitable body responsible for historic properties in state care.) The National Heritage List provides details of all designated 'heritage assets' and can be found online ([www.historicengland.org](http://www.historicengland.org)).

### *The National Planning Policy*

**Framework** (NPPF) replaced all previous government policy on heritage protection in England in March 2012, and is supported by national *Planning Practice Guidance* on the application of the *Planning (Listed Buildings and Conservation Areas) Act 1990*. In essence the Act defines the extent of protection, while the NPPF gives government policy on how applications for consent should be dealt with and the information required of the applicant.

Applications for consent (or 'authorisation') generally involve photos and drawings showing the location and general layout and more detailed before and after drawings showing the impact of the proposal. A statement of significance is required, although this could range from as little as a paragraph in a covering letter to a substantial document: 'The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance' (NPPF 128).

The use of the word 'assets' here relates to the relatively new concept of 'heritage asset' which is defined in the NPPF glossary as a 'building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).' A 'designated' heritage asset may be a world heritage site, scheduled monument, listed building, protected wreck site, registered park or garden, registered battlefield or conservation area.

**PPG Conserving and Enhancing the Historic Environment** gives some clarification on key issues, for example where the need to secure a viable use must be balanced against harm to the significance of the asset (paragraphs 15–20).

## LISTED BUILDINGS IN NORTHERN IRELAND

Responsibility for listing, scheduling and designating lies with the Department for Communities which took over these functions from Northern Ireland's former DoE in May 2016. Planning functions were transferred to local authorities and the new Department for Infrastructure in May 2015.

Copies of the lists and schedules can be viewed in the Monuments and Buildings Record in Belfast or in the offices of local authorities. Northern Ireland's online Buildings Database ([www.communities-ni.gov.uk/services/buildings-database](http://www.communities-ni.gov.uk/services/buildings-database)) provides address details, but currently list descriptions



*Original shopfronts make a significant impact on the character of a street, in this case in Durham. Changing it would require planning permission, whether or not in a conservation area, but listing confers a greater degree of protection, particularly over its removal.*

are only included for two-thirds of them (those resurveyed since 1997).

Unlike the rest of the UK there are four grades of listed buildings, not three. The top nine per cent of listed buildings are graded A or B+. The rest are Grade B1 or B2. Generally, B1 is chosen for buildings that qualify for listing by virtue of a relatively wide selection of attributes, and B2 for those that qualify by virtue of only a few. Buildings in the former Grade C, now known as 'locally listed', do not enjoy statutory protection as listed buildings.

**Planning Policy Statement 6: Planning, Archaeology and the Built Heritage** (PPS6) provides the principal source of guidance on the protection of listed buildings under the *Planning (Northern Ireland) Order 1991* and the *Planning Act (Northern Ireland) 2011*. However, this only has authority until the 11 new district councils in the region publish local development plans with local policies. These policies must comply with the high level policy published in the *Strategic Planning Policy Statement*. The plans will be published over the next few years.

LBC is required for the demolition of a listed building and for any works of alteration or extension which would affect its character as a building of special architectural or historic interest. As there is 'a general presumption in favour of the preservation of listed buildings', applications for LBC must be supported by full information to 'justify the proposal' and to 'enable assessment of the likely impact of proposals on the special architectural or historic interest of the building and on its setting'.

The guidance recognises the need for historic buildings to accommodate change and that there is usually room for 'some degree of thoughtful alteration or extension'. Policy BH8 lists the criteria: a) the essential character of the building and its setting are retained and its features of special interest remain intact

and unimpaired, b) the works proposed make use of traditional and/or sympathetic building materials and techniques which match or are in keeping with those found on the building, and c) the architectural details (eg doors, gutters, windows) match or are in keeping with the building.

Apart from the impact on the special architectural or historic interest of the building, the authorities may also take into consideration 'the extent to which the proposed works would bring substantial benefits for the community, in particular by contributing to the economic regeneration of the area or the enhancement of its environment (including other listed buildings)' (Para 6.5).

## LISTED BUILDINGS IN SCOTLAND

Historic Environment Scotland (HES) is the national body responsible for the designation of nationally significant historic environment assets in Scotland, and details of all national designations can be found on the HES portal, [portal.historicenvironment.scot](http://portal.historicenvironment.scot).

HES also provides advice on a wide range of historic environment matters within the Scottish planning system. It is the decision-maker in respect of scheduled monuments, and has a statutory role in determining applications affecting the demolition of buildings which are listed or in conservation areas, and the alteration of category A and B listed buildings.

**Historic Environment Scotland Policy Statement** (2016) guides the operation of decision making in the Scottish planning system, updating and replacing *Scottish Historic Environment Policy* (2011). Under the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997*, any work which affects the character of a listed building will require LBC. HESPS gives two examples of work that might not require consent: a like-for-like repair such as pointing a wall; and 'altering part of a building which does not contribute to the overall special interest' (HESPS 3.31).

LBC applications must demonstrate an understanding of the importance of the building and those features which contribute to its special interest. 'In general the more extensive the intervention which is proposed, the more supporting information applications should provide' (HESPS 3.41).

Proposals which involve the alteration or adaptation of a listed building will usually be accepted where the beneficial use of the building will be sustained or enhanced, provided that its special interest is not adversely affected (HESPS 3.46).

If its special interest is adversely affected, key considerations are: a) the relative importance of the special interest of the building, b) the scale of the impact of the proposals on that special interest, c) whether there are other options which would ensure a continuing beneficial use for the building with less impact on its special interest, and d) whether there are significant benefits for economic growth or the wider community which justify the adverse effects of the proposal (HESPS 3.47).

*Historic Environment Circular 1* provides detailed guidance on the processes involved in managing change in the historic environment in Scotland.

*Managing Change in the Historic Environment* is a series of concise guidance notes published by Historic Environment Scotland to support and expand on the policies outlined in HESPS. For example, the edition on windows provides useful guidance on repairs, alterations and improvements, including when double glazing might be accepted. Others in the series include *Accessibility, Battlefields, Boundaries, Demolition, Doorways, Engineering structures, External fixtures, External walls, Extensions, Interiors, Micro-renewables, Roofs, Setting, Shopfronts*, and *Works on scheduled monuments*.

#### LISTED BUILDINGS IN WALES

Cadw (the word means 'to keep' or 'protect'), is the Welsh Government's historic environment service and is part of the Welsh Government's Economy and Infrastructure Department.

Details of national designations (including listed buildings and scheduled monuments) can be found online under 'Cof Cymru, National Historic Assets of Wales', or via the Historic Wales portal, [www.historicwales.gov.uk](http://www.historicwales.gov.uk).

The nation shares primary legislation with England (*Planning (Listed Buildings and Conservation Areas) Act 1990*), with some modifications made under the *Historic Environment (Wales) Act 2016*. The principal government policy and guidance on its application is contained in Chapter 6 of the Welsh Government's *Planning Policy Wales* and Circular 61/96 *Planning and the Historic Environment*.

Although the *Historic Environment (Wales) Act 2016* makes important legislative changes, it cannot alone provide Wales with up-to-date and responsive systems for the positive management of change in the historic environment. Cadw is therefore preparing new draft policy, advice and guidance documents in line with the modern conservation philosophy set out in its *Conservation Principles* document.

*Circular 61/96* gives advice on the level of information required to support an application for LBC: applicants 'must provide the local planning authority with full information to enable it to assess the likely impact of their proposals on the special architectural or historic interest of the building and on its setting' (Section 69). It explains that 'achieving a proper balance between the specialist interest of a listed building and proposals for alterations or extensions is demanding and should always be based on specialist expertise' (Section 97).

Repairs are unlikely to require LBC unless they involve a degree of alteration which would affect the character of the listed building. However, *Circular 61/96* points out that 'Whether proposed works constitute alterations or demolition is a matter of fact and degree which must be determined in each case' (Section 67).

An appendix to Annex D contains succinct advice on many typical features and details which contribute to the character of historic buildings or which affect their performance. For example, it explains why lime mortars and renders are important and, under roofs, it explains that 'Details such as swept valleys should always be retained, as should regional construction traditions such as grouted slate roofs of the western coast.' The result may not deal with every possible detail, but in practice it illustrates the sort of issues that a conservation officer will be looking for. It is to be hoped that Cadw finds room for such practical advice in future guidance too, whether in this form or in the form of Historic Scotland's *Managing Change* guidance notes.

#### Further Information

The online version of this article includes hyperlinks to all legislation and guidance mentioned here – see <http://bc-url.com/protection>  
C Mynors, *Changing Churches: A practical guide to the faculty system*, Bloomsbury, London 2016  
C Mynors, *Listed Buildings and Other Heritage Assets* (5th edition), Sweet & Maxwell, London, 2015 (revised edition due in 2017)

**AUTHOR** This article was prepared by directory editor **Jonathan Taylor**, with the help of **Matthew Coward**, Cadw, **Manus Deery**, Department for Communities (NI), **Beth Harries**, Historic England, and **Barbara Cummins**, Historic Environment Scotland.

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ARCHAEOLOGISTS: See also: *display entry in Heritage Consultants, page 27 and profile entry in Measured Surveys, page 36.*

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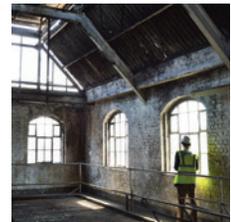
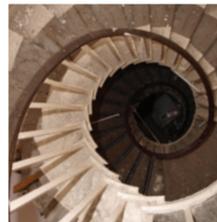
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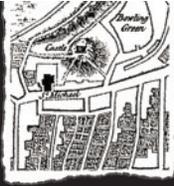


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CONSULTANTS IN THE CONSERVATION AND REPAIR OF HISTORIC BUILDINGS, ANCIENT MONUMENTS AND THEIR SITES: Ingram Consultancy is a specialist practice of historic building consultants dealing in all aspects of the conservation, repair, adaptation and reuse of historic buildings and ancient monuments. Services include condition surveys, historic building assessments, building recording and analysis, preparation of reports, specifications, schedules of work and tender documents, and project supervision and management. The practice works in the following ways: as partners and sub-consultants to other building professionals, supplementing their skills in specialist areas, particularly on large complex projects; building teams of specialists with a proven track record of experience to complete specific tasks or provide ongoing technical support; accepting direct appointments as designers and project managers to complete smaller programmes of work. For more information please refer to the website.

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HERITAGE CONSERVATION CONSULTANTS: Principal consultant Kathryn Sather has over 24 years extensive experience in the field of building conservation. Associate consultants include an archaeologist, a museum professional and a heritage conservation professional. The practice offers a wide range of heritage conservation services specialising in the preparation of conservation management plans, conservation statements, heritage statements, conservation area character appraisals and historic area appraisals. Additional services include: expert witness at planning appeals (both public inquiries and informal hearings); preparation of heritage interpretation strategies; audience development plans and educational programmes; advice on fundraising and preparation of grant applications for building conservation and heritage education projects.



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HERITAGE PLANNING: MOLA's built heritage consultants expertly guide clients through the planning process. Working across the UK, the team provides advice on national and local planning policy and assists with heritage management and listed building, scheduled monument and conservation area consents. MOLA's reports are researched by experienced consultants and include heritage statements, environmental statements, and conservation management plans. *See also: profile entry in Archaeologists, page 26.*

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HISTORIC BUILDING CONSULTANTS: Woodhall Planning and Conservation Ltd is a planning and architectural consultancy with a specialised interest in the historic environment. Woodhall has particular expertise in the highly specialised area of historic research, repair and re-use of historic buildings, appeals, assessments of historic buildings and conservation areas and the preparation of heritage statements. Woodhall has a strong reputation for providing responsive and focused advice to a wide client base including: private individuals; developers; architects; the National Trust; and public bodies. Services include: research and appraisals; historic building surveys and repairs; expert witness work; design and alterations; heritage impact assessments.

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Contact Andrew Shenton BSc(Hons) DipCons MRICS BCAS

CHARTERED BUILDING SURVEYOR, HISTORIC BUILDINGS CONSULTANT:

Andrew's Building Conservation (ABC) is a specialist building surveying company, professionally providing practical conservation solutions to national clients. Andrew Shenton is a building conservation accredited surveyor with skills to maintain and encourage usage of historic or traditional buildings. He is also a judge for the RICS 2017 Regional Awards, Building Conservation category. Wide-ranging skills include property pathology, defect surveys, adaptation, diversification, feasibility studies, project management, quinquennial inspections, planned maintenance and property portfolio management. ABC has a traditional and team approach to projects, bringing 29 years of considerable practical experience within realistic cost and programme parameters.

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#### ■ HISTORIC BUILDING ADVISORY SERVICE

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#### ■ MAYBANK BUILDINGS CONSERVATION

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# HOT-MIXED MORTARS

## Advantages and limitations

ADAM BROWN

**H**OT MIX', 'hot limes' and 'hot-mixed mortars' are all terms used frequently in the conservation industry. But what exactly are they?

A hot-mixed lime mortar is one based on three components: quicklime, water and an aggregate such as sand. In a conventional mix, aggregate is mixed with lime which has previously been slaked. In this case, quicklime is mixed with the aggregate and then 'slaked' with water. The process generates heat, hence the terms. It may be used immediately as a hot mix or later when cool.

### QUICKLIME

Quicklime is limestone (a rock rich in calcium carbonate) that has undergone a chemical change in a kiln, liberating it of all the carbon and water it holds ( $\text{CaCO}_3 \xrightarrow{500-600^\circ\text{C}} \text{CaO} + \text{CO}_2$ ), creating a very unstable material (calcium oxide) which needs to hydrate. Quicklime will do so very energetically with any moisture it comes into contact with, resulting in a strong exothermic reaction and the production of lime ( $\text{CaO} + \text{H}_2\text{O} = \text{Ca(OH)}_2$ ), calcium hydroxide. The addition of water, slaking, has the potential to produce temperatures exceeding  $250^\circ\text{C}$  very quickly. However, when creating a mortar the quicklime can reach these high temperatures as hot spots only, and the overall temperature of the mortar should not exceed  $100^\circ\text{C}$  – the temperature at which the water turns to steam.

### SANDS

The general rule with mortars made with lime putty or naturally hydraulic lime (NHL) is that clean, washed sands and aggregates should be used. Dirtier sands tend to contain impurities such as clay minerals which absorb water and swell, so more water has to be added. This results in an increased risk of shrinkage in the mortar as it dries. With a hot mix, however, testing has shown that dirtier silica sands often work best as clean silica sands can make the mortar brittle. As the quicklime slakes it expands, so the original volume of lime increases significantly. A sand with a higher fines content (including clay minerals) can help combat the increase in binder due to the higher surface area of smaller particles. However, it is important that the fines content is not too high as excessive fines will still make the mortar prone to shrinkage.

### HISTORIC MORTARS

Before modern cements took over in the early 20th century, lime was the principal binder used for making mortars and renders. It was produced by burning limestone



Hot mixing on site (Photo: Cornish Lime)

in a kiln at temperatures of  $800^\circ\text{C}$ . For the core of the limestone to reach the required temperatures in a reasonable time, the temperature in the kiln had to reach  $950^\circ\text{C}$ . In early kilns the temperature varied throughout, leaving lumps of lime unconverted and some sections over-burned.

The finished product could then be supplied to site as quicklime, or it could be slaked immediately and left to mature as lime putty, saturated with water. Today, it is generally accepted that lime putty was reserved for fine plasterwork, and that, for ordinary construction, mortars would have been hot-mixed on site with quicklime, water and sand/aggregate. Whether the material would have been used hot or stored and used cool is open for debate and various historic texts refer to both applications.

Although a ratio of one part lime putty to three parts aggregate is widely specified for modern mixes, there is evidence that different mixes would have been used historically. This would have been down to several factors such as type of work, location, availability and cost.

When using a hot-mixed mortar today, a mix ratio of 1:3 quicklime and aggregate will, after expansion, produce a mortar that is 1:1.4 or even 1:1. Many historic mortar samples that have been analysed show a similar ratio with a high binder content. Making such a rich mix with a lime putty would have been impractical as the mortar would have been sloppy.

As our acceptance of their historic authenticity has gathered pace, more and more claims are being made about the benefits of using hot-mixed mortars and about the

detrimental impacts of NHLs. While these claims may have been made with the best intentions, they are largely unsubstantiated by any scientific and real-life data.

### BENEFITS OF HOT-MIXED MORTARS

A hot-mixed mortar offers a very workable material. Due to its high lime content, it is very sticky and this can help stop the mortar being washed out. It offers good water retention that can be controlled during the mixing process. And it can be a cost-effective option; the purchase price of quicklime is usually less than putty or NHL and cheaper, dirtier sands can be used.

From testing it has also been proven that hot-mixed mortars offer extremely high vapour permeability. Under lab conditions a hot-mixed mortar at 1:3 can offer vapour permeability up to  $1.36\text{kg/m}^2\text{sPa}$ , whereas a comparable NHL 3.5 mortar at 1:3 will be around  $0.69\text{kg/m}^2\text{sPa}$ . This has yet to be proven in the field or over long enough periods as carbonation is a very slow process. Nevertheless, it seems likely that a hot-mixed mortar could be twice as breathable as an NHL3.5 mortar, offering significant advantages to historic fabrics in many situations.

### WHICH TYPE OF QUICKLIME WILL WORK BEST?

Quicklime is available in two forms: 'kibbled', which is granular, containing particles from 1mm up, and finely powdered. Both of these are chemically identical, but kibbled is more dense than an equal volume of powder, and as mortars are usually mixed by

**TABLE 1 – POWDERED VERSUS KIBBLED QUICKLIME**

POWDERED QUICKLIME	KIBBLED QUICKLIME
Reacts faster than kibbled – a quicker reaction can be harder to control and mix as it stiffens	Reacts a little more slowly than powder
No hotspots – as a powder it is all of similar granulometry	Hotspots – larger pebbles can reach higher temperatures during slaking causing spitting
Plumes – powdered quicklime can be thrown into the air during mixing, posing significant health and safety issue (eyes, inhalation, skin)	No plumes – granules and pebbles are heavier and denser than the powder
Limited pop outs – less prone to latent expansion after the mortar has been placed as almost all of it converts to lime	Pop outs – some larger pebbles can be slow to slake, causing delayed expansion which can disrupt the mortar face

volume not weight, mix proportions should be varied accordingly. (Kibbled expands to approximately 2.7 times its original volume, while powdered expands approximately 2.1 times.) There are technical benefits and drawbacks to using either option as outlined in Table 1. From a historic perspective, however, kibbled generally provides a better match for mortars which contain lime inclusions. These are particles of quicklime which have combined insufficiently during mixing.

Hot mixing mortar is not difficult, but it is more labour intensive than mixing putty or NHLs as the material is stiffer and stickier. While there are health and safety concerns due to the heat, with the adoption of appropriate measures on site the risks can easily be managed. The most significant risk is when mixing the powdered quicklime as it can plume into the air. If this is inhaled, able to dwell on skin, or comes into contact with the eye it can pose serious health risks.

#### DOES IT HAVE TO BE USED HOT?

The short answer is no; hot mix is a term that has been coined due to the heat generated during the mixing phase, there are benefits to using the result immediately, while still hot.

Using it hot has the advantage that water content is easier to control, and the mortar is stickier and the work is quicker to finish. No storage facilities are required as the mortar is made in small batches. However, the mortar has to be made on site, close to the point of use, so work is slower. If used cold, large batches can be made either on site or by a commercial supplier, and pop-outs are less likely because the mortar has had more time to slake.

#### IS HOT-MIXED SUPERIOR TO NHL MORTARS?

One key argument for the use of hot-mixed mortars over NHL-based mortars is that of strength. The problem is that the strength specified for an NHL at 28 days may have little bearing on its full strength, which may not be achieved for several years. As an example, the two-year compressive strength of a St Astier NHL3.5 mortar at 1:3 is approximately 4N. This is too high for soft masonry units as the compressive strength of the mortar could cause disruption to the host fabric. However, most common building stone will be much harder than this (typically a poor sandstone has a compressive strength of 25N), so strength is not usually an issue.

Closely allied to this is the issue of permeability. For a mortar the general rule is that the higher the strength, the lower the vapour permeability, and it is claimed that NHL mortars can trap moisture within historic fabric. However, mortars made with NHL3.5 or weaker have been proven over many years to have sufficient vapour permeability not to trap moisture.

There are claims that hot-mixed mortars do not need protecting in the same way as putty or NHLs, but this is not the case. All limes require babysitting in their infancy especially during winter months as a compressive strength of around 2N is required before they can cope with the impacts of frost. While NHLs may achieve this rapidly through a hydraulic set, non-hydraulic limes rely solely on carbonation. For this to occur at any depth, carbon dioxide must dissolve within the pore structure of the mortar, so a hot-mixed mortar must be kept damp. In cold temperatures moisture can hold less carbon dioxide and reactions occur more slowly. Even when warm, this is a very slow process, so the mortar is vulnerable to the effects of rain and frost for several months and it can take several years before full strength is completely achieved.

With very high binder content and relatively low strength, a hot mix will therefore be more prone to failure as a result of frost. During rain spells it will also be more likely to exhibit lime bleed due to the high binder content.

Hot-mixed mortars also have a high rate of absorbency. Under laboratory testing, a hot-mixed mortar at 1:3 became fully saturated in under 15 minutes. As a comparison, a typical putty mortar at 1:3 will take around 30 to 35 minutes and an NHL3.5 mortar at 1:3 around 60 to 80 minutes. While vapour permeability is a significant factor in mortar selection (as is its ability to wick moisture out of a wall), in exposed locations absorbency cannot be ignored.

#### HISTORIC PRECEDENT?

A point often raised is that hot-mixed mortars were used originally. However, we are now using very pure limes (CL90) which have no traces of hydraulic components. This type of lime cannot accurately be compared to historic limes, as most would have contained impurities which resulted in some hydraulic element, and aggregates were often used which would have had some pozzolanic effect.

We cannot claim to be using the material



*Kibbled (left) and powdered (right) quicklime (Photo: Cornish Lime)*

of our forefathers unless we revert back to the traditional methods of producing quicklime, and given the time and costs involved this would not be viable.

#### CONCLUSION

This article is not intended to deter anyone from using hot-mixed mortars. There is most certainly a place for their use in conservation, especially for mass wall building; they make fantastic bedding and pointing mortars. It really comes down to selection and location; the same factors we use to decide whether putty or NHL is best suited. A pure hot-mixed mortar used in a location that is not subject to wind-driven rains should work very well. And its high absorption and vapour permeability characteristics can be used to help wick moisture from a wall in many situations.

For more exposed situations, given that the majority of historic hot-mixed mortars analysed contained some hydraulic element, should we not be adding this back into the mix through the addition of a pozzolan or NHL? This is a practice that is carried out today and has been extensively used for the last 20 years in Scotland. A form of gauged hot mix will often be closer to the original than a pure lime hot mix.

There has been a consistent cycle within the lime movement of changing binders. It started with lime putty, which through improper use or inadequate specification resulted in some failures. We then moved towards NHL mixes to try to overcome these, which worked well for many applications. Now we are moving towards hot-mixed mortars. All of these binders were at some point hailed as 'the solution', and while our knowledge of these materials has significantly increased we are still constantly learning. Ultimately, anyone aware of the virtues of lime and using or specifying the material is looking for the most appropriate mortar to conserve, enhance and protect a building. Hot mixes most definitely have a place in conservation and they offer another choice, but selection is critical and they should only be used where appropriate.

We cannot adopt a one-size-fits-all approach.

**ADAM BROWN BSc(Hons) is a qualified building surveyor who works for the Cornish Lime Company Ltd (see page 140), which supplies a full range of lime products including hot-mixed mortars, and offers technical consultancy. This article is based on a dissertation he prepared for his degree in building surveying.**

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[www.ctandp.com](http://www.ctandp.com)

STRUCTURAL ENGINEERS: CTP Consulting Engineers is an experienced and agile practice with specialists in conservation. The company's clients include heritage bodies, churches, public authorities and private owners who trust it to maintain, alter and extend their buildings and structures with sensitivity, as use evolves. Its work is led by a Conservation Accredited Engineer. CTP has helped maintain the Royal Brighton Pavilion for 20 years and has worked with many independent schools and colleges, including Tonbridge and West Dean. Its work overseas includes restoring the breakwater at Valetta in Malta, a UNESCO World Heritage site. The company has 35 staff and in 2017 celebrates its 30th birthday.

### ■ CURTINS

Curtins House, Columbus Quay, Riverside Drive, Liverpool L3 4DB  
Tel 0151 726 2000 Fax 0151 726 2001

Email [info@curtins.com](mailto:info@curtins.com)  
[www.curtins.com](http://www.curtins.com)

CONSERVATION STRUCTURAL ENGINEERS: Established over 50 years ago, Curtins is independently owned and works as one business from 13 strategically-chosen locations across the UK. CARE accredited, the firm provides specialist structural engineering advice on conservation and historic structures and monuments. The company's work covers large and small conservation projects including remodelling and extension works in historic settings and it has extensive experience in all traditional materials including masonry, iron and timber. Recent large projects include Liverpool Anglican Cathedral, John Rylands Library, Tate Gallery and Vaughan's Mansion in Shrewsbury. Other projects have included appraisal, monitoring and repair of churches, museums, mills, maritime structures, castles, forts, masonry bridges as well as domestic properties.

■ **FOTHERGILL**

62 Hill Street, Richmond, Surrey TW9 1TW  
Tel 020 8948 4165 Fax 020 8948 5105 Email [info@fothergill.uk.com](mailto:info@fothergill.uk.com)  
[www.fothergill.uk.com](http://www.fothergill.uk.com)

STRUCTURAL ENGINEERS: Experienced in the conservation, refurbishment and repair of historic and listed buildings including loading assessments and advice on strengthening methods sympathetic to the original structure and building fabric. Projects include work at The Natural History Museum, Somerset House and The King's School Canterbury together with many private houses.

■ **HARTIGAN**

Norman House, La Grande Route de St Martin, St Saviour, Jersey JE2 7GR  
Tel 01534 766655 Email [admin@hartigan.co.uk](mailto:admin@hartigan.co.uk)  
[www.hartigan.co.uk](http://www.hartigan.co.uk)

CONSULTING ENGINEERS: Hartigan follows a structured methodology to ensure innovative, pragmatic and informed decision making. Passionate that history should be retained in the form of historic buildings, and in support of this ethos Hartigan ensures that old houses, barns, churches and all forms of historic structures in its care are repaired to a high standard using appropriate methods and skills. This is exemplified in the employment of conservation accredited engineers to achieve the high conservation standards the firm's clients and other stakeholders deserve.

■ **HOCKLEY & DAWSON CONSULTING ENGINEERS LTD**

The Great Barn, Smithbrook Barns, Cranleigh, Surrey GU6 8LH  
Tel 01483 548784 Fax 01483 268765  
Email [admin@hockleyanddawson.co.uk](mailto:admin@hockleyanddawson.co.uk)  
[www.hockleyanddawson.co.uk](http://www.hockleyanddawson.co.uk)

CONSULTING ENGINEERS: Hockley & Dawson has many years experience providing structural engineering solutions for the care and repair of historic and sensitive structures. The company combines significant experience with innovation in the use of traditional and modern materials and techniques to ensure sympathetic, proportionate and economic solutions with an emphasis on minimum intervention. This approach can be seen on a diverse array of structures, including the Tower of London, Windsor Castle, Hardwick Hall and the Airship Hangar at Farnborough. Hockley & Dawson's approach has resulted in a number of awards and long term relationships with conservation architects, surveyors and client bodies.

■ **HURST PEIRCE & MALCOLM LLP**

Celtic House, 33 John's Mews, Holborn, London WC1N 2QL  
Tel 020 7242 3593 Fax 020 7405 5274 Email [enquiries@hurstpm.co.uk](mailto:enquiries@hurstpm.co.uk)  
[www.hurstpm.co.uk](http://www.hurstpm.co.uk)

CHARTERED CIVIL AND STRUCTURAL ENGINEERS: Founded 1910, Hurst Peirce & Malcolm has extensive experience in the refurbishment and conservation of historic buildings and structures. Consultant Andrew Dutton is one of the few engineers accredited under the Conservation Accreditation Register of Engineers (CARE), which is becoming a prerequisite for conservation work for clients such as English Heritage. Projects are undertaken in London, the South East, across the UK and internationally. Recent projects include the Nelson Monument, Trafalgar Square, The Palace of Westminster, Old George Inn, Salisbury, Althorp House, Somerset House and many old but not listed properties.

■ **MANN WILLIAMS**

7 Old King Street, Bath BA1 2JW  
Tel 01225 464419 Email [bath@mannwilliams.co.uk](mailto:bath@mannwilliams.co.uk)  
■ 53 Mount Stuart Square, Cardiff CF10 5LR  
Tel 02920 480333 Email [cardiff@mannwilliams.co.uk](mailto:cardiff@mannwilliams.co.uk)  
■ 9-11 Corporation Square, Belfast BT1 3AJ  
Tel 02890 998670 Email [belfast@mannwilliams.co.uk](mailto:belfast@mannwilliams.co.uk)  
[www.mannwilliams.co.uk](http://www.mannwilliams.co.uk)

CONSULTING CIVIL AND STRUCTURAL ENGINEERS: Working nationally on historic structures and ancient monuments since 1986. Mann Williams has built an impressive portfolio of clients in conservation. Projects range from cathedrals at Exeter, Winchester and St David's to major works at Chatsworth House, Castle Drogo and Hillsborough Castle, Northern Ireland. Mann Williams work with CADW throughout Wales and the DoE. NI-HED in Northern Ireland along with the Historic Royal Palaces and the National Trust. With offices in Bath, Belfast and Cardiff, Mann Williams is able to provide effective consultancy throughout the UK and Ireland.

■ **MARBAS**

The Dispensary, 5-6 The Square, Winchester, Hampshire SO23 9ES  
Tel 01962 865321 Email [admin@marbas.co.uk](mailto:admin@marbas.co.uk) [www.marbas.co.uk](http://www.marbas.co.uk)  
Contact Paul Tanner BSc CEng FStructE MICE

STRUCTURAL AND CIVIL ENGINEERS: A practice providing private and public clients with a personal service on a variety of projects. Experienced in sensitive and innovative conservation and repair of all types of historic buildings and scheduled monuments in a wide range of materials. Services include structural design, surveys and appraisals. The practice works closely with clients, architects and others to develop appropriate solutions for historic and new-build projects in an historic setting. Projects include all grades of listed buildings, stately homes, town and country house adaptations, ecclesiastical work, rural conversions and historic park buildings.

■ **THE MORTON PARTNERSHIP LTD**

Old Timber Yard House, 55 The Timber Yard, Drysdale Street, London N1 6ND  
Tel 020 7324 7270 Fax 020 7729 1196

Email [london@themortonpartnership.co.uk](mailto:london@themortonpartnership.co.uk)  
■ Leonardo House, 11 Market Place, Halesworth, Suffolk IP19 8BA  
Tel 01986 875651 Fax 01986 875085  
Email [halesworth@themortonpartnership.co.uk](mailto:halesworth@themortonpartnership.co.uk)  
[www.themortonpartnership.co.uk](http://www.themortonpartnership.co.uk)

CONSULTING STRUCTURAL AND CIVIL ENGINEERS: The Morton Partnership was founded in 1966 and is predominantly involved in structural design to preserve or sympathetically enhance historic and listed buildings. Projects have included: Stowe House, Knebworth House, Canterbury Cathedral; Hadlow Tower; refurbishment and improvements at Lincoln Castle (including new build Heritage Skills Centre), the new tower at St Edmundsbury Cathedral; work to many parish churches, barns and domestic buildings; projects for the Crown Estate; and National Trust properties. The practice carries out a considerable amount of work for local authorities and is well known to many national amenity groups. Work to small buildings is an important part of the company's portfolio. Services include preliminary advice, structural surveys and presentation of cost effective solutions for the appropriate repair of historic buildings/structures.

■ **P C A CONSULTING ENGINEERS**

117 Fore Street, Kingsbridge, Devon TQ7 1AL  
Tel 01548 853097 Email [info@pcaconsulting.uk](mailto:info@pcaconsulting.uk)  
[www.pcaconsulting.uk](http://www.pcaconsulting.uk)

CHARTERED STRUCTURAL AND CIVIL ENGINEERS: PCA is an award winning structural and civil engineering practice, with extensive experience and specialist knowledge in conservation engineering. PCA exercises a sympathetic and pragmatic approach when working on historic, listed and ancient buildings. Projects include St Michael's Mount, Sandsfoot Castle, Killerton House, Halswell House, Kings College Chapel, Cambridge and various churches, mansions and ancient monuments.

■ **IAN RUSSELL CEng MICE MIStructE**

Shulbrede Priory, Lynchmere, Haslemere, Surrey GU27 3NQ  
Tel 01428 653049 and 01428 645068  
Email [ian@russellconsult.co.uk](mailto:ian@russellconsult.co.uk)

CONSULTANCY IN CIVIL/STRUCTURAL ENGINEERING AND BUILDING CONSERVATION: Recent projects include: church spire, chancel and lych gate repairs, restoration of eight bay barn at an historic monument site, survey of a derelict chapel, farmhouse alterations/additions including its landscape setting, party wall matters. Past projects include: Shoreham Museum and Fort, Michelham Priory and Lewes Castle.

■ **S F K CONSULTING**

24 Basepoint Centre, Andersons Road, Southampton, Hampshire SO14 5FE  
Tel 02380 682460 Email [admin@sfkconsulting.co.uk](mailto:admin@sfkconsulting.co.uk)  
[www.sfkconsulting.co.uk](http://www.sfkconsulting.co.uk)

CONSERVATION STRUCTURAL ENGINEERS: SFK Consulting is a leading practice of structural engineers working nationally in the conservation and repair of historic buildings and the design of new buildings in historic settings. Completing each project through personal involvement with a partner, current clients include the Royal Household Property Section, English Heritage, the National Trust and The Landmark Trust. The partners are also involved in projects at Winchester, Westminster and Arundel cathedrals as well as many country houses around the UK.



Stockwell Bus Garage by Adie Button & Partners, which opened in 1952  
(Photo: Jonathan Taylor)

## Chapter 2

# Building contractors

## 2 BUILDING CONTRACTORS

MAIN CONTRACTORS	Pg	MAIN CONTRACTORS														
		Aerial access	Building contractors	Project management	Deconstruction	Millwrights	Structural repair	Steeplejacks	Scaffolding	Timber framing	SCOTLAND	NORTH WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST
A C Wallbridge & Co Ltd	78						sj									
A K S Ward Lister Beare	39	bu														
A R P Anthony Richardson & Partners	13		cm													
A R P L Architects	13		cm													
A V V Solutions Ltd	95	bu														
Aaron Evans Architects Ltd	13		cm										W	H		
Acanthus Clews Architects Ltd	14		cm													
AECOM (Building Engineering)	39		cm													
Andrew Churchman Ltd	49	bu														
Andrew's Building Conservation Ltd	33		cm													
Antique Buildings Limited	43							tf								
Bailey Partnership	33		cm													
Bakers of Danbury Ltd	52	bu	cm		rp			tf								
The Barwin Group	2	bu			rp								H			
Bates Zambelli	13		cm													
Best Reclamation	132			dc												
Between Time Ltd	49	bu			rp			tf					H			
Bonsers (Nottingham) Ltd	49	bu								Y			H	L		
Bosence & Co	33	bu	cm													
Building Conservation (UK) Ltd	50	bu	cm		rp	sj		tf								
Building Maintenance (Wales) Ltd	50	bu	cm		rp	sj		tf								
Bullen Conservation Ltd	50	bu														
Burrows Davies Limited	96	bu														
Busby's Builders	52	bu						tf								
C & D Restoration Ltd	97	bu					sl									
C R L Restoration	52	bu														
Chichester Stoneworks Limited	52	bu														
Christopher Rayner Architects	14		cm													
Collins & Curtis Masonry Ltd	97	bu	cm													
Conservation Building Services Ltd	52	bu						tf								
Country House Renovations Limited	54	bu										W	H	S		
Cube Property Surveyors & Architects	33		cm													
D B R London	54	bu			rp								H	HL		
D B R Southern	54	cm	dc		rp											
D P Tebbutt Stonemasons	98	bu														
Daedalus Conservation	54	bu						tf								
Donald Insall Associates Ltd	15		cm													
Dunne and Co Building & Restoration	56	bu			rp			tf						L	S	
Eastern Heritage Restorations	54	bu	cm					tf								
Easy Reach Access Hire Solutions	68	ax					sl									
The English Listed Building Company	15	bu	cm													
Ernest Barnes Ltd	55	bu														
Exova BM TRADA	33							tf								
Eyres Master Thatchers	78	bu	cm		rp			tf								
Feilden & Mawson LLP	15		cm													
Fortress Restorations Ltd	55	bu			rp											
Four Walls Building Company Ltd	84	bu										W				
Frazer Stannard Ltd	125	bu	cm													
Gilmore Hankey Kirke Ltd	16		cm													
The Green Man Building Company	55	bu			rp			tf								
Grosvenor Construction Ltd	55	bu														
H & W Sellers Ltd	98	bu											E			
Hall & Ensom Chartered Building Surveyors	33		cm										W	H	L	
Hall Construction Limited	56	bu											H			
Hartigan	40		cm													
Heritage Building & Conservation Ltd	56	bu														
Heritage Cob & Lime	140	bu														
Heritage Project Contracts	112		cm													
Heritage Project Management	32		cm													
Heritage Restoration (SW) Ltd	56	bu														
Heritage Stone Access Limited	68	ax	bu				sj						W			
Heritage Surveys Limited	34		cm													
Hirst Conservation Ltd	56	bu														
Historic Building Conservation & Repair	43	bu						tf								

MAIN CONTRACTORS	Pg	MAIN CONTRACTORS														
		Aerial access	Building contractors	Project management	Deconstruction	Millwrights	Structural repair	Steeplejacks	Scaffolding	Timber framing	SCOTLAND	NORTH WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST
Holland Contracting	44	bu													W	
Huntley Cartwright	35		cm													
Hutton + Rostron Environmental Investigations Limited	30		cm													
Ivinghoe Building Services	57	bu														
J P Ladell Ltd	57	bu														
J Rigg Construction Ltd	57	bu											W			
J S Stonemasonry Ltd	58	bu														
Johnston and Wright	17		cm													
Kent Conservation and Restoration Ltd	57	bu														
Knowles & Son (Oxford) Ltd	57	bu											W	H		
The Limecrete Company Ltd	143	bu														
Lloyd Evans Prichard	17		cm										W	H		
London Lime Plasterers	171	bu														
London Stone Conservation Ltd	100	bu														
Luard Conservation Limited	156	bu												H		
Manorwood	43								tf							
Martin Ashley Architects	18		cm											H		
Mathias Restoration Ltd	84	bu											E			
Maybank Buildings Conservation	34		cm												H	
McNamara & Co	58	bu											W			
Messenger	58	bu														
Mike Wye & Associates Ltd	141	bu														
Oakwrights Ltd	43								tf							
Oculus Building Consultancy Ltd	30	bu														
Owlsworth I J P	58	bu	cm	ml	rp				tf							
P C A Consulting Engineers	40		cm													
P D P Green Consulting	18		cm													
P W P Architects	20		cm													
P Webb Roofing & Building Services Ltd	72	bu														
Paramount Platforms Ltd	67	ax														
Paye Conservation	58	bu			rp											
Penybryn Engineering Ltd	113			ml										W		
Period Property Solutions Building Conservation Limited	59	bu							tf				W	W		
Peter Cox Ltd	59	bu			rp											
Plaster Restorations (UK) Ltd	172		cm													
Priory Heritage Ltd	31		cm												L	
R Hilton & Co Ltd	30		cm													
R J Smith & Co	59	bu													H	
Recclesia Ltd	59	bu														
Reynolds Conservation Ltd	60	bu														
Richard Coles Builders Ltd	59	bu	cm						tf						H	S
Richard Crooks Partnership	21		cm							Y						
Richard Griffiths Architects Ltd	20		cm													
Rodney Melville + Partners	21		cm													
Ross Lovett Conservation	102								rp							
Sally Strachey Historic Conservation	102								sj							
Sawyer & Fisher	35		cm										WY			
Scott and Twine LLP	22		cm													
Skillington Workshop Limited	60	bu														
Splitlath Building Conservation Ltd	60	bu							rp					W		
St Swithuns Building & Conservation	60	bu	cm						rp				tf			
Staffordshire Restoration & Conservation	61	bu														
Stone Edge Limited	61	bu														
Stonewest Limited	61	ax	bu	cm					rp							
Synergy Bare Leaning & Bare	36		cm													
Szerelme Conservation	103	bu														
T I Jones Building & Masonry	64	bu														
T R A C Structural Ltd	144	ax							rp					W	L	
Italiesin Conservation	62	bu														
Traditional Oak Carpentry	43												tf			
Trendle Conservation	64	bu														
Underwood & Weston Ltd	62	bu														
Valley Builders Ltd	62	bu							rp				tf			
Vivus Solutions Ltd	142	bu														
W P D Productions Ltd	64	bu													L	

MAIN CONTRACTORS	Pg	Aerial access	Building contractors	Project management	Deconstruction	Millwrights	Structural repair	Steeplejacks	Scaffolding	Timber framing	SCOTLAND	NORTH	WALES	MIDLANDS	EAST	SOUTH EAST	SOUTH WEST	EUROPE	
W R Dunn & Co Ltd	33		cm																
Ward & Co (Building Conservation) Ltd	63	bu				rp				tf									
Weald & Downland Open Air Museum	43									tf									
The Wessex Conservation Company Ltd	64	bu																	
West Waddy ADP LLP	22		cm												H				
William Taylor Stonemasons	64	bu																	
Williams Restoration	64	bu																	

KEY Main contractors	KEY Region codes
ax aerial access	NORTH OF ENGLAND N Cumbria, Durham and counties to the north
bu building contractors	W North West
cm project management	Y Yorkshire and the Humber
dc deconstruction	E East Midlands
ml millwrights	W West Midlands
rp structural repair & stabilisation	E East Anglia
sj steeplejacks	H Northern Home Counties
sl scaffolding contractors	L Greater London
tf timber frame builders	H Southern Home Counties
	S Berkshire, Hampshire and Oxfordshire
	W Gloucestershire, Wiltshire, Dorset and counties to the west

A full key to the two-character codes used in the product/service selector tables which appear throughout the Directory can be found on our website at:  
[www.buildingconservation.com/home/pscodes.htm](http://www.buildingconservation.com/home/pscodes.htm)

## TIMBER FRAME BUILDERS

### ■ ANTIQUE BUILDINGS LIMITED

Hunterswood Farm, Dunsfold, Godalming, Surrey GU8 4NP  
 Tel 01483 200477 Fax 01483 200666 Email [info@antiquebuildings.com](mailto:info@antiquebuildings.com)  
[www.antiquebuildings.com](http://www.antiquebuildings.com)

TIMBER SUPPLIERS: *See also: display entry in Architectural Salvage, page 132.*

### ■ HISTORIC BUILDING CONSERVATION & REPAIR

Steepwood Bungalow, Adversane Lane, Billingshurst, West Sussex RH14 9EG  
 Tel 07748 758569

Email [rolandlocke@historicbuildingconservationandrepair.co.uk](mailto:rolandlocke@historicbuildingconservationandrepair.co.uk)  
[www.historicbuildingconservationandrepair.co.uk](http://www.historicbuildingconservationandrepair.co.uk)

TIMBER FRAME BUILDINGS: Historic Building Conservation & Repair provides a friendly, reliable, competitive and qualified service in all aspects of the repair, conservation and maintenance of historic and listed buildings, using traditional methods and materials. The company also designs and builds new or additional structures in green oak using traditional methods. Other services include: identification and remedial repair of damp, fungal and insect infestation; timber and timber reinforcing repairs to timber framed buildings; preparation for, supply and erection of new green oak timber framed buildings; wattle and daub panel repair or replacement; and brick and stone repairs and pointing in lime mortar.

### ■ MANORWOOD

Studio 5, Chilgrove Business Centre, Chilgrove, West Sussex PO18 9HU  
 Tel 01243 201102 Email [enquiries@manorwood.co.uk](mailto:enquiries@manorwood.co.uk)  
[www.manorwood.co.uk](http://www.manorwood.co.uk)

TIMBER FRAME BUILDERS: Manorwood specialises in traditional architecture and construction, constructing new oak frames as well as restoring historic oak-framed buildings throughout West Sussex, Surrey and East Hampshire. Manorwood is a design and build company focusing on the highest quality craftsmanship using traditional materials and techniques.

## TIMBER FRAME BUILDERS continued

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[info@traditionaloakcarpentry.co.uk](mailto:info@traditionaloakcarpentry.co.uk) 01449 768817

### ■ OAKWRIGHTS LTD

West End Lane, Frensham, Farnham, Surrey GU10 3EP  
 Tel 01252 794325 Email [info@oakwrights.com](mailto:info@oakwrights.com)  
[www.oakwrights.com](http://www.oakwrights.com)

TIMBER FRAME BUILDERS: Oakwrights is a team of craftsmen and a civil engineer specialising in design, construction and restoration of timber framed buildings. With combined in-house professional and technical skills Oakwrights provides cost-effective solutions avoiding the need for independent architects and engineers. Complex conservation and new-build projects are undertaken from planning through to completion and Oakwrights can also provide services in support of a main contractor or architect. Work carried out includes design and construction of new houses, extensions and outbuildings and repair of historic houses and barns.

### ■ SPLITLATH BUILDING CONSERVATION LTD

1 Greenfield Industrial Estate, Forest Road, Hay-on-Wye HR3 5FA  
 Tel 01497 821921 Email [enquiries@splitlath.com](mailto:enquiries@splitlath.com)  
[www.splitlath.com](http://www.splitlath.com)

OAK FRAME REPAIRS: *See also: display entry in Building Contractors, page 60.*

### ■ WEALD AND DOWNLAND OPEN AIR MUSEUM

Singleton, Chichester, West Sussex PO18 0EU  
 Tel 01243 811464 Fax 01243 811475 Email [courses@wealddown.co.uk](mailto:courses@wealddown.co.uk)  
[www.wealddown.co.uk](http://www.wealddown.co.uk)

CONSERVATION SUPPLIES AND SERVICES: *See also: profile entry in Courses & Training, page 177.*

## STRUCTURE RELOCATION

### ■ HOLLAND CONTRACTING

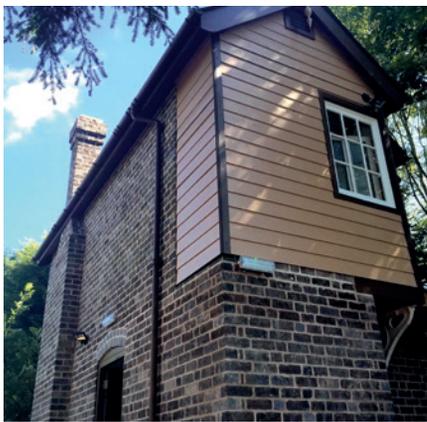
*See advertisement on page 44.*



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W: [www.hollandcontracting.co.uk](http://www.hollandcontracting.co.uk)  
W: [www.structurerelocation.co.uk](http://www.structurerelocation.co.uk)  
T: +44 (0)121 557 2444 (office)  
T: +44 (0)771 989 1883 (mobile)



# THE CONSERVATION OF BRITAIN'S HERITAGE IN INDIA

JAMES SIMPSON



*The Victoria Memorial Hall, Calcutta: the project was instigated by Lord Curzon and the architect was Sir William Emerson with Vincent Esch as executive architect in India. Building began in 1904 and was completed in 1921 by Martin Burn & Co.*

**T**HE CULTURAL links between the UK and India remain strong. Modern Britons tend to cringe with embarrassment when thinking of the Empire or the Raj, but this is not, in my experience, an attitude shared by most Indian professionals. The British left behind a unified democratic country that worked, as well as a cultural overlay comparable to that of the Moghuls, which is as significant to the sub-continent as the legacy of the English language. India's cultural heritage may be as great as that of any country in the world and the architecture of British India is now a 'shared heritage' of classicism, art deco, brick and lime plaster, Minton tiles and cast iron from Glasgow.

As the economy in a country of 1.25 billion people develops, this heritage is increasingly at risk, but growing prosperity is an opportunity as well as a threat. The modern conservation movement in the UK was born half a century ago: in India it is still young. The opportunities for knowledge transfer in conservation and the potential rewards from joint working are

substantial and, in the age of 'Brexit', we should cultivate them. Philip Davies' recent paper, written for the Department of Culture Media & Sport, urges engagement with 'Britain's Overseas Heritage': the time for this is right.

Britain's architectural heritage in India is largely concentrated in cities like Bombay, Madras and Calcutta (now officially renamed Mumbai, Chennai and Kolkata, although their old names are still in popular use), and in the hill stations like Shimla. Lutyens' New Delhi is well known, but the public buildings, churches, banks and warehouses and, perhaps most of all, the ordinary street architecture of all the major cities make a fine legacy indeed. A great deal of this heritage is in a severe state of decay. This is perhaps particularly true of Calcutta, which was the capital of British India from 1690, when it was founded as the East India Company's trading station on the Hooghly River, until 1911 when the capital was moved to Delhi. Calcutta continued to thrive as a centre of trade and commerce until its separation from East Bengal (now Bangladesh) in the

mid-20th century. Since then, not helped by 35 years of communist state government, it has declined. The architectural legacy of Calcutta, a city of 4.5 million people, makes it one of the world's great historic cities. Only last year, our own secretary of state for international development, Priti Patel, proposed to West Bengal chief minister Mamata Banerjee that it should be awarded world heritage status.

In a scheme initiated by Sir Bernard Feilden and supported by the Charles Wallace India Trust, Indian architects have been coming to the UK to study conservation through what are now Master's degree courses at York – originally at the Institute of Advanced Architectural Studies, another Feilden initiative with Patrick Nuttgens – and, more recently, in Edinburgh and elsewhere. The development of India's conservation movement has largely been fuelled by these architects and by a handful of homegrown initiatives. In Rajasthan, for example, the energy of Faith and John Singh – creators of the Anokhi chain and of the Jaipur Foundation



Britain's architectural heritage in India includes public buildings, churches, banks and warehouses but ordinary street architecture forms an important part of this legacy too. As shown here, much of it is now in a severe state of decay.



Vines emerging from the Scottish Church Collegiate School, North Calcutta (Photo: Ashish Sharan Lal)



St Andrew's, Dalhousie Square, Calcutta: built in 1815 for the Church of Scotland, the church's 'spire over portico' formula follows that of James Gibbs' St Martin in the Fields in Trafalgar Square, London. (Photo: Rangan Datta)

– put traditional culture and heritage tourism at the heart of the state economy, and in Bombay much was achieved through the work of the late Shyam Chainani, one of the great pioneers of conservation in India.

Among leading UK-trained conservation architects in India who are well known here are Vikas Dilawari in Bombay, Benny Kuriakose in Madras and South India, Gurmeet Rai in Delhi and especially in Punjab, Aishwarya Tipnis and Gaurav Sharma in Delhi and North India, Manish Chakraborti, and Nilina Deb Lal and Sharan Lal in Calcutta and East India. All maintain British connections and all work to maintain international standards of conservation, often against considerable odds.

Current arrangements for protection are in their infancy and there is, as yet and in general, little public understanding of, or support for, conservation. To quote Vikas Dilawari:

*Government-owned public buildings, which are major landmarks in our cities, suffer from ill-informed, ad hoc and unwanted repairs. Even worse, privately-owned and tenanted residential buildings suffer from zero maintenance, partly due to the Rent Control Act, and since no repair is carried out, these structures dilapidate and are increasingly under threat from redevelopment. There is a complete lack of patronage and, as a result, no good craftsmen. Cheap alternatives to good work are always preferred. We, unlike colleagues in the West, have to struggle all the time. We have to be lucky enough to find good clients, who understand and appreciate craftsmanship: only then are we able to find and train the craftsmen.*

The conservation process, as it has been developed in the UK over the past 50 years, is not yet understood in India and it is in

this area and in the development of trade skills, that there is a great UK contribution to be made. A new campaign – CAL, 'Calcutta's Architectural Legacy' – led by the distinguished writer Amit Chaudhuri is now mobilising opinion in the city, very much as the amenity societies and SAVE did so many years ago in the UK. Perhaps surprisingly, the leaders in the promotion of 'shared heritage' are the Danes, whose work in the former settlement of Serampore, including the restoration of the Lutheran church of St Olav, is directly supported by the Danish Government, with Copenhagen architect Flemming Aalund and York-trained Manish Chakraborti. One can only hope that where Denmark has led, the UK will follow!

Calcutta was to a significant extent a Scottish city: 40 per cent of the Europeans in the city were Scots and the links with Dundee through the jute trade were particularly strong. In 2009 a Scotland-West Bengal memorandum of understanding on matters of culture and heritage was signed by the then Scottish Culture Minister Mike Russell, but sadly, little has yet resulted from it. A new charity on the building preservation trust model, the Asia Scotland Trust (AST), is being established to support conservation in the city, in local partnerships and with advice from Simpson & Brown in Edinburgh and Alleya & Associates in Calcutta. The AST has two projects under development: St Andrew's Kirk and the Scottish Church Collegiate School. Both are prominent 'heritage buildings', recognised as such by the Calcutta Municipal Corporation. These are being regarded as pilot projects, to be partly funded locally and partly from funds raised in the UK: and there is plenty more to do!

St Andrew's was built in 1815 for the Church of Scotland, on a prominent site in Dalhousie Square, adjacent to the Writers' Building, which is now the seat of the government of West Bengal. Like its namesake in Edinburgh's New Town, its 'spire over portico' formula follows that of James Gibbs' St Martin in the Fields in Trafalgar Square. Its traditional flat 'Indian Terrace' roof, finished with lime concrete and jaggery (a traditional waterproofing admixture made from sugarcane), was replaced in the mid-20th century with an 'agricultural' pitched roof of lightweight steel trusses and corrugated asbestos-cement sheets, with galvanised steel gutters. Both the design and the materials of this roof have failed badly and are no longer able to cope with the monsoon rains. The project is to replace the roof and to restore the ceiling of its fine classical interior.

The Scottish Church Collegiate School was established in 1830 in Beadon Street, North Calcutta by missionary Alexander Duff for the General Assembly of the Church of Scotland. Duff was an influential figure and one of those – with Raja Rammohun Roy – credited with the vital decision to make English the language of education and administration in India. The handsome classical building, built like most of Calcutta from brick and lime plaster, is in very poor condition externally; the central stairs are barely safe, and improvements are badly needed. The project is for a comprehensive

programme of repair and restoration and of such improvements as can be achieved, including recreational use of the terrace roof and a new fire escape.

Another project examined by the AST is the repair and restoration of Duff College, also established by Duff, but for the Free Church of Scotland (which broke away from the established Church of Scotland following the 'Disruption' of 1843). This impressive structure, standing prominently in Nimtala Ghat Street and fronted by giant order Doric columns, is now in a disastrous state of decay, collapsing internally and with trees sprouting from every opening. It has been the subject of a long campaign by architect Nilina Deb Lal – currently completing doctoral research in Edinburgh on Calcutta's construction – and may now be taken on by the West Bengal Heritage Commission.

### VICTORIA MEMORIAL HALL

The greatest and most spectacular of the British buildings in Calcutta is the Victoria Memorial Hall (VMH), built as a museum to commemorate the 'Queen-Empress' following her death in 1901. The instigator of the project was Lord Curzon and the architect was Sir William Emerson, then president of the RIBA, with Vincent Esch as executive architect in India. Building began in 1904 and was completed in 1921 by Martin Burn & Co, a company which still exists.

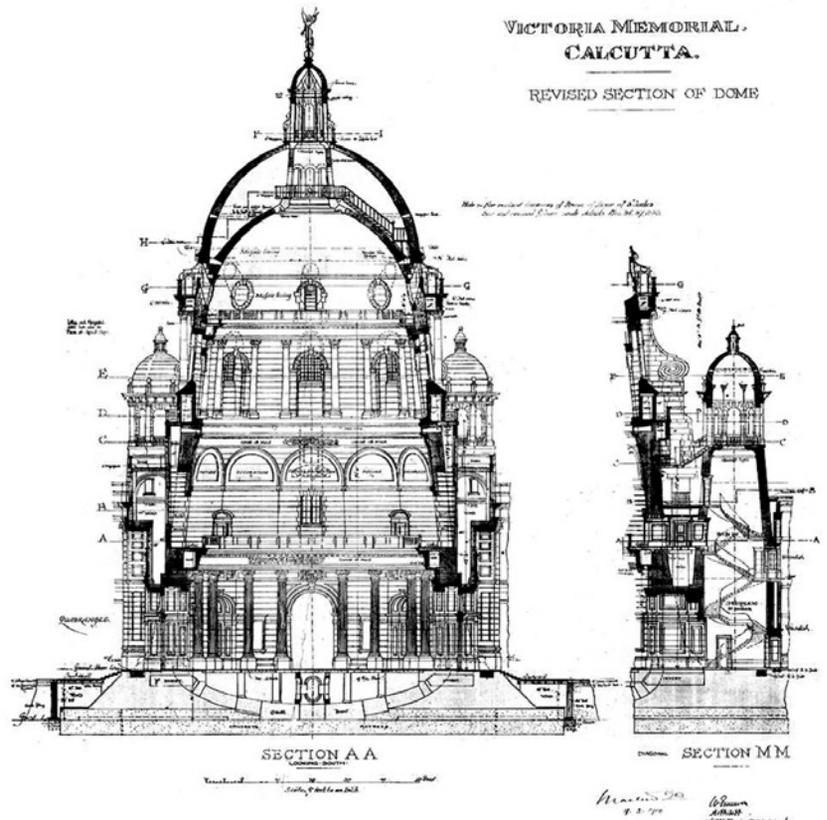
The VMH was built on an 'H' plan in a European classical style, with Moghul touches, and Emerson's choice of white Makrana marble facing was a deliberate reference to the Taj Mahal: memorial to Shah Jahan's favourite wife Mumtaz. A large statue of Queen Victoria stands at its centre and the great dome above is topped by a 3.5 ton gilded bronze Angel of Victory, modelled by Lindsey Clark and cast in Edinburgh by George Mancini. This revolves in the wind and is known locally as 'the fairy'.

The Victoria Memorial is headed by its secretary and curator, governed by trustees under the chairmanship of the governor of West Bengal, and is ultimately the responsibility of the government of India. Despite being such a powerful symbol of the Raj, it is much loved and admired by Calcuttans and by Indians in general. It is widely recognised as:

- one of the world's great buildings in its own right
- an architectural set-piece in an open and highly formal garden setting, which contributes powerfully to the wider landscape of the city
- one of the great museums of the world and, as such, a building in need of change to accommodate the 21st-century needs of collections, exhibitions, staff and its large number of visitors.

Its recent history is presented here as a case study: one which, unfortunately, tends to confirm Vikas Dilawari's observation that 'government-owned public buildings which are major landmarks in Indian cities, suffer from ill-informed, ad hoc and unwanted repairs'.

To the ordinary observer, the VMH appears to be in good condition. However,



One of the 877 original drawings of the Victoria Memorial Hall which aided the 2012 fabric inspection

concerns began to be expressed in the 1980s and Sir Bernard Feilden, then director of the International Centre for Conservation in Rome (ICCR), was invited to inspect and report on its condition. His 1992 report described the problems he observed and made recommendations. Despite being essentially a mass brick structure, the building includes a lot of steel which supports the floor and flat roof structures, while cables contain the outward thrust of the dome at its base. Sir Bernard noted extensive water penetration and expressed concern about corrosion and expansion of the steel. Some of the very clear recommendations in his report were taken up, but many were not and 15 years later concerns were again being expressed.

In 2007 I was asked to undertake a further and more detailed inspection. This was eventually done in 2012 through Dulal Mukherjee & Associates on instructions from the National Building Construction Corporation (NBCC). I was assisted by John Sanders (Simpson & Brown) and Ashish Sharan Lal (Alleya & Associates), with structural input from Michael Beare of AKS Ward Lister Beare.

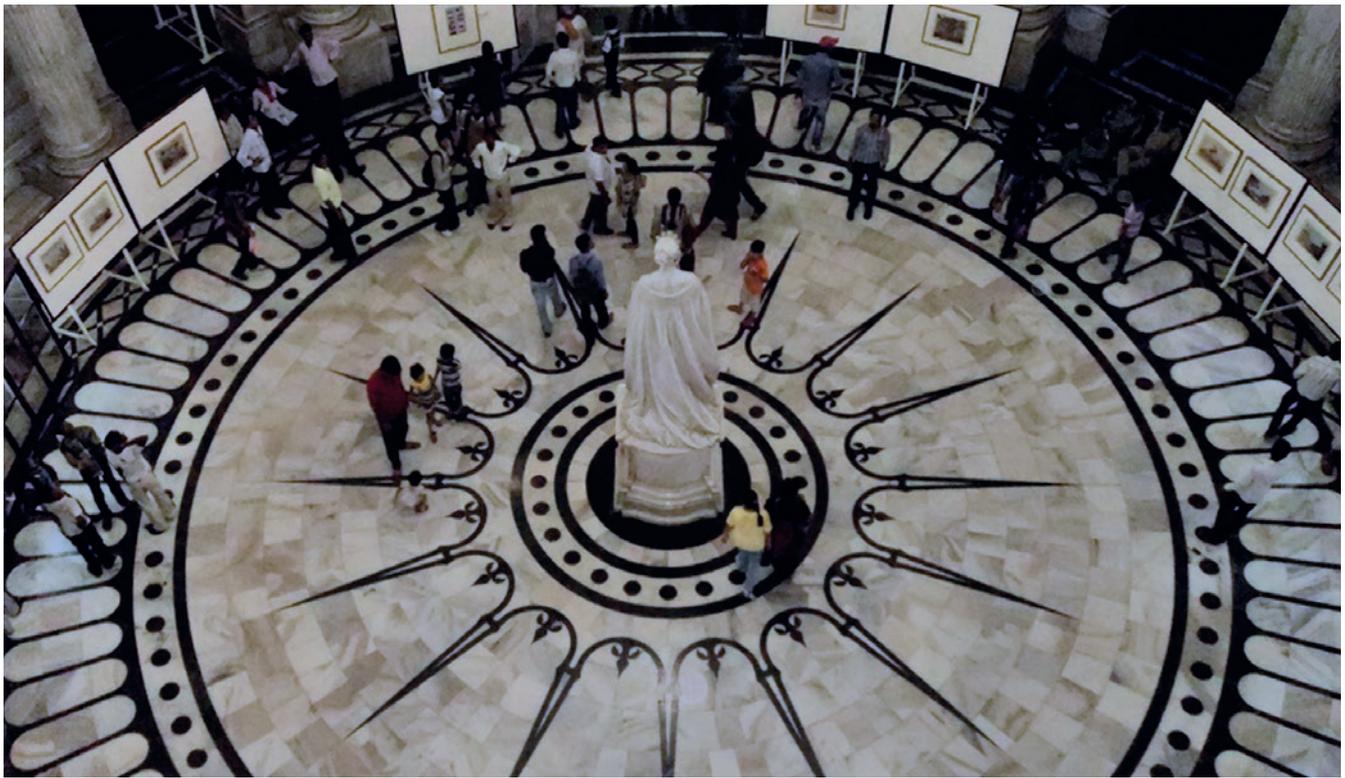
The process followed the standard pattern for fabric inspections. Every exposed surface and visible feature was examined and evident defects and symptoms, large and small, were recorded. These were then correlated and analysed in order to establish an understanding of the soundness of the original materials and construction, and the mechanisms of decay. The task was then to draw general conclusions, to ascertain the need for further invasive investigation and to make

recommendations for further action, including conservation work. A secondary object was to identify opportunities as well as problems, including the potential for integrating repair work with alterations designed to improve the operation of the building as a museum and visitor attraction. The task was greatly assisted by the availability of no fewer than 877 original drawings which described the construction in great detail.

The report which followed the 2012 inspection made reference to the 'significance-based' approach to conservation derived from *The Burra Charter*, and emphasised that conservation was the management – not the prevention – of change. It emphasised that international good practice required that repair and restoration work and work to accommodate necessary change should be carefully planned and managed in an integrated way. It also made clear that the report itself was not a specification and that further investigation, appraisal, cost assessment, prioritisation, design and specification would be required before any programme of work could be responsibly put in hand.

The principal conclusions of the 2012 report were that:

- there was significant water penetration through the roof surfaces, parapets, cornices and open joints in the marble facings; in addition, approximately one in five of the rainwater pipes was leaking
- there was very high humidity in the accessible underbuilding voids and significant condensation on the underside of the steel-supported principal floor, with evidence of rust staining; most of



Interior of the Victoria Memorial Hall with Thomas Brock's statue of the young Queen Victoria



Condensation glistening on the underside of the principal floor of Victoria Memorial Hall, and corrosion to the steel beams supporting it

the underbuilding was inaccessible for inspection

- the steel roof and floor structures were corroding to a significant extent; embedded steel in the foundations and the cables in the dome were also likely to be deteriorating; this deterioration was progressive and could only be arrested by drying the building
- further investigations, including access to the remaining voids, and action to eliminate leaks and condensation should be initiated as a matter of urgency
- the mechanical and electrical services were seriously deficient, poorly installed and affected by moisture
- the flat roofs should be made more completely and effectively waterproof, insulated and given a reflective upper surface to minimise solar gain
- ground moisture should be kept out of the fabric and a dry, air-conditioned space created in the underbuilding voids beneath the principal floor; as first suggested by Sir Bernard Feilden. This would provide the

opportunity to create new accommodation for the ancillary functions that a modern museum requires – as at the Louvre, the National Gallery of Scotland etc. It would also enable the temperature and relative humidity in the main galleries to be more effectively controlled

- the revolving mechanism of the Angel surmounting the dome should be serviced.

By far the most serious concern, raised by Sir Bernard as long ago as 1992 and strongly reiterated in 2012, was water penetration and its likely effect on embedded structural steel. Specific recommendations for next steps were made, including advice that further investigative work should be planned as a matter of urgency in order to develop a strategic approach and a carefully prepared and fully integrated 5–10 year programme of work. More than three years have now passed since submission of this report and there has been no indication that this strategic proposal for an integrated programme of work has been prepared. Such concepts are hard for bureaucracies to grasp and things move slowly in India.

#### LOOKING FORWARD

It is clear that conservation is not yet a priority in India, except where sites like the Taj Mahal and the cities of Rajasthan are of obvious benefit to the tourist economy. This is particularly true of old towns like Shahjahanabad (Old Delhi) and Patiala – both the subject of visionary reports by Sir Patrick Geddes, written in the 1920s – and of the cities and hill stations like Calcutta and Shimla, where the shared heritage of Britain and India are concentrated. Taken as a whole, India's cultural heritage may be the richest in the world, but the realisation that it is a massive

asset which requires management has yet to be fully appreciated. As the economy grows, the risks that much of it may be lost increase by the year.

Nor is the physical heritage the only area of concern. Much has been done by the UK to train a new generation of conservation architects: the challenge now is to establish an understanding of proper process and to equip the cities in particular with the trade and craft skills essential for good repair and restoration work. The experience built up here over the past 50 years makes the UK uniquely well-equipped to extend the concept of 'shared heritage', to build on the foundations laid by Sir Bernard Feilden in the 1970s, and to strengthen further the historic relationship between Britain and India through conservation.

**JAMES SIMPSON OBE HonDSc FRIAS is an architect and a founding partner of Simpson & Brown in Edinburgh. He has consulted on conservation projects in India since 2004, principally in Amritsar and Calcutta, where he inspected and reported on the Victoria Memorial Hall in 2012. He prepared a conservation plan for the Secretariat in Rangoon in 2014. He has written and lectured extensively on conservation practice and has been a campaigner for heritage causes in Scotland and beyond, latterly for Britain's Overseas Heritage in South Asia. He is a trustee of the Asia Scotland Trust.**

#### NOTES

- <sup>1</sup> Bureau of Indian Standards, *IS 3036:1992 Code of Conduct for Laying Lime Concrete for a Waterproofed Roof Finish*, New Delhi, 1992 (<http://bc-url.com/lime-concrete>)

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CHARTERED BUILDING COMPANY: See also: display entry on this page.

## ■ HERITAGE BUILDING & CONSERVATION LTD

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Tel 01480 435491

■ 1 Sherbrook House, Swan Mews, Lichfield, Staffordshire WS13 6TU

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Email info@heritagebc.co.uk

www.heritagebuildingandconservation.co.uk

RESTORATION CONTRACTOR: Heritage Building & Conservation Ltd is a principal contractor specialising in the restoration, conservation and building of this country's historic and ecclesiastical buildings. Operating from its offices in Lichfield and Huntingdon, the company's directly employed craftsmen engage on projects from tens of thousands to multi-million pound contracts. Please contact chris.lamb@heritagebc.co.uk with your enquiry. See also: display entry on page 192.

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BUILDING CONTRACTORS: See also: display entry in Structure Relocation, page 44.

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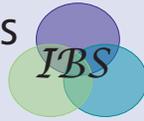
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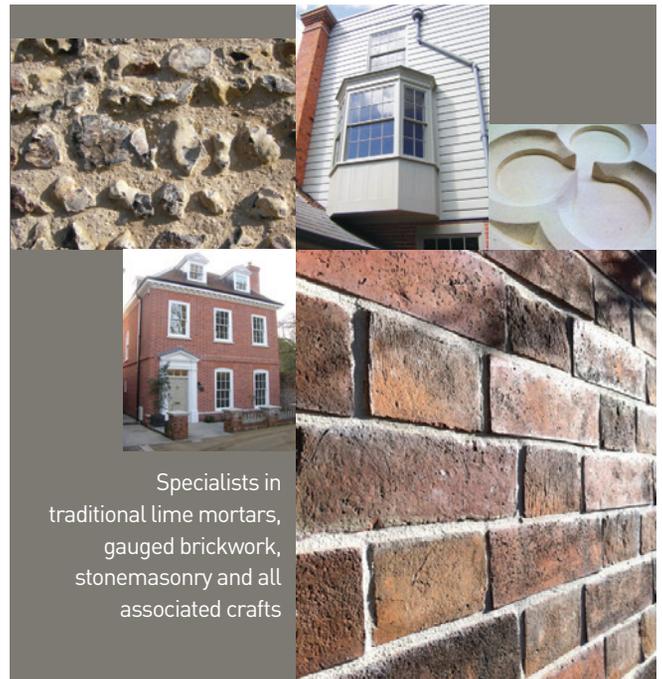


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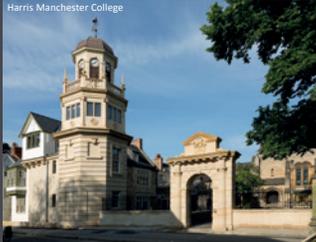
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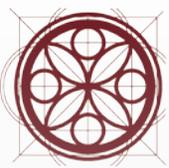
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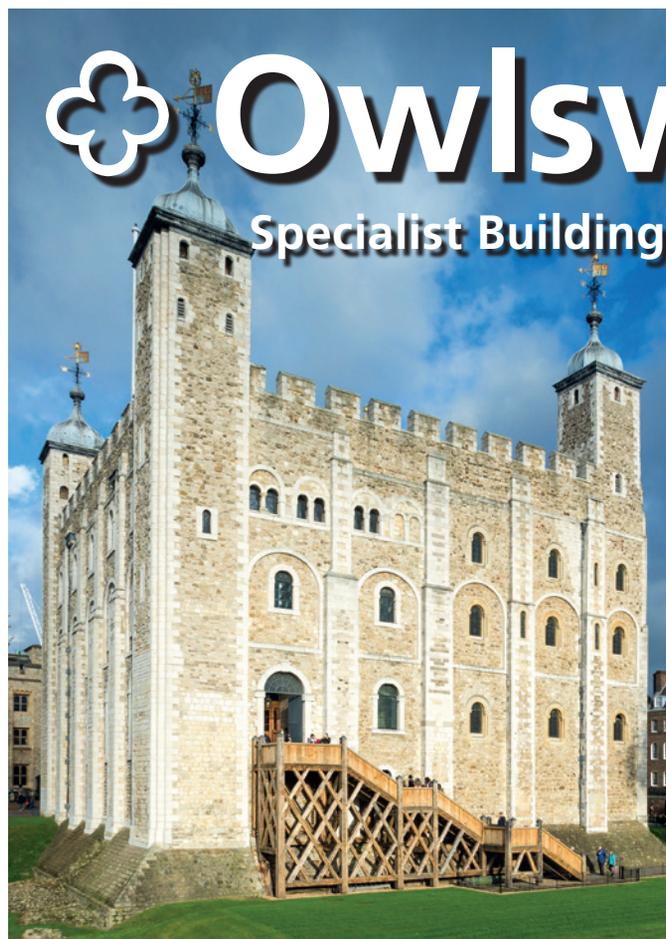
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 BUILDING CONTRACTORS: *See also: display entry in Stone, page 98.*

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 BUILDING CONSERVATION: *See also: profile entry in Stone, page 99.*

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*See also: display entry in this section, page 59.*



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CONSERVATION AND RESTORATION: *See also: display entry in this section on page 58, and profile entry in Stone, page 99.*

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## BUILDING CONTRACTORS continued



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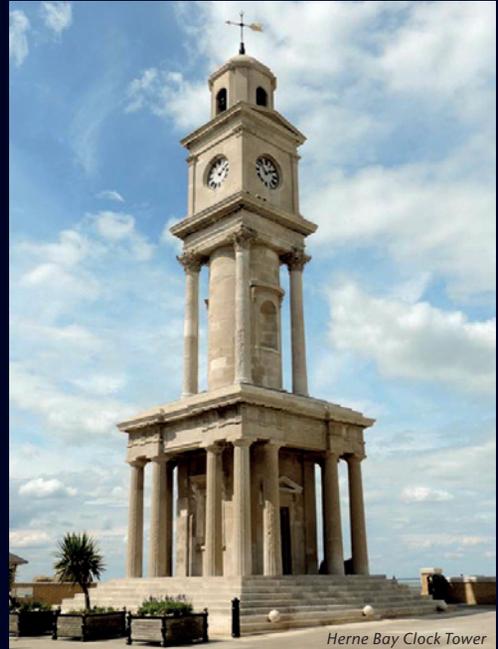
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BUILDING CONTRACTORS: See also: display entry on the inside back cover and profile entry in Stone, page 104.

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# THE CDM REGULATIONS 2015

CHRIS BOWES

**T**HIS ARTICLE aims to review the changes to *The Construction (Design and Management) Regulations 2015* (CDM) and their bearing on conservation projects.

The CDM regulations have been in place since 1994 and were updated in 2007 and again in 2015. Their aim is to improve health and safety by helping those involved in construction projects to plan work sensibly so the risks involved are managed from start to finish. At its core is the people involved and how they co-operate and co-ordinate work with others. The regulations are therefore intended to help them have the right information about the risks and how they are being managed, to help them communicate this information effectively to those who need to know, and to help them consult and engage with workers about the risks and how they are being managed.

The main differences between the 2015 CDM regulations and the previous regulations are:

- the strengthening of client duties and the introduction of a new category, 'domestic clients'
- the omission of a CDM co-ordinator and the introduction of a principal designer for the planning, managing, monitoring and co-ordination of pre-construction phase health and safety (this is not a direct replacement – the range of duties carried out by the principal designer is different to those undertaken by CDM co-ordinators under CDM 2007)
- the requirement for a principal designer and a principal contractor on all projects with more than one contractor
- replacement of explicit requirement for duty holder competence with need for appropriate information, instruction, training and supervision
- a change to the HSE's notification level – now only required for projects which last more than 30 days and involve more than 20 workers simultaneously or which exceed 500 person days.

Perhaps one of the most significant changes was to remove the exemption for domestic clients. This places a duty upon them to appoint the principal designer and principal contractor, where there is more than one contractor. However, if the domestic client does not make these appointments, CDM 2015 automatically transfers the client duties to the contractor or principal contractor.

Another key change was the removal of the CDM co-ordinator role and the creation of the principal designer role. Here the intention appeared to be an attempt to integrate health and safety measures into the design process rather than having them as an adjunct.



*A conservator from Vitruvius Conservation prepares to abseil down King Alfred's Tower, Somerset (Photo: Helen Martin, St Ann's Gate Architects)*

## WHO IS AFFECTED AND WHAT ARE THEIR DUTIES?

The changes mean that more people hold duties under the CDM regulations than previously, as outlined under the headings below. Organisations or individuals can carry out the role of more than one duty holder, provided they have the skills, knowledge, experience and (if an organisation) the organisational capability to carry out those roles in a way that secures health and safety. For example, an architect can act as a designer and as a principal designer if they meet the relevant criteria.

**Clients** – these are the organisations or individuals for whom a construction project is carried out. They must make suitable arrangements for managing a project, including ensuring that:

- other duty holders are appointed
- sufficient time and resources are allocated to these duties
- relevant information is prepared and provided to other duty holders
- the principal designer and principal contractor carry out their duties
- welfare facilities are provided.

**Domestic clients** – these are the people who have construction work carried out on their own home, or the home of a family member that is not done as part of a business, whether for profit or not. Although domestic clients are included in the scope of CDM 2015, their duties are normally transferred to the contractor on a single contractor project, or to the principal contractor on a project involving more than one contractor. However, the domestic client can choose to have a written agreement with the principal designer to carry out the client duties.

**Designers** – these are the people who as part of a business prepare or modify designs for a building, product or system relating to construction work. When preparing or modifying designs, designers must aim to eliminate, reduce or control foreseeable risks that may arise during construction and during the maintenance and use of a building once built. And they must also provide information to other members of the project team to help them fulfil their duties.

**Principal designers** – these are the designers appointed by the client in projects involving more than one contractor. They can be an organisation or an individual with sufficient knowledge, experience and ability to carry out the role, which is to plan, manage, monitor and co-ordinate health and safety in the pre-construction phase of a project. This includes:

- identifying, eliminating or controlling foreseeable risks
- ensuring designers carry out their duties
- preparing and providing relevant information to other duty holders
- providing relevant information to the principal contractor to help them plan, manage, monitor and co-ordinate health and safety in the construction phase.

**Principal contractors** – these are the contractors appointed by the client to co-ordinate the construction phase of a project which involves more than one contractor. They must plan, manage, monitor and co-ordinate health and safety in the construction phase of a project., including liaising with the client and principal designer, preparing the construction phase plan, and organising co-operation between contractors and co-ordinating their work. In addition, principal contractors must also ensure that suitable

site inductions are provided, that reasonable steps are taken to prevent unauthorised access, that workers are consulted and engaged in securing their health and safety, and that welfare facilities are provided.

**Contractors** – these are the individuals or companies who carry out the construction work. They must plan, manage and monitor construction work under their control so that it is carried out without risks to health and safety. For projects involving more than one contractor, they must co-ordinate their activities with others in the project team, and in particular, they must comply with directions given to them by the principal designer or principal contractor. For single-contractor projects, contractors must prepare a construction phase plan.

**Workers** – these are the people who work for or under the control of contractors on a construction site. They must be consulted about matters which affect their health, safety and welfare, and their duties include: taking care of their own health and safety and that of others who may be affected by their actions; reporting anything they see which is likely to endanger either their own or others' health and safety; and co-operating with their employer, fellow workers, contractors and other duty holders.

## RISK MANAGEMENT ON CONSERVATION SITES

The nature of the work and the types of buildings and sites in the heritage portfolio present unique health and safety challenges. Each of the topics below could be the subject of a separate article but it is worthwhile highlighting each as being of particular relevance to heritage projects.

### Access for survey, investigation and preliminary works

Most heritage projects will require high level access for surveys at some point, and falls from height are one of the major causes of fatalities in construction. Not all those who are killed or injured while working on roofs are roofers – many people accessing roofs are carrying out other tasks, such as maintenance and surveying, and they too need appropriate access arrangements.

If scaffold access is not available then a mobile elevated working platform (MEWP) will be the next best option, but these too present significant dangers. Most professionals will rely on the expertise of the MEWP hire company, but it is important to ensure that use of the machine is properly planned and managed. A risk assessment tailored to the site and the operations involved should be carried out first. This should cover, but not be limited to, the following:

- site conditions such as confined overhead working, ground conditions and the need for outriggers, falling objects and any nearby hazards
- the operations involved and the need for guardrails or fall-arrest systems, and precautions for handling materials and equipment
- weather conditions.



*A craftsman wearing safety glasses, overalls and ear protectors while preparing metalwork  
(Photo: iStock.com/linephoto)*

### PRE-EXISTING RISKS

Historic buildings contain materials and conditions such as asbestos and lead paint which present latent risks.

#### Asbestos

Commercially mined from 1870, asbestos was used for a wide range of purposes in buildings. Despite awareness of its toxicity from the early 20th century, the sale of brown and blue asbestos was only banned in the UK in 1985, while white asbestos remained legal until 1999. Consequently, there are a large number of properties with a wide range of asbestos containing materials (ACMs).

Asbestos is still the biggest industrial killer by far. It is estimated that even now an average of approximately 5,000 people die from asbestos-related diseases in the UK each year. It is commonly found in:

- lagging around boilers or pipework
- insulating boards, typically in gas meter cupboards or behind panel heaters
- loose-fill insulation
- as a composite in fuse boxes and switchgear
- floor and roof tiles
- textured coatings, such as Artex.

As a minimum, owners of buildings should commission an Asbestos Management Survey, by a specialist contractor, preferably registered with the Asbestos Removal Contractors Association (see Further Information); this comprises a visual inspection combined with sampling of suspected materials for laboratory analysis. If work is to be carried out, a refurbishment survey will be necessary, and it is mandatory that all contractors carrying out work on the site (including conservators) have received formal Asbestos Awareness Training, or a refresher course, valid within the last 12 months.

Removal of asbestos is likely to require listed building consent and confirmation should always be sought from the local authority beforehand.

#### Lead paint

Lead carbonates were used widely in oil-based paints until the 1960s and they are still found widely in historic buildings. It is safest to assume that any building constructed before 1970 contains some lead paint, and it is often possible to identify examples by the distinctive rectangular cracking which develops as they age.

Lead paint is usually to be found in earlier layers of paint beneath later redecorations. Any disturbance of this paint needs great caution

to protect the worker and occupants, and if it must be removed, strict safety controls such as wet working and respiratory equipment should be employed. However, if the paintwork is not damaged or in poor condition, attempting to remove it might result in greater exposure to lead dust than if it were left undisturbed. Advice is available from the British Coatings Federation and the Lead Paint Safety Association (see Further Information).

#### Historic plaster

Lime-based plaster was reinforced with animal hair, usually from horses, cows, goats or oxen. There is a very minor risk that animal hair incorporated into plaster mixes before about 1900 (when greater controls were introduced) could be contaminated with anthrax. This is a disease of animals that can be transmitted to humans through skin lesions, inhalation or ingestion and causes skin or pulmonary infections. Generally, it is a very rare disease in the UK and the risk is very low that anthrax will be contracted from working with historic plaster.

#### Structural conditions

Structural conditions and risks may be subject to change so they should be reviewed regularly throughout construction. Loughborough University have produced a report, 'Avoiding Structural Collapses in Refurbishment: A Decision Support System', which deals with this issue (see Further Information).

### CONSTRUCTION RISKS

The methods and materials used for conservation projects can also present risks and these need to be addressed.

#### Stone

Inhalable dust can cause irritation of the eyes, nose and throat, but it is the fine respirable dust which is of prime concern as a cause of serious long-term health problems, such as pneumoconiosis and silicosis.

Most serious health effects are due to regular and prolonged exposure to stone dust over past decades. It is often assumed that modern working conditions are better, but for stonemasons this may not be so. It is possible that dust exposures have gone up in the last couple of decades with the introduction of electrically powered disc cutters and polishers. It may be that silicosis and other adverse health effects among stonemasons will also rise. Proper personal protective equipment (PPE) and environmental controls need to be adopted.

## ACCESS SPECIALISTS

**Lime**

Lime is a highly caustic product. Splashes of lime can burn and the dust can be highly irritating to eyes and skin. Suitable PPE should be worn at all times when working with lime. In addition to gloves, breathing apparatus/masks and goggles should be used when powdered lime dust may become air-borne and eye wash should always be available on site. This is particularly important when slaking quicklime as temperatures can reach 300°C, and it is recommended that the slaking of quicklime and the mixing of dry powdered lime should be carried out in a well-ventilated area.

Risk assessments should be carried out prior to starting work on site and measures taken to eliminate and/or reduce the exposure to any risks identified. COSHH (Control of Substances Hazardous to Health) guidelines should be followed when using potentially harmful substances such as lime.

**Hot works**

Hot works associated with lead working present significant live and latent risks and the works need to be managed. Where there is to be any welding/hot working, only experienced personnel are to be used and site fire precautions are to be maintained in place throughout. A hot works permit regime should be established and enforced.

**Work at height**

Work should comply with *The Work at Height Regulations 2005*. The regulations apply to all work at height where there is a risk of a fall liable to cause personal injury. The regulations bring together all the existing work at height regulations and state the minimum health and safety requirements for the use of equipment. The principal contractor has a duty to ensure that work at height is properly planned, appropriately supervised and carried out in a manner that is safe. Duty holders must also ensure that those involved in working at height are competent and that the equipment they use is appropriate, well maintained and regularly inspected.

Apart from falls at roof edges there are significant risks from falls through fragile surfaces that may have been assumed to be safe, which the duty holder must also consider. Falls through fragile roofs and fragile roof lights account for almost a fifth of all the fatal accidents which result from a fall from height in the construction industry. Deaths caused by falls through fragile surfaces occur mainly to those working in the building maintenance sector when carrying out small, short-term maintenance and cleaning jobs.

On average seven people are killed each year after falling through a fragile roof or fragile roof light. Many others suffer permanent disabling injury. Surfaces that present a particular risk include old roof lights, old liner panels on built-up sheeted roofs, non-reinforced fibre cement sheets, corroded metal sheets, glass (including wired glass), rotted chipboard, slates and tiles.

Fragile roof incidents are not inevitable. They can be prevented by careful planning, using trained and experienced workers with suitable equipment and employing a high level of supervision. The HSE's *Fragile Roofs* leaflet (see Further Information) includes guidance for building owners and occupiers as well as for construction businesses and their employees.

**Further Information**

Asbestos Removal Contractors Association  
[www.arca.org.uk](http://www.arca.org.uk)

British Coatings Federation  
[www.coatings.org.uk](http://www.coatings.org.uk)

Health & Safety Executive (HSE) asbestos information  
[www.hse.gov.uk/asbestos](http://www.hse.gov.uk/asbestos)

HSE, *Fragile Roofs: Safe Working Practices*,  
[www.hse.gov.uk/pubns/geis5.pdf](http://www.hse.gov.uk/pubns/geis5.pdf)

HSE/Loughborough University, 'Avoiding Structural Collapses in Refurbishment: A Decision Support System', 2006  
([www.hse.gov.uk/research/rrpdf/rr463.pdf](http://www.hse.gov.uk/research/rrpdf/rr463.pdf))

Lead Paint Safety Association [www.lipsa.org.uk](http://www.lipsa.org.uk)

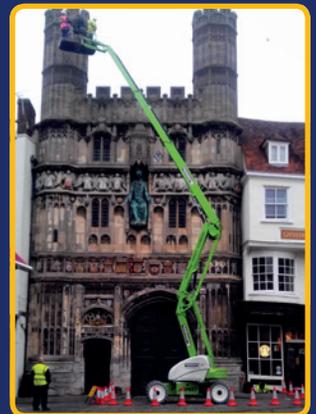
**CHRIS BOWES** founded **McGregor Bowes** in 2010. He is a chartered architect with over 30 years' experience working in architectural practice. He has also been a planning supervisor, CDM co-ordinator and principal designer since 2002. He has particular expertise and interest in the care, restoration and sensitive adaptation of historic buildings.

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Wrought ironwork around a window in Bath  
(Photo: Jonathan Taylor)

## Chapter 3

# Structure & fabric

## 3.1 ROOFING

ROOFING CONTRACTORS	Pg	Roofing contractors	Aerial access	Steeplejacks	Metal sheet roofing	Stone slate roofing	Thatchers
A C Wallbridge & Co Ltd	78			■			
Bain & Irvine	71	■					
Between Time Ltd	49				■		
Bonsers (Nottingham) Ltd	49	■					
Bosence & Co	33	■					
Building Conservation (UK) Ltd	50	■		■	■	■	■
Building Maintenance (Wales) Ltd	50	■		■	■	■	■
Busby's Builders	52	■			■		
C & D Restoration Ltd	97					■	
Country House Renovations Limited	72	■				■	
D B R Leadwork	72	■			■		
The Delabole Slate Company Ltd	78					■	
Dunne and Co Building & Restoration	56	■					
E G Swingler & Sons	72	■			■		
Easy Reach Access Hire Solutions	68		■				
Eyres Master Thatchers	78	■					■
Fortress Restorations Ltd	55	■					
H & W Sellors Ltd	98	■					
Hall Construction Limited	56	■					
Heritage Building & Conservation Ltd	56				■		
Heritage Stone Access Limited	68		■	■			
Historic Building Conservation & Repair	43	■					
Ivinghoe Building Services	57	■					
J P Ladell Ltd	57				■		
John Williams & Co Ltd	72	■			■		
McNamara & Co	99	■					
P Webb Roofing & Building Services Ltd	72	■					
Paramount Platforms Ltd	67		■				
Sally Strachey Historic Conservation	102			■			
St Swithuns Building & Conservation	60	■					■
Stonest Limited	61		■				
T R A C Structural Ltd	144		■				
Taliesin Conservation	62	■			■		
Trendle Conservation	72	■					
Underwood & Weston Ltd	62	■					
Ward & Co (Building Conservation) Ltd	63	■					

ROOFING PRODUCTS & MATERIALS	Pg	Architectural salvage	Battens, lath & pegs	Chimney pots	Clay roof tiles	Metal sheet roofing	Oak shingles	Roof drainage	Roof features	Roof lights & lanterns	Roof slates	Stone roof slates	Weathervanes
Antique Buildings Limited*	132	■		■	■								
Architectural Bronze Casements	117									■			
Artisan Plastercraft Ltd	169		■										
Babylon Tile Works	78		■		■								
Best Reclamation*	132	■		■	■				■		■		
The Bulmer Brick and Tile Co	85				■								
C & D Restoration Ltd	97											■	
C M Baker Decorating Ltd	158							■					
Calibre Metalwork	111									■			
Castaway Cast Products and Woodware	111							■					
Chalk Down Lime Ltd	140		■										
Clement Windows Group	72									■			
Cornerstone Mortars	141		■										
Cornish Lime Company Ltd	140		■										
Country House Renovations Limited	72											■	
D B R Leadwork	72							■					
The Delabole Slate Company Ltd	78										■	■	
Dreadnought Tiles Ltd	78				■				■				
E G Swingler & Sons	72		■		■						■		
The Fine Iron Company	111												■
Haddonstone Limited	86												■
Heritage Project Contracts	112					■				■			
Ivinghoe Building Services	57				■								
J & J W Longbottom Ltd	81							■					
J H Porter & Son Ltd	112												■
Keymer	79				■				■				
Malbrook Conservatories	131									■			
Marley Eternit	78				■				■		■		
Marsh Brothers Engineering Services Ltd	112									■			
Mike Wye & Associates Ltd	141		■										
P Webb Roofing & Building Services Ltd	72					■							
Peter Neale Blacksmiths	114												■
Rainclear Systems Ltd	81							■					
Recclesia Stained Glass	120									■			
The Rooflight Company	73									■			
Saint-Gobain PAM UK Limited	81							■					
Sandtoft Roof Tiles Ltd	79				■				■		■		
Smithbrook Building Products Limited	78				■								
The Standard Patent Glazing Co Limited	72									■			
Szerelmey Conservation	103				■								
Topp & Co	114												■
West Meon Pottery	78			■									
Whippletree Hardwoods	164		■					■					
Womersley's Limited	142		■										

\* architectural salvage

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STONEMASONRY AND JOINERY: See also: profile entry in Building Contractors, page 54.

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See also: display entry in this section, page 71.

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■ **TRENDE CONSERVATION**

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ROOFING CONTRACTOR: See also: profile entry in Building Contractors, page 64.

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CONSERVATION ROOF LIGHTS: See also: profile entry in Metal Windows, page 117.

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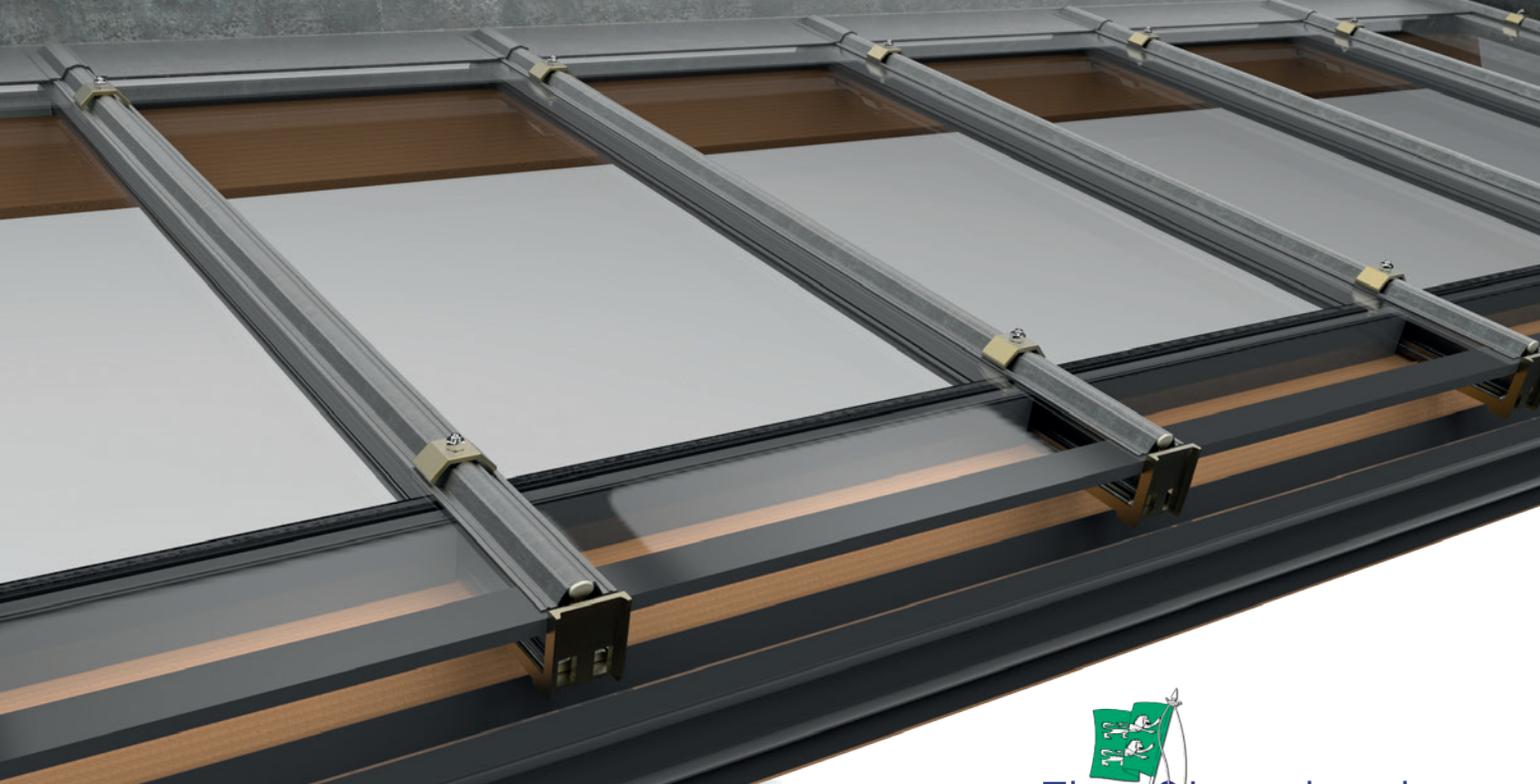
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# THATCH FIRES

and the role of wood-burning stoves

ALISON HENRY and JIM GLOCKLING

**O**VER THE past two decades there has been a significant increase in the number of thatched-roofed buildings destroyed by fire. Many of these were listed or in conservation areas. Fire in a thatched roof usually spreads slowly but is extremely difficult to extinguish, so damage is usually extensive.

As well as the traumatic impact of losing a home and most of their possessions, many owners also have to bear much of the cost of reconstruction, as buildings are often not insured to their full rebuilding value. In addition to covering materials and labour, reconstruction costs include items such as VAT, fees for planning, listed building and building regulations fees, and temporary accommodation (which is often needed for longer if the building is listed, as it usually takes longer to obtain all the relevant approvals). Under-insurance can pose enormous problems for owners, requiring them to dig deep into their savings, take out a loan or, in some cases, sell the property. If the house is part of a terrace, neighbouring properties might also be damaged.

When a historic building is seriously damaged by fire, the heritage cost should not be underestimated either. In many cases, the only surviving historic fabric is the outside walls and chimney stacks. Although reconstruction usually replicates the form and style of the original building, for example, by reinstating a thatched roof and copying the design of the doors and windows, this only restores architectural value: the historic and archaeological values of the thatched roof and everything else that has to be replaced are entirely lost. Often the result is, essentially, a new building in imitation of the original.

Greater understanding of the causes of thatch fires and the development of robust measures to prevent them are urgently needed to help reduce the numbers of thatched buildings lost to fire each year.

## CAUSES OF THATCH FIRES – THE EARLY THEORIES

By the 1990s it was increasingly being recognised that, in most cases where a fire originated in a thatch roof, a wood-burning stove was in use when it started. These stoves burn at a higher temperature than open fires, and it seemed clear that there was some correlation between the increasing incidence of thatched-building fires and the growing popularity of wood burners. However, the actual methods of thatch ignition have been the subject of much debate.



*Because thatch is designed to shed water, it is extremely difficult for the fire services to extinguish burning thatch. (Photo: NFU Mutual Insurance Society Ltd)*

Research carried out in the 1990s was based on computer modelling rather than measurement of actual flue gas velocities and temperatures. The modelling suggested that heat from flue gases would be transferred by conduction through the chimney brickwork into the adjacent thatch. It was therefore concluded that if the thatch surrounding the chimney was very thick (as often occurs in old, multi-layered thatched roofs), it would provide sufficient thermal insulation to enable the brickwork to heat up to the point where the temperature at the interface with the thatch could reach 200°C, which would be sufficient for the thatch to smoulder. The modelling further suggested that prolonged use of a wood burner could raise the temperature of the thatch to 400°C, at which point it would ignite. This 'heat-transfer theory' gained widespread currency. Recommendations to reduce the risk of ignition included installing an insulated flue liner to reduce conduction of heat into the brickwork.

In the late 2000s, forensic investigators noted that many thatch fires had started shortly after the wood burner was lit. In other cases fires occurred in single-coat thatched roofs, and in properties where the chimney was already fitted with an insulated liner. These fires could not be explained by the heat-transfer theory. As historic buildings continued to be lost to fire, it became clear that further research was needed.

## CURRENT RESEARCH

In 2014, Historic England (formerly English Heritage) and NFU Mutual Insurance Society Limited (which insures many of the UK's thatched properties) commissioned the Fire Protection Association to take a fresh look at all the possible causes of fire in thatched properties with wood-burning stoves. These include:

- **direct ignition** – due to sparks, hot embers or burning debris falling from the chimney and landing on the thatch, whether during normal operation or as a result of a chimney fire
- **convection** – due to transfer of heat by hot gases, for example through failed mortar joints or holes in perished brickwork or flue liner.
- **conduction** – due to heat transfer through solid materials.

To assess the problem two full-scale test rigs were constructed. The first comprised a 12kW wood-burning stove fitted with a rigid steel flue, instrumented to measure the operational parameters of wood burners and the speed and temperature of flue gases, and to understand the mechanisms of spark emission from the flue. The second rig included the same type of stove installed in a brick fireplace with a brick chimney stack. This could be used unlined or it could be fitted with various types of liner (insulated and non-insulated), including a damaged one. Again, the rig was fully instrumented.

A series of tests has been carried out to:

- investigate the operational parameters of wood-burning stoves using traditional fuel types and a range of air venting levels throughout the life of the fire including initial ignition and later refuelling
- investigate the effects of various materials, such as paper, card and kindling, used to help light the fire
- study flue gas properties and methods of spark/ember transport and ejection
- measure heat transfer by conduction through brickwork, with a variety of flue configurations, including damaged and partially blocked flues
- measure the transfer of heat by convection (movement of hot gases) via imperfect brickwork and damaged flue liners
- assess the risk of thatch ignition due to a chimney fire.

### RESEARCH FINDINGS TO DATE

The research is ongoing, and further tests will be carried out to investigate other means of thatch ignition related to wood-burning stoves and open fires. However, some significant findings have already come to light.

#### Spark ejection

Sparks were ejected from the flue during lighting and the early life of the fire, during re-fuelling and poking, and randomly during normal operation, perhaps associated with collapse of burning logs. The size and frequency of sparks were affected by the type of fuel and the volume of air used for venting. Some sparks were ejected into the air at high speed and flared momentarily, but others stayed alight while floating down towards the notional roofline. Sparks from cardboard and paper were larger and glowed for longer than those from kindling and logs, and some retained their energy during their descent.

More sparks were produced when the stove was being well-vented and therefore burning at high temperature. Measurement showed a direct relationship between stove temperature and flue gas velocity: the higher the velocity, the greater the risk of burning material being transported upwards and ejected from the chimney.

Some wood burners allow aggressive ventilation, and are therefore potentially more dangerous than other models. For example, models in which all controlled ventilation occurs under the fuel bed may be operated in such a way that they generate high temperatures and flue gas velocities, thereby increasing the risk of lighter material in the fire bed being carried up and ejected from the flue. Stoves that have a separate ash-pan door below the main door which can be opened while the stove is in use are of particular concern, and manufacturers warn against venting them in this way.

#### Temperature of flue gases and chimney brickwork

During typical wood burner operation, the temperature within the fire box was generally between 500 to 800°C, depending on the refuelling rate and degree of ventilation.



*The two testing rigs: the one on the left was used to establish the general operating parameters of wood-burning stoves, including flue gas temperatures and speeds. The rig on the right was used to evaluate the effects of heat conduction through brickwork, and movement of hot flue gases via defects in the brickwork or flue liner. (Photo: Alison Henry).*

However, temperatures dropped significantly with height. At the top of the stove/base of the flue, the temperature was approximately 200°C lower than in the fire box, and dropped by approximately 50°C per metre up the flue pipe. At the height corresponding to the ridge level (where the chimney would pass through the thatch), the outside surface of the metal flue during normal wood burner operation was generally between 75 and 125°C.

During aggressive wood burner operation, especially when the fire was vented beneath the fuel bed, temperatures in the wood burner could reach 900°C. However, to maintain a temperature of 800 to 900°C typically required 4½ hours of extremely aggressive venting and constant refuelling (during which time it became impossible to approach the wood burner without wearing protective clothing). The result was that, at ridge height, the external surface of the metal flue pipe reached 275°C, but the internal temperature of the chimney brickwork

was 100°C lower. Moreover, the external surface of the bricks (that is, the surface that would be in contact with the thatch) never reached more than 80°C, regardless of whether the wood burner was operated with or without a flue liner. This is well below the temperature required to ignite thatch. This suggests that *conduction* of heat from the flue into the thatch via sound chimney brickwork and mortar is, on its own, unlikely to be a cause of fire in thatched buildings.

#### Ignition of thatch by convection

Cutting out a mortar joint or even a complete brick in the unlined experimental chimney, leaving the underside of the thatch exposed to the interior of the flue, did not result in ignition of the thatch so long as the chimney was unobstructed. However, once a partial blockage (such as a bird's nest or soot accumulation) further up the chimney was simulated, hot flue gases were diverted through the defective brickwork and into contact with the thatch. Ignition soon followed.

#### Nesting birds

A bird's nest significantly increased the risk of setting light to the thatch. When the hot flue gases came into contact with the nest, the twigs did not burn because there was insufficient oxygen inside the flue. Instead they were converted to charcoal in a process known as pyrolysis. As charring continued, the nest lost its structural stability and collapsed. Charcoal is very light, so some of the smaller fragments were lifted up by the rising flue gases, and ejected from the top of the chimney. Immediately on contact with the oxygen in the air they burst into flames and rained down on the thatch surface. These burning fragments were much larger than the sparks emitted during normal or even aggressive wood burner operation, and had sufficient energy to ignite the thatch very quickly.

There is often a spate of thatch fires if there is a cold snap in late spring, and it is possible that this may be related to nest building at this time of year.

### CONCLUSIONS

The research has demonstrated that 'heat transfer' (conduction of heat from flue gases via sound brickwork) is very unlikely to be a prevalent mechanism of thatch ignition. It is clear that aggressive venting of a wood-burning stove increases the temperature and velocity of flue gases, promoting ejection of sparks and burning brands from the chimney, some of which may have sufficient energy to ignite the thatch when they land on it. Stoves that allow aggressive venting can achieve higher operating temperatures and flue gas velocities and therefore can potentially increase this risk. Partial blockages in the chimney, whether due to soot accumulation or a bird's nest, increase the risk of hot gases penetrating chimney defects and igniting the thatch. A bird's nest in the chimney can also increase the risk of fire due to pyrolysis and ejection of burning nest material.

**RECOMMENDATIONS**

Additional research is needed before comprehensive advice on reducing the risk of thatch fires can be issued. In the meantime, the following recommendations for the safe use of wood-burning stoves will help reduce the risk:

- The wood burner installed must be appropriate for the size of the space to be heated. Over-specifying the stove output increases possible operating temperatures.
- Wood burners should always be lit and operated in accordance with the manufacturer's recommendations. Models that have a separate ash-pan door should *never* be operated with the ash-pan door open.
- Do not use paper or cardboard to help light a fire. Fire-lighters and dry kindling produce fewer sparks.
- Burn only fuels recommended by the wood burner manufacturer. Do not use softwood, unseasoned wood or joinery/carpentry offcuts, or use the fire to burn paper and card.
- Stay with the wood burner during lighting and refuelling, and reduce venting once the fuel is alight. Maintaining strong ventilation during normal burning increases the temperature and velocity of flue gases and may increase the risk of thatch ignition by various means. Operating the wood burner with a bright flame indicates that the fire is oxygen-rich and operating at higher temperatures than necessary.
- Install a stove pipe thermometer to ensure that the wood burner is operated at the correct temperature. These indicate when venting needs to be reduced to lower temperatures and reduce flue-gas velocities. It also shows when the stove is being operated at too low a temperature, which can increase the accumulation of soot or tar on the inside of the flue, providing fuel for a chimney fire.
- A flue liner is recommended for all properties where the condition of the flue brickwork or mortar may be in question; this will reduce the risk of hot gases escaping from the flue into adjoining thatch.
- A bird guard or bird deterrent should be fitted to the top of the chimney to prevent birds nesting. The device must neither impair the operation of the flue nor be capable of becoming blocked, nor should it hinder thorough chimney sweeping.
- Chimney flues should be swept at least once a year, but more often if the fire is used frequently. Check requirements with your insurer.
- A camera survey should be undertaken every 12 months, even in chimneys that are fitted with a liner, to observe their condition and suitability for continued use.
- Increasing the distance between the top of the chimney and the surface of the thatch

reduces the risk that sparks or burning material ejected from the chimney will ignite the thatch. A minimum distance of 1.8 metres between the top of the chimney and the thatch surface is recommended. This may be achieved by adding a chimney pot or additional courses of brick or stonework (or both). Rarely, removal of the most recent layers of thatch may be justified to help increase effective chimney height.

**ALISON HENRY** is a senior architectural conservator in the Building Conservation and Research Team at Historic England, with a special interest in thatch, mortars and earthen materials.

**JIM GLOCKLING** is technical director of the Fire Protection Association and Director of RISC Authority. FPA is a not-for-profit company which provides research support on specialist risk management to the insurance industry, military and commercial estates. Email [jglockling@thefpa.co.uk](mailto:jglockling@thefpa.co.uk)

**Further Information**

K Benjamin, 'Fires in thatched buildings: A survey of 148 fires between December 2008 and May 2016', Burgoynes, London, 2016 ([www.burgoynes.com/articles/2013/12/fires-in-thatched-buildings](http://www.burgoynes.com/articles/2013/12/fires-in-thatched-buildings))  
English Heritage, *Practical Building Conservation: Roofing*, Ashgate, Farnham, 2013

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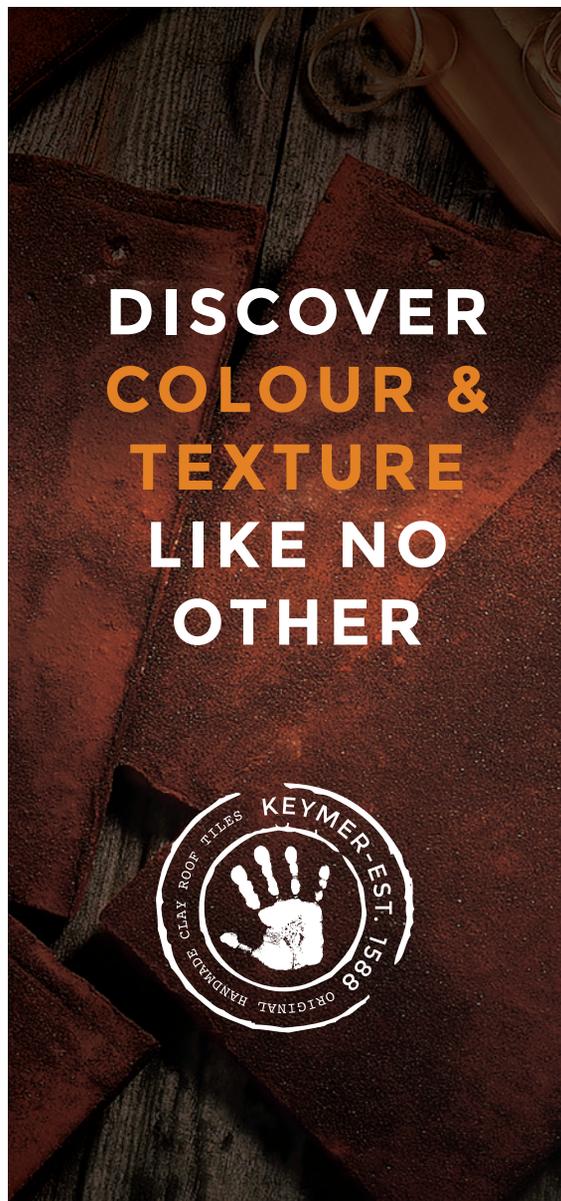
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A V V Solutions Ltd	95	■								■	■	■	■	
Alston Walling	108			■										
Andrew Churchman Ltd	94											■		
Antique Bronze Ltd	110										■			
Aura Conservation	94									■	■	■	■	
Bakers of Danbury Ltd	94	■	■	■	■	■	■	■	■	■	■	■	■	■
The Barwin Group	2	■	■	■	■	■	■	■	■	■	■	■	■	■
The Bath Stone Group	94										■			
Between Time Ltd	49	■								■	■	■		
Boden & Ward Stonemasons Ltd	96									■	■	■		
Bonsers (Nottingham) Ltd	49	■								■	■	■	■	
Bosence & Co	33									■				
Bosence Building Conservation	96	■			■					■	■	■	■	■
Bristol Stone Masonry Ltd	96													
Building Conservation (UK) Ltd	50	■	■	■	■	■	■	■	■	■	■	■	■	■
Building Maintenance (Wales) Ltd	50	■	■	■	■	■	■	■	■	■	■	■	■	■
Bullen Conservation Ltd	96	■	■	■							■	■	■	■
Burrows Davies Limited	96	■								■	■			
Busby's Builders	52	■									■			
C & D Restoration Ltd	97	■	■	■	■	■	■	■	■	■	■	■	■	■
C Ginn Building Restoration Limited	145										■			
Carthy Conservation Ltd	97										■	■	■	■
Catherine Woolfitt Associates Ltd	28										■			
Chichester Stoneworks Limited	97										■			
Cliveden Conservation Workshop Ltd	97	■			■					■	■	■	■	■
Coe Stone Ltd	97									■	■	■		
Collins & Curtis Masonry Ltd	97					■		■	■	■	■	■		
Conservation Building Services Ltd	52										■	■		
Country House Renovations Limited	54										■			
D B R Conservation	92				■		■			■	■	■	■	■
D B R London	98	■			■				■	■	■	■	■	■
D B R Southern	98	■	■	■	■	■	■	■	■	■	■	■	■	■
D P Tebbutt Stonemasons	98									■	■			
Daedalus Conservation	54									■	■	■		
Darwen Terracotta Limited	94													■
The Delabole Slate Company Ltd	78			■							■			
Dry Stone Walling and Paving	108			■										
Dunne and Co Building & Restoration	56					■				■				
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Eastern Heritage Restorations	54	■	■			■				■	■	■	■	■
Ernest Barnes Ltd	83	■				■				■				
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Fortress Restorations Ltd	55	■	■								■	■		
Four Walls Building Company Ltd	84	■								■				
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The Lime Centre	141	■												
London Lime Plasterers	171										■		■	
London Stone Conservation Ltd	100								■		■	■		
Mathias Restoration Ltd	84	■				■				■				
McNamara & Co	99	■										■		
Medusa Stonemasonry Ltd	100										■	■		
Messenger	99											■		
Mike Wye & Associates Ltd	141	■									■			
Ornate Interiors Limited	171										■			
Owlsworth I J P	58	■				■					■	■	■	■
P D P Green Consulting	18							■						
Paye Conservation	99										■	■	■	■
Period Property Solutions Building Conservation Limited	59										■	■		
Pierra Restoration	100											■		
R J Smith & Co	59	■									■	■		
Raymond Duff Stonecrafts	108			■										
Recclesia Ltd	102										■	■	■	
Richard Rogers Conservation Limited	92											■		
Ross Lovett Conservation	102									■	■	■	■	
Rupert Harris Conservation	91											■		
Sally Strachey Historic Conservation	102										■	■	■	■
Simon Swann Associates Ltd	92	■				■			■	■	■	■	■	■
Skillington Workshop Limited	102	■									■	■	■	
Slate and Dry Stone Design	108			■										
The South Pennine Walling Company	108			■										
Splitlath Building Conservation Ltd	60											■		
St Swithuns Building & Conservation	86	■												
Gilbert Stirling Lee – Dry Stone Waller	108			■										
Stone Art	102											■		
Stone Central (NW) Ltd	102			■	■				■	■	■	■	■	■
Stone Edge Limited	104										■	■	■	
Stonewest Limited	61	■	■	■	■	■	■	■	■	■	■	■	■	■
Szerelmey Conservation	103			■								■		
T R A C Structural Ltd	144			■										
Taliesin Conservation	62												■	
Taylor Pearce Restoration Services Limited	104											■		
Trendle Conservation	86	■	■								■	■		
Underwood & Weston Ltd	62	■											■	
Unique Pointing Ltd	142										■			
Valley Builders Ltd	62	■									■	■		
Vivus Solutions Ltd	142	■									■			
W P D Productions Ltd	64												■	
Ward & Co (Building Conservation) Ltd	63	■									■	■	■	
Weeden Masonry	104												■	
Weldon Stone	104												■	
Wells Masonry Services Ltd	104											■		
William Taylor Stonemasons	104										■	■	■	■
Williams Restoration	84	■									■	■	■	■

MASONRY PRODUCTS	Pg	Architectural salvage									
		Brick	Cast stone	Cob & earth	Cobbles & setts	Knapped flint	Marble & granite	Mathematical tile	Paving	Stone, general	Terracotta
Antique Buildings Limited*	132	■	■		■				■		
The Bath Stone Group	94								■	■	
Best Reclamation*	132	■	■		■				■	■	
Boden & Ward Stonemasons Ltd	96									■	
The Bulmer Brick and Tile Company	85	■						■			
C & D Restoration Ltd	97		■					■			
C Ginn Building Restoration Limited	145	■	■							■	■
Coleford Brick & Tile Co Ltd	85	■									
Collins & Curtis Masonry Ltd	97							■	■	■	
Cornerstone Mortars	141			■							
Cornish Lime Company Ltd	140			■							
DBR London	98		■								
DBR Southern	98		■							■	
Darwen Terracotta Limited	94	■									■
The Delabole Slate Company Ltd	78								■	■	
Dunne and Co Building & Restoration	56										
Grinshill Stone Quarry	98									■	
H G Matthews	84	■				■					
Haddonstone Limited	86		■								
Heritage Cob & Lime	140			■							
Hirst Conservation Ltd	141			■							
J S Stonemasonry Ltd	98							■		■	
Ketley Brick Company Limited	86	■							■		
Lambs Bricks & Arches	86	■									
Lambs Stone	99		■								
Lambs Sussex Sandstone	99									■	■
Medusa Stonemasonry Ltd	100							■		■	
Mike Wye & Associates Ltd	141			■							
The Mosaic Restoration Company Limited	163							■			
The Pluckley Brick Company Ltd	85	■									
Simon Swann Associates Ltd	94										■
Smithbrook Building Products Ltd	78	■									
Stone Central (NW) Ltd	102							■	■	■	
Stonewest Limited	61		■					■		■	
Szerelmey Conservation	103			■							
Weldon Stone Enterprises Ltd	104									■	
Wells Masonry Services Ltd	104									■	
West Meon Pottery	94	■									■
William Taylor Stonemasons	104									■	
The York Handmade Brick Company Limited	86	■									

\*architectural salvage

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SCULPTURE, STONE AND BRICK SERVICES: See also: display entry and profile entry in Stone, pages 96 and 97.

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BRICK SERVICES: See also: display entry in Building Contractors, page 55.

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BRICK SERVICES: See also: display entry on the inside back cover and profile entry in Stone, page 104.

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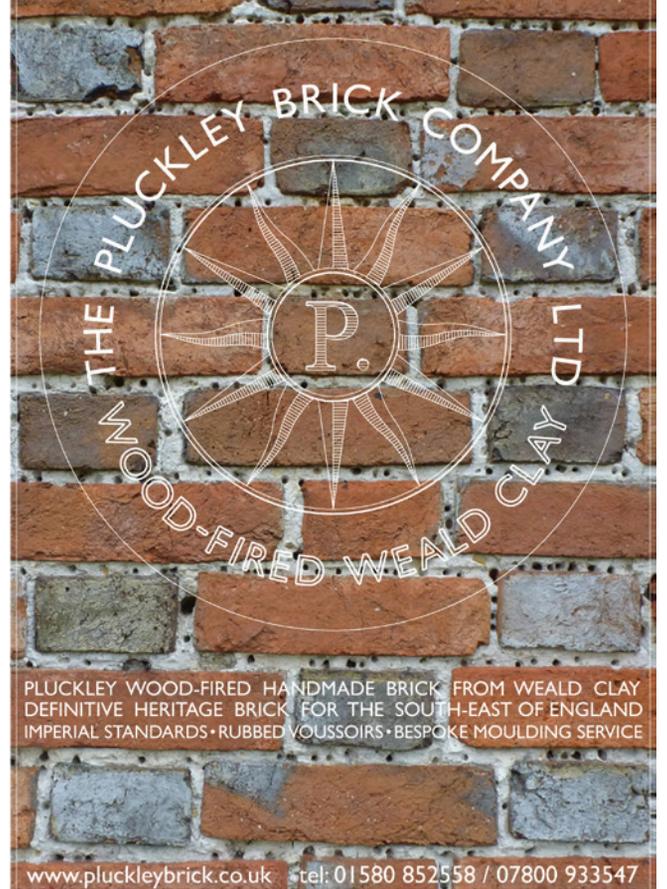
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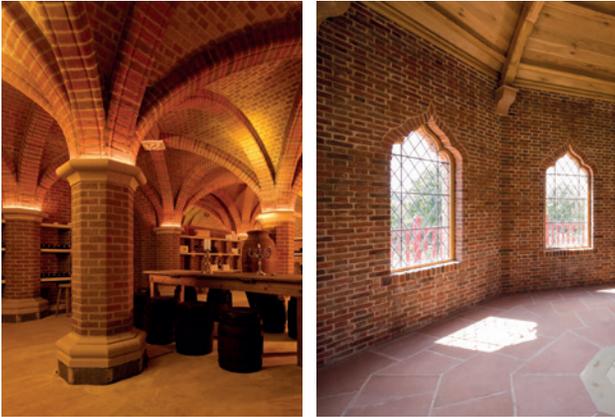


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# ARTIFICIAL STONE

## 19th-century cementitious sculpture and rockwork

SIMON SWANN

**T**HE TERM artificial stone can be applied to a variety of products intended to imitate and replace natural stone, especially those which were produced in a workshop by a moulding process. This definition helps to distinguish them from stucco and render mouldings made on site.

By the 19th century, artificial or imitation stone probably already had a long and significant history, but there were significant developments in the use of the material in the mid-18th and early 19th centuries. Key to these was the introduction in 1769 of Coade Stone, a type of terracotta. Its success demonstrated the potential for the manufacture of a moulded material that could replicate free-standing stone sculpture and architectural enrichments, and which could be purchased from a catalogue.

Other materials were also used, including Ransome's Artificial Stone, which was made from about the mid-19th century and was silicate based. The following article, however, focusses on mortar- and cement-based artificial stones.

Critical to this development was the introduction of the first calcareous cement by James Parker, who patented what was to become known as Roman cement in 1796. In the same year Parker and Co were advertising the manufacture of 'Coping-Stones, Window-Sills, Blocking and String Courses, Balustrades, Gothick Ornaments, and others of this nature, cheaper than can be executed in natural stone' (*The Cement Industry*, see Further Information). It appears that the potential of this rapid-hardening natural cement for the casting of architectural and decorative elements was recognised almost immediately. However, it was not until the early 19th century that the use of artificial stone began to flourish following the development of workshops such as William Lockwood's in Woodbridge and then London (c1820) and the Artificial Stone Works of Felix Austin (known as Austin and Seeley from c1840). Felix Austin commenced manufacture of his artificial stone in about 1814 from a base at Rotherhithe.

### SCULPTURE AND ARCHITECTURAL ORNAMENT

There was often a close link between artificial stone makers and the plastering traditions. Lockwood's business, for example, seems to have been based largely on plastering, but it is evident that the firm's London showrooms exhibited a large number of cement castings including coats of arms and exterior ornament. These items were



*Original surface texture and colour visible on the underside of a dolphin tazza sculpture, cast by Felix Austin in the early 1830s using patent Portland cement and Portland stone aggregate (both photos: Simon Swann)*

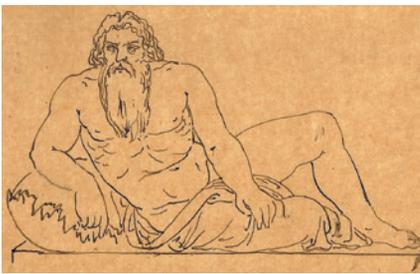
cast in Roman cement and Lockwood's 'Portland Stone Cement', and were an important aspect of his business.

By contrast, Felix Austin's works was a dedicated artificial stone works, producing catalogues by the 1830s of his artificial stone products, and his 1838 catalogue is titled *A Collection of Ornaments for Gardens, Parks, and Pleasure Grounds; and for every style of Building*. The success of this





The yard of Austin and Seeley in the late 19th century showing the wide range of sculpture available in artificial stone (Reproduced by permission of Historic England Archive)



Drawing of sculpture commissioned by Joseph Paxton for a fountain at Crystal Palace, Sydenham in 1854 (by kind permission of the Crystal Palace Foundation) and, below, one of the surviving sculptures (Photo: C Dunkley)



manufacturer also relates to his connection with important designers: JB Papworth, Sydney Smirke and John Bacon Junior were among those who used his services and designed his castings.

William Ranger (1799–1863) was another artificial stone producer who patented his process (1832 and 1834). He, however, preferred to use relatively weak hydraulic limes, relying on quick lime, hot water and mould compression to harden his products, which were mainly architectural and included a range of forms such as ashlar blocks, column sections and capitals.

Similar traditions also developed in other European countries such as around Grenoble in France where a natural cement was being produced.

The main aim of most early producers was to imitate natural stone and to find a binder that could match the surface and colour of Portland or Bath stone. Later in the 19th

century the use of coloured and pigmented artificial stone was more common, and precast building systems began to appear, such as William Lascelles' 'patent cement slab system' (patented in 1875).

### GARDEN AND LANDSCAPE ORNAMENT

During the mid-19th century the fashion for garden landscaping, grottoes and ferneries led to the adoption of 'artificial rockwork'. The best known producer was Pulham and Son, who developed a cement-based system in imitation of natural rocks called Pulhamite Artificial rockwork. This was first used during the 1840s but really developed in the mid-to-late 19th century, with some large schemes being carried out at Highnam Court, Gloucestershire (1847–62), Battersea Park (1865–70) and Madeira Walk, Ramsgate (1894).

The first James Pulham (1793–1838) developed his skills while working for William Lockwood in Woodbridge, Suffolk, but it was the second James Pulham (1820–1898) who was responsible for the rapid development of the business for much of the 19th century. The business closed around the start of World War II.

The Pulhamite Rock-Work system was described by Pulham (in *A description of a Naturalistic Pulhamite Fernery, Conservatory, or Winter Garden*) as: 'the building up of natural stone in complete imitation of a portion of rocky cliff with stratified or unstratified stone or rock, and joined, where necessary, with Pulham's cement, made of the same colour and texture, as lime or sandstone, and tufa. Where no real stone or rock exists, at or near, and too expensive to get then the Pulhamite formation is adopted. The core is formed by building up burrs, rough bricks, rubble etc, to the rude rocky shapes; then covered with cements of the colour, form and texture of the rock, which may be considered to be the most natural or nearest to the locality. Sometimes real rock or stone is used with artificial, for economy and effect; in thin strata, where large blocks of real stone are too expensive, this adds to the naturalness of the appearance, and not too much cost'.

Frequently hydraulic lime was used as the masonry construction mortar, and a series of large cantilever stone slabs, often entirely covered with the Pulham cement mortar, was used to provide projecting plant pockets and strata. Rock embankments and walling could include small sandstone lintels buried below the surface, off which further masonry walling was constructed. In grottoes, the use of natural limestone such as tufa was common, bonded to the walls with Roman cement and the areas between were made up with colour-matched mortar (often hydraulic lime based), thrown on to give a suitable rough texture.

### MATERIALS, PROCESS AND TECHNIQUES

The rapid and exciting developments in cement binders in the first half of the 19th century were often reflected by developments in the artificial stone workshops. For example, an article by John White on cementitious architecture in the *Dictionary of Architecture* (see Further

Information) states: 'Austin's Artificial Stone, a composition invented by Mr Austin, of New Road, London [was used] about the year 1814, when Roman cement formed the chief ingredient: Atkinson's cement was employed about five years later, and about 25 years since Portland cement was adopted, which material is still used by his successor, Mr Seeley'.

The impetus for these changes was the requirement to have cast products which looked like natural stone, and the predominantly brown colour of Roman cement was not popular in this respect, although it remained a useful material in hidden locations. Atkinson cement, also known as Yorkshire or Mulgrave cement, was a natural cement derived from Sands End in Yorkshire which was much less brown and more grey in colour. The fore-runner of modern Portland cement, Aspdin's Portland Cement (patented 1824) was named after the stone it was intended to imitate.

This journey through the various binders of the period is reflected by other users as well. Lockwood was a manufacturer of Roman cement but later (c1820) developed his Portland Stone Cement, probably based on eminently hydraulic lime from South Wales.

By contrast, both the Pulhamite Artificial Rockwork and later 19th-century artificial stone often used pigments to colour the pale cement binders to provide the necessary imitation. In Pulhamite rockwork, mortars of different pigmented colour were carefully manipulated and applied by hand to imitate the variations of colour found within the rock face and strata. This is not always immediately obvious because the rockwork is often now covered in algae, moss, or other deposits.

As well as pigments, the Pulhams also used mortar inclusions such as shells, or impressed designs which imitated fossil bands for example. The later 19th-century artificial stones tended to be more frequently pigmented with reds and browns, no doubt in imitation of red sandstone or even terracotta.

In some cases items have been intentionally painted either as a decorative façade treatment or in an effort to replicate the item portrayed. Examples of the latter include the dinosaurs (by Benjamin Waterhouse Hawkins) at Crystal Palace, Sydenham and garden statues prepared in cement for Joseph Paxton for Crystal Palace in the mid-1850s.

Aggregates could also make an important contribution to the colouring and surface texturing of early artificial stone. Austin's characteristic mortar matrix (sometimes referred to as 'puddingstone') provides the necessary surface colour and texture of his products. His mortar composition includes extensive quantities of crushed Portland stone ranging in size from less than 1mm up to 10mm. When the original surface – which tends to be fine-textured – is weathered, the larger aggregates of Portland stone can be seen to stand proud of the cement matrix. This is often one of the indications that the material is a historic artificial stone product. Minor quantities of other stone types are also found in the matrix but these are generally regarded as contaminants occurring during processing.

Production of both architectural ornament and free-standing sculptural elements mainly took place in established workshops where moulds, probably either in wood or plaster, were used. Some items may have been sculpted directly in the cement material, but such items are likely to be rare. Many of the larger sculptural elements were cast in multiple pieces and later assembled using various armatures. Armatures were also incorporated into cast ornaments during the casting process, mainly to provide initial strength. Austin, for example, is known to have used ferrous armatures wrapped in sheet zinc or similar non-ferrous metal within cast elements, and to have used sandstone armatures to join separately cast elements together. Tile or brick was also often incorporated into casts, probably to restrict any possible shrinkage, provide some minor strengthening and save cement.

Often casts were made in hollow sections. This was particularly the case for items that appear bulky but are effectively relatively thin walled, such as pedestals and bases. In such cases the interior is often lined with tile creasing (in effect courses or layers of clay tiles) bedded in Roman cement even if the exterior is in early Portland cement. This technique allowed for easier site handling of objects and a reduction in material costs. There is no evidence that Pullhamite artificial rockworks were ever pre-cast and placed, all examples seen by the author have been built in situ. Although cement-based wood imitations, such as rustic wood bridge hand rails, may well have been composed of pre-cast cement materials (examples can be seen at Antwerp Zoo but their origin is unknown).

It is important to realise that the production of objects in a series of casts allowed for some discreet adjustments to the assemblage of casts. For example, Austin's Eagles could be posed with their heads looking in either direction according to which type of head was selected. This allowed the production of matching pairs for gateways or other features. Similarly, the dolphins produced by the same firm could appear in various combinations and assemblies. Similar use of moulds can also be seen in Coade stone products. Many of the artificial stone manufacturers produced very similar ornaments, making it difficult to reliably attribute a design shown in a catalogue to a particular manufacturer.

### PRELIMINARY ANALYSIS AND INVESTIGATION

Close inspection of the object or landscape scheme will aid an initial understanding of its construction, materials and form. If a series of objects is to be inspected then a survey sheet defining the critical aspects of the inspection is a very good aid, along with a detailed photographic survey.

Simple techniques like wet brushing of the surface to reveal the original colour and texture of the surface are also strongly advised, especially in the case of items beneath trees where there is a substantial build-up of organic growth.



*Pulhamite Artificial Rockwork at Madeira Walk, Ramsgate in 1901 – the feature no longer survives (Copyright The Francis Frith Collection)*

Although some defects will be obvious, the first inspection often gives only a limited understanding of the object's condition. This is particularly true where it is half-buried by soil, as is often the case, or where a feature projects from a wall, restricting full investigation and raising questions about the nature of the fixing. Invasive investigations are often not welcomed at the initial stages.

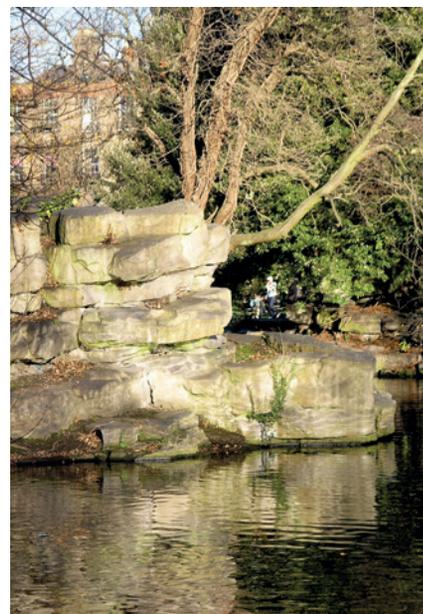
In addition, the person investigating may be confronted with a wide range of materials, from natural stones (including tufa or imported materials) to binders, aggregates and pigments. Careful inspections will invariably include a range of materials analysis. Sometimes it is useful to inspect objects on site alongside a consultant geologist because this often helps provide immediate insight into the range of materials.

For identifying mortars and binders, a full petrographic analysis is the best approach, and this can be supported by scanning electron microscope (SEM) work where necessary. The knowledge of the analyst is a critical factor as the analysis of early cement binders is a complex area. However, there are a number of indicators which can help to identify the type of binder used. These include the presence and nature of un-hydrated cement grains and the chemical analysis of these grains by SEM spot analysis.

Pigments in the mortar are best identified by a pigment specialist, while stone aggregates are best identified by a geologist using petrography or simple observation.

### DEFECTS AND CONSERVATION

Understanding the material composition and the method of construction is clearly critical to the development of a good conservation policy. However, understanding the historical significance of the item and its producer is equally important. In the recent past too many items have been replaced with modern reproductions without any assessment of their historic significance. Not only do many of these items reflect important technological developments in the use of early cements and casting techniques which



*Pulhamite rockwork on the edge of a three-acre lake constructed in 1880 at St Stephen's Green, Dublin (Photo: Simon Swann)*

were to influence 20th-century concrete development, but some workshops also used well-established sculptors and designers to develop their ornament. Historic and original items of artificial stone may therefore have considerable value both as works of art and as original antiques, which would be lost if they were replaced with modern reproductions.

As well as helping to understand the colour and form of the surface, cleaning is sometimes required for a full condition assessment. However, the process may remove the patina of age which is part of an object's significance, and may also cause irreparable damage to the substrate itself. Each assessment for cleaning must be made following trials on the specific object but the options are likely to include non-abrasive techniques such as wet brushing (water and a suitable non-abrasive brush), dry brushing, or super-heated steam cleaning (such as Therma Tec and Doff).



*Cracks in the leg of an Austin eagle caused by a rusting metal armature: the armature was removed and replaced with a stainless steel one, and the foot rebuilt in a matching mortar (Photos: Simon Swann)*

Common defects include loss or damage or poor previous repairs. Many such items can be restored accurately, avoiding conjecture, by referring to catalogues or similar items.

Where objects have cracked, these are often found to have been repaired quite crudely and may just need some attention paying to the materials and type of repair. However, more serious cracking is

predominantly caused by rust expansion on ferrous metal armatures, and sometimes this can be serious, requiring careful dismantling and rebuilding of the object. A good quality metal detector may be useful in determining the distribution of ferrous metal armatures.

Removal of a ferrous armature is easiest where the extent of the cracking allows the object to be easily dismantled into sections. In other cases it may be necessary to leave the more embedded items in the object, possibly with the injection of a rust inhibitor to the remaining sections and suitable crack filling. Any exposed metalwork such as cut ends should be treated with rust inhibitors and suitable paints, and where further water ingress is likely to be a critical factor, the injection of a highly flexible epoxy resin (such as Rotafix CB10T) into cracks may be required to seal them. (Other treatments for embedded ferrous metal work are also possible in exceptional circumstances such as realkalization and cathodic protection.)

The other main reason for cracking is mortar shrinkage. This can continue for years after casting and is often a sign that the mortar used was binder rich or had a very high water content (w/c ratio). This cracking tends to be finer and shorter than the larger and longer cracking associated with ferrous metal armatures. It may result in surface crazing and small items may become loose or drop out. Surface consolidation with mortars, grouts or even gauged lime shelter coats which are carefully rubbed into the cracks may be helpful.

Occasionally, cracking can be the cause of micro decays in the mortar, such as locally

high sulphate contents in stone aggregates leading to expansive cracking. This type of micro decay is rare and should be identified by petrography during mortar analysis. However, this information can be critical to determining a correct conservation approach to the object (such as improved weather shedding).

A common cause of cracking in artificial rockwork is established tree growth as this causes disruption to the background masonry. Maintenance of tree growth and the control of root development (using geotextile barriers for example) has to be considered in any landscape scheme involving Pulhamite.

Calcite leaching seems to be more of an issue in more recent reproduction cement castings than in 19th-century objects, but probably can occur in both. The deposition of calcium either from ground water or from mortar leaching is more common in some Pulhamite water features or underground features, where modern tufa materials or minor stalactites are now being formed by calcium deposition.

Structural repairs, minor re-attachments and armatures for repairs are usually carried out with stainless steel rods, helical pins or wire, all of which should be of 316 grade stainless steel (or A4 for threaded rods). These can be set into predrilled and cleaned holes which have been filled with resin. These should be either specially designed and tested polyester resins or suitable epoxy resins, and special consideration should be given where resins are to be used in permanently saturated areas.

Mortar repairs, rebuilding lost sections and recasting should be carried out using closely matching binders and aggregates. These can range from weaker natural hydraulic limes (used by William Ranger for example) which are largely now unavailable, to more hydraulic limes which are more easily matched from the wide range of modern NHLs and 'natural' cements (see [www.Rocare.eu](http://www.Rocare.eu)). Vicat, which manufactures Prompt Natural Cement (PNC), has carried out extensive testing on PNC/NHL blends and PNC-only mortars and this information has been produced in English. Generally, such mortars provide a good colour and technical match for early cement mortars and can also be used as grouts. Casting does require special attention to the water content and aggregate selection and will often require the addition of fibre to prevent shrinkage cracking in the longer term.

Pigments are frequently found to have been used in historic work and they are often essential for colour matching in conservation work. We highly recommend that only high quality manufactured ferrous oxide pigments are used (such as those made for use in the cement industry by companies like Bayer) especially where there is a chance of continual or frequent saturation. We have identified failures in repair mortars due to the high sulphate content of earth pigments (some with about 20% sulphate content) causing Thaumassite reactions, and preventing strong hydraulic limes from setting in persistently damp conditions. The high quality pigments



Detail of the base of the dolphin tazza fountain showing mortar repairs to match the original surface finish and texture (Photo: Simon Swann)

referred to require much less pigment content to achieve the same colour of mortar.

As with all mortar matching, it is essential to match the cured and dried mortar trials with the dry mortar of the historic item before a selection is made. Fresh, damp mortars will appear more deeply coloured than dry, cured mortars.

Pulhamite is renowned for its durability but has often been extensively restored. Unfortunately, much of this has been in the form of applying Gunite (a spray-applied modern Portland cement mortar) or by other such 'over-coating' techniques which do not take into consideration the importance of the historic surface. Such techniques often provide a covering of up to 50mm additional material that not only obliterates the original surface but also changes the form and outline of the rockwork. Undoing such misguided treatments can prove costly. The preferred approach is localised consolidation and careful matching to localised areas of lost surface coating, but not covering over the original surface.

Conservators frequently underestimate the weather exposure of free-standing items in parks and on wall-tops or artificial rockwork that is permanently exposed to water and damp. Free-standing objects in parks are also exposed to snow coverings which thaw and re-freeze, damaging their fabric. Objects permanently in water or in damp areas have greater potential to absorb salts and are subject to winter freeze-thaw. Both in the design of mortars for repair and in the longer term planning for the conservation of the object these factors need to be taken into consideration.

#### Further Information

HL Childe, *Manufacture and Uses of Concrete Products and Cast Stone*, Concrete Series No 11, Concrete Publications Ltd, London, 1927

J Davis, *Antique Garden Ornament*, Antique Collectors Club, Woodbridge, 1998

English Heritage, *Durability Guaranteed: Pulhamite Rockwork*, 2008 (<http://bc-url.com/pulhamite>)

AJ Francis, *The Cement Industry 1796–1914: A History*, David and Charles, Newton Abbot, 1977

C Hitching, *Rock Landscapes: The Pulham Legacy*, Garden Art Press, Woodbridge, 2012

BL Hurst, 'Concrete and the structural use of cements in England before 1890', *Proceedings of the Institution of Civil Engineers: Structures and Buildings*, Vol 116/3, 1996

W Papworth (ed), *The Dictionary of Architecture*, Architectural Publications Society, London, 1853–1892

**SIMON SWANN** is an accredited stone conservator with a longstanding interest in early cements and Pulhamite Rockwork. He is director of Simon Swann Associates Ltd (see page 92), a specialist conservation workshop working on sculpture and ornament in stone, terracotta and mortar based materials. He would like to acknowledge the help of many colleagues, clients, architects and grant-supporting bodies such as the Heritage Lottery Fund and Historic England, who have contributed to our knowledge of artificial stone through supporting analysis, investigations and conservation.

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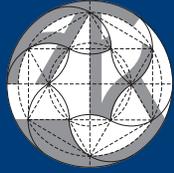
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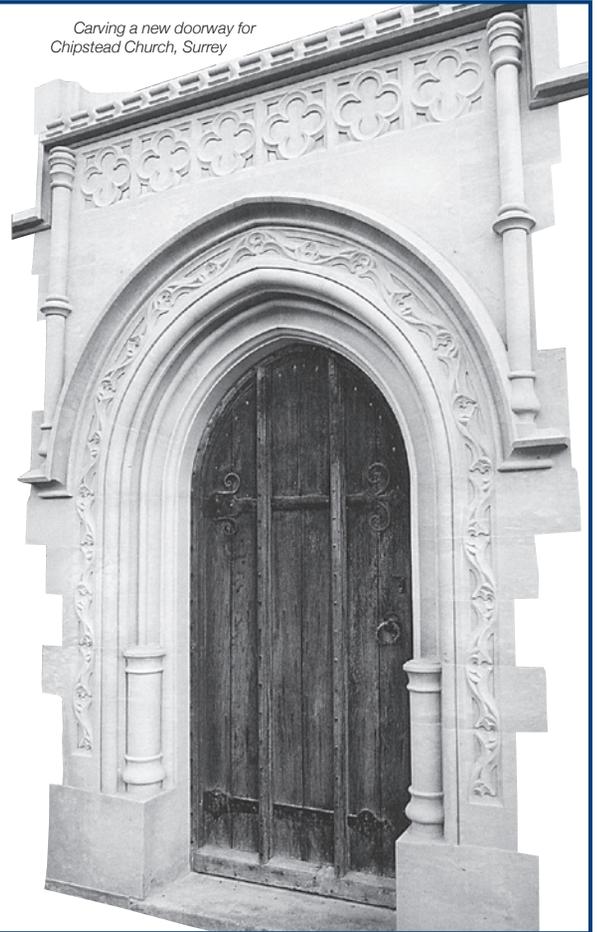


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STONE: Bristol Stone Masonry Ltd has over 30 years' experience in building conservation. Based in Bristol, the company offers masonry cleaning, architectural restoration, new builds and walling services. Its stone masons use wide-ranging architectural stone masonry techniques to create stunning pieces of stonework, from stone mullion windows and pediment doorways to fireplaces, cornices and corbels. The company has extensive experience in using traditional lime products for both traditional and contemporary finishes, all which are produced by its sister company Heritage Lime. Bristol Stone Masonry Ltd is always on hand to offer a free consultation on your next masonry project.

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*See profile entry in Building Contractors, page 56, and display entry on page 192.*



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STONE: *See also: display entry in this section, page 100.*

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STONE: *See also: display entry in Building Contractors, page 58.*

### ■ PAYE CONSERVATION

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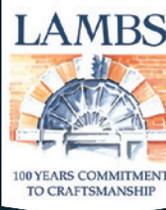
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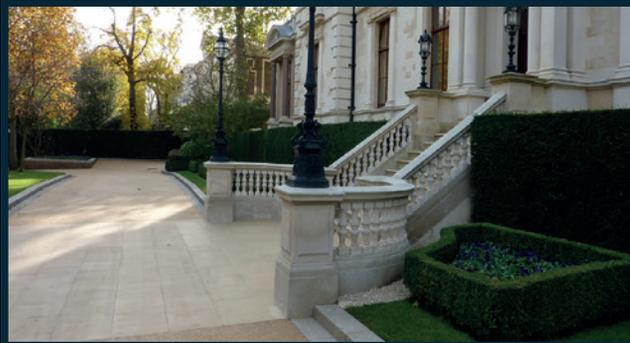


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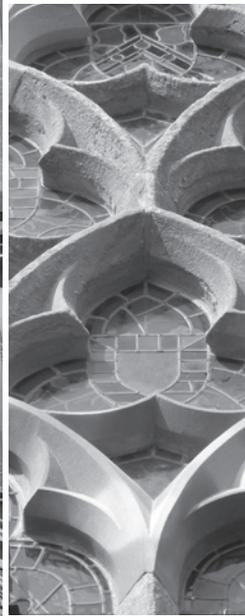
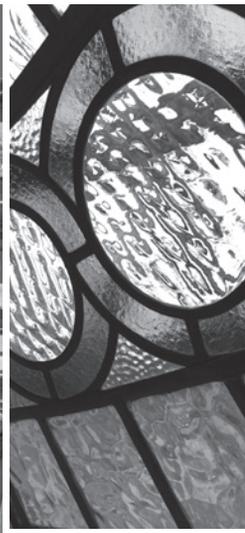
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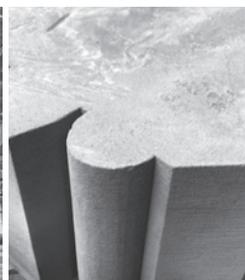


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STONE CONSERVATION: *See also: profile entry in Sculpture, page 92.*

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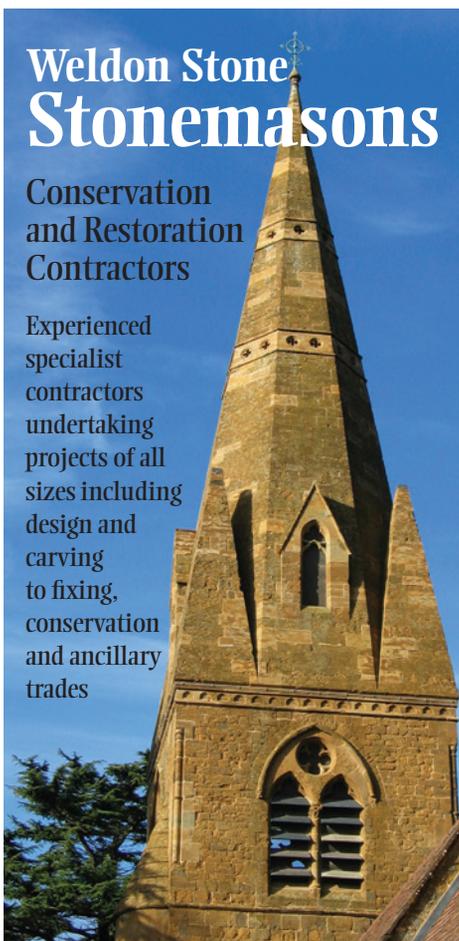


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[www.weedenmasonry.com](http://www.weedenmasonry.com)

**CHIMNEY RESTORATION AND WOODBURNER INSTALLATION:** See also: display entry in *Chimney & Flue Systems*, page 152.

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**BUILDING CONTRACTOR:** See also: display entry in *Building Contractors*, page 64.

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Stone

# DRY STONE WALLING in the 21st CENTURY

RICHARD LOVE



Regional variations 1: Galloway 'dyke', Loch Dornal, South Ayrshire (Photo: DSWAPL/N Coombey)

**O**FTEN WHEN people think about the craft of dry stone walling, they conjure up an idyllic country landscape of irregular field patterns stretching across the Cotswolds, the Yorkshire Dales or the Lake District. These walls must have been there for hundreds of years, they surmise, and have no contemporary relevance and no one to maintain them in their original condition. Even when practising their craft, wallers find themselves being asked by members of the public 'Isn't dry stone walling a dying art?', as if the evidence of their eyes is simply unbelievable.

While the British Isles saw a boom in dry stone walling during the 18th and 19th centuries following the various enclosure acts, dry stone walls and buildings have been constructed in the traditional manner throughout these islands for 5,000 years. Prehistoric sites such as Skara Brae on Orkney demonstrate that whole communities were built using dry stone techniques from very early days and exactly the same methods of construction are used today. Nor do we in the UK have a monopoly on such traditional skills. The craft of dry stone walling has been

practised around the world from early times and in some cases these traditions are now being rediscovered and revived.

Considering all the modern techniques now available for enclosing livestock that are cheaper to construct and easier to maintain, the disbelief of the public in the survival of the craft is perhaps understandable. So what is its relevance and status in the 21st century and how does it survive as a construction skill in this country against all the odds?

## CONSTRUCTION OR LANDSCAPE CRAFT?

Although no distinction would necessarily have been made between dry stone walls used in buildings and landscape features in the past, today we feel the need to compartmentalise subjects such as education, training and skills into ever smaller boxes for bureaucratic convenience. This has been a problem for dry stone walling over the past few decades and some people, including practitioners of the craft, classify walling as a landscape heritage skill because that is where most of the features are found. Another group, perhaps seeing stones being laid, either in courses or randomly, classify walling as an

extension of brickwork and stonemasonry.

In reality, dry stone walling is both of these. However, it is clearly the forerunner to all other modern forms of stone and brick construction because it uses stone in its most natural form, uncut and undressed, as it emerges naturally from the earth. Indeed most early walls, such as those seen around old monastic foundations for example, were constructed from stone cleared off the ground to allow cultivation and construction of small enclosures for animals. Quarrying came along much later, initially on a small, local scale followed by large industrial pits and quarries. More recently, there has been a move within the construction sector to define dry stone walling as coming under 'Construction Skills', the sector skills grouping, rather than environmental conservation. Some years ago a working group was asked to put together a National Occupational Standard (NOS), a prerequisite for developing a craft training programme which the UK government will recognise and support. This NOS now sits in the relevant section of the construction skills framework ('COSVR567 Build Dry Stone Structures').



Regional variations 2: Cotswold wall end (DSWAPL/R Ingles)

However, many professional wallers prefer to be thought of not as construction workers but as independent craftspeople who work almost entirely in the conservation and heritage sector, repairing and rebuilding existing traditional boundaries. In this way they feel they can maintain their individuality and are not required to abide by what they see as unnecessary bureaucracy.

### REGIONAL VARIATIONS

Like other vernacular and traditional construction methods, dry stone walling also has its own regional variations, which are mostly dependent on the geology of the available stone. Walling styles range from the stone-faced earth banks of the Cornish 'hedge' and Welsh *clawdd*, through the more regular sandstone and limestone structures found in the middle and north of England, to the single boulder 'dykes' of Galloway in south west Scotland.

Longer and flatter stones readily available in sandstone areas are useful for constructing regularly coursed walls, as well as wall-heads, lintels and stiles. The volcanic, igneous stones of the western and northern fringes of the British Isles led to more randomly built walls and dykes, sometimes with large boulders incorporated into the finished structure. The copestones on top of a wall are the main feature which gives it its distinctive local shape and character (compare the two regional variations illustrated above and on page 105).

### THE CRAFT TODAY

How does the ancient craft of dry stone walling, or 'dyking' in Scotland, fit into the modern heritage skills sector? The first point to recognise is that the craft did indeed experience a severe downturn, particularly after the second world war, as farms became more mechanised and there were fewer spare hands to maintain the huge number of agricultural walls.

Walling competitions were instigated before the war to keep the skills alive and eventually, owing to the concern that skills had been dying out, a small group of dykers in south west Scotland established the fledgling Dry Stone Walling Association (DSWA) in 1968. The DSWA is now a charitable organisation, which has its head office in Cumbria and 19 branches around Britain, from the Isle of Skye to Dorset.

The DSWA's 1,000 members include ordinary members with an interest in the field and 250 professional wallers, most of whom have some level of certification (see below). However, there are many more professionals who have chosen not to register with the DSWA, usually because they already have sufficient work and do not feel the need to put themselves through an examination process to prove their ability. It is therefore difficult to quantify how many craftspeople are making some kind of living as dry stone wallers today: there may be a few hundred, perhaps as many as 1,000.

Many wallers choose to work on agricultural, often grant-aided, repairs and this can provide those in certain areas of the country with a decent living. Others feel the need to stretch their skills by undertaking commissions in private gardens and on commercial projects where more complex features, as well as boundary walls, are needed. Steps, stiles, seats and monuments are often required and display gardens at local and national garden shows now provide the more adventurous wallers with excellent opportunities to showcase their work. The RHS Chelsea Flower Show can offer the craft an international shop window for wallers if garden designers provide encouragement for the imaginative use of stone.

Smaller buildings are also still being made with dry stone techniques: three have been recognised by the DSWA's Pinnacle Award for outstanding use of dry stone during the past 20 years. Dry stone shepherds' huts can still be found in Europe (Croatia and France, for example) and dry stone is used to construct dwellings in parts of Nepal.

### TRAINING AND TESTING

Most aspiring dry stone wallers start off by attending a one- or two-day weekend training course. These courses are often run by conservation charities but the quality of instruction provided can be of variable quality. Several colleges, particularly in England, provide walling courses run by qualified instructors with recognised walling and teaching certificates. The students can be trained to a sufficient standard to be able to take and pass the Level 1 (initial) and Level 2 (intermediate) certificates, which are timed assessments of entirely practical skills.

DSWA branches also provide training courses, always run by certificated wallers with an appropriate instruction qualification, and arrange regular practical events for members to practise their skills sufficiently to be able to acquire certification by examination.

The qualifications currently available are delivered under the auspices of Lantra Awards and DSWA. Lantra is a sector skills



Corbelled stone shelter (Photo: DSWAPL/L Noble)

council which has many years' experience in the land-based and environmental sector. Lantra gave the DSWA's existing certification system nationally accredited status in 2003. Over 250 students take one or more of these qualifications each year.

The Craftsman Certification Scheme has four levels of qualification, each one requiring the waller to have a greater understanding of the craft and the materials being used. All tests are of a practical nature and most are carried out within a given time period in the presence of an examiner. Those who achieve the status of Mastercraftsman are then eligible to apply to become a qualified examiner. This follows a probationary period and a full assessment of their skills as an examiner during a formal evaluation session under real test conditions.

There are currently 29 Mastercraftsmen and women who are qualified to be examiners, most of them based in the UK.

### IS THERE A SHORTAGE OF SKILLED WALLERS?

In England and Wales Lantra provides a modern apprenticeship which allows employees the opportunity to get hands-on experience through a partnership between the apprentice, employer and training provider and leads to a recognised qualification. This is mainly targeted at 16–19 year olds with a lower level of funding available for students aged 20–24. However, within the environmental sector, this has had very little impact on the provision of qualified wallers continuing to practise their craft at a professional level.

In Scotland there are currently no colleges providing dry stone walling training leading to a recognised qualification, although a new modern apprenticeship has been launched this year which incorporates a module in dry stone walling.

A few years ago the DSWA became sufficiently concerned about the lack of new recruits entering the craft that it made a concerted effort to seek funding for a scheme to boost the training of young people keen to get on the ladder. The Heritage Lottery Fund agreed to support a bursary scheme in 2015 which allowed five trainees aged 19–32 to be placed with experienced working wallers in the north west of England for a period of 18 months.

During this time the trainees have received intensive walling training as well as training in a range of other areas including business management, health and safety, and first aid. The aim is to train this group so that they will have gained their Level 3 certificate at the end of the training period. The project is on course at the moment and, if successful, DSWA believes it could be rolled out elsewhere in the country.

In previous years, ever since it was recognised that these craft skills might eventually disappear, there have been occasional short-term apprenticeship schemes, usually for a year or less and for only one or two participants. Most of these schemes foundered because of the cost, in time and money, to the placement



*Publicly funded road project (Photo: DSWAPL/S Denham)*

providers. The present HLF scheme costs the experienced wallers little or nothing, and the employer may benefit by gaining a fully trained waller who wishes to work with them beyond the period of the project.

Unlike in other construction trades, most of those who take up walling as a professional job are somewhat older. Consequently, another scheme run by the DSWA and supported by the Prince's Countryside Fund, targets people up to the age of 40, who are employed or training in rural activities. This scheme offers funding towards an initial training course and a contribution towards the cost of a Level 1 certification test. This has already been taken up by 150 young people around the UK.

The DSWA is also lucky to have had two or three young wallers, who have made great progress to high skill levels, act as young ambassadors for the craft. Two of them have recently been awarded the DSWA's Pinnacle Award for outstanding craftsmanship for a dry stone, corbelled roof building (see page 106). It is hoped that this will encourage further young people to see the craft as a worthwhile and rewarding career path.

### WIDER RECOGNITION OF THE CRAFT

Although dry stone wallers are sometimes employed by mainstream construction contractors, for example to provide boundary walls for new housing estates or feature walls in new commercial developments, the knowledge and capabilities of such wallers are not well known. This has resulted in a knowledge deficit, mainly through lack of awareness and appropriate training, among architects and civil engineers who do not know how to specify dry stone walling features.

Wallerers are often presented with specifications for a construction project where the architect or engineer has specified a dry stone wall to be built on a concrete foundation and against reinforced blockwork, when these are clearly not needed. Experienced dry stone wallers are usually not consulted beforehand, possibly because planners do not know who to consult. DSWA is now trying to address this by developing a series of online documents to promote better understanding of dry stone walling among construction industry personnel of all levels.

A corollary to this is the use of inappropriately skilled workers to build large areas of walling on major publicly funded projects, such as alongside motorways and



*An HLF bursary trainee's work (Photo: DSWAPL/A Shaw)*

bypasses. DSWA has experience of several past and ongoing projects where many kilometres of walls and dykes have been built to a standard which would disgrace someone with even one week's properly instructed training. Compare these two images: one from a current publicly funded roads project (above left) and the other from one of the bursary HLF trainees after a few weeks' experience (above right).

The industry experts usually only get called in after these projects have been finished. Although those commissioning such work do sometimes consult with and receive advice from DSWA before undertaking such large projects, the image demonstrates that unless this work is properly funded and supervised sub-standard work is still being accepted at public expense. Many sections of this wall will no doubt have fallen down by the time you read this article.

### A REWARDING CAREER

Dry stone walling is a historical traditional craft which has done much to enhance and define the landscape of Britain. There are around 200,000 kilometres of dry stone walls and dykes stretching across the British landscape, much of it in need of repair. However, the funding for all those repairs is never going to be made available and, in all honesty, is probably not needed. Nevertheless, there are sufficient parts of the countryside where such structures do need to be kept in good order, including distinctive landscape features which will provide work for wallers for centuries to come.

For other wallers, who wish to extend their skills into more distinctive architectural and even artistic features, the craft can offer a most rewarding and satisfying career alongside the other crafts and trades employed in the building conservation sector. There is a place for all levels of waller, male and female, young and old.

It is worth remembering that no one stone is the same as any other and that every job is a new learning experience.

**RICHARD LOVE is a former physiologist and medical scientist, who became a professional dry stone waller in 1995. He was chairman of the Dry Stone Walling Association (DSWA) (see page 108) from 2004 to 2010 and is currently chairman of DSWA's Craft Skills Group. He runs training courses for the DSWA and other organisations.**



## 3.3 METAL, WOOD &amp; GLASS

METALWORK	Pg	ci	wr	Other
Antique Bronze Ltd	110			bs bz mr
Anwick Forge	110		wr	
Aura Conservation	110	ci	wr	bz mr
Barr & Grosvenor Ltd	111	ci		
The Barwin Group	2			bz
Best Reclamation	132	ci		
Between Time Ltd	49	ci		
Bronzework	111			bs bz
Building Conservation (UK) Ltd	50	ci	wr	mr pb
Building Maintenance (Wales) Ltd	50	ci	wr	mr pb
Calibre Metalwork	111	ci	wr	bs bz pk
Cast Iron Welding Services Ltd	111	ci		
Castaway Cast Products and Woodware	111	ci		bz pk
D B R Leadwork	72			pb
The Fine Iron Company	111	ci	wr	bs pk
George James & Sons, Blacksmiths	112		wr	
Haddonstone Limited	131		wr	
Heritage Blacksmith Partnership	112		wr	
Heritage Project Contracts	112	ci	wr	pb
Hirst Conservation Ltd	110			bz
Historic Metalwork Conservation Company Ltd	112	ci	wr	bs gs
J & J W Longbottom Ltd	81	ci		
J H Porter & Son Ltd	112	ci	wr	
M B L	117		wr	bs
Marsh Brothers Engineering Services Ltd	112	ci	wr	
Norgrove Studios Ltd	121		wr	
Owlsworth I J P	58		wr	
Penybryn Engineering Ltd	113	ci	wr	
Peter Neale Blacksmiths	114	ci	wr	bs bz pk wi
Rainclear Systems Ltd	81	ci		
Recclesia Ltd	114		wr	
Richard Rogers Conservation Limited	114	ci	wr	bs gs mr pb
Rupert Harris Conservation	114	ci	wr	bs bz gs mr pb
Saint-Gobain PAM UK Limited	81	ci		pk
Shepley Engineers Limited	114	ci	wr	
Stonewest Limited	61		wr	bz mr pb
Topp & Co	114	ci	wr	pk

KEY Metalwork	
ci	cast iron
wr	wrought ironwork
bs	brass restoration
bz	bronze restoration
gs	gold & silver
mr	metal sculpture conservation
pb	decorative leadwork
pk	pattern making
wi	wirework

TIMBER SUPPLIERS	Pg	as	bt	ti	tp
Antique Bronze Ltd	110				tp
Antique Buildings Limited	132	as		ti	tp
Artisan Plastercraft Ltd	169		bt		
Babylon Tile Works	78		bt		
Best Reclamation	132	as			tp
Bosence & Co	33		bt		
Chalk Down Lime Ltd	140		bt	ti	
Cornerstone Mortars	141		bt		
Cornish Lime Company Ltd	140		bt		
E G Swingler & Sons	72		bt		
Mike Wye & Associates Ltd	141		bt		
Sutton Timber	129			ti	tp
Weald & Downland Open Air Museum	129			ti	
Weldon Contracts Limited	165			ti	tp
Whippletree Hardwoods	129		bt	ti	tp
Womersley's Limited	142		bt		

KEY Timber suppliers	
as	architectural salvage
bt	battens, lath & pegs
ti	timber suppliers
tp	timber & parquet flooring

GLASS	Pg	ef	gp	ll	sg	so	wg
Barley Studio Ltd	119		gp	ll	sg		wg
Best Reclamation	132				sg		
Building Conservation (UK) Ltd	50		gp		sg		
Building Maintenance (Wales) Ltd	50		gp		sg		
C J L Designs	119		gp	ll	sg		
C S C Window Films & Blinds Ltd	125					so	
The Cathedral Studios	119				sg		
Clement Windows Group	117			ll			
The Cotswold Casement Company	118			ll	sg		wg
D B R Conservation	155				sg		
The Fine Iron Company	111		gp				
Fortress Restorations Ltd	55	ef					
Heritage Project Contracts	112	ef		ll			
Holdsworth Windows Ltd	121			ll			wg
Jim Budd Stained Glass	119			ll	sg		
John Corley Stained Glass Studio	119				sg		
The London Crown Glass Company	121						wg
Nick Bayliss (Architectural Glass) Ltd	119			ll	sg		
Norgrove Studios Ltd	121		gp	ll	sg		wg
Peter Neale Blacksmiths	114		gp				
Recclesia Stained Glass	120	ef	gp	ll	sg		wg
Salisbury Cathedral Stained Glass	120			ll	sg		
Sash Restoration Co	125						wg
Steve Sherriff Stained and Leaded Glass Specialists	120		gp	ll	sg		
Surrey Leaded Lights	121			ll	sg		wg
Tatra Glass (UK)	121			ll	sg		wg
Tec Glass Ltd	118			ll	sg		wg
The York Glaziers Trust	120				sg		

KEY Glass	
ef	etched or frosted glass
gp	glass protection
ll	leaded lights
sg	stained glass
so	solar protection
wg	window glass

FINE JOINERY & CABINET MAKING	Pg	bn	cb	jo	jp	jw	wc
Architectural Bronze Casements	117			jo			
Between Time Ltd	49			jo			wc
Building Conservation (UK) Ltd	50			jo		jw	
Building Maintenance (Wales) Ltd	50			jo		jw	
Busby's Builders	52			jo		jw	
Carvers & Gilders Ltd	129						wc
Clough Harris Limited	155			jo			
Country House Renovations Limited	54			jo			
D B R London	54			jo			
Daedalus Conservation	54			jo			
Dunne and Co Building & Restoration	56			jo			
Eastern Heritage Restorations	54					jw	
The English Listed Building Company	15					jw	
Frazer Stannard Ltd	125					jw	
Sarah Goss	129						wc
Grosvenor Construction Ltd	55			jo			
Hall Construction Limited	56			jo			
Heritage Building & Conservation Ltd	56			jo			
J P Ladell Ltd	57			jo			
J S Stonemasonry Ltd	98	bn					
Knowles & Son (Oxford) Ltd	57		cb	jo			
Luard Conservation Limited	156			jo	jp		wc
McNamara & Co	99			jo			
Mullins Studio	157			jo			
Owlsworth I J P	58			jo			wc
Period Property Solutions Building Conservation Limited	59			jo		jw	
R J Smith & Co	59			jo		jw	
Robert Peek Woodcarving	129						wc
Romark Interiors	157		cb		jp		wc
Sash Restoration Co	125		cb				
Stone Edge Limited	125			jo			
Stonewest Limited	61		cb	jo			
Swan Farm Studios Ltd	129			jo			
Szerelmey Conservation	103			jo			
Taliesin Conservation	62			jo			
Trendle Conservation	64					jw	
Underwood & Weston Ltd	62			jo			
W Thomas Restorations Ltd	129						wc

KEY Fine joinery & cabinet making	
bn	banisters
cb	cabinet making
jo	fine joinery
jp	timber panelling
jw	joinery workshops
wc	wood carving & turning

### 3.3 METAL, WOOD & GLASS CONTINUED

WINDOWS & DOORS	Pg	Windows & doors	Accessories
Antique Buildings Limited	132	td*	
Architectural Bronze Casements	117	mw	
Barley Studio Ltd	119	mw	gp sk
Best Reclamation	132	tw*	
Bramah	117		lk wf
Bronzework	111		wf
Building Conservation (UK) Ltd	50	tw	dr gp
Building Maintenance (Wales) Ltd	50	tw	dr gp
C J L Designs	119	mw ws	gp
C S C Window Films & Blinds Ltd	125		so wf
Calibre Metalwork	111	mw rl	
Castaway Cast Products and Woodware	111	mw	
Clement Windows Group	117	mw ws	wf
The Cotswold Casement Company	118	mw ws	
Crittall Windows Ltd	117	mw ws	wf
Exova BM TRADA	33	td	
The Fine Iron Company	111	mw	gp wf
Fortis & Hooke	122	tw td	dr sk
Heritage Project Contracts	112	mw ws rl	
Holdsworth Windows Ltd	121	mw ws	wf
Innoglaze Ltd	125		sk
Kierson Sash Window and Timber Restoration	122	tw	
Knowles & Son (Oxford) Ltd	57	tw td	
Lomax + Wood Ltd	122	tw td	
M B L	117		lk wf
Malbrook Conservatories	131	tw rl td	
Marsh Brothers Engineering Services Ltd	112	mw ws rl	
Midlands Floor Springs Ltd	124		wf
Mike Wye & Associates Ltd	141		wf
Nick Bayliss (Architectural Glass) Ltd	119	mw	
Norgrove Studios Ltd	121	mw ws	gp
Peter Neale Blacksmiths	114	mw	gp
Recclesia Stained Glass	117	mw rl	gp sk
Refurb-a-Sash	122	tw	wf
Sash Restoration Co	125	tw	
Sash Window Consultancy	122	tw	
The Sash Window Workshop Ltd	122	tw	
Selectaglaze Ltd	125		sk
Steel Window Service and Supplies Ltd	118	mw ws	wf
Steve Sherriff Stained and Leaded Glass Specialists	120	mw	gp
Tec Glass Ltd	118	mw ws	sk wf
Topp & Co	114		wf

\* architectural salvage

KEY	
Windows & doors	
mw	metal windows
rl	roof lights & lantern lights
td	timber doors
tw	timber windows
ws	steel windows
Accessories	
dr	draught stripping
gp	glass protection
lk	locksmiths
sk	secondary glazing
so	solar protection
wf	window & door fittings

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RESTORATION OF HISTORIC BUILDINGS: *See also: display and profile entries in Stone, page 95 and 94.*

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[www.fineiron.co.uk](http://www.fineiron.co.uk)

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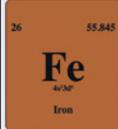
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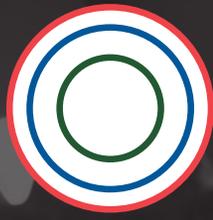


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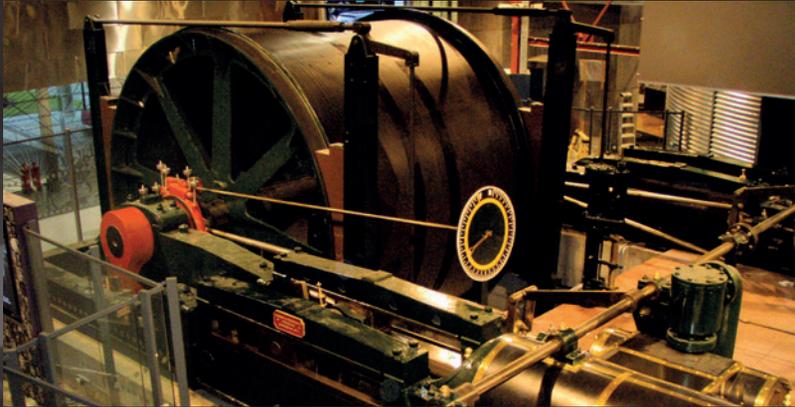


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METALWORK: See also: display and profile entries in Stone, page 101 and 102 and Recclesia Stained Glass profile entry in Decorative & Stained Glass, page 120.

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# LEAD FIXING FOR HISTORIC IRONWORK

DAVID FIELD and ADRIAN LEGGE

**T**HE USE of lead as a means of securing iron into masonry dates back to pre-medieval times.

The 12th-century ferramenta of the south oculus window of Canterbury Cathedral, which is almost 4.5m in diameter, is secured with a mixture of lead sheet/wool and lead putty. This technique was also used extensively during the Georgian and Victorian periods for securing architectural and cast iron components such as gates, railings and structural cramps.

Lead makes an excellent medium for securing iron as it can be caulked down to provide a strong friction-fit and, with proper preparation, it forms an almost watertight joint. (The term 'caulk' is used to describe both the process and the material used to seal a gap and make it watertight. According to the OED, it derives from Old Northern French *cauquer* or *cauchier*, 'to tread, press with force'.)

The lead in the joint should extend above the surface of the stonework and slope down and away from the ironwork so as to carry away any moisture. Care must be taken to avoid over-caulking because the lead can put strain on the stonework, especially near edges, which can cause surface spalling or even deep cracks and faults.

Un-braced fixing points can fail when loads are applied to the structure. The movement of the iron in the stonework will tend to compress the lead creating loose joints, increasing the possibility of water ingress through capillary action and increasing the risk that the stonework will split due to frost or rust jacking. As iron in the joint rusts it can expand up to seven times the volume of the original iron, generating huge expansion strains, often causing failure of the surrounding stonework and, in severe cases, affecting the integrity of the building. Localised corrosion in ironwork often occurs close to fixing points, usually due to a breakdown of surface coatings allied to the tendency of these areas to remain damp thereby creating an electrolytic environment.

The iron fixings in the stonework may not be easily accessible and this can make maintenance and repair difficult. It is even more essential then that these areas are regularly inspected so that maintenance, painting, and repair can take place before the situation becomes critical.

The use of resins for fixing can be an acceptable alternative for historic ironwork. They adhere to both the iron and the stone,



*Poured lead still contained by the clay bund, and two caulking tools (Photo: A Legge)*

are easy to use, strong and create a water tight seal. There is no risk of strain on the stonework from the fixing process as there is no caulking required. It should be recognised that this is relatively recent technology (certainly when compared to lead fixing) and there may be difficulties associated with this system which have yet to come to light. Also, it should be acknowledged that part of the ethos of conservation is to retain not only the design and materials but also the skills and processes involved in the original work.

## REMOVING LEAD-FIXED IRONWORK

There is no easy way to remove ironwork from masonry and the process is likely to cause some damage to the surrounding stone. If possible, remedial work should therefore be carried out in situ using the National Heritage Ironwork Group (NHIG) principles of minimum intervention (see Further Information).

Where removal cannot be avoided, the first step is careful inspection to see if the

ironwork can be deconstructed by removing screws, bolts, pins or wedges, and to check the condition of the surrounding stone. If the masonry is already so badly damaged that it must be replaced, for example as a result of rust expansion, cutting the masonry is the easiest option. Otherwise the next step is to remove the lead from the joint. This is best done by chain drilling holes around the bar with a slightly smaller diameter than the width of lead. Using a slow speed drill and moving the bar as the lead is removed will compress the lead, which can then be drilled again. The use of a small, thin chisel may be useful to act as a gouge, but it is inevitably a slow, tedious process and may not be a viable option in areas which are difficult to access.

Once the lead has been removed, attaching a clamp to the iron bar and hammering metal wedges between it and the stone will gradually lift it up. A piece of wood can be used to protect the masonry.

Removal can be complicated because the holes are often dovetailed at the base

and the bar is often 'ragged' (chiselled) or 'upset' (thicker at the embedded end). It may be possible to remove the ironwork with the stonework still attached, for example in the case of railing capstones. Occasionally railings are set in holes that extend all the way through the capstone, enabling the lead to be melted out from the underside. Any spalling, which can easily be caused by the heat, would be hidden within the cemented joint when the capstone is re-fixed.

Where access is difficult and all other methods fail, the only option may be to cut the ironwork to allow access to drill the lead out. The ironwork would then have to be repaired.

### HEALTH AND SAFETY

While lead has been used for centuries, today attention must be paid to the associated health and safety and environmental hazards when using this material and its compounds. The Health and Safety Executive (HSE) provides excellent advice on working with lead (see Further Information).

It is highly likely that any historical paint will be lead-based and any dust will be hazardous to people in the vicinity and to the environment. Dust should be collected with a powerful vacuum cleaner that has a recommended filter system. Dust and debris should be collected in sealed containers and disposed of at an approved recycling centre. Any waste lead can be re-melted and used again.

When using molten lead there are associated fire risks and care must be taken not to overheat the lead creating a lead vapour that could be inhaled. Personal hygiene is paramount and no food or drink should be consumed in the immediate area. Practitioners should use recommended personal protective equipment (PPE) including face-masks, overalls and disposable gloves. Dedicated overalls should be kept for working in the designated lead working area to prevent contamination. People who regularly work in this environment should have the amount of lead in their blood monitored by having tests carried out at least every six months. This can be carried out by a GP and it is very important that the amount stays below the recommended level (see HSE and NHIG guidance in the Further Information section).

### REINSTATING IRONWORK

When ironwork is to be fixed into new masonry, fixing holes should be made using a non-percussive system such as a diamond drill which will reduce the risk of damage from vibration. Drilled holes have smooth sides which offer little adhesion to the lead. Drilling angled holes creating a bell-shaped bottom to the hole or chiselling it square will create an effective key for the joint. All dust and debris must be removed from the hole, usually blown out with an air pump. 'Ragging' the iron bars can help to provide a key for the lead to fix to.

It is essential that the holes are kept clean and dry. If moisture does find its way into any of the holes they can be dried out by resting a heated bar in them. Molten lead poured into a wet hole will very quickly generate steam



Using a clamp and wedges to lift piling (Photo: A Legge)



Cracked plinth caused by corrosion and rust jacking (Photo: A Theale)

and the pressure will spray the hot lead out. This represents a significant hazard and the wearing of full PPE including a full face mask is essential when lead pouring.

Iron which is to be leaded-in should have a surface finish applied (such as lead-based or linseed oil paint) before it is placed in the socket to provide an extra level of corrosion protection. Molten lead solidifies and chills quickly so the surface finish should remain intact.

Once the iron to be fixed is in position, a clay bund can be made around the bar and the area cleared ready for pouring. The lead melting area should be safely away from the work area and should be fenced off. Molten lead is poured into the hole with a small ladle. It is important to ensure that enough lead is poured in because it shrinks on cooling.

Once the lead has cooled, the clay bund can be removed and any excess lead removed with a chisel. The lead can then be caulked down to form a smooth tapered surface. A piece of oak tapered to approximately 12mm square on the end



A well-defined caulked joint (Photo: P Smith)



Cracking caused by over-caulking (Photo: A Legge)

grain and cut at a slight angle makes an excellent finishing tool. It is held lightly on the surface and gently hammered to produce a smooth, well-defined joint.

Experience has shown that these lead fixings, if properly executed, should survive for centuries.

### Further Information

M Boulwood and J Adkins, 'Lead and You', NHIG, 2013, <http://nhig.org.uk/category/articles>

Health and Safety Executive, 'Working Safely with Lead', [www.hse.gov.uk/lead](http://www.hse.gov.uk/lead)  
NHIG, *Conservation Principles for Heritage Forged and Cast Ironwork*, 2013, <http://nhig.org.uk/standards/conservation-principles>

**DAVID FIELD and ADRIAN LEGGE are blacksmithing tutors at the National School of Blacksmithing, Hereford & Ludlow College. The article is compiled from the combined knowledge and experience of the practitioners of the National Heritage Ironwork Group (<http://nhig.org.uk>).**

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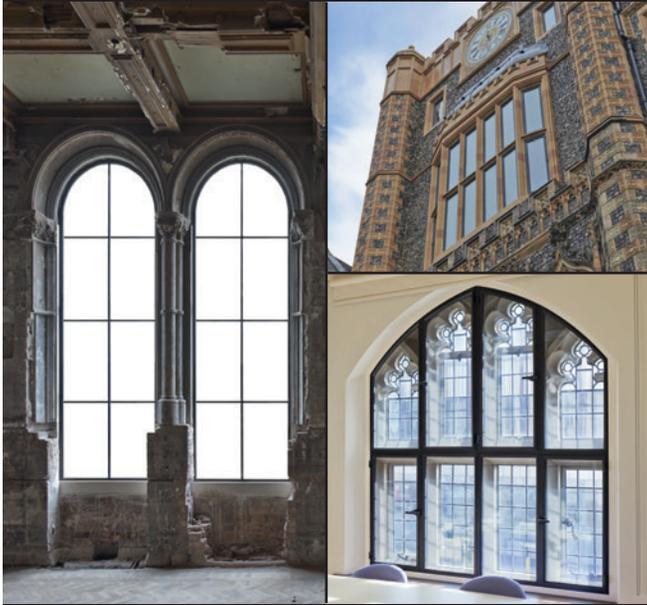
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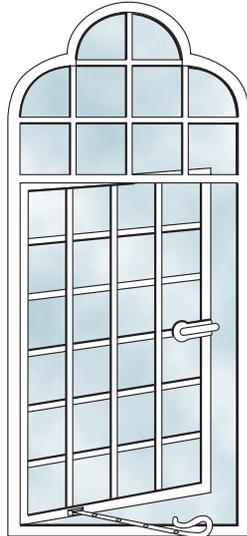
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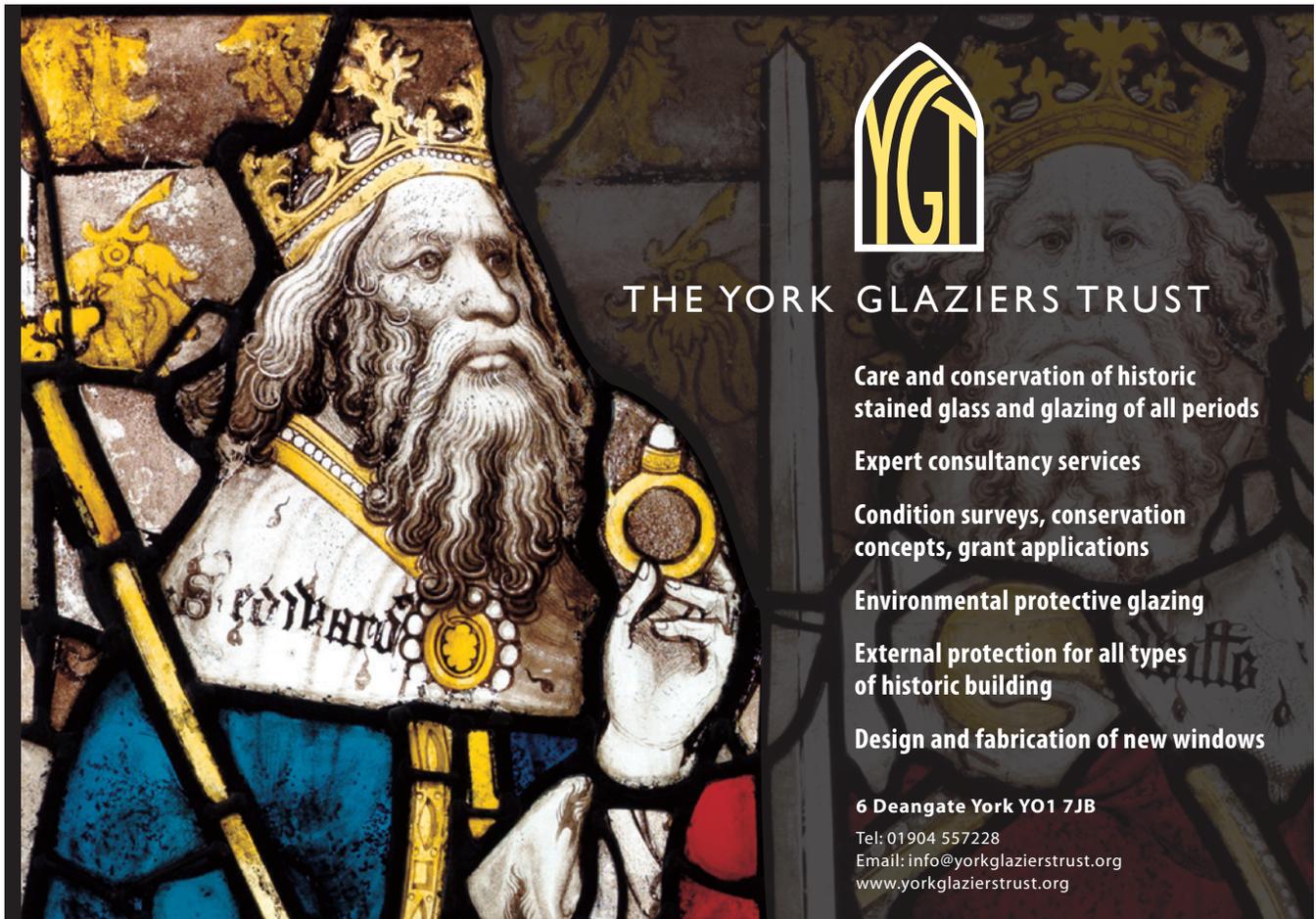
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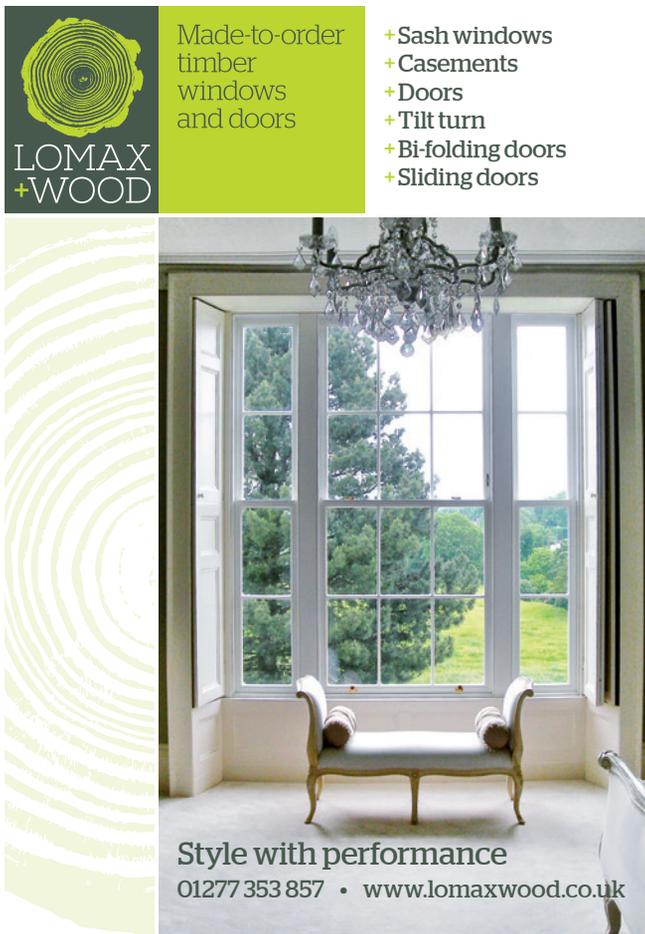
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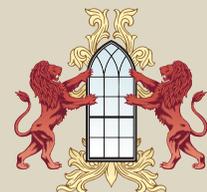


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JOE THOMPSON

**I**F ONLY historic timbers could talk – what questions you could ask, what stories they could tell. While they may remain stubbornly silent you can, however, ‘read the timbers’ and learn how they were converted and what size trees they came from. This is done by examining the surfaces of the timbers, often with a low angled light, for signs of both the method and the type of conversion.

The information gained from these primary sources is invaluable for interpretation reports or conservation plans, helping to build up a picture of the chronology and development of the structure in question. Documentary evidence and scientific analysis can also be used but the initial appraisal is often based on a stylistic judgment which relies on understanding what you are looking at and putting it into context.

It is worth remembering that nearly always the part of the tree (the log) that we are interested in derives from the main trunk or bole, not the branches or roots, although sometimes portions of branch or root stock are left attached to the main trunk for specific purposes, such as jowl posts. In the case of homegrown hardwoods – typically oak and elm from managed woodland, parks or hedgerows – the timber trees are often oval in section and crooked as well as tapering along their length. As a result, bark and sapwood are retained on the converted timber, and curved or cranked timbers nearly always come from trees with curved or cranked trunks rather than being cut out of a larger straight piece. Imported softwoods were often from virgin forest near to rivers and seas, and tended to be circular in section and straighter in length.

## CONVERSION METHODS

There are three methods of conversion that have been and continue to be used to turn round logs into timbers for structural use by carpenters: cleaving, hewing and sawing.

Cleaving, splitting or riving uses wedges which are struck with tools such as beetles (mauls) or mallets to split the log longitudinally, following the grain. If required, a variety of clamps or ‘brakes’ can be used to help hold the timber and stop it moving.

Cleaving’s great advantages are the fact that it is the quickest of the three methods and that the maximum achievable strength is gained by following the grain. Its practical disadvantage is that it is relatively difficult to find a consistent supply of good quality



*The author (top) demonstrating trestle sawing (Photo: Tim Walton)*

cleaving logs. Our Anglo-Saxon and Norman forbears made extensive use of the natural wildwood (virgin forest), which contained many such trees. Based on the evidence of archaeological finds from waterlogged sites in England, they produced structures using cleft timbers, often ‘earthfast’ (built into the ground like a fencepost).

The process of splitting tears the grain asunder and leaves a distinctive, slightly, ridged surface finish. Because the splits follow the grain, and the grain can both spiral and deviate around knots, however small, cleft

timbers are often dressed with an edge tool like an axe or drawknife to produce greater regularity. The marks from where the edge tools have cut into the surface are sometimes visible. As a result, it is extremely rare, due to the difficulty of procuring the required amount of long, clean timbers, to come across any cleft structural timbers in buildings surviving from after 1200AD and those that do survive tend to be relatively short (less than 2m long). Splitting is used, however, to produce a wide variety and great quantity of associated elements that are quite short



*Cleft surface: the process of splitting tears the grain apart and leaves a distinctive, slightly ridged finish.*



*See-sawn surface: inspection of the area where the two saw-cuts intersect shows that the last connecting piece of timber is cleft off, leaving a torn surface midway along in the shape of an equilateral triangle.*



*Pit-sawn surface: the finish is characterised by saw-marks at about 75 to 85° to the length of the timber and a cleave-off at one end in the shape of an irregular triangle.*



*Mill-sawn surface: wind or water-powered reciprocating saw blades cut at about 90° to the length of the timber, leaving evenly and closely spaced saw marks with no cleave off.*

(roughly 300–1800mm), such as panelling, boards, shingles, laths, staves and pins.

Hardwoods cleave best radially, conferring the added advantages of reducing moisture-related movement and enhancing the aesthetic qualities of oak by exposing the maximum amount of the attractive medullary rays on the wide face. In contrast, softwoods such as Scots Pine cleave best tangentially. This can often be seen in nailed-on, imported Georgian laths where a face knot runs through a series of adjoining laths.

Hewing is the technique of using edge tools to 'square up' logs, although the final shapes are often rectangular in cross-section as well as tapering along their length. Due to the adaptability of the axe and the hewer, cranked or curved timbers present no particular problems. Whatever the shape required, lines are first snapped on to the log, the bark being either left on or removed.

Two different types of axe are used – firstly the scoring axe, which is often the same axe that was used to throw the tree over. The log is supported on low bearers or trestles and held-fast with pointed iron dogs. The long-handled, double-bevelled scoring axe first chops a series of notches into the log at roughly 300–400mm intervals. Then the same axe is used to strike off the timber between the notches and to clean off any remaining large irregularities.

This leaves rough-hewn surfaces consisting of shallow notches, torn-out grain and axe-marks that are then cleaned up with a second type of axe, which is generally shorter handled, single-bevelled and slightly convex. It is used to remove just the final shavings, to get exactly down to the line. The final surface finish is defined by the slightly undulating, smoothly cut surface with some small amount of tear-out on one side of any knots.

The quality of some hewing from the 13th and 14th centuries has to be seen to be believed – it can appear almost hand-planed, so crisp are the corners and so smooth is the surface. In theory, no trace of the rough-hewing should be visible, but in practice it becomes increasingly evident on hewn timber surfaces from the 15th to the 19th centuries. Hewing was practised widely and nearly all buildings with structural timbers have some visible hewn surfaces. With imported softwoods, which mainly date from the 17th century onwards, the hewn baulks show a similar, slightly undulating, smoothly cut surface finish. Hewing is slower than cleaving but quicker than sawing.

Sawing shows the most variation of the three types of conversion due to the different ways the saw can be presented to the timber and the motive power driving it. Sawing appears around the end of the 12th century in the form of 'see-sawing', where the hewn timber is inclined at an angle and supported at about mid-length on a single trestle. The frame saw then cuts from one end down to the trestle, before being withdrawn. The timber is then pivoted on the trestle like a see-saw and a second cut started from the other end.

Bearing in mind the steel technology available between the 13th and the 15th centuries, it is a testament to the skill of the saw-makers and sawyers that these two cuts almost always line up. Close inspection reveals that the saw-cuts do not quite intersect but that this last connecting piece of timber is cleft off, leaving a torn surface in the shape of an equilateral triangle about midway along. See-sawing is also distinguished by the orientation of the saw marks at an angle of about 50–70° to the length of the timber.

Between the end of the 14th century and the mid-16th century, a new technique was

gradually adopted across the country which consisted of supporting the hewn timber horizontally, either over a pit or on high trestles, and sawing from one end only. This technique is often generically described as 'pit sawing' and from the 17th century onwards it used a saw without a frame (a whip saw or pit saw). Pit-sawn timber is distinguished by saw-marks at about 75–85° to the length of the timber and a cleave-off at one end of the timber in the shape of an irregular triangle.

Evidence of mill sawing by European sawmills is mainly found on imported Baltic softwoods from the 17th century onwards. Mill sawing used wind or water-powered reciprocating saw blades which cut at about 90° to the length of the timber, leaving evenly and closely spaced saw marks with no cleave off. It can be difficult to distinguish between mill sawing and good quality pit sawing.

Circular sawn timber arrived in the late 18th or early 19th century and became established with the advent of steam power during the 19th century. It is easily identified by its very distinctive, large, curved sawmarks radiating across the surface.

Lastly, bandsawn timber dates from after the 1860s and can be recognised by sawmarks that are at 90° to the length of the timber but with a regular pattern of more widely spaced sawmarks than timber from reciprocating sawmills.

### CONVERSION PRODUCTS

The following types of conversion are often encountered; the first three types were extensively used to produce a variety of timber products including posts, ties, plates and rafters:

Boxed heart or boxed timbers have just the outside of the log removed and so tend to be roughly square in section. They can be



*Circular sawn surface: a product of the steam age, circular sawn timber is easily identified by its very distinctive, large, curved saw marks which radiate across the surface.*



*Bandsawn surface: recognisable by very distinctive and widely spaced saw marks that are at 90° to the length of the timber.*



*Boxed heart timbers have just the outside of the log removed so tend to be roughly square in section. During seasoning they stay straight but do tend to 'shake' (or crack) on one or more faces.*



*Halved timbers are first boxed and then sawn down the middle. The wide faces tend to bow, with shakes developing on one or both of the two wider faces as they season.*



*Quartered timbers are boxed and halved and then each half is sawn again to produce four square sections. They tend to bow in two dimensions but do not shake as they season.*

either hewn or sawn and may contain waney edge on one or more arrises. Typically, the boxed heart timbers stay straight but they do tend to 'shake' (or crack) on one or more faces, due to differential drying between the radial and tangential dimensions as they season.

Halved timbers are first boxed as above and then sawn down the middle. This produces a distinctive rectangular section with waney edge on a maximum of two adjoining arrises. The wide faces tend to bow, with shakes developing on one or both of the two wider faces as they season.

Quartered timbers are 'boxed and halved' as above and then each half is sawn again to produce four square sections with waney edge on a maximum of one arris on each quarter. They tend to bow in two dimensions but they do not shake as they season.

Quarter-sawn or radially converted timber is produced by sawing or cleaving the log multiple times from the bark to

the centre, producing thin, triangular sections. The bark and sapwood are trimmed off leaving boards that tend to stay flat and not split as they season. This is the predominant type of conversion for producing oak panelling, instantly recognised by the pattern of the lighter coloured medullary rays running as flowing flecks across the wide faces of the boards.

Through-and-through or plain or flat sawn timbers are first boxed and then sawn into four or more evenly sized, rectangular pieces. Those pieces nearest the pith tend to cup more than those nearest the outside of the log but the latter can have one or two waney edges. Braces, struts and floorboards are typically converted like this.

Multiple or multi-sawing is found with larger logs (above 300mm diameter) which have first been boxed and then sawn into six or more evenly sized pieces. Four pieces contain one waney arris, the others none, and usually only the timber(s) containing the pith develop any shakes. Timbers converted like this were typically used for floor joists and rafters from the 16th century onwards. They can be distinguished from quartered timbers by the shallower curve of any waney edge and by looking at the end grain if possible.

Baulk re-sawing is restricted to large, imported, softwood, boxed heart timbers which were then re-sawn in England. In his classic 1937 book *The Village Carpenter*, Walter Rose described how the dirty outer faces of the hewn baulk were sawn off for joists and ceiling ties leaving a clean, sawn, boxed heart which was then sawn through and through for boards. Close inspection of Victorian houses undergoing repair work to the floors provides evidence of this practice.

## REPAIR PHILOSOPHY

How should today's conservator respond when fitting new timbers alongside historic ones?

Modern structural timbers are generally bandsawn so their surface finish does not match that found on most historic timber frame structures. Firstly, the timbers can be used as they are, with their bandsawn finish; this is by far the most commonly encountered response. If a surface finish visually closer to historic timbers is specified, then a number of options have been tried over the last 40 years or so. Hewing timbers by hand is best practised on freshly felled logs but this approach is expensive and time-consuming. While it is theoretically possible to hew just a few millimetres off the exposed faces of bandsawn timbers with a side axe, in practice it is hard, slow, highly skilled work. More commonly, planes with convex blades are used obliquely across the grain in an attempt to imitate the undulating surfaces of hewn timbers.

In the case of sawn timbers too, working them by hand is hard, slow work. Often a chainsaw mill is used instead. It cuts at a similar angle to pit sawing so it imitates the historic surface finish. Cleaving is still fairly widely practised today for the fencing, shingle and lath markets due in part to its inherent speed, so obtaining good cleft material is usually straightforward.

Philosophically, where do the above modern imitations leave us? Working the surfaces of the timbers, after the imitation historic finish has been applied, to such a level that it is difficult to distinguish between modern and historic – for example by drilling fake woodworm holes or hitting surfaces with chains to simulate wear and tear – is deliberate deception and should be avoided. This approach confuses and distorts the archaeological record and is counter to the long-established conservation principle of ensuring that new is distinguishable from old.

An approach which is widely advocated is that of 'honest repair', but this is a rather vague and ambiguous term in practice, with some repairs being left with razor sharp arrises in stark contrast to the weathered, more softly contoured adjoining timber. The time-honoured response is often: 'don't worry, it will soon weather in!' However, the time required for this process to start can vary from a year to many decades, depending on exposure and humidity.

It is often best to follow a twin-track approach which allows the new timber to be easily identified on close inspection, while from a distance it blends in visually with its neighbours. This can be achieved in a number of ways; for example by removing any sharp arrises, by sanding off most of the visible bandsaw marks, and by careful initial selection and matching of the timber.

**JOE THOMPSON of Sussex Oak and Iron has been working with historic timber frames since 1990. He is carpenter in residence at the Weald and Downland Open Air Museum in Sussex, where he also lectures and runs practical workshops.**

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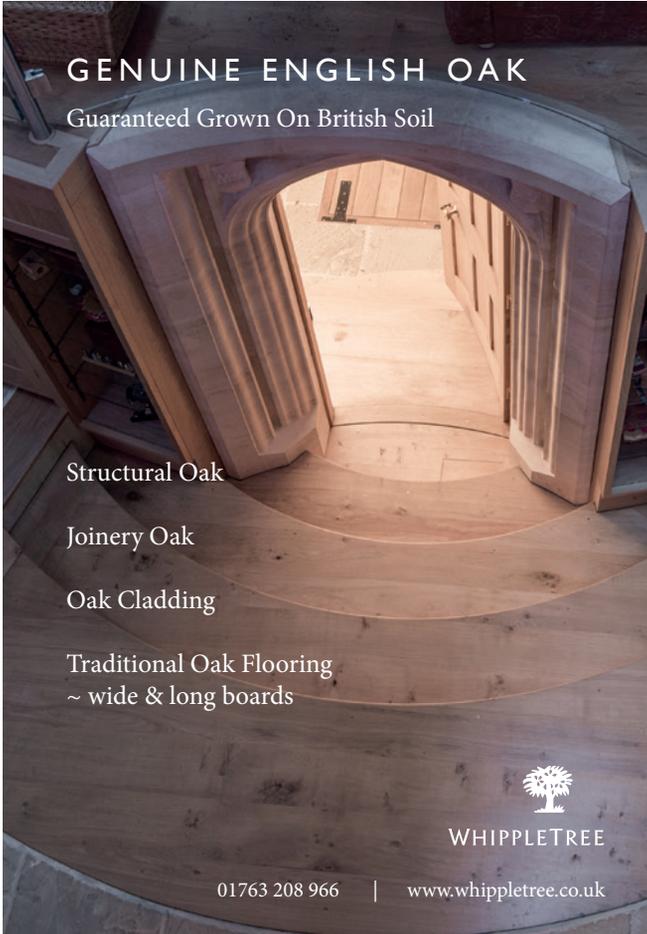
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Barr & Grosvenor Ltd	111		gt		
The Barwin Group	2				ss
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Best Reclamation	132			bp cq pv	go
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Building Conservation (UK) Ltd	50		gt		mr ss
Building Maintenance (Wales) Ltd	50		gt		mr ss
Bullen Conservation Ltd	96				ss
C & D Restoration Ltd	97		sf		ss
Calibre Metalwork	111		gt		
Carthy Conservation Ltd	97				ss
Castaway Cast Products and Woodware	111		gt si		
Catherine Woolfitt Associates Ltd	28				go ss
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Coleford Brick & Tile Co Ltd	85			bp	
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The Delabole Slate Company Ltd	78			pv	ss
Dreadnought Tiles Ltd	78			bp pv	
The Fine Iron Company	111		gt sf		
George James & Sons, Blacksmiths	131		gt		
Grinshill Stone Quarry	98				ss
Haddonstone Limited	131	cn gb	gt		go sn ss
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Hirst Conservation Ltd	92				ss
J H Porter & Son Ltd	112		gt		
Ketley Brick Co Ltd	86			bp pv	
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London Stone Conservation Ltd	100				ss
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Marsh Brothers Engineering Services Ltd	112		gt		
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Richard Rogers Conservation Limited	92				mr ss
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Rupert Harris Conservation	114		gt		go mr ss
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	pv pavers & flagstones
Ornaments	go garden ornaments
	mr metal sculpture conservation
	sn sundials
	ss sculpture & statuary

## Conservation Clockmakers



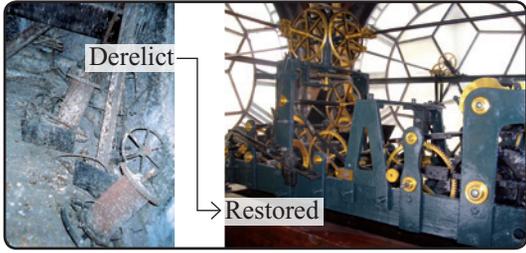
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Dunne and Co Building & Restoration	56						In	
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Gilmore Hankey Kirke Ltd	16					la		
Hartigan	40	ed						
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L U C	131	ed	ei	gd	ho	la		ud
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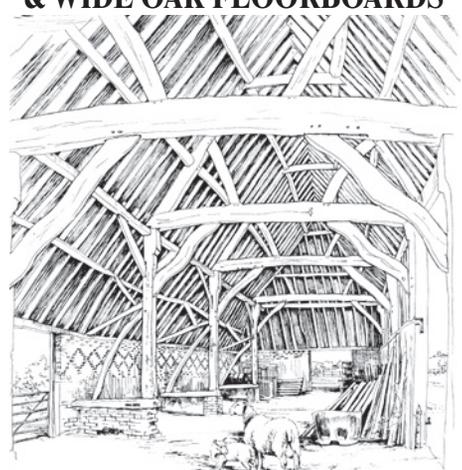
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A hot mixed mortar workshop at Weymouth College  
(Photo: Jonathan Taylor)

## Chapter 4

# Services & treatments

## 4.1 PROTECTION & REMEDIAL TREATMENT

PAINTS & DECORATIVE FINISHES	Pg	lw	pd	pg	pa
Arte Conservation	164				pa
Between Time Ltd	169	lw			
Britain & Co Ltd	155				pa
C & D Restoration Ltd	97	lw			
Carthy Conservation Ltd	97				pa
Chalk Down Lime Ltd	140	lw	pd	pg	
Cliveden Conservation Workshop Ltd	164				pa
Conservation Building Services Ltd	52				pa
Cornerstone Mortars	141	lw	pd	pg	
Cornish Lime Company Ltd	140	lw	pd	pg	
D B R Conservation	155				pa
D P Tebbutt Stonemasons	98	lw			
Dunne and Co Building & Restoration	56	lw			
F E Stacey & Co	158	lw			
Hare & Humphreys Ltd	158				pa
Helen Hughes Historic Interiors Research & Conservation	158			pg	pa
Heritage Blacksmith Partnership	112		pd		
Heritage Cob & Lime	140	lw			
Heritage Testing Ltd	36				pa
Hirst Conservation Ltd	141	lw	pd	pg	
J S Stonemasonry Ltd	98	lw			
The Lime Centre	141	lw		pg	
Messenger	158				pa
Mike Wye & Associates Ltd	141	lw	pd	pg	
Mullins Studio	157		pd		
Lisa Oestreich	135		pd		pa
Richard Ireland Plaster & Paint	172				pa
Stonewest Limited	61		pd		pa
Vivus Solutions Ltd	172		pd		
William Taylor Stonemasons	64	lw			
Womersley's Limited	135	lw	pd	pg	

### KEY Paints & decorative finishes

Products	
lw	limewash
pd	paints & decorative finishes
pg	pigments
Services	
pa	paint analysis

DAMP & DECAY	Pg	bc	dd	ec	er	ie	nd	tt
The Barwin Group	2				er			
Bonsers (Nottingham) Ltd	49	bc						
Bosence Building Conservation	28						nd	
Building Conservation (UK) Ltd	50	bc						
Building Maintenance (Wales) Ltd	50	bc						
Bullen Conservation Ltd	143		dd					
Burrows Davies Limited	96		dd					
C & D Restoration Ltd	97				er			
D B R London	144				er			
D B R Southern	144				er			
Daedalus Conservation	54	bc						
Eastern Heritage Restorations	54		dd					
Exova BM TRADA	33		dd				nd	tt
Floydconsult	143		dd	ec				tt
Fortress Restorations Ltd	146		dd					
Hartigan	40						nd	tt
Heritage Testing Ltd	36						nd	
Historic Building Conservation & Repair	43		dd		er	ie		
Hutton + Rostron Environmental Investigations Limited	143		dd	ec		ie	nd	tt
J P Ladell Ltd	57		dd					
J S Stonemasonry Ltd	98							
Manorwood	43				er			tt
Martin Ashley Architects	18			ec				
Martin Thomas Associates Limited	151			ec				
Mike Wye & Associates Ltd	141		dd					
P P I Y Ltd	20						nd	
Period Property Solutions Building Conservation Limited	59		dd					
Peter Cox Ltd	143	bc	dd		er			
Plaster Restorations (UK) Ltd	172				er			
Recclesia Ltd	144				er			
Ian Russell	40						nd	
Smith & Garratt	34		dd					
Stone Central (NW) Ltd	102				er			
Stonewest Limited	61		dd		er		nd	
T R A C Structural Ltd	144				er			
William Taylor Stonemasons	64				er			

### KEY Damp & decay

bc	Bird control
dd	damp & decay treatment (non-destructive)
ec	environmental control
er	epoxy resin repairs
ie	insect & pest eradication
nd	non-destructive investigations
tt	structural timber testing

MORTARS & RENDERS	Pg	Products				Services
		1	2	3	4	
A V V Solutions Ltd	145					pn sw
Anglia Lime Company	140	hy lm				
Aura Conservation	142					pn
Bakers of Danbury Ltd	52					pn sw
Between Time Ltd	169	hy lm				pn wd
Boden & Ward Stonemasons Ltd	96					pn
Bonsers (Nottingham) Ltd	49					pn
Bosence & Co	33	hy	pz re			pn
Bosence Building Conservation	169					pn sw
Building Conservation (UK) Ltd	50					pn sw
Building Maintenance (Wales) Ltd	50					pn sw
The Bulmer Brick and Tile Co	85	hy lm	pz			
Burrows Davies Limited	96					pn
C & D Restoration Ltd	97					pn
Chalk Down Lime Ltd	140	hy lm	ag pz re			wd
Cliveden Conservation Workshop Ltd	97	hy lm				pn sw
Coe Stone Ltd	97					pn
Collins & Curtis Masonry Ltd	97					pn
Cornerstone Mortars	141	hy lm	ag pz re	es	mt	
Cornish Lime Company Ltd	140	hy lm	ag pz re	es	mt	
D B R Conservation	146	lm	ag pz re	cp		pn sw
D B R London	54	hy lm	ag pz	cp		pn sw
D B R Southern	98	hy lm	ag pz	cp		pn sw
D P Tebbutt Stonemasons	98					pn
Daedalus Conservation	54					pn sw
Dunne and Co Building & Restoration	56					pn
Eastern Heritage Restorations	54					pn wd
Ernest Barnes Ltd	83					pn
F E Stacey & Co	140	hy lm				pn sw
Four Walls Building Company Ltd	84					pn
The Green Man Building Company	84					pn wd
Hall Construction Limited	56					pn
Heritage Cob & Lime	140	lm		es		
Heritage Lime	140	hy lm	ag re	es		
Herts Renovation	84					pn
Hirst Conservation Ltd	141	hy lm	pz re	es		
Historic Brick Pointing Ltd	142					pn
Historic Building Conservation & Repair	43					pn wd
Ingram Consultancy Limited	30			cp		
J S Stonemasonry Ltd	98					pn sw
The Lime Centre	141	hy lm	ag pz re		mt	
The Limecrete Company Ltd	143					lt
London Lime Plasterers	171					pn sw
Manorwood	43					wd
Mathias Restoration Ltd	84					pn
Mike Wye & Associates Ltd	141	hy lm	ag pz re	es		lt pn wd
North West Lime Supplies Ltd	132				mt	
Ornate Interiors Limited	171					pn
Owlsworth I J P	58					pn wd
Paye Conservation	99			cp		pn sw
Period Property Solutions Building Conservation Limited	59					pn
R J Smith & Co	59					pn
Recclesia Ltd	142					pn
Ross Lovett Conservation	102					pn
Sally Strachey Historic Conservation	102					pn sw
Simon Swann Associates Ltd	92					pn sw
Skillington Workshop Limited	102					pn
St Astier Natural Hydraulic Limes	141	hy lm				
Stone Central (NW) Ltd	102			cp		pn
Stone Edge Limited	104					pn sw
Stonewest Limited	61					pn sw wd
Strippers Paint Removers Ltd	144	hy lm				
Szerelmey Conservation	103			es		
Trendle Conservation	142					pn
Unique Pointing Ltd	142					pn
Valley Builders Ltd	62					pn
Vivus Solutions Ltd	142	lm				pn
Ward & Co (Building Conservation) Ltd	63					pn sw wd
Whippetree Hardwoods	164	hy lm	re			
William Taylor Stonemasons	104	hy				pn
Williams Restoration	64					pn sw
Womersley's Limited	142	hy lm	pz re		mt	

### KEY Mortars & renders

Products		
1	hy	lime, hydraulic
	lm	lime, non-hydraulic (lime putty)
2	ag	aggregates
	pz	pozzolanic additives
	re	hair & fibre reinforcement
3	cp	stone consolidants
	es	cob & earth materials
4	mt	mortar tools & mixers

### KEY Mortars & renders

Services	
lt	limecrete
pn	lime pointing
sw	stucco
wd	wattle & daub

MASONRY CLEANING	Pg	Prods	Servs	Techniques
A F Jones Stonemasons Ltd	145		mc	ac cc sc wt
A V V Solutions Ltd	145		mc gf	ac cc
Anglia Lime Company	140	mp pp		
Aura Conservation	145		mc	cc
The Barwin Group	2		mc gf	ac cc pr sc wt
Bonsers (Nottingham) Ltd	49		mc gf	ac cc pr sc wt
Britain & Co Ltd	155			pr
Building Conservation (UK) Ltd	50	mp pp	mc gf	ac cc pr sc wt
Building Maintenance (Wales) Ltd	50	mp pp	mc gf	ac cc pr sc wt
Bullen Conservation Ltd	145		mc	cc sc wt
Burrows Davies Limited	96		mc	
C & D Restoration Ltd	97	mp pp	mc	ac cc ls pr sc wt
C Ginn Building Restoration Limited	145		mc	ac
Carthy Conservation Ltd	97		mc	pr
Catherine Woolfitt Associates Ltd	28		mc	
Chalk Down Lime Ltd	140			pr
Cliveden Conservation Workshop Ltd	146	pp	mc gf	ac cc ls pr sc wt
Coe Stone Ltd	97		mc	
Conservation Building Services Ltd	52		mc	ac cc pr sc wt
D B R Conservation	146		mc	ls pr sc
D B R London	146	mp pp	mc gf	ac cc pr sc wt
D B R Southern	146	mp pp	mc gf	ac cc pr sc wt
D P Tebbutt Stonemasons	98		mc	ac sc
Daedalus Conservation	54		mc	
Fortress Restorations Ltd	146		mc gf	ac cc pr sc
Four Walls Building Company Ltd	146		mc	pr
Hare & Humphreys Ltd	156			pr
Hirst Conservation Ltd	146		mc	
Ingram Consultancy Limited	30		mc	
J S Stonemasonry Ltd	146		mc	ac cc sc wt
London Stone Conservation Ltd	100		mc	
Medusa Stonemasonry Ltd	100		mc	
Mike Wye & Associates Ltd	141	pp		
O'Reilly Period Cornice Restoration & Cleaning	172			pr sc
Owlsouth I J P	58		mc	
Paye Conservation	146	mp	mc gf	ac cc pr sc wt
Pierra Restoration	100		mc	
Recclesia Ltd	146		mc	ac sc wt
Restorative Techniques	145	mp pp	mc gf	ac cc pr sc wt
Ross Lovett Conservation	102	mp	mc	ac cc pr sc wt
Sally Strachey Historic Conservation	102		mc	ac cc ls pr sc wt
Stone Central (NW) Ltd	102		mc gf	ac cc pr sc wt
Stone Edge Limited	146		mc gf	ac cc pr sc wt
Stonehealth Limited	147	mp pp	mc gf	ac cc pr sc wt
Stonewest Limited	61		mc gf	ac cc ls pr sc wt
Strippers Paint Removers Ltd	144	mp pp		
Taylor Pearce Restoration Services Limited	147		mc	ac cc ls wt
Wells Masonry Services Ltd	104		mc	
William Taylor Stonemasons	104		mc	ac cc sc wt
Williams Restoration	147		mc	
WolfBlast	147		mc gf	ac

**KEY Masonry cleaning****Products**

mp	masonry cleaning products & equipment
pp	paint removal products & poultices

**Services**

mc	masonry cleaning
gf	graffiti protection & removal

**Techniques**

ac	air/water abrasive cleaning
cc	chemical cleaning
ls	laser cleaning
pr	paint removal & poulticing
sc	steam cleaning
wt	low pressure water/nebulous spray cleaning

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Tel 01225 466374 Mobile 07809 014939

Email [lisa.oestreicher@historicpaint.com](mailto:lisa.oestreicher@historicpaint.com)  
[www.historicpaint.com](http://www.historicpaint.com)

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# HOT LIMEWASHES and SHELTERCOATS

NIGEL COPSEY

**T**HE REVIVAL in the use of hot-mixed lime mortars has been gathering pace across the UK and Ireland over the past three years, and the use of quicklimes in conservation and repair is now becoming increasingly routine. This has injected new energy and insight into the wider lime revival, affecting not just construction mortars but also decorative finishes and surface treatments.

As craftspeople began to use hot-mixed lime mortars again they initially struggled with procedures which had not been used for 40 years or so, and historic accounts and the experiences of others were not as readily available as they are now. Rules for producing and using hot-mixed lime mortars had to be re-discovered, initially by trial and error. Hot-mixed mortars are forgiving of inexperience, however, and historic texts now provide a mine of expert opinion and direction. It should perhaps be no surprise that using the right materials, manipulated as they were in the past, allows compatible like-for-like repairs to be carried out with comparative ease and efficiency.

While mortars and limewashes have a long history, with documentary sources dating back to Pliny, shelter coats are a product of the lime revival, and of Baker's lime method in particular. They can be defined as 'aggregated limewashes' for the treatment of friable or previously soiled stonework of particular importance and significance, offering a sacrificial layer that fills pores and seeks to match the tone and character of the stone when newly carved.

In addition to their decorative function, limewashes also play an important role in protecting the fabric. Recent research has demonstrated that the application of limewash to any masonry substrate, from the least to the most porous, enhanced the drying of the fabric at the surface and to surprising depth and with greater efficiency than when there was no limewash at all. This is due to the pore structure of calcium carbonate which is 'perfect' for the poulticing of moisture. It is the high free-lime content of limewashes and mortars that provides the key to effective and efficient breathability (Wiggins 2016).

## THE VALUE OF HOT SLAKING

Many problems experienced in recent years stem from the slaking and mixing of lime. Since the lime revival began, limewashes and sheltercoats have been made by diluting putty limes, themselves made by slaking quicklime in an excess of water. Historically termed



*Traditional thick limewash on Tetbury Town Hall*

'drowning', this method was considered by all commentators to deliver a weakened lime with deficient bond strength and less cohesion and 'tenacity' – the key standard for a good mortar, along with good workability. The importance of matured lime putty was asserted by Vitruvius, Pliny and others, but always in the context of high status stucco finishes and fine colour washes. These putties were slaked alone but, as when lime was slaked with sand for mortars, the water was always added to the lump lime and in just sufficient quantities to effect the slake plus a little more water to deliver a stiff, dough-like paste. This was laid down to allow all slaking to occur. Lime putty, used neat as a mortar, was the norm for gauged brickwork and perhaps for bedding the finest ashlar. It was rarely used as a binder (Langley 1750).

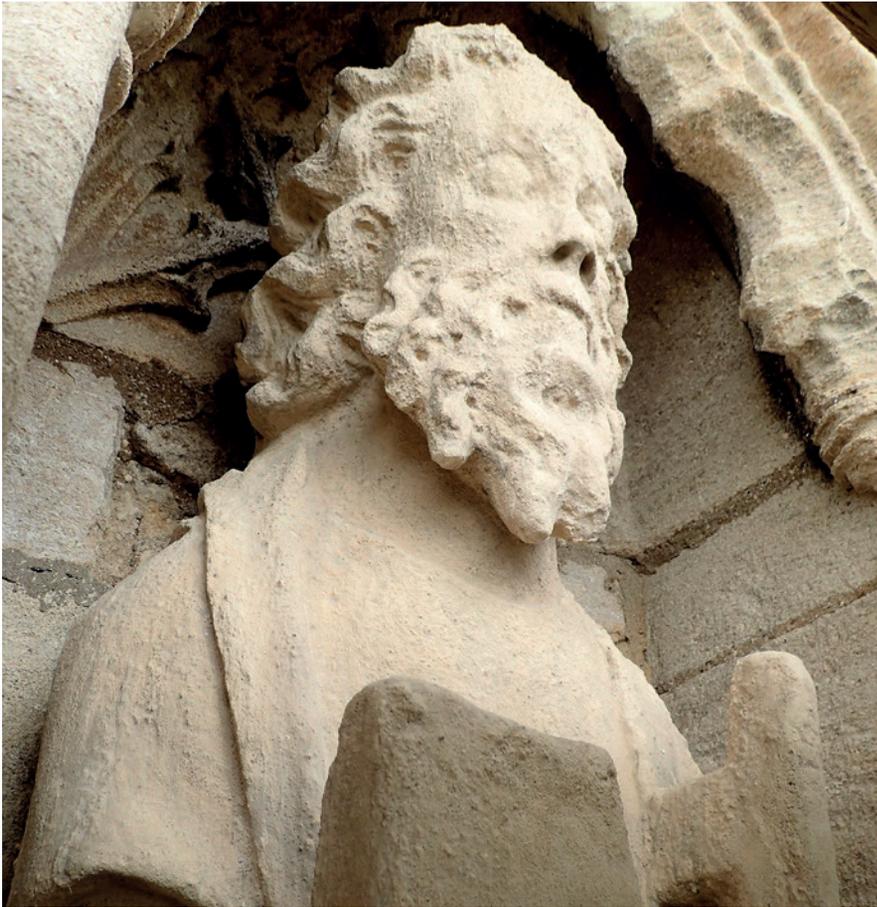
More generally and in more recent centuries, running lime to putty was an efficient way of removing unslaked lumps which would otherwise impede the achievement of very fine surface finishes. This is made explicit by many sources:

*Fine-stuff is pure lime, slaked with a small portion of water, and afterwards*

*well saturated, and put into tubs in a semi-fluid state, where it is allowed to settle, and the water to evaporate. A small proportion of hair is sometimes added to the fine-stuff. Stucco, for inside walls, called trowelled or bastard stucco, is composed of the fine-stuff above described, and very fine washed sand, in the proportion of one of the latter to three of the former. All walls, intended to be painted, are finished with this stucco. (Nicholson)*

Running quicklime to putty became more common for plastering and building during the 20th century because it was a quick and easy way of slaking large volumes of lime. However, it was always used in the knowledge that the resulting mortars would be gauged with gypsum or ordinary Portland cement, which were assumed to counter the inherent weakness of mortars made with this material while speeding the initial set, although not the carbonation of the lime. It was a response to the demand for mass housing and increasing time pressures in the construction industry.

The idea of laying lime putty (albeit



Recent conservation to the figures at Crowland Abbey church, Lincolnshire by Alex Carrington using hot-mixed mortars and shelter coats



Hot applied sheltercoat to protect eroding sculpture at St Mary's Church, Old Malton

differently made) down for a minimum of three months is indicated by Alberti (1460), but he is unique in this prescription, which appears in his chapter on ornament. Millar (1897) indicates that plasters should be hot mixed and the resulting coarse stuff laid down to allow for late slaking for up to three months, although two weeks seems to have been the norm for both coarse stuff and, for fine finishes, lime putty.

During the 19th century, lime was also sometimes run to putty for convenience, but with the expectation of gauging with natural cement. The following mid-19th-century account, for example, describes the preparation of mortars at Fort Warren (Boston Harbour) mixed by mortar mill and lime slaked by being thrown into a surplus of water:

*The lime, thus deluged with water, loses probably some portion of its binding qualities, but the mortar at Fort Warren almost always contains hydraulic cement; and as this substance sets rapidly, it is highly essential that the lime should be thoroughly slaked before the admixture of the ingredients... the lime is reduced to [a] milky consistence, and allowed to remain in the vat as long as possible. It should be remembered, that the above method applies only when cement is added to the lime. When no cement is used, the lime must be slaked in the ordinary way, as the drenching of the lime would greatly impair its binding properties. (Wright 1845)*

Limewashes too were made by adding just enough water to lump quicklime for it to slake. More water was then added and stirred in to achieve the desired consistency, typically thick enough that a dipped brush does not drip. The limewash was used immediately, first run through a sieve or otherwise, depending upon the situation, while still hot, for maximum effect.

Slaking itself takes a matter of minutes but significant heat remains for longer – sometimes for days if the mortar volume is large. Great store was placed on maximising the temperature of the slake in this and other mortar-making methods, whereas drowning the lime minimises the potential temperature. Quicklime slaked with too little water may reach 300°C before the addition of more water,

which will bring the temperatures down below 100°C, typically to around 70°C in limewashes and to around 55°C in mortars. With precise water addition, the slaking temperature will be around 100°C. Too little risks 'chilling' the lime, reducing the effective binder content.

In modern, scientifically controlled hydrated air lime production, it is demanded that quicklime slakes at temperatures of 85–98°C to achieve the optimum surface area and porosity of the dry hydrate. Historically, significantly higher temperatures were generated. Van Der Kloes (1914) is unique in spelling out the perceived importance of maximising the temperature of the slake (others presumably took it as read). These temperatures sound alarming, but are easily managed and are, in truth, no more than those encountered in the average domestic kitchen. A minimum of 100°C is required; significantly greater temperatures than this will indicate insufficient water to effect the slake.

In our own practice, we have made limewashes by this method, as well as by incrementally feeding powdered quicklime into small volumes of water to produce a paste the consistency of 'extra thick' double cream, which, upon cooling overnight would appear as a putty lime. Stiffening only occurs upon cooling – used hot, the liquid flows. (Historically, grouts were always used hot to take advantage of this.) As a result, a hot limewash may be applied in thicker coats without crazing, effectively becoming putty on the wall. In historic specifications, two or three coats of lime white (as limewash was called during the 19th century) is indicated. No 'seven water-thin coats' specified here – nor, indeed, are they likely to be found on historic surfaces, where limewashes can easily be confused for fine finish coats.

In our experience (gained through using quicklimes over the past ten years, both for hot-mixed mortars for all uses and for limewashes), limewashes and sheltercoats are best mixed directly from quicklime, made thicker than modern convention, and applied while still hot. This results in a strong and immediate bond to masonry and other substrates, and even 24 hours later they would be very difficult to remove.

The intimacy of the bond between lime, water and aggregates as a result of hot mixing is particularly well-demonstrated in the case of sheltercoats. Even coarse aggregates will be held in suspension in the liquid. If left for some days, these aggregates will sink to the bottom, but stirred they will once more remain in suspension for as long as required. Compare this to modern sheltercoats; mixed cold from matured lime putty, the aggregates compact at the bottom of the bucket, requiring a hammer and chisel to remove them. Application is often a race against time.

It has been a maxim of the lime revival (Schofield) to use hot water in the dilution of putty lime for limewashes, the better to engage any pigments. However, when mixing directly from quicklime, the heat comes free. Furthermore, the addition of the aggregates and pigments before or (when using powdered quicklime) during slaking locks all of the ingredients together more effectively than



*York House, Malton: a hot-mixed and applied sheltercoat with copperas pigment*



*Earlier copperas pigmented wash to York House*



*Early copperas pigments on the stonework of Crowland Abbey church*



*Hot lime washing in a threshing barn at Thornton Dale (Photo: Sam Baxter)*

is the process of hot mixing that delivers an enhanced general performance with a strong bond between lime, aggregates *and* water – the method of slaking is key. Similarly, limewashes slaked in the traditional way were not always used hot, but our experience has been that hot use offers genuine advantages. Whether used hot or cold, the evidence would seem to be that they were generally used freshly made and applied much thicker than recently. Historically, two coats were usually specified.

#### **ADDITIVES**

There are several traditional formulae consisting of lime (not whitening) thoroughly slaked and thinned to a cream after slaking to which various additions are made, such as salt, alum, powdered glue, oils and fats and casein (skimmed milk), and a selection of formulae is shown in the table opposite. The effect of salt is probably to hold the moisture and facilitate the carbonation of the lime, while the addition of a small quantity of alum improves the working qualities and is thought to increase the hardness of the surface. Caseins and glues give greater binding properties to the mix.

Although done with cold putty limes, NPA research (Jackson 2005) demonstrated that the most efficient and durable limewashes were those composed of lime and water (with pigments as desired), and not those containing tallow or molasses or linseed oil. It was concluded that most additions were to help with the adherence of the material to the substrates, not durability.

While the addition of salt to lime washes may seem counter-intuitive, there is clear evidence that it improves the bond with the substrate. In 2014, even a hot limewash struggled to uniformly attach to the repaired and previously abused timbers of the Jesuit Mission Church in Fort McMurray, Alberta, Canada, but the addition of common house salt (which was often specified in limewashes coloured with copperas/ferrous sulphate without salt addition) effected good attachment to the timbers. The addition of house salt to limewashes for masonry structures remains common in many countries but is usually unnecessary, and in the UK's damp climate the risk of salt migration into the fabric may outweigh any benefits.

Common limewash pigments include copperas (ferrous sulphate) and various natural earth pigments (iron oxides) such as ochre. Copperas was a by-product of the alum industry of North Yorkshire, and in London and Yorkshire it was not uncommon for an alum-copperas wash to be applied to masonry as a thin coating in the 19th century.

All of the above indicates that craftspeople in the past – when exterior limewashing with or without additives was routine – understood far more than we do today. To give them and the buildings they created due respect and recognition, we should use the materials they used, manipulated and applied in the same way. Not only will this offer compatibility and something more truly 'like-for-like', but it will make the lives of masons, plasterers and conservators easier and less frequently frustrating.

cold mixing. Hot water was used to slake some hydraulic quicklimes in the past, accelerating an otherwise slow process, especially when hydraulic quicklime had been previously pulverised. Likewise, added fats or oils will be melted and properly engaged with the other ingredients in a way that simply does not occur when the limewashes are mixed cold, something that has led to the spectacular failure of such treatments in recent years.

Hot limewashes and sheltercoats dry out less readily than cold-mixed varieties, carbonate efficiently and give very good coverage. They are cost-effective and have proved appropriately durable. The north elevation of York House in Malton was given a Hamstone dust, fine sand, copperas and quicklime sheltercoat in 2007. This continues to require no replenishment.

It should be said, however, that many of the beneficial properties of hot limewashes and sheltercoats endure when they have cooled – there are advantages in hot use, but good bond and good coverage remain available after cooling. As with hot-mixed mortars, it



Hot limewash with salt on the timber walls of the French Jesuit Mission Church (1910) at Fort McMurray, Alberta (Photo: Ben Gourley, MacDonald and Lawrence Timber Framers)

#### A CHEAP WASH

For the outside of wooden cottages, barns, out-buildings, fences, etc, where economy must be consulted, the following wash is recommended: take a clean barrel that will hold water. Put into it half a bushel of quicklime, and slake it by pouring over it boiling water sufficient to cover it four or five inches deep, and stirring it until slaked. When quite slaked dissolve it in water, and add 2lbs of sulphate of zinc and one of common salt, which may be had at any of the druggists, and which in a few days will cause the whitewash to harden on the woodwork. Add sufficient water to bring it to the consistency of thick whitewash. To make the above wash of a pleasant cream color, add 3lbs of yellow ochre. For fawn color, add 4lbs of umber, 1lb of Indian red, and 1lb of lampblack; for gray or stone color, add 4lbs of raw umber and 2lbs of lampblack. The color may be put on with a common whitewash brush, and will be found much more durable than common whitewash. *Jacques (1860)*

#### A TALLOW WASH

The basis of most lime wash recipes is the mixing of a quantity of tallow, which may be from 2 to 10lbs, into a bushel of quicklime to form an insoluble calcium soap. The tallow should be placed in the centre of the quicklime and the whole should be slaked together. If the quicklime is slow in slaking [suggesting moderately hydraulic], it should be covered with sacking, and hot water should be used. The addition of pigment may necessitate an increase in tallow, but a useful mean to remember is 5lbs tallow to a bushel of quicklime. *C Williams-Ellis (1919)*

#### WG SCOTT RECIPES

The following recipes are taken from WG Scott's 'White paints and painting materials' (*Modern Painter*, Chicago, 1910) and are reliable:

##### 'Factory' whitewash for walls, ceilings, posts, etc (interiors)

- 1 62lb (1 bushel) quicklime, slake with 15 gallons water. Keep barrel covered 'til steam ceases to arise. Stir occasionally to prevent scorching.
  - 2 2½lb rye-flour, beat up in ½ gallon of cold water, then add two gallons boiling water.
  - 3 2½lb common rock-salt, dissolve in 2½ gallons hot water.
- Mix 2 and 3 then pour into 1, and stir until all is well mixed. This is the whitewash used in the large implement factories and recommended by the insurance companies. The above formula gives a product of perfect brush consistency.

##### Weatherproof whitewash for buildings, fences, etc (exteriors)

- 1 62lb (1 bushel) quicklime, slake with 12 gallons hot water.
  - 2 2lb common table salt, 1lb sulphate of zinc, dissolved in a gallon of boiling water.
  - 3 2 gallons skimmed milk.
- Pour 2 into 1, then add the milk 3 and mix thoroughly.

##### Lighthouse whitewash

- 1 62lb (1 bushel) quicklime, slake with 12 gallons of hot water.
  - 2 12 gallons rock-salt, dissolve in 6 gallons of boiling water.
  - 3 6lb Portland cement.
- Pour 2 into 1 and then add 3.

Note – Alum added to a lime whitewash prevents it rubbing off. An ounce to the gallon is sufficient.

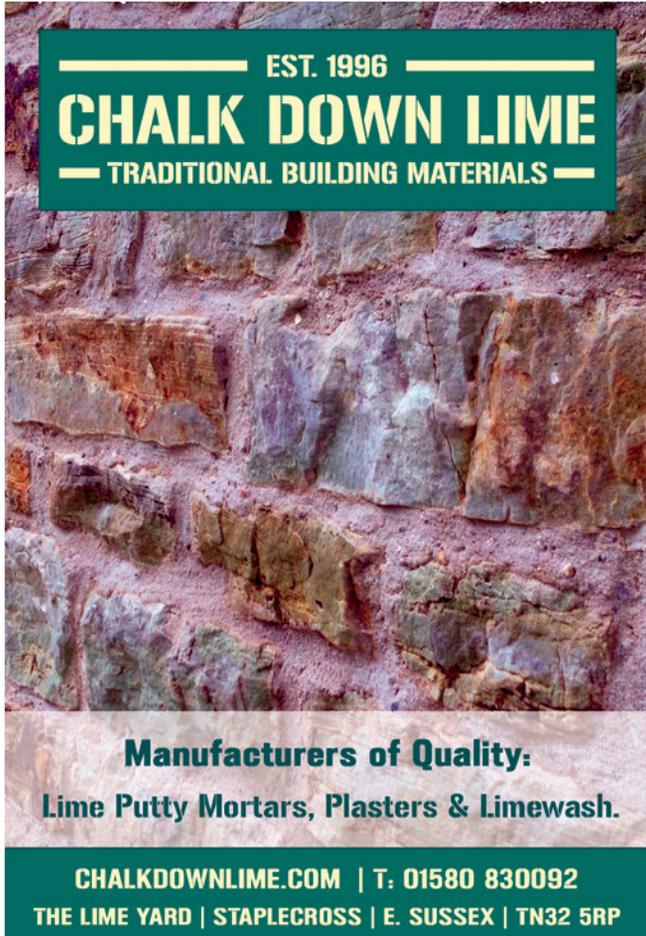
Historic sources reveal a wide variety of hot-mixed limewash recipes.

#### References and Further Information

- V Brito and T Diaz Gonçalves, 'Artisanal lime coatings and their influence on moisture transport during drying', *3rd Historic Mortars Conference*, Glasgow, 2013
- N Copsey, Hot-mixed mortars method etc [www.quicklimemortars.com](http://www.quicklimemortars.com)
- E Hansen et al, 'Effects of ageing on lime putty', *Proceedings of the International Rilem Workshop on Historic Mortars*, Rilem Publications, France, 2000
- M Hassibi, 'An overview of lime slaking and factors that affect the process', Chemco Systems LP, 2015, <http://bc-url.com/hassibi>
- S Jackson, *Study on the Durability of Traditional and Modified Limewash Recipes*, National Park Service, US Dept of the Interior, 2005
- P Nicholson, *The New Practical Builder and Workman's Companion*, Thomas Kelly, London, 1823
- W Millar, *Plastering, Plain & Decorative*, 1st edition 1897, reprinted Donhead, Shaftesbury, 1998
- CW Pasley, *Practical Architecture*, 1826, reprinted Donhead, Shaftesbury, 2001
- AC Smeaton, *The Builder's Pocket Manual*, M Taylor, London, 1840
- JA Van der Kloes, *A Manual for Masons, Bricklayers, Concrete Workers and Plasterers*, revised and adapted by Alfred B Searle, Churchill, London, 1914
- David Wiggins, 'Lime mortar and sacrificial weathering – how it works', presentation to Hot-Mixed Mortars Forum, Coventry Cathedral, October 2016
- C Williams-Ellis, *Building in Cob, Pisé and Stabilized Earth*, 1919, reprinted Donhead, Shaftesbury, 1999
- WH Wright, *A Brief Practical Treatise on Mortars*, Thurston, Torrey & Co, Boston, 1845

**NIGEL COPSEY** of The Earth, Stone and Lime Company ([www.nigelcopsey.com](http://www.nigelcopsey.com)) is a stonemason and building conservator based in Yorkshire, and a research associate at the Department of Archaeology, University of York. He is currently contributing to research on hot lime mortars.

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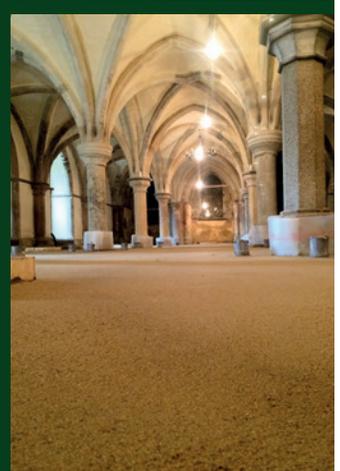
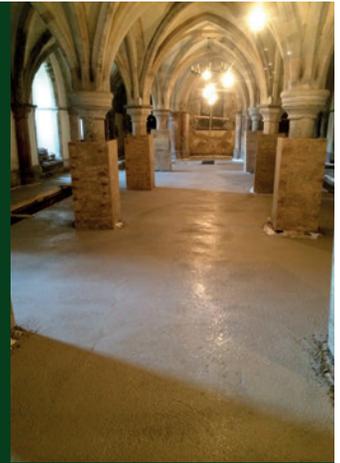
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# BIRD and BAT GUANO

## and its effect on conservation and maintenance

TIM HUTTON, DAVID WATT and JENNY BROWN

'GUANO' CAN be defined as the accumulated droppings of fish-eating birds and originally referred to the large deposits of this material found in coastal South America (the term's origin is the Andean Quechuan word for dung, *huano*). Because of its high nitrate content it was commercially mined in the past for use in fertilisers and the manufacture of explosives. It has also come to be used to describe accumulations of bird or bat faeces in the built environment. As well as marring a building's appearance, guano can cause health problems, physical damage, restriction of access and chemical and biological damage or decay, both on the exterior of buildings and internally.

The extent of additional water penetration into the guano is very important, as this may mobilise the chemicals in the material resulting in accelerated corrosion or decay. Dry material may represent an increased health hazard due to inhalation of fungal spores or other potential allergens and pathogens in airborne dust.

It must be noted that measures taken to remove guano from buildings may be more harmful to the building than the deposits themselves. As in all cases of building pathology it is necessary to take a holistic view of the affected structures and environments in order to properly diagnose the associated problems and to devise cost-effective remedial and risk management measures. This is especially true in the potentially difficult legal and public relations environment of bird and bat control.

### SOURCES

Probably the main source of guano in the built environment in the UK is feral pigeons (*Columba livia* var). They use buildings for roosting, nesting and for 'loafing' while feeding. Their activities result in blockage of roof drainage systems – one of the most significant causes of damp and decay in historic buildings, costing millions of pounds each year and destroying historic fabric.

Other bird species roosting in buildings include starlings and gulls, and many others may use vantage points on buildings and other townscape features as a perching point, particularly in areas where food might be available.

Many species of bat also occupy buildings for roosting, breeding and hibernation. In the UK, accumulations of bat guano tend to be relatively small compared to those left by birds, but they can adhere to vertical surfaces, such as around openings where bats exit a building.



*A gull perches atop Alfred Drury's 1901 statue of the theologian Richard Hooker at Exeter Cathedral (Photo: Jonathan Taylor)*

Bat droppings can be distinguished from small rodent droppings as they are composed predominantly of digested insects and can be easily crumbled. However, large accumulations of droppings pose a particular issue and may require surfaces to be protected.

### VULNERABLE STRUCTURES

Any structure suitable for occupancy by birds or bats may be subject to the accumulation of guano. Even small structures or small localised parts of structures may be affected.

For example, parts of monuments or statuary used for perching by pigeons or seagulls can be heavily contaminated, resulting in severe localised aesthetic, physical and chemical effects. However, the most vulnerable structures are generally those which are poorly accessible or relatively undisturbed, especially in unoccupied or partially occupied buildings.

In all cases, the availability of food sources is likely to be a significant factor. Although both birds and bats may travel surprisingly long distances in order to feed from a

particularly favourable roosting and nesting site, it is believed that the suitability of the structure for roosting or nesting and the lack of disturbance by human occupants is the most important factor.

## EFFECTS OF CONTAMINATION

### Physical

It is possible for the sheer weight of the accumulations of guano to cause damage to structures, particularly to relatively lightweight structures such as ceiling plaster. However, this generally occurs in conjunction with decay or partial decay.

Physical damage may be compounded because inspection and maintenance activities have been curtailed due to the presence of birds or, in particular, bats. This can be a significant problem both on the interiors and exteriors of buildings. In these cases legal restrictions or 'fear of legal restrictions' affecting access often hinder maintenance and conservation activities. Significant physical damage may also result from attempts to remove accumulations of guano, or to deter or exclude bird access. For example, unnecessary abrasive cleaning or the damaging installation of fixings for exclusion nets or deterrent spikes.

Probably the main cause of physical damage to buildings which results from the accumulation of guano, nesting materials and/or carcasses is the blockage of roof drainage systems and other services. Blocked roof drainage systems lead to water penetrating structures and providing conditions for chemical and biological decay.

### Chemical

The constituents of bird guano and urine can have direct and indirect chemical effects on building materials. However, these chemicals generally need to be dissolved in water for their direct effects to be significant, and often the most important problem arises from their ability to promote the growth of algae, bacteria and fungi.

Guano contains high levels of uric and other acids resulting in a pH of 3–4.5. These acids can attack calcium carbonate and other 'binders' in natural stone, artificial stone and even concrete. They can corrode metal building materials such as copper or bronze and attack their protective patina. This can result in aesthetic, and ultimately structural, problems.

Although brick and other clay-based materials may be relatively resistant to acids, they are vulnerable to damage from salts. Guano contains high levels of phosphates, ammonium, potassium, chlorides and other materials. These and the salts resulting from acid corrosion can result in severe problems of efflorescence and spalling. Similarly, the effect of the acids and salts on the porosity of masonry and other materials can result in accelerated moisture and frost damage.

Bat urine is also acidic and can cause irreversible damage to materials. In historic churches, for example, bat urine can cause staining on brass, marble, slate and polished timber, and may damage porous surfaces such as stone and terracotta.

A further potential cause of severe chemical damage to building materials is the use of inappropriate and unnecessarily aggressive cleaning materials in an attempt to remove guano. In the past there has been a particular problem with the inappropriate cleaning of decorative masonry façades, ornamental enrichments and monuments. In these cases, the solution can be worse than the original problem.

### Biological

Algal and/or fungal growth resulting from the additional nitrate and phosphorous components found in guano can cause severe problems for the conservation and maintenance of historic building materials.

In particular, the high nitrate content of guano will promote the rapid growth of dry rot (*Serpula lacrymans*) in softwood timber structures, especially where associated with damp masonry or plaster. Although dry rot can grow in the absence of these materials, the growth of the organism is often constrained by the lack of nitrogen as well as the lack of available moisture.

Similarly, the presence of nitrogen can promote infestation and decay by wood-boring insects such as woodworm (*Anobium punctatum*). The increased growth of bacteria, algae, fungi and lichen also causes the production of acids and salts resulting in chemical and physical damage as described above.

### Aesthetic

There is an obvious 'yuck' factor associated with accumulations of guano, which can cause unpleasant odours, especially if damp. The colour and appearance of soiling – and any resulting algal growth – may adversely affect the appearance of both historic exteriors and interiors. Soiling may appear as light streaking on a dark background, dark staining on a light background, or green algal staining.

### HEALTH HAZARDS

As well as representing a potential slip hazard, accumulations of guano may contain potentially serious human pathogens such as campylobacter, salmonella, listeria, chlamydia (causing psittacosis), histoplasma, cryptococcus, influenza and other viruses. In addition, the living organism, carcasses, associated parasites such as fleas and mites, and nesting materials are also potential health hazards.

In the UK and Northern Europe, guano and related detritus are unlikely to cause serious clinical disease in humans, unless the deposits are grossly mishandled and people are massively exposed to them, either by ingestion or inhalation.

Nevertheless, investigations of the immune response of populations indicate that many people who are exposed to these pathogens have developed sub-clinical infections which resulted in an immune response. This might be expected, as many of these infections are described as often causing 'mild flu-like symptoms', and only occasionally cause more severe disease. It is



*Bat urine damage to a historic church ledger stone*



*Bat guano accumulating on protective sheeting after just a short period of time (Both photos: David Watt)*

therefore probable that these infections are under-diagnosed in the UK and abroad. They can therefore cause serious and potentially fatal infections in people with HIV or under immunosuppressed treatments. Similarly, guano and associated materials can cause severe allergic diseases such as alviolitis, so they should always be regarded as a significant potential health hazard.

## MANAGEMENT AND REMOVAL

The build-up of guano in the built environment is due to a failure to prevent occupancy by birds or animals, and/or a failure to prevent the accumulation of guano. The reasons for these failures are varied but once the decision has been taken to address the problem, the role of the building pathologist and other building professionals is to prioritise the sustainable occupancy and conservation of the affected building or structure, while carefully considering any other factors relevant to the site. The key factors for consideration in this process are outlined below.

### Control of pigeon/bat occupancy

Control may be straightforward in terms of the practical measures needed but it can be very difficult in terms of execution because of the complex social, cultural and legal factors which must be taken into account. As a result, large sums can be spent on pigeon deterrent and exclusion measures which are ineffective and/or harmful to the building.

Often the most cost-effective way of controlling pigeon occupancy is to eliminate those birds which have been bred on the building and therefore have a 'homing instinct' to the structure. This is best undertaken by a programme of live trapping and culling. However, it may require careful management of interested parties and public relations to



Pigeon guano accumulation in an abandoned building which aided the growth and spread of timber decay in the floor structure (Photo: Jenny Brown)

allow this to proceed. In some cases it may be illegal to disturb birds that are occupying buildings, for example when they are nesting. However, it is still possible to discourage or manage their occupancy of the building in the first place in a legal and sympathetic way.

Similarly, disturbing bat occupancy in buildings is against the law in the UK under the *Wildlife and Countryside Act 1981*. This can be rigorously enforced by interested parties and the local authorities, and could lead to a situation where a building becomes unusable due to the short-sighted enforcement of regulations to protect occupancy by bats in the short term. Long-term occupancy of a building by bats is often better managed by making special provision for occupancy using 'environmental enhancements' with the agreement of the relevant authorities. This approach may also be used cost effectively in controlling occupancy by birds, for example by providing or refurbishing existing pigeon lofts or providing owl roosts and other enhancements as part of refurbishment and conservation works.

### Preventing or managing the build-up of guano

This can be achieved by modifying the built environment occupied by birds or bats to include specially designed roosting areas. Safe, routine inspection and maintenance, including the routine removal of guano, should also be considered. This should be arranged either to assist in discouraging occupancy where possible, or conversely to prevent disturbance of occupancy where this would be illegal, as could be the case with bats or nesting birds. Suitable specialist cleaning equipment may be needed, such as high-powered vacuum cleaners with medical grade filters. Current health and safety and legal requirements should be considered.

While it may be possible to encourage bats to roost in a different part of a building, and thus reduce the effects of urine and droppings on a particular feature such as a

church organ, it is more likely that surfaces will need to be protected. The use of sheeting over fixtures and fittings offers a solution but is unpopular with congregations and visitors as it is obtrusive and requires regular cleaning or replacement. Smaller, bespoke covers can be used over certain items, such as altars and lecterns, and these can be designed to co-ordinate with other fabrics in the building.

Fixtures and fittings that cannot be covered, can be protected with surface coatings or finishes such as microcrystalline waxes. These treatments need to be carefully selected and applied to avoid changing the appearance of the particular surface and are perhaps best specified by a conservator.

Floor surfaces pose a particular problem, as sheeting can reduce moisture evaporation from permeable materials and pose a potential trip hazard. Again, it may be possible to use surface treatments on certain materials as a means of offering protection from urine, but these will need to be periodically removed and re-applied.

### Removal of guano

The removal of guano and contaminated materials from buildings in the UK is estimated to cost over £15 million a year. However, this figure is unlikely to include the costs of ancillary works or remedial works to deal with the consequences of contamination.

The removal and disposal of guano in buildings is often undertaken by specialist contractors or sub-contractors with appropriate practical experience and the necessary health and safety protocols. However, in the UK there is no legal requirement to employ specially trained or licensed contractors, unless the deposits contain other hazardous materials such as asbestos. Using general contractors for this work is often cost-effective, as the materials can usually be disposed of as 'general waste'.

However, special consideration should be given to decontamination of especially vulnerable materials and structures, as unsympathetic removal can cause more damage than the guano itself. This can be a particular problem if there are decayed substrates, or where materials and finishes are decorated. Specialist conservators may then need to be brought in, at least for the critical cleaning and treatment of vulnerable surfaces.

### LEGAL, SOCIAL AND CULTURAL CONSIDERATIONS

In addition to the *Health and Safety at Work Act*, the legislation affecting the removal of bird and bat guano from the built environment is the *Wildlife and Countryside Act 1981* (Chapter 69) and potentially the *Animal Welfare Act 2006*. However, there can be confusion in the UK about what the current legislation allows. This may be because some have interpreted the legislation to support their own agendas; either to prevent disturbance of a particular species at all costs, or to promote the sale of, for example, pigeon-exclusion products.

As there have been few if any legal prosecutions or judgements to clarify the

situation, it is possible to argue that the legislation precludes any activity that might disturb any species of bird or bat in the built environment. However, closer reading shows this interpretation is incorrect. Indeed, 'General Licences' for pigeon control measures and the disturbance and disposal of nests can be granted by the Department for Environment, Food & Rural Affairs or other appropriate statutory nature conservation organisations (SNCOs). These can simply be obtained online from the [www.gov.uk](http://www.gov.uk) website.

The law should not prevent a property owner or manager from removing accumulations of guano and preventing future accumulation, provided things are done at the right time and with the correct authorisations. For bats in the UK, this is controlled by SNCOs under the terms of the *Animal Welfare Act 2006*. These organisations are: Natural England, which is generally supported by the Bat Conservation Trust working for the local authority planning departments; Scottish Natural Heritage, which provides free advice and free site visits for domestic properties, advising on such things as mitigation; Natural Resources Wales; and the Northern Ireland Environment Agency.

However, in the UK and other parts of the world birds and bats may have special emotional significance to some groups. It is therefore always important to be sensitive to this, and it is generally wise to seek specialist independent advice.

### Further Information

E Bernardi et al, 'The effect of uric acid on outdoor copper and bronze', *Science of the Total Environment*, Elsevier, London, 2009  
X Bonnefoy et al, *Public Health Significance of Urban Pests*, World Health Organization, Copenhagen, 2008 (<http://bc-url.com/pests>)

J Hales, 'Bats in Churches: Objective assessment of associated damage mechanisms', *Archaeology International* 17, UCL, London, 2014 (<http://doi.org/10.5334/ai.1703>)

Health and Safety Executive, 'Construction Micro-organisms: Psittacosis and other diseases from work involving bird droppings' (<http://bc-url.com/microorganisms>)

T Hutton and J Dobson, 'The control of feral pigeons: an independent approach', *Structural Survey*, Emerald, Bingley, 1993  
Scottish Natural Heritage, 'Protected Mammals – Bats' (<http://bc-url.com/bat>)  
(See also [www.handr.co.uk](http://www.handr.co.uk) for further information and technical leaflets and articles)

**TIM HUTTON** is a building pathologist and environmental scientist and the CEO of Hutton + Rostron Environmental Investigations Ltd (H+R) (See page 143).

**DAVID WATT** is a chartered building surveyor and historic buildings consultant, working as associate director with H+R.

**JENNY BROWN** is a historic building surveyor and assistant marketing manager at H+R.

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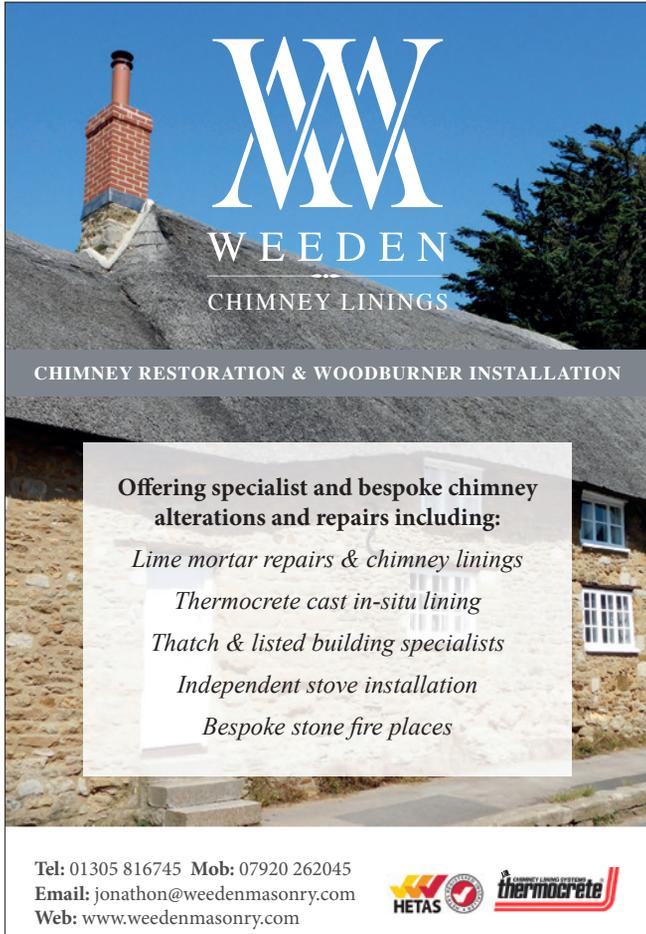
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FIREPLACES: See also: display entry and profile entry in *Stone*, page 96 and 97.

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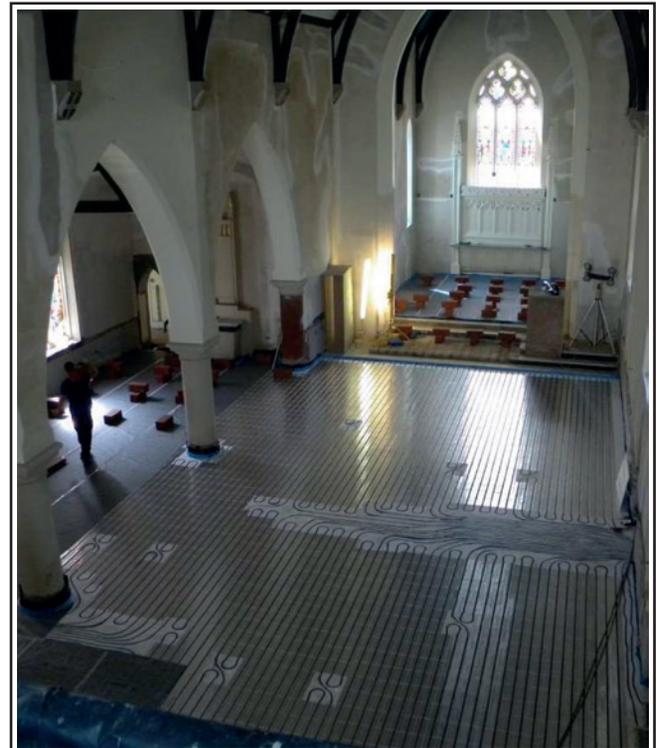
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FIREPLACES: See also: display entry in *Building Contractors*, page 55.

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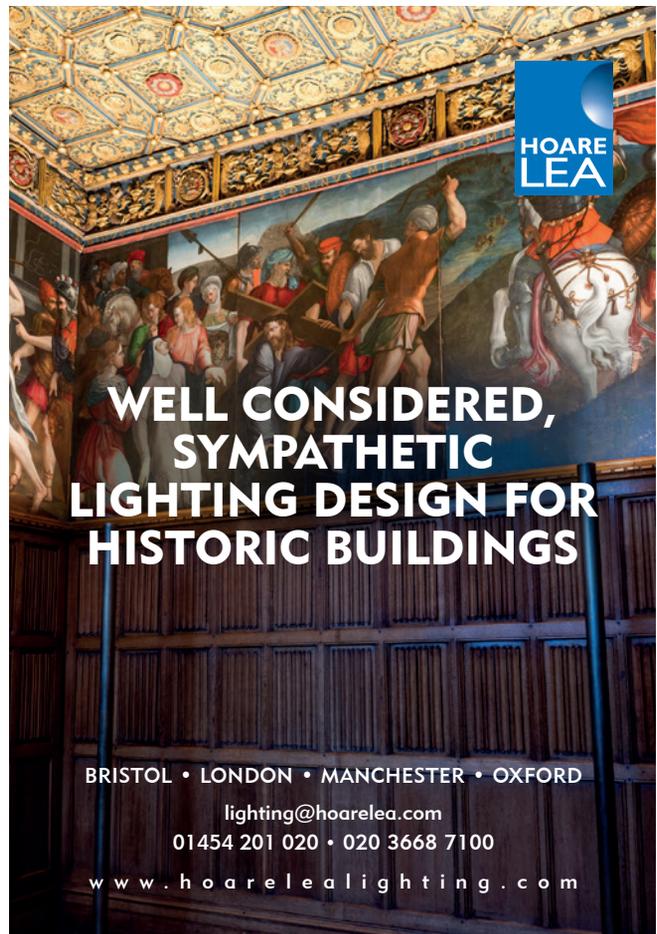
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Laying new tiles in the Palace of Westminster (see page 160)  
(Photo: Adam Watrobski/UK Parliament)

## Chapter 5

# Interiors

## 5 INTERIORS

INTERIOR DECORATION & DESIGN	Pg	ic	id	pa	pw	wa
Acanthus Clews Architects Ltd	14		id			
Anthony Short and Partners LLP	13		id			
Antony Gibb Ltd	27		id			
Arte Conservation	164	ic		pa		wa
The Barwin Group	2	ic				
Bates Zambelli	13		id			
Between Time Ltd	169	ic				
Britain & Co Ltd	155	ic		pa	pw	wa
Building Conservation (UK) Ltd	50	ic			pw	
Building Maintenance (Wales) Ltd	50	ic			pw	
C M Baker Decorating Ltd	158	ic				
Carden & Godfrey Architects	14		id			
Carthy Conservation Ltd	97	ic		pa		
Christopher Rayner Architects	14		id			
Cliveden Conservation Workshop Ltd	164			pa		wa
Clough Harris Limited	155	ic			pw	
Conservation Building Services Ltd	52	ic		pa		
Country House Renovations Limited	54	ic				
D B R Conservation	155	ic	id	pa	pw	wa
Donald Insall Associates Ltd	15		id			
F E Stacey & Co	158	ic			pw	
Feilden & Mawson LLP	15		id			
Fortis & Hooke	123	ic				
Fortress Restorations Ltd	55	ic				
Gaches Plasterwork	156		id			
Gilmore Hankey Kirke Ltd	16		id			
Hare & Humphreys Ltd	156	ic		pa	pw	
Helen Hughes Historic Interiors Research & Conservation	158	ic	id	pa		
Heritage Testing Ltd	36			pa		
Heritage Tile Conservation Ltd	163	ic				
Hesp Jones & Co Ltd	156	ic			pw	
Hirst Conservation Ltd	156	ic		pa	pw	wa
Howell & Howell	156	ic			pw	
Jane Jones-Warner Associates	17		id			
Johnston and Wright	17		id			
Jonathan Rhind Architects	17		id			
Julian Harrap Architects LLP	18		id			
Knowles & Son (Oxford) Ltd	57	ic				
L V Stevens & Co	158	ic				
Luard Conservation Limited	156	ic				
M R D A	19		id			
Martin Ashley Architects	18		id			
Messenger	157	ic		pa		
Lisa Oestreicher	158			pa		
Ornate Interiors Limited	171	ic				
Owlsorth I J P	58	ic				
Paye Conservation	157	ic				
Peregrine Bryant LLP	20		id			
The Perry Lithgow Partnership	164	ic				wa
Purcell	20		id			
Richard Crooks Partnership	21		id			
Richard Ireland Plaster & Paint	164	ic		pa		wa
Richard Rogers Conservation Limited	157	ic				
Sally Strachey Historic Conservation	102	ic				
Scott and Twine LLP	22		id			
Stonewest Limited	61	ic		pa		
Swan Farm Studios Ltd	157	ic				
Taylor Pearce Restoration Services Limited	157		id			
W P D Productions Ltd	64	ic				

### KEY Interior decoration & design

ic	interiors conservators & decorators
id	interior designers & consultants
pa	paint analysis
pw	paint effects (eg wood graining)
wa	wall painting conservation

### TIMBER FLOORING

	Pg	as	ti	tp
Antique Bronze Ltd	110			tp
Antique Buildings Limited	132	as	ti	tp
Best Reclamation	132	as		tp
Chalk Down Lime Ltd	140		ti	
Sutton Timber	164		ti	tp
Weald & Downland Open Air Museum	129		ti	
Weldon Contracts Limited	165		ti	tp
Whippletree Hardwoods	164		ti	tp

### KEY Timber flooring

as	reclaimed timber
ti	floorboards
tp	parquet flooring

### INTERIOR FITTINGS & FURNISHINGS

	Pg	1	2	3	4
Antique Bronze Ltd	110			fa	
Arte Conservation	159			fa	
The Barwin Group	2	gi			
The Bath Stone Group	94		fi		
Boden & Ward Stonemasons Ltd	96		fi		
Britain & Co Ltd	155	gi			
British Antique Furniture Restorers' Association	157	an			
Building Conservation (UK) Ltd	50	gi			
Building Maintenance (Wales) Ltd	50	gi			
C S C Window Films & Blinds Ltd	125				so
Carthy Conservation Ltd	97	gi			
Carvers & Gilders Ltd	157	an gi	mv fi		
Cliveden Conservation Workshop Ltd	152	gi	fi		
D B R Conservation	155	an gi			
D P Tebbutt Stonemasons	98	gi			
The Delabole Slate Company Ltd	78		fi		
Francis Downing ACR Specialist Paintings Conservator AIFCA	159			fa	
F E Stacey & Co	158	gi			
The Fine Iron Company	111	gi			
Sarah Goss	129	gi			
The Green Man Building Company	152		fi		
Grinshill Stone Quarry	98		fi		
Haddonstone Limited	86		fi		
Hare & Humphreys Ltd	157	gi			
Hesp Jones & Co Ltd	156	gi			
Hirst Conservation Ltd	159	gi		fa	
Howell & Howell	156	gi			
Knowles & Son (Oxford) Ltd	57	cb			
Luard Conservation Limited	156		jp		
Mullins Studio	157	an gi			
Norgrove Studios Ltd	121		gc		
The Perry Lithgow Partnership	164	gi		fa	
Peter Neale Blacksmiths	114	gi			
Richard Rogers Conservation Limited	159			fa	
Romark Interiors	157	an cb fr	jp		
Rupert Harris Conservation	159	an gi		fa	
Sash Restoration Co	125	cb			
Stonewest Limited	61	an cb fr			
Swan Farm Studios Ltd	157	gi			
W Thomas Restorations Ltd	157	an gi	mv		
Weldon Stone	104		fi		

### KEY Interior fittings & furnishings

1	an	antique/furniture restoration
	cb	cabinet makers
	fr	French polishers
	gi	gilders
	fi	fire surrounds
2	gc	glass & crystalware restoration
	jp	timber panelling conservation
	mv	mirrors
	ra	radiators & stoves
	ve	veneers

### KEY Interior fittings & furnishings

3	fa	fine art conservation
4	so	blinds & solar protection

### FLOOR & WALL TILES

	Pg	ce	ft	mg	mo
Antique Bronze Ltd	110				mo
Antique Buildings Limited	132		ft		
Arte Conservation	164				mo
C & D Restoration Ltd	97			mg	
Carthy Conservation Ltd	97				mo
Cliveden Conservation Workshop Ltd	164				mo
Coleford Brick & Tile Co Ltd	85		ft		
Collins & Curtis Masonry Ltd	97			mg	
D B R Conservation	163	ce			mo
D B R London	163	ce			
Darwen Terracotta Limited	94		ft		
The Delabole Slate Company Ltd	78		ft		
Dreadnought Tiles Ltd	78		ft		
Heritage Project Contracts	112	ce			
Heritage Tile Conservation Ltd	163	ce	ft		mo
Hirst Conservation Ltd	163				mo
J S Stonemasonry Ltd	98			mg	
The Jackfield Conservation Studio	163	ce			mo
Ketley Brick Co Ltd	163		ft		
Medusa Stonemasonry Ltd	100			mg	
The Mosaic Restoration Company Limited	163			mg	mo
Stone Central (NW) Ltd	102			mg	
Stonewest Limited	61	ce			mo
Taylor Pearce Restoration Services Limited	157	ce			
West Meon Pottery	78		ft		
The York Handmade Brick Co Ltd	86		ft		

### KEY Floor & wall tiles

ce	ceramics conservators
ft	floor & wall tile suppliers
mg	marble & granite suppliers
mo	mosaics

INTERIORS CONSULTANTS & CONSERVATORS

PLASTERWORK	Pg	bt	mm	pf	pl	pm	re	sa	sw
A D Holden APC	168			pf	pl				
A R H Tucker & Sons (Cleethorpes) Ltd	168			pf	pl				sw
A V V Solutions Ltd	95								sw
Alba Plastercraft	168			pf	pl				
Andrew Churchman Ltd	169				pl				
Artisan Plastercraft Ltd	169	bt	mm	pf	pl				
Babylon Tile Works	78	bt							
Bakers of Danbury Ltd	52								sw
The Barwin Group	2					pm			sw
Between Time Ltd	169			pf	pl				
Bosence & Co	33	bt			pl				
Bosence Building Conservation	169			pf	pl				sw
Building Conservation (UK) Ltd	50		mm	pf	pl				sw
Building Maintenance (Wales) Ltd	50		mm	pf	pl				sw
C S Interiors	169			pf	pl				
Carthy Conservation Ltd	97			pf	pl				
Carvers & Gilders Ltd	157					pm			
Chalk Down Lime Ltd	140	bt			pl		re		
Cliveden Conservation Workshop Ltd	170			pf	pl			sa	sw
Conservation Building Services Ltd	52			pf	pl				
Cornerstone Mortars	141	bt					re		
Cornish Lime Company Ltd	140	bt					re		
D B R Conservation	155				pl			sa	sw
D B R London	54								sw
D B R Southern	98								sw
D P Tebbutt Stonemasons	98				pl				
Daedalus Conservation	54				pl				sw
Dunne and Co Building & Restoration	56				pl				
E G Swingler & Sons	72	bt							
Eastern Heritage Restorations	54			pf	pl				
F E Stacey & Co	158				pl				sw
F H Crocker & Co	170			pf	pl				
Fortress Restorations Ltd	55				pl	pm			sw
G Cook & Sons Ltd	170			pf	pl				
Gaches Plasterwork	170			pf	pl			sa	sw
The Green Man Building Company	170				pl				
Hall Construction Limited	56			pf	pl				
Hayles and Howe Ltd	171			pf	pl			sa	
Heritage Building & Conservation Ltd	192				pl				
Heritage Cob & Lime	140				pl				
Hirst Conservation Ltd	171				pl				
Historic Brick Pointing Ltd	142				pl				
Ivinghoe Building Services	57				pl				
J S Stonemasonry Ltd	98								sw
The Limecrete Company Ltd	143				pl				
London Lime Plasterers	171		mm	pf	pl				sw
Luard Conservation Limited	156				pl				
Messenger	171				pl				
Mike Wye & Associates Ltd	141	bt			pl		re		
North West Lime Supplies Ltd	132				pl				
O'Reilly Period Cornice Restoration & Cleaning	172		mm	pf	pl				
Ornate Interiors Limited	171			pf	pl				
Owlsworth I J P	58			pf	pl				
Paris Decorative Mouldings	171		mm	pf					
Paye Conservation	172							sa	sw
Period Property Solutions Building Conservation Limited	59				pl				
Plaster Ceiling Roses	172		mm						
Plaster Restorations (UK) Ltd	172		mm	pf	pl				
Recclesia Ltd	102				pl				
Richard Ireland Plaster & Paint	172			pf	pl	pm		sa	
Sally Strachey Historic Conservation	102				pl				sw
Simon Swann Associates Ltd	172			pf	pl				sw
Skillington Workshop Limited	172				pl				
Stone Edge Limited	104								sw
Stonewest Limited	61			pf	pl			sa	sw
Szerelme Conservation	103			pf	pl				
Taliesin Conservation	62				pl				
Trendle Conservation	64				pl				
Vivus Solutions Ltd	172				pl				
W P D Productions Ltd	64			pf	pl				sw
Ward & Co (Building Conservation) Ltd	63				pl				sw
Sean Wheatley	172			pf	pl				
Whippletree Hardwoods	129	bt					re		
Williams Restoration	64								sw
Womersley's Limited	142	bt			pl		re		

KEY Plasterwork	KEY Plasterwork
bt battens, lath & pegs	pm papier-mâché
mm mould-making services	re hair & fibre reinforcement
pf plasterwork, fibrous	sa scagliola
pl plasterwork, lime	sw stucco

PAINT SUPPLIERS	Pg
Chalk Down Lime Ltd	140
Cornerstone Mortars	141
Cornish Lime Company Ltd	140
Heritage Blacksmith Partnership	112
Hirst Conservation Ltd	135
Mike Wye & Associates Ltd	141
Mullins Studio	157
Stonewest Limited	61
Vivus Solutions Ltd	172
Womersley's Limited	135

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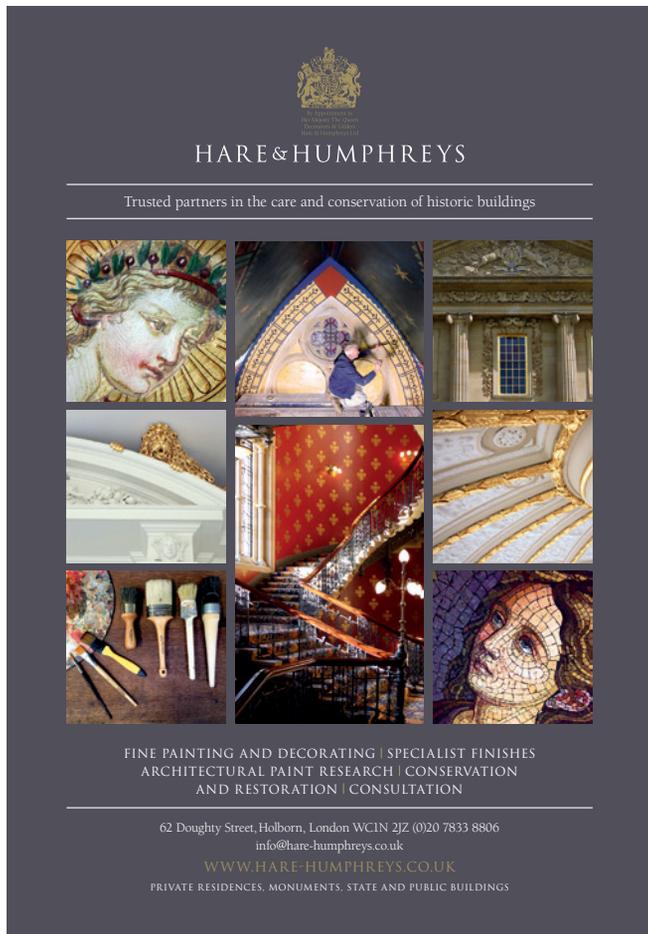
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# ENCAUSTIC TILES AT THE PALACE OF WESTMINSTER

ADAM WATROBSKI



*The Central Lobby pavement from above (All photos: Adam Watrobski/UK Parliament)*

THE PALACE of Westminster was destroyed by fire in October 1834 and a competition was held to build a new houses of parliament on the same site. Charles Barry (1795–1860) was selected as the architect of the vast undertaking and he chose the passionate Gothic Revivalist, Augustus Welby Pugin (1812–1852) to design the decorative elements, including the encaustic floor tiles. In February 1843 Barry suggested that ‘the floors of the several Halls, Galleries and Corridors, should be formed of encaustic tiles, bearing heraldic decorations and other enrichments in colours, laid in margins and compartments in combination with polished British marbles’.

The term ‘encaustic’ is a 19th-century invention. It was originally taken from a Greek word meaning ‘burnt in’ but, in the context of tiles, a better description would be ‘inlaid’. The encaustic process was introduced into this country from France at the beginning of the 13th century and the tiles were much used in abbeys and royal palaces.

The encaustic tile process was revived in the 1830s prompted by the work of Samuel

Wright from Staffordshire, who registered a patent in 1830 which utilised a plaster mould with the pattern carved into it set in a metal frame and a screw press to force the clay into the mould. The resulting indented pattern was then filled with clay slip and planed level with a cutting tool. Wright was unsuccessful financially and soon sold a share in his patent to Chamberlain & Co of Worcester (Maw & Co after 1849) and to Herbert Minton (1793–1858) of Thomas Minton & Sons, the pottery firm started by his father in 1793. Herbert Minton had both the resources and tenacity to develop the process into a commercial success.

With the help of Pugin, Minton developed the production of tiles with up to six colours by 1844.<sup>1</sup> Although the coloured clay was a relatively thin layer, the tile had an overall thickness of 25mm (1 inch). This was achieved by introducing a deep layer containing ‘grog’ and a low quality, cheap red clay, sandwiched between two layers of higher quality buff clay.<sup>2</sup>

At the Palace of Westminster, the fabric of the tiles is integrated with the architecture of the important sequence of six main halls

and a further dozen or so linking corridors and staircases forming the entrance and communication routes through the ground and principal floors. Each floor displays a different pattern consisting of panels or compartments of encaustic tiles in large, symmetrical layouts with wide borders of stone flags made from Valentia slate in the House of Commons floors or, in the Lords areas, borders using Hopton Wood stone.<sup>3</sup> Tile patterns include the lion of England, the floral emblems of constituent parts of the United Kingdom and mottos in Latin and English in beautiful gothic script. The colours range from yellow ochre and burnt sienna to a vivid cobalt blue with details of pearl white and plain tiles of *caput mortuum*.<sup>4</sup> It is estimated that Minton produced around 75,000 tiles to complete the complex and technically exacting contract between 1847 and the date of the official opening of the whole palace by Queen Victoria in February 1852.<sup>5</sup>

Heavy wear has resulted in the loss of part or all of the coloured areas to many tiles and has left an undulating profile to the surface of the floors. Some tiles have suffered

mechanical damage, revealing the inner core material and many have become detached from their backgrounds. It is apparent from visual inspection that the past replacement of tiles has been extensive. Individual tiles are known to have been replaced in the 19th century, while in the 20th century some areas were completely re-laid with new tiles and stone flags because of bomb damage during the second world war or because they had worn away. Minton tiles ceased production in the 1960s and new tiles for repairs after this date came from various sources and were often not a good match for the originals. Wear and tear had worn many of these replacement tiles beyond temporary repair and in many areas the damaged tiles had become a trip hazard.

The Palace of Westminster is a working building with about one million people entering it every year and it is not possible or desirable to re-route the members, staff and public away from the tile floors. In considering new approaches to the repair and conservation of the floors and assessing the results of a small amount of repair work done in the late 1970s and early 1980s, as well as trial areas laid in 1998 and 2004, the following points were evident:

- The differences in artwork quality in the reproduction of original designs tended to disrupt the continuity of pattern across the floor.
- Replacement tiles used in the later 20th century were 13mm thick – around half the thickness of the Minton originals – and were designed to be laid on a hard mortar bedding as a floor finish. The original construction of 25mm (1 inch) tiles laid in soft mortar had a monolithic quality able nevertheless to accommodate movement without cracking.
- Temporary repairs had been carried out using coloured epoxy resins, introducing both visual disharmony and guaranteed failure.

At an early stage, different strategies for the conservation and repair of the floors were identified and assessed as follows:

- Do nothing, except repair for safety reasons. This would reduce the risks of accidents while retaining the historic fabric but it would not conserve the original fabric and would not address the significant aesthetic issues of the worn tiles.
- Leave the tiles as found and cover them with duck-boarding or carpet. This might prevent future wear but would also drastically undermine the architectural integrity of the pavements as originally intended and, at the same time, introduce new and incongruous elements to some of the most important areas in the palace.
- Completely remove existing tiles and re-lay using new tiles not matching the originals. The gains in safety and durability offered by this line of action would be substantially outweighed by the loss of historic fabric.
- Completely remove existing tiles and re-lay using new specially made replica encaustic tiles to match originals in colour, shape and pattern. This would both retain the original design of the

floors and provide a new and durable level floor free of defects and unevenness. The disadvantage is that it would result in the loss of much historic fabric that might otherwise be retained and repaired.

- Locally replace tiles and stone flags according to a critical methodology based on the selective assessment of the condition of both the existing tiles and the associated stonework. This option would retain the historical integrity of the building, prolong the life of the original tiles, guarantee the durability of these heavily trafficked pavements and give an appearance of consistency.

The last option was considered the most appropriate.

Heavy footfall in the building made frequent repairs to the tiles necessary. This precluded repairing the tiles in situ using, for example, plastic repair methods. Rather, damaged tiles would be replaced with new ones in close facsimile to the originals in terms of visual appearance and physical qualities. On balance, it was considered that the extensive replacement of tiles that this would entail would be acceptable as an alteration to the historic fabric. This conclusion – that the significance of the design of the pavements is more important than that of their fabric – was reached by reasoning that:

- The long history of repairs to the encaustic tiled floors makes it impossible to identify with certainty tiles that are original against those that have been replaced.

- The loss of decorative pattern over large areas of the pavements due to their excessively worn condition detracts from the overall presentation of the highly significant interiors of which the encaustic tiles form a major part.

Before comprehensive proposals for repairing the encaustic tiled floors could be brought forwards, a combination of site surveys and investigation and a trial repair was necessary. A full photogrammetric survey was made of all floors before work began and a photographic record was made of each stage of the processes which followed. Opening up was undertaken in discrete areas of the floors in St Stephen's Hall and the Members' Entrance in order to clarify these issues. This confirmed that the tiles were originally bedded and pointed in a moderately hard mortar in a single operation. The tiles, which are one inch thick, have slightly canted edges to facilitate laying in this manner. In all cases, a very hard grout appeared to have been applied subsequently. Bases included York stone flags and weak cement screed over rubble infill. Samples were taken of all mortar and screed materials for laboratory analysis and tests confirmed that the original bedding and pointing materials contained an early Portland cement.

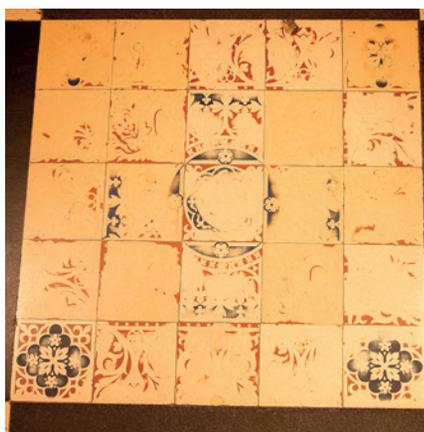
Product development to produce a tile of one inch thickness started in 2008 and was undertaken in conjunction with Chris Cox of Craven Dunnill Jackfield at Ironbridge, Shropshire. Practical tests included undertaking development work in order to



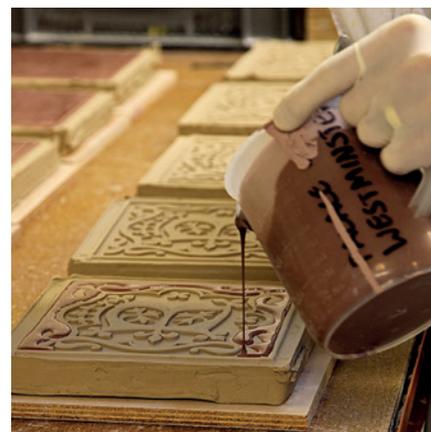
An original hand-operated tile screw press, Gladstone Pottery Museum, Longton, Stoke-on-Trent



Carving the pattern to form a plaster tile mould



Worn tiles, St Stephen's Hall



Pouring coloured slip clay into a mould



Comparison between new and old tiles, Central Lobby



Repaired area, St Stephen's Hall: note the small unrepaired section at bottom right

provide control samples of new tiles that accurately matched the originals in terms of decorative designs and colours. Materials testing to confirm the slip resistance, surface porosity and wearing characteristics of the new tiles was also carried out. It is important that in time, the new tiles should wear in a similar manner to the historic ones.

Modern manufacturing techniques are based on those of Samuel Wright and Herbert Minton but with some obvious differences. Mechanisation of the clay milling process significantly reduces the health risks of manufacture. Modern kilns, fired by gas or electricity rather than coal or wood, make greater control of the firing process possible, allowing very precise matching of original colours, cutting waste and reducing the carbon footprint of manufacture. Better control of distortion allows the tile body to be made of one piece of clay, rather than in the three layers used by Minton. Craven Dunnill Jackfield was able to accurately match the artwork of the original tile designs and to make clays which, on firing, gave a precise match to the colour of the original materials used.

New slate was sourced from the Valentia mine on the Iveragh Peninsula in County Kerry, Ireland, where the material used in the floors was originally extracted. Colour variations were noted between the new slate and the slate in the existing floors. This is possibly due to natural variation, although it is also probable that the colour of the original flags had changed due to the historic use of oil or wax in cleaning. The Hopton Wood quarry near Wirksworth, Derbyshire ceased production of building stone in 2009 but a small amount of stone was still available from reserves previously extracted and this proved sufficient for our needs.

Mortar analysis formed the basis for the design of an appropriate modern mortar for the repairs. The properties of early cements varied considerably but they were very much weaker than modern Portland cement, being closer to an eminently hydraulic lime in strength. A hydraulic lime binder was therefore used in the repair work.

An area in St Stephen's Hall of approximately 47 square metres was identified for trial repairs. The repair methodology adopted for this trial was based on the following principles:

- Tiles and stone that were in good condition,

including tiles slightly chipped around the edges or with minor cracks not detracting from their overall appearance, would be retained in situ wherever possible.

- Tiles that were badly damaged or that had completely or nearly lost their pattern (including tiles previously replaced with inappropriate substitutes or poorly repaired) would be replaced. Some panels of tiles would thus be replaced in their entirety.
- Tiles that were partially worn with an estimated remaining life span of 15 or 20 years and which still displayed a complete pattern would be removed from areas of the floor which are otherwise badly worn and thus need complete replacement. These salvaged tiles would be used for the individual replacement of tiles of the same pattern in areas of lesser wear.
- Worn or broken flags of Valentia slate and previous inappropriate replacements of historic Valentia slate would be renewed.
- New tiles and salvaged tiles being reused would be bedded in a layer of mortar of a mix designed to be sympathetic to the historic fabric. Tiles would be bedded and pointed in a single operation.

Working closely with DBR London to lift old pavements and re-lay them, Strategic Estates has carried out the programme without unnecessary disruption to the working of parliament or the reception of its visitors. A controlled environment working inside tents with vacuum air filters is employed to protect people, the built fabric and works of art within the palace.

The trial was very successful. The methodology of complete lifting in some areas and piecing in repairs to others was clearly demonstrated. More recently, the repair and conservation of several more floors has been initiated, including those of the Members' Entrance, Lower Waiting Hall, Central Lobby and the Royal Gallery.

In January 1852, Pugin wrote a letter to Herbert Minton in which he said: 'I declare your St Stephen's tiles are the finest done in the tile way, vastly superior to any ancient work; in fact, they are the best tiles in the world and I think my patterns and your workmanship go ahead of anything'. The careful and respectful approach to revitalising the Palace of Westminster's tiled pavements is one that strongly echoes that dedication to design and workmanship.

#### Further Information

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L Durbin, *Architectural Tiles, Conservation and Restoration*, 2nd ed, Routledge, London, 2014

L Durbin, 'Conservation and Restoration of Pugin Tiles at the House of Commons', *Context*, 54, 1997

Gladstone Pottery Museum

[www.stokemuseums.org.uk/visit/gpm](http://www.stokemuseums.org.uk/visit/gpm)

The Jackfield Tile Museum

[www.ironbridge.org.uk/our-attractions/jackfield-tile-museum](http://www.ironbridge.org.uk/our-attractions/jackfield-tile-museum)

H van Lemmen, *Tiles: 1000 years of Architectural Decoration*, Abrams, New York, 1993

The Minton Archive

[www.themintonarchive.org.uk](http://www.themintonarchive.org.uk)

The Potteries Tile Trail

[www.thepotteriestiletrail.org](http://www.thepotteriestiletrail.org)

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[www.tilesoc.org.uk/tile-gazetteer/westminster.html](http://www.tilesoc.org.uk/tile-gazetteer/westminster.html)

For more information on the encaustic tile floors at the Palace of Westminster, please email [architectureandheritage@parliament.uk](mailto:architectureandheritage@parliament.uk).

**ADAM WATROBSKI BA(Hons), DipArch, DipConsAA, RIBA is the principal architect and head of architecture and heritage at the Houses of Parliament.**

#### Notes

- <sup>1</sup> Minton's first encaustic pavement was laid in 1842 at the Temple Church, City of London. An early use of Minton's tiles by Pugin was for St Chad's Roman Catholic Cathedral, Birmingham in the early 1840s.
- <sup>2</sup> Grog also helps to prevent shrinkage. The tiles are stamped on the back: 'Minton & Co Patent, Stoke upon Trent'.
- <sup>3</sup> Hopton Wood is a pale limestone which has been used as an indoor paving stone since the 18th century and polishes naturally to an eggshell finish.
- <sup>4</sup> *Caput mortuum* (literally 'dead head') is a dark purple-brown.
- <sup>5</sup> Minton also provided glazed, dust-pressed, block-printed (Collins and Reynolds original patent) tiles as an easily washable surface for the dado of the Strangers' Smoking Room, now the Terrace Cafeteria servery. These tiles were repaired in 1994–6 by Jackfield Conservation Studio and the Decorative Tile Works.

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# ADHESIVES

for the conservation of fine furniture

NORBERT GUTOWSKI

**T**HIS ARTICLE provides an introduction to the use of glues and adhesives in the conservation and repair of historic furniture and cabinet making. It focusses on three aspects of this subject: historic adhesives, including their manufacture and role in fine furniture making; principles for selecting adhesives for conservation and repair work; and an overview of the adhesives commonly used in the conservation and repair of fine joinery today.

## ANIMAL GLUE

Collagen-based animal glues have been widely used as adhesives, binders and fillers for nearly all organic and inorganic materials. Their use can be traced back to ca 3000 BC. Well-known examples include bone glue and hide glue, also known as Scotch glue. Glues have also been, and continue to be made from tendons, cartilage and connecting tissue, while more refined glues are produced from isinglass (a substance obtained from the swim bladders of fish) and gelatine (extracted from a range of animal sources).

The initial stages of manufacturing bone glue involve degreasing crushed stock by high speed agitation in warm water, then passing the 'glue liquor' through 4–8 connected pressure cookers successively. After it has been steamed under pressure (15/20psi) for a set time, the glue, by then becoming higher in concentration, is extracted in 'runs' and any loss replaced with fresh water. Although this process is relatively straightforward, the high temperatures needed degrade the physical properties of the collagen and make the glue relatively weak from the onset.

By contrast, the raw material for manufacturing hide glue, mostly bovine skins, comes from tanneries. It is placed in large vats of milk of lime (water and calcium hydroxide) and left for several weeks. To remove the lime, the skins are treated with hydrochloric or sulphuric acid and washed many times, until they are pH-neutral. In extraction pumps with fresh water and increasing heat, runs are 'skimmed off', producing glues of various strengths from gelatine to glue.

The final stage of the manufacturing process for both bone glues and hide glues involves filtering and further controlled



*A 19th-century gothic revival mahogany hall chair with a broken leg – see case study opposite (All photos: Norbert Gutowski)*

heating to remove any excess water in a vacuum evaporator, drying trays and moulds. From c1925 onwards drying machines were used to accelerate the process.

Having undergone a lengthy, but controlled manufacturing process, the final products can be manufactured as cubes, pearls/granules, sheets or in powder form.

## Characteristics and defining differences

Hide glues are both immensely strong and reversible/re-treatable when in contact with moisture/water.

Their strength can be partially explained by their triple stranded helix coils being stretched during preparation for gluing by soaking in cold water, melting and simmering at 55–60°C and the subsequent rapid cooling/drying phase, during which the strands re-coil.

In furniture, this ability to contract has made hide glues excellent for constructional and decorative work, often without the need for pressure from clamps or presses. However, their weakness is that they have poor gap filling properties, and they can become brittle and discoloured over time.

There are many possible causes of partial or complete failure of work or repairs made using glue. These might be because of poor manufacture, hurried preparation or being used too soon without reaching a certain degree of 'maturity', combined with inherent weaknesses and flaws in design, poor selection of basic substrate materials (wood), poor execution of work, glue starvation, inadequate environmental conditions or mould and insect infestation. Also, one type of glue cannot necessarily cater for all materials, each of which has its own behavioural characteristics.

By the same token, well-built fine, period or new furniture made using animal-based glues, if kept in a stable and controlled environment of 16–20°C, 45–65 RH, moderate exposure to UV light and regularly monitored, will last for a very long time. There are plenty of good, surviving examples to demonstrate this fact.

## GLUE AND CONSERVATION

The main aim in conservation is to minimise the number of treatments needed during the lifetime of an object by following an ethical and professional

code of practice. As such, new glues and adhesives for conservation work have been carefully sourced or specifically formulated and are age-tested for stresses, embrittlement and colourfastness. Solvents which are used to undo joints should ideally be fast-acting and volatile to leave no trace and avoid damage to the object.

The consensus among conservators today is that it is better to make use of a whole palette of glues and adhesives rather than relying on just a few. There are glue systems that complement each other, such as animal glues used as a barrier layer followed by epoxy resins. An example of this can be seen in the case study below.

Where inherent strength has gone for good, many of the losses of original material need to be replaced with bulking

and/or reinforcement agents such as glass fibre or carbon fibre rods and fabric mats of the same materials.

For the conservation of fine furniture, the following principles should be followed:

- retain as much of the original material as possible
- adjust new to old material, not old to new
- develop a thorough understanding of an object before treatment commences
- record all processes as a log of your own work and to inform that of future conservators.

There are many variables which need to be taken into account when selecting glues and adhesives, these include:

- toxicity, hazard to health and environment
- molecular weight and compatibility
- re-treatability
- mixability and workability
- wet and flow characteristics and coverage
- open time, working time and drying time
- elasticity/flexibility
- colour and colour-change
- storage
- cost.

The tables opposite give a short overview of glues and adhesives and their use in conservation and/or fine furniture making.

### CASE STUDY: USE OF ANIMAL GLUE ON ITS OWN AND AS A BARRIER LAYER

A 19th-century mahogany hall chair (illustrated opposite) was received with one rear leg detached. A broken half tenon was still lodged in the mortice of the detached leg (illustrated overleaf). The adhesive that had been used was Cascamite (Polymite) which is recognisable by its light yellow colour and crumbly appearance. No commonly used solvents are strong enough to dissolve it, and in this case steam, which is often the most effective method, could not be used due to the risk of damage to the surrounding surfaces.

Instead of steam, wet strips of cotton rag were pushed into the mortice and wrapped around the tenon. After 15–20 minutes the Cascamite could then be prised off with dental picking tools. The broken end section of the tenon was reunited with the remainder of the tenon using strong but thin animal glue. The end of the tenon was tapped with a light-weight hammer to ensure that the wet fibres would interlock. When fully cured and dry, two 2.5mm holes were drilled through the end of the tenon at a slight angle towards each other for better anchorage, and 25mm holes were drilled into the rear seat rail. Carbon fibre rods were then inserted and their ends filed flush.

To prevent absorption of the epoxy filler, thin animal glue was applied to all surfaces as a barrier layer. When almost dry, Bencon was added where losses had occurred. Remaining areas were coated with full strength animal glue. The leg was reattached and held in place with padded blocks and a light-weight sash clamp. Standing upright on a flat MDF board the chair was stood between two pine battens for alignment and weighted down. Excess glue was removed and the chair left to dry for 48 hours.

## SOLVENT-BASED GLUES

Type	Suitable for	Advantages	Disadvantages
hide glues, high strength, undiluted	fine woodwork	very strong; like others, hide glues can be adjusted in strength to suit a given situation	need to be prepared carefully; can shrink, become brittle and discolour
hide glues, high strength diluted	barrier layers	allows epoxy-based infills to be removed easily at a later date	can weaken an otherwise strong joint, so other reinforcement may be necessary
cold hide glue (modified)	joints and small repairs to woodwork	ready to use as dispensed from a bottle; long open and working time	long drying time; preservatives (often unspecified) may be harmful
rabbit skin glue	gesso for gilding	very strong, yet retains flexibility; very little discolouration	needs to be prepared carefully; can cause voids under gilded surfaces
hide or rabbit skin glue flakes	delicate surfaces at risk of being discoloured through glue spillage	flakes can be pushed under loose and lifting veneers, heated and weighted down	difficult to control excess glue
mix of hide and rabbit skin glue, rosin, linseed oil and water; known as compo	mouldable, decorative material	strength and flexibility	becomes hard and brittle due to ingredients used
fish glue	delicate assembly work	long open time	long drying time
isinglass	delicate and gilded surfaces	greater tack, low viscosity	brittle and highly moisture sensitive

## SOLVENT-BASED ADHESIVES

Type	Suitable for	Advantages	Disadvantages
Ethylene Vinyl Acetate (EVA), similar to PVA, but does not contain plasticiser	repairs to paper, cardboard and leather	good penetration for light-weight materials	can cause swelling or discolouration
Lascaux 304/498	repairs to paper and paper lining	extremely elastic; can be used as contact adhesive	none known
Lascaux 4176	consolidation of gilding	low viscosity, excellent penetration	sometimes too weak
Plextol B 500, aqueous acrylic dispersion	lining of paper or canvas	high viscosity, good for penetration and consolidation of fibrous material; dry adhesive may be used as heat-activated film	can cause swelling or discolouration
Paraloid B72 with ketone solvents	consolidant, binder and coating	viscosity/strength can be adjusted to suit; 'quick release' with acetone	only suitable for light repairs
Polyvinyl Acetate (PVA), an aliphatic synthetic thermoplastic polymer containing a plasticiser	general woodwork and jigs; where reversibility is less of an issue	low viscosity; can be diluted to suit; semi-transparent when dry	normally cures irreversibly, but can be softened with steam
Titebond	general and fine woodwork	ease of use, dries within 30 minutes, full hardness after 24 hours	grips quickly so adjustment can be difficult
Araldite standard and 5-minute epoxy resin and hardener, 1:1	repairs to metal	useful where heat (eg soldering) would compromise colour or function	drying times vary depending on medium used
Araldite 2020 epoxy resin and hardener	wood, metal and plastic	clear resin but can be dyed to produce specific colours	long drying time
Akemi epoxy resin and hardener	repairs to marble and stone	good where high strength is needed in relation to weight	long drying time
Bencon 20 epoxy resin and hardener, 5:1	consolidant for large areas of weakened timber through rot or woodworm	low viscosity; almost colourless	may not be viscous enough to penetrate deep galleries or rotted wood
Bencon 22 epoxy paste, resin and hardener, 1:1	decorative loss replacements	light and dark brown in colour; cold setting	can dry out when stored for too long, best to buy in small quantities
HXTAL NYL-1 resin and hardener, 3:1	glass and ceramic repairs	crystal clear, formulated to match refraction index of glass; long open and working time	long curing and drying time
Polyvinyl Butyral (PVB), available as white powder and miscible with IMS	fibrous material, eg woodworm galleries	high to low viscosity depending on concentration needed; effective as consolidant	very short working time
West System epoxy resin and hardener, 5:1	areas where larger quantities of epoxy are needed	low viscosity; almost colourless; medium open and working time	medium drying time

## NON-LIQUID ADHESIVES

Type	Suitable for	Advantages	Disadvantages
BEVA adhesive film	lining for paper, cardboard, fabric or similar light-weight material	can be cut to precise shape and reactivated with a tacking iron; reversible with hexane or acetone	none known

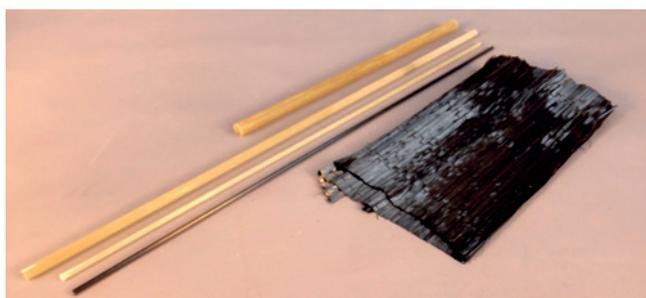
## PLASTERWORK



The chair leg after removing old glue and the broken tenon from the mortice



The damaged tenon pinned in place with two carbon fibre rods



Glass fibre rods, carbon fibre rods and carbon fibre mat (from left to right) used for reinforcing broken and damaged furniture; used correctly carbon fibre is stronger than steel.

As this case study demonstrates, the conservation of fine furniture requires a sound understanding of the many glues and adhesives available. Where in the past many losses would simply have been replaced with 'close-to-original' material, today the conservator's challenge lies in selecting the right repair materials to allow as much original material as possible to be retained while giving a sense of completeness.

**NORBERT GUTOWSKI, programme tutor for furniture and related objects, has been teaching furniture conservation-restoration and making at West Dean College since 1996. Email [norbert.gutowski@westdean.org.uk](mailto:norbert.gutowski@westdean.org.uk)**

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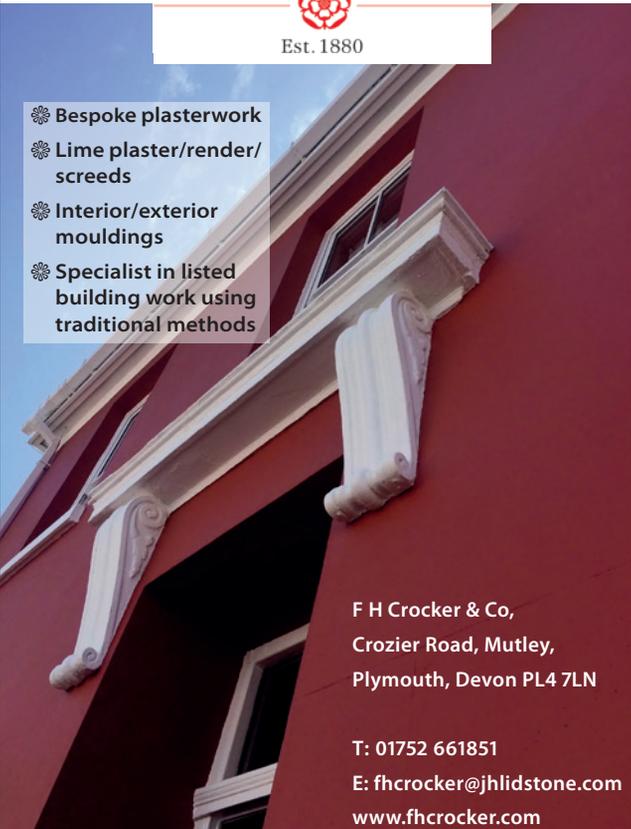


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CONSERVATION AND RESTORATION: See also: display entry in *Building Contractors*, page 58 and profile entry in *Stone*, page 99.

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CONSULTANCY AND CONSERVATION OF HISTORIC BUILDINGS: Richard Ireland is an independent consultant and practitioner advising private and public bodies including English Heritage, Historic Royal Palaces, Westminster City Council, the Office of Public Works Ireland, National Trust, Historic Scotland and ecclesiastical organisations. Specialising in plain and decorative plaster, internal and external finishes, paint analysis, and the reinstatement of historic schemes, projects typically involve a combination of archaeological investigation, scientific analysis and contextual historic research. Projects are undertaken throughout the UK, Ireland and overseas and encompass a diverse spectrum of historically significant buildings varying from the British Museum and Holy Sepulchre Jerusalem to smaller domestic interiors.

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INTERIOR PLASTERING: See also: display entry in *Mortars & Renders*, page 142.

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PLASTERING: Sean Wheatley has worked as a plasterer for 35 years, starting with modern materials but now concentrating on traditional methods and materials and decorative plasterwork. He has also been involved in the preparation of reports and surveys regarding the conservation and restoration of historic plasterwork in listed and historic buildings. Sean Wheatley gives demonstrations and teaching sessions on RICS/SPAB courses and is committed to passing on his knowledge; he has now put five apprentices through college – two of whom still work with him. Sean Wheatley and his team were winners of the FPDC Plasterers Award for Internal Plasterwork 2013 for the work carried out following the devastating fire in Dartmouth, and again in 2014 for the restoration of a Grade I listed Devon manor house.



The Church of St Thomas and St Edmund, Salisbury with its 15th-century Doom painting: in 2015 the church received a grant from the Listed Places of Worship Roof Repair Fund (see page 184)  
(Photo: Jonathan Taylor)

## Chapter 6

# Useful information

# BUILDINGS AT RISK

## and the use of compulsory purchase orders

JONATHAN TAYLOR

**A**CCORDING TO Historic England's publication *Heritage Counts*, 849 Grade I and II\* listed buildings in England are currently at risk. Of these, around half are likely to be capable of economic use. However, Historic England does not record figures for Grade II listed buildings nationally, which account for 92 per cent of all listed buildings in the country, so this figure is just the tip of the iceberg. The Buildings at Risk Register for Scotland, by comparison, includes 2,500 entries in a country that holds just ten per cent of the UK's listed buildings. A figure of 25,000 listed buildings at risk is considered to be a conservative estimate for the UK.

Historic building and conservation areas legislation provides effective control over development and demolition, but there is no legal requirement for a building to be maintained. There's a tipping point in neglect where the rate of deterioration begins to accelerate rapidly, and the cost of repairs starts to escalate. If caught in time, a leaking roof may be cured by a few minor repairs. It may even be as simple as cleaning the leaves and the buddleia growing in the gutters, so rainwater does not overflow into the building. Yet, if left, damp is likely to affect the wall plate and immediate roof structures, before seeping down through the walls, supporting dry rot in the timbers of the floor structures below. Given time, the cost of repairs can exceed the value of the building, particularly if the building is in an area which is struggling or deprived. Often the site itself would be valuable were it not for the fact that the listed status of the building prevents redevelopment. So, in the absence of a viable alternative, historic buildings are sometimes abandoned, leaving them at risk from vandalism, lead theft, arson and the elements.

Redundant buildings may also present a problem in urban areas even if adequately maintained, as they cast a blight on the surrounding townscape and deter wider regeneration. Buildings often form part of a property portfolio, representing an investment for the owners whether in use or not. While some are simply mothballed, awaiting increases in land values, others are neglected with inevitable consequences.

Although there is no requirement for an owner to maintain a listed building, local authorities do have powers at their disposal to enforce repairs under heritage protection legislation. These include urgent works notices, repairs notices and, if all else fails, compulsory purchase orders.



*The London Road Fire Station, Manchester, which has been derelict since 1986. Manchester City Council took a bold decision to CPO the building in 2011 but the Secretary of State did not approve the order and the building remains derelict. (Photo: Jonathan Taylor)*

### URGENT WORKS NOTICE

The local authority can pay for and carry out the works which are necessary for the preservation of a listed building, and recover the cost by serving a notice on the owner. (In England and Wales this is under Section 54 of the *Planning (Listed Buildings and Conservation Areas) Act 1990*, but similar provisions apply in Scotland and Northern Ireland - see below.) It is also possible to serve an urgent works notice on the owner of an unlisted building in a conservation area where the deterioration affects the character of a conservation area. Of course, in either case, owners may not have the resources to pay for the work, so there is always some risk that the cost to the council is far higher than the cost of

the work itself, once litigation costs are taken into account.

### REPAIRS NOTICE AND COMPULSORY PURCHASE ORDER

Under the same legislation (Section 48 in England and Wales) the local authority can serve a repairs notice on the owner requiring work to be carried out which the council considers necessary for the preservation of a listed building. If after at least two months, there is no indication that reasonable steps are being taken to do the work, the council can begin compulsory purchase proceedings.

Requirements and duties of the purchasing authority are set out in government guidance and are complex and time-consuming, and

will involve a public enquiry if the owner objects. The purchasing authority needs to demonstrate that funding is in place both for the purchase and for the remedial work required. The compulsory purchase order (CPO) must also be confirmed by the Secretary of State, and often the owner can provide sufficient evidence that work is likely to proceed for the Secretary of State to determine in the owner's favour.

In Manchester, the London Road Fire Station (opposite) has been redundant since 1986. Although adequately maintained pending conversion to a hotel, its derelict state detracts from the character of its city centre location, and after 20 years of inaction, Manchester City Council finally took action. However, in 2011 the Secretary of State decided not to confirm the CPO following assurances by the owner, Britannia Hotels, that redevelopment really was proceeding. Costs were awarded against the city council and, shortly afterwards, the scheme was shelved by the owner on the grounds that it was not viable. The building remains derelict today, despite being opposite the city's principal railway station and surrounded by vibrant city centre areas. While neighbouring areas have been successfully regenerated and are now thriving, the area around this huge building remains blighted.

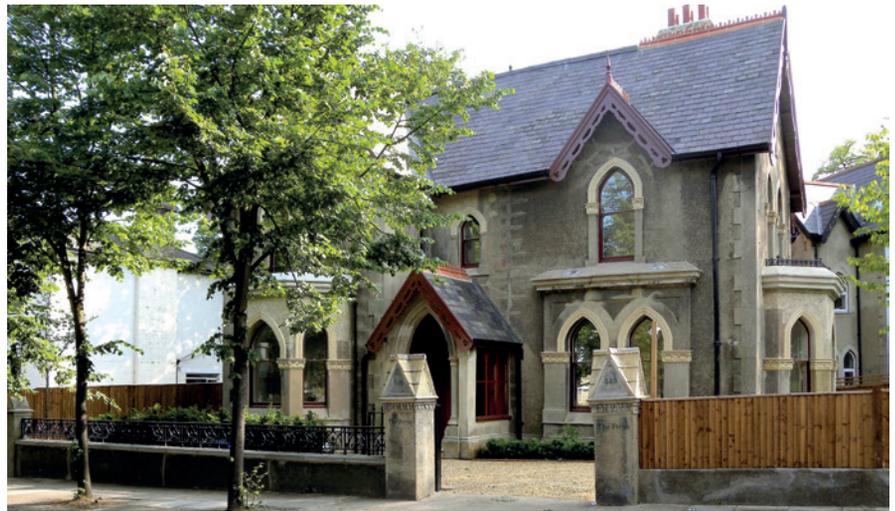
#### ACTION UNDER NON-HERITAGE LEGISLATION

Local authorities also have the power to CPO a building under a variety of other acts of parliament, including planning, housing, transport and environmental legislation. Each has different merits and applications and all may sometimes be applicable to historic buildings. Of particular relevance is housing legislation, since over two-thirds of listed buildings are in residential use. In England, an 'empty dwelling management order' (EDMO) can be served under the *Housing Act 2004* which allows the local authority to take over the management of a residential building which has been unoccupied for two years. Works to make it habitable can be carried out by the council, with the cost of the works recovered from the rent. There is no need to CPO the building, which may remain in the same ownership, although all local authorities have the power to requisition land for housing.

#### BACK-TO-BACK AGREEMENTS

CPOs work best for a local authority where the building is purchased and simultaneously sold to a developer who then repays the council's costs. This is commonly termed a 'back-to-back' arrangement, and involves an indemnity agreement with the final purchaser, made before the CPO process commences.

If the project is not viable, the local authority may enter a back-to-back agreement



*Concrete House, 549 Lordship Road, London which was restored for a housing association by HOLTOP following CPO by Southwark Council. It was built in 1873 to demonstrate Charles Drake's patent 'Concrete Builder' system and is listed Grade II. (Photo: Robin Forster)*

with a voluntary sector body such as a building preservation trust (BPT). These charitable bodies have the advantage that they can benefit from grant aid from a wide variety of sources not available to private owners, and from low-interest loans offered by the Architectural Heritage Fund. These can make a significant difference to the viability of a project. The costs of the CPO itself may also be covered by a grant from the national heritage body (Historic England, for example). The sale may be at a lower price than its full market value where this is 'to secure the promotion or improvement of the economic, social or environmental wellbeing of its area' (*Circular 06/03*). Often the sum is nominal where a BPT is the purchaser.

The rescue of Concrete House, 549 Lordship Road, London (above) by the Heritage of London Trust's BPT arm, HOLTOP, illustrates this approach. Built in 1873 to demonstrate Charles Drake's patent 'Concrete Builder' system, this unusual building had been allowed to deteriorate by its owner in the hope of redeveloping the site, despite being listed Grade II. It was successfully CPOd by Southwark Council in 2012 and restored by HOLTOP for a housing association, creating five affordable flats for local people.

#### CPOs IN AN AGE OF AUSTERITY

CPOs are time-consuming and expensive for local authorities to prepare, and there are a wide range of defences that owners can use to avoid action. Furthermore, cutbacks across the UK have caused many councils to reduce both their conservation departments and their legal teams, and many no longer employ the specialist solicitors required. Figures published by Historic England show a 35 per cent decline in the number of people employed in local

authority historic environment teams over the past ten years (*Heritage Counts 2016*). Diana Beattie, chair of HOLTOP, believes the trust's rescue of 549 Lordship Road was the last successful CPO to be brought under heritage protection legislation in London. Four years on, she doubts whether any of the London boroughs now have the resources to support CPOs.

Nationally, there are public bodies that still retain good legal teams with the expertise and the resources to carry out CPOs. For its next project, HOLTOP is working with the Greater London Authority (GLA) to explore whether CPO expertise in Transport for London can be utilised. Under transport legislation, CPOs can only be used for transport purposes, but the GLA has powers under empty homes legislation to CPO land and buildings for housing and regeneration. The two bodies have worked closely together over many years, and the provision of more housing is a high priority for the GLA.

Another variation on this solution may be for local authorities to share specialist legal resources regionally.

HOLTOP is not alone in its concerns. A campaign has been launched under the banner Community Assets in Difficult Ownership ([www.cado-project.co.uk](http://www.cado-project.co.uk)) to highlight deficiencies in the current system, to promote greater use of existing powers, and to encourage greater awareness among owners that leaving a listed building to decay is never in their best interest – commercially, legally or morally.

#### Further Information

IHBC Conservation Wiki –

[www.designingbuildings.co.uk/wiki/](http://www.designingbuildings.co.uk/wiki/) M Guy, S Lewis et al, *Stopping the Rot: a guide to enforcement action to save historic buildings*, English Heritage, 2011

**JONATHAN TAYLOR MSc IHBC is the editor of *The Building Conservation Directory* ([jonathan@buildingconservation.com](mailto:jonathan@buildingconservation.com)). This article was prepared with the help of Diana Beattie, Chair of Heritage of London Trust Operations ([holtop.org.uk](http://holtop.org.uk)).**

	PRIMARY LEGISLATION	URGENT WORKS NOTICE	REPAIRS NOTICE AND CPO
<b>ENGLAND AND WALES</b>	<i>Planning (Listed Buildings and Conservation Areas) Act 1990</i>	Section 54	Section 48 etc
<b>SCOTLAND</b>	<i>Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997</i>	Section 49 and 50	Sections 42 and 54 etc
<b>NORTHERN IRELAND</b>	<i>The Planning (Northern Ireland) Order 1991</i> <i>Planning Act (NI) 2011</i>	Section 161	Article 109

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<b>Birmingham City University</b> Tel 0121 331 5595	■ MA/PGDip/PGCert Conservation of the Historic Environment	2 yr PT
<b>University of Birmingham, Department of Classics, Ancient History and Archaeology</b> Tel 0121 414 5655	■ MA/PGDip Landscape Archaeology	1 yr FT, 2 yr PT
<b>University of Birmingham, Ironbridge International Institute for Cultural Heritage</b> Tel 0121 414 5493	■ MA World Heritage Studies ■ MA International Heritage Management*	1 yr FT 1 yr FT, 2 yr PT
<b>Bishop Grosseteste University</b> Tel 01522 583694	■ MA/PGCert/PGDip Heritage Education	1 yr FT, 2 yr PT
<b>Buckinghamshire New University</b> Tel 01494 522141	■ MA Conservation of Furniture and Decorative Arts	2 yr PT
<b>University of Cambridge</b> Tel 01223 760115	■ MSt Building History	2 yr PT
<b>Cardiff University, Welsh School of Architecture</b> Tel 029 2087 0922	■ MSc Sustainable Building Conservation	1 yr FT, 2 yr PT
<b>Institute for Sustainable Heritage, University College London</b> Tel 020 3108 9038	■ MSc Sustainable Heritage	1 yr FT, 2–5 yr PT
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<b>Heriot Watt University</b> Tel 0131 451 4661	■ MSc/PGDip Building Conservation (Technology and Management)*	2–7 yr
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<b>Kingston University, London</b> Tel 020 8417 4646 Tel 020 8522 1705	■ BSc(Hons) (top-up) Historic Building Conservation ■ FdSc Historic Building Conservation	1 yr FT, 2 yr PT 2 yr
<b>University of Lincoln</b> Tel 01522 835171	■ BA(Hons) Conservation of Cultural Heritage	3 yr FT
<b>University of Wales Trinity Saint David</b> Tel 0300 323 1828	■ BA Glass (Architectural Arts or Contemporary Practice) ■ BA(Hons) Heritage Studies ■ BA(Hons) Heritage Studies with Digital Humanities ■ BA(Hons) Archaeology with Heritage Management	3 yr FT, 6 yr PT 3 yr FT (PT avail) 3 yr FT (PT avail) 3 yr FT (PT avail)
<b>Weymouth College, Construction Sector</b> Tel 01305 208750	■ FdSc Applied Architectural Stonework and Conservation	2 yr FT, 3–4 yr PT

## COURSES &amp; TRAINING continued

CRAFT TRAINING		
<b>City of Bath College</b> Tel 01225 312191	<ul style="list-style-type: none"> <li>L2–3 Stonemasonry, Int and Adv Apprenticeships</li> <li>L2–3 Stonemasonry</li> </ul>	Int 2 yr, Adv 1 yr 1 yr FT
<b>Bedford College</b> Tel 01234 291000	<ul style="list-style-type: none"> <li>NVQ L3 Heritage Skills in carpentry, joinery, brickwork, painting and decorating, and plastering</li> </ul>	Varies
<b>The Building Crafts College</b> Tel 020 8522 1705	<ul style="list-style-type: none"> <li>Construction Skills and C&amp;G Dip Adv Stonemasonry</li> <li>Dip Fine Woodwork</li> <li>L1 Dip to L3 Adv Craft Joinery</li> <li>CDS, ACD, NVQ L2 and 3, CITB L3/Dip Stonemasonry</li> </ul>	1 yr FT 2 yr FT Varies 1–2 yr FT/ PT
<b>City and Guilds of London Art School</b> Tel 020 7735 2306	<ul style="list-style-type: none"> <li>Dip Architectural Stone Carving</li> <li>Dip Ornamental Wood Carving and Gilding</li> </ul>	3 yr 3 yr
<b>Dry Stone Walling Association of Great Britain</b> Tel 01539 567953	<ul style="list-style-type: none"> <li>Dry stone walling courses throughout the UK</li> </ul>	2 dy
<b>City of Glasgow College</b> Tel 0141 566 6222	<ul style="list-style-type: none"> <li>HND Furniture Restoration</li> <li>NQ Conservation and Restoration</li> <li>NQ Construction Crafts</li> <li>PDA L6–L7 Stonemasonry</li> </ul>	2 yr FT 1 yr 1 yr PT
<b>Herefordshire and Ludlow College</b> Tel 0800 032 1986	<ul style="list-style-type: none"> <li>L2 Dip Blacksmithing and Metalwork</li> <li>L3 Ext Dip Blacksmithing and Metalwork</li> </ul>	1 yr 2 yr
<b>Heritage Craft Alliance Ltd</b> Tel 01677 422289	<ul style="list-style-type: none"> <li>L2 NOCN NVQ Heritage Conservation and British Canal and Waterway Restoration</li> <li>L3 National Traineeship Programme</li> <li>L3 NOCN Dip Underpinning Knowledge for Heritage Skills – Traditional Craft Masonry</li> <li>L3 NOCN Dip Underpinning Knowledge for Heritage Skills – Traditional Wood Occupations</li> <li>L3 NVQ NOCN Dip Heritage Skills</li> <li>L3 NVQ Dip Heritage Skills – Brick Worker</li> <li>L3 NVQ Dip Heritage Skills – Finisher</li> <li>L3 NVQ Dip Heritage Skills – Mason</li> <li>L3 NVQ Dip Heritage Skills – Fibrous Plastering</li> <li>L3 NVQ Dip Heritage Skills – Solid Plastering</li> <li>L3 NVQ Dip Heritage Skills – Roofing, Tiling and Slating</li> <li>L3 NVQ Dip Heritage Skills – Wood Occupations</li> <li>L4 NVQ Dip Site Supervision – Conservation</li> <li>L6 NVQ Dip Site Management – Conservation</li> </ul>	6–9 mnth 6 mnth max 12 mnth 12 mnth 5 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 6–12 mnth 12–18 mnth 12–18 mnth
<b>Lead Sheet Association Ltd</b> Tel 01622 872432	<ul style="list-style-type: none"> <li>C&amp;G 6055 Leadworkers Cert (modules 1–4) and Adv Cert (module 5)</li> <li>QCF L3 Heritage Leadwork Specialist Apprenticeship Programme</li> </ul>	35 dy (Adv + 15 dy) 15 dy
<b>LTM Training Academy</b> Tel 01786 459990	<ul style="list-style-type: none"> <li>Building Conservation Technician Apprenticeship</li> </ul>	3 yr
<b>Gerard C J Lynch</b> Tel 01908 584163	<ul style="list-style-type: none"> <li>Heritage Brickwork – CSkills Specialist Apprenticeship Programme, NVQ3</li> </ul>	30 dy
<b>Moulton College</b> Tel 01604 491131	<ul style="list-style-type: none"> <li>Dip L2 Furniture Finishing Methods</li> <li>Dip L2–3 Stonemasonry</li> </ul>	1 yr 1 yr per level
<b>North Nottinghamshire College</b> Tel 01909 504500	<ul style="list-style-type: none"> <li>L3 NVQ Dip Heritage Skills – Brick</li> <li>L3 NVQ Dip Heritage Skills – Wood</li> </ul>	1–2 yr 1–2 yr
<b>The Prince's Foundation</b> Tel 020 7613 8582	<ul style="list-style-type: none"> <li>L3 NVQ – Building Craft Apprenticeship</li> </ul>	8 mnth
<b>South Coast Roof Training</b> Tel 0845 678 0065	<ul style="list-style-type: none"> <li>NVQ L3 Heritage Roofing apprenticeship (SAP) and up–skilling (SUP) programmes</li> </ul>	30 dy SAP, 1 yr SUP
<b>Steve Sherriff Stained and Leaded Glass Specialists</b> Tel 01202 882208	<ul style="list-style-type: none"> <li>Tailor made stained glass courses</li> </ul>	Varies
<b>The Traditional Building Skills Company Limited</b> Tel 01497 831125	<ul style="list-style-type: none"> <li>Heritage stonemasonry courses</li> <li>Heritage wood occupations courses</li> </ul>	5–20 dy 5–20 dy
<b>Tywi Centre</b> Tel 01558 824271	<ul style="list-style-type: none"> <li>Heritage Bursary Scheme: NVQ L3 carpentry, plastering, stonemasonry or roofing</li> </ul>	1 yr
<b>Weymouth College, Construction Sector</b> Tel 01305 208750	<ul style="list-style-type: none"> <li>Dip L2–3 Stonemasonry</li> <li>NVQ L2–3 Stonemasonry BR*</li> </ul>	L2 1 yr, L3 1 yr FT L2 2 yr PT, L3 1 yr PT
<b>York College</b> Tel 01904 770200 Tel 01904 770368	<ul style="list-style-type: none"> <li>L2 Dip Stonemasonry</li> <li>L2–3 NVQ Stonemasonry, Int and Adv Apprenticeships</li> </ul>	1 yr FT Int 2 yr BR*, Adv 1 yr BR*

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## SHORT &amp; MISCELLANEOUS COURSES

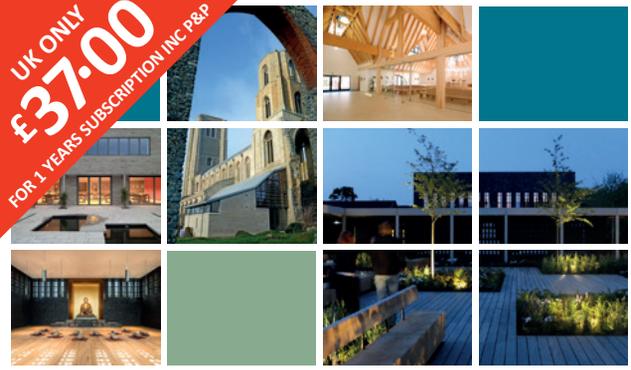
<b>Anglia Lime Company</b> Tel 01787 313974	<ul style="list-style-type: none"> <li>Various short courses on uses of lime in old buildings</li> </ul>	1 dy
<b>Ann Cook Associates Ltd</b> Tel 0121 451 1665	<ul style="list-style-type: none"> <li>Skills training for painters and decorators in graining, marbling, gilding, specialist wallcoverings, stencilling etc</li> </ul>	2 dy
<b>The Attingham Trust</b> Tel 020 7253 9057	<ul style="list-style-type: none"> <li>Residential courses on the historic house and its collections</li> </ul>	Varies
<b>Birmingham City University</b> Tel 07912 023123	<ul style="list-style-type: none"> <li>Various building conservation CPD courses</li> </ul>	2 dy
<b>The Brooking National Collection</b> Tel 01483 274203	<ul style="list-style-type: none"> <li>History of English doors, windows and other period details c1650–1950</li> <li>Development of domestic staircases c1690–1960</li> <li>Development of rainwater heads c1700–1960</li> <li>Development of the coal–burning grate c1750–1950</li> </ul>	½ dy, 1 dy, or tailor–made ½ dy, 1 dy, or tailor–made ½ dy, 1 dy, or tailor–made ½ dy, 1 dy, or tailor–made
<b>Burgate Stone Centre</b> Tel 01929 439405	<ul style="list-style-type: none"> <li>Courses in masonry, carving and letter cutting</li> </ul>	Varies
<b>Chalk Down Lime Ltd</b> Tel 01580 830092	<ul style="list-style-type: none"> <li>Various day courses including brickwork, pointing, lime plasters and wattle and daub</li> </ul>	1 dy
<b>The Chippendale International School of Furniture</b> Tel 01620 810680	<ul style="list-style-type: none"> <li>Furniture Restoration</li> </ul>	30 wk
<b>Cornish Lime Company Ltd</b> Tel 01208 79779	<ul style="list-style-type: none"> <li>CPD seminars on breathable mortars and paints</li> <li>Decorative plasterwork and running moulds master class</li> <li>Lime rendering/plastering, introduction to lime</li> <li>Painting and decorating courses</li> <li>Stone carving</li> </ul>	½ dy 1 dy 1 dy 1 dy 3 dy
<b>Dartmoor Arts Project</b> Tel 01647 281295	<ul style="list-style-type: none"> <li>Stone carving</li> </ul>	3 dy
<b>Dorset Centre for Rural Skills</b> Tel 01747 811099	<ul style="list-style-type: none"> <li>Lime and straw bale building courses</li> </ul>	1–2 dy
<b>Ecole d'Avignon Centre</b> Tel +33 (0)490 855 982	<ul style="list-style-type: none"> <li>Various traditional craft and heritage conservation courses</li> </ul>	Varies
<b>Eden Lime Mortar</b> Tel 07717 400233	<ul style="list-style-type: none"> <li>Lime mortar training</li> </ul>	1 dy
<b>The Environment Study Centre Ltd</b> Tel 020 7193 9926	<ul style="list-style-type: none"> <li>Various building conservation, surveying, maintenance, site supervision and heritage retrofit courses</li> </ul>	1–3 dy
<b>Essex County Council, Traditional Building Skills Courses</b> Tel 03330 132738	<ul style="list-style-type: none"> <li>Various practical courses in traditional building skills</li> <li>CPD lectures on building conservation</li> </ul>	1–3 dy ½–1 dy
<b>European Restoration Institute</b> Tel +39 (0)81 333 4536	<ul style="list-style-type: none"> <li>Various heritage conservation and restoration courses, including wall paintings, wood and seals</li> </ul>	Varies
<b>Fleur Kelly</b> Tel 01373 814651	<ul style="list-style-type: none"> <li>Intensive short fresco painting courses run on demand in SW France</li> </ul>	5 dy or 2 wk
<b>The Flintman Company</b> Tel 01273 556827	<ul style="list-style-type: none"> <li>Practical courses on flint and its use in structures</li> </ul>	1 dy
<b>The Green Wood Centre</b> Tel 01952 432769	<ul style="list-style-type: none"> <li>Professional short courses in woodland management and greenwood crafts</li> </ul>	1–5 dy
<b>Heritage Craft Alliance Ltd</b> Tel 01677 422289	<ul style="list-style-type: none"> <li>L2 NOCN Award Heritage Conservation and British Canal and Waterway Restoration (QCF)</li> <li>L3 Award Understanding Repair and Maintenance of Traditional Buildings</li> <li>L2 Award Heritage Construction</li> </ul>	9 dy 2 dy 8 dy
<b>Heritage Skills Centre at Lincoln Castle</b> Tel 01522 552434	<ul style="list-style-type: none"> <li>Various heritage skills courses</li> </ul>	Varies
<b>ICCROM</b> Tel +39 06 585531	<ul style="list-style-type: none"> <li>Various heritage conservation training courses</li> </ul>	Varies
<b>International Academic Projects</b> Tel 020 7380 0800	<ul style="list-style-type: none"> <li>Professional development courses in conservation, collections care, archaeology and museum studies</li> </ul>	3–5 dy
<b>Lead Sheet Association Ltd</b> Tel 01622 872432	<ul style="list-style-type: none"> <li>Introductory leadworking course including basic welding and bossing</li> <li>Leadwork seminars for architects, surveyors etc</li> </ul>	3–5 dy 1 dy
<b>University of Leicester School of History</b> Tel 0116 252 2587	<ul style="list-style-type: none"> <li>Various CPD courses</li> </ul>	Varies
<b>The Lettering and Commemorative Arts Trust</b> Tel 01728 688393	<ul style="list-style-type: none"> <li>Short courses in wood and stone letter carving</li> </ul>	1–9 dy
<b>The Lime Centre</b> Tel 01962 713636	<ul style="list-style-type: none"> <li>Bespoke courses on lime in traditional building</li> </ul>	Up to ½ dy

## COURSES & TRAINING continued

<b>Low-Impact Living Initiative</b> Tel 01296 714184	<ul style="list-style-type: none"> <li>Various craft and sustainable building courses including the use of cob and lime, and straw-bale building</li> </ul>	Varies
<b>Gerard C J Lynch</b> Tel 01908 584163	<ul style="list-style-type: none"> <li>Variety of CPD and bespoke training on brickwork conservation</li> </ul>	1 dy +
<b>Mike Wye &amp; Associates Ltd</b> Tel 01409 281644	<ul style="list-style-type: none"> <li>Lime plastering course</li> <li>Practical use of lime course</li> </ul>	1 dy 1 dy
<b>North of England Civic Trust</b> Tel 0191 232 9279	<ul style="list-style-type: none"> <li>Various practical heritage skills courses</li> </ul>	½ dy–5 dy
<b>Orchard Barn</b> Tel 01473 658193	<ul style="list-style-type: none"> <li>Restoration skills for homeowners and professionals</li> <li>Timber framing courses</li> <li>Wattle and daub course</li> </ul>	5 dy Varies 1 dy
<b>The Orton Trust</b> Tel 01536 711600	<ul style="list-style-type: none"> <li>Practical courses in all aspects of stonemasonry, including carving, lettering, conservation, masonry conservation, tool sharpening and drawing</li> </ul>	3 dy
<b>Oxford Brookes University</b> Tel 01865 483560	<ul style="list-style-type: none"> <li>Various short courses relating to planning for professionals</li> </ul>	Varies
<b>The Penicuik House Preservation Trust</b> Tel 01383 872722	<ul style="list-style-type: none"> <li>Building conservation and traditional building skills courses</li> </ul>	1–5 dy
<b>Philip A Gaches Plasterwork</b> Tel 01778 342188	<ul style="list-style-type: none"> <li>Traditional plastering courses</li> </ul>	Varies
<b>Pilgrim Art Restoration</b> Tel +34 63 983 0767	<ul style="list-style-type: none"> <li>Interior conservators courses in Spanish monasteries</li> </ul>	8–15 wk
<b>The Portland Sculpture and Quarry Trust</b> Tel 01305 826736	<ul style="list-style-type: none"> <li>Introductory/advanced courses in stone carving, sculpture, letter-cutting, architectural detail, stonemasonry and geometry</li> <li>Programmes tailored for individual study, CPD and vocational training</li> </ul>	Varies Varies
<b>The Prince's Foundation</b> Tel 020 7613 8582	<ul style="list-style-type: none"> <li>Building Skill in Summer: conservation crafts summer school</li> </ul>	3 wk
<b>Rainbow Glass Ltd</b> Tel 020 7249 0276	<ul style="list-style-type: none"> <li>Stained glass day courses and evening workshops</li> </ul>	1 dy
<b>Restorative Techniques Ltd</b> Tel 01454 417831	<ul style="list-style-type: none"> <li>CPD seminars on masonry cleaning</li> </ul>	Varies
<b>Ross Lovett Conservation</b> Tel 07799 691661	<ul style="list-style-type: none"> <li>Stone carving and lime mortar courses</li> </ul>	Varies
<b>Scottish Lime Centre Trust</b> Tel 01383 872722	<ul style="list-style-type: none"> <li>Building conservation and traditional building skills courses</li> </ul>	1–5 dy
<b>Scottish Traditional Skills Training Centre</b> Tel 01888 511347	<ul style="list-style-type: none"> <li>Surveying and assessing the conservation, repair and maintenance requirements of traditional buildings</li> <li>Meeting the challenges of climate change</li> <li>Conserving, repairing and maintaining traditional roofs</li> <li>Building and repairing dry stone walls</li> <li>Use of lime mortar in traditional buildings</li> <li>Traditional leadwork</li> <li>Window maintenance, repair and replacement</li> </ul>	2 dy 2 dy 2 dy 2 dy 2 dy 2 dy 2 dy
<b>The Society for the Protection of Ancient Buildings</b> Tel 020 7377 1644	<ul style="list-style-type: none"> <li>SPAB Scholarship: programme for young qualified building professionals interested in heritage</li> <li>William Morris Craft Fellowship (craft training for qualified craftspeople)</li> <li>SPAB Faith in Maintenance: free courses for volunteers who care for historic places of worship</li> <li>SPAB seminars and master classes</li> <li>The Repair of Old Buildings Course: an introduction to the SPAB conservation approach</li> </ul>	9 mnth 3 blocks 2 mnth FT each 1 dy Up to 1 dy 5 dy
<b>Sturge Conservation Studio</b> Tel 01604 717929	<ul style="list-style-type: none"> <li>Conservation and restoration of historic leather</li> </ul>	3 dy
<b>The Traditional Building Skills Company Limited</b> Tel 01497 831125	<ul style="list-style-type: none"> <li>Understanding repair and maintenance of traditional buildings</li> </ul>	2 dy
<b>Ty-Mawr Lime Ltd</b> Tel 01874 611350	<ul style="list-style-type: none"> <li>Various short courses in building skills including lime plastering, decorative plastering, sustainable retrofit, dry stone walling and thatching</li> <li>RIBA-accredited CPD lime seminars</li> </ul>	Varies Varies
<b>Weald &amp; Downland Open Air Museum</b> Tel 01243 811464	<ul style="list-style-type: none"> <li>Various short courses in building conservation and traditional crafts and skills</li> </ul>	1–5 dy
<b>West Dean College</b> Tel 01243 818219	<ul style="list-style-type: none"> <li>A range of master classes delivered in collaboration with Historic England</li> </ul>	1–4 dy
<b>Womersley's Limited</b> Tel 01924 400651	<ul style="list-style-type: none"> <li>Short courses on building conservation and sustainable building</li> </ul>	1 dy
<b>University of York</b> Tel 01904 323950	<ul style="list-style-type: none"> <li>Various CPD courses</li> </ul>	1–2 dy
<b>Yorkshire Sculpture Park</b> Tel 01924 832528	<ul style="list-style-type: none"> <li>Various craft courses including dry stone walling and sculpture courses</li> </ul>	Varies

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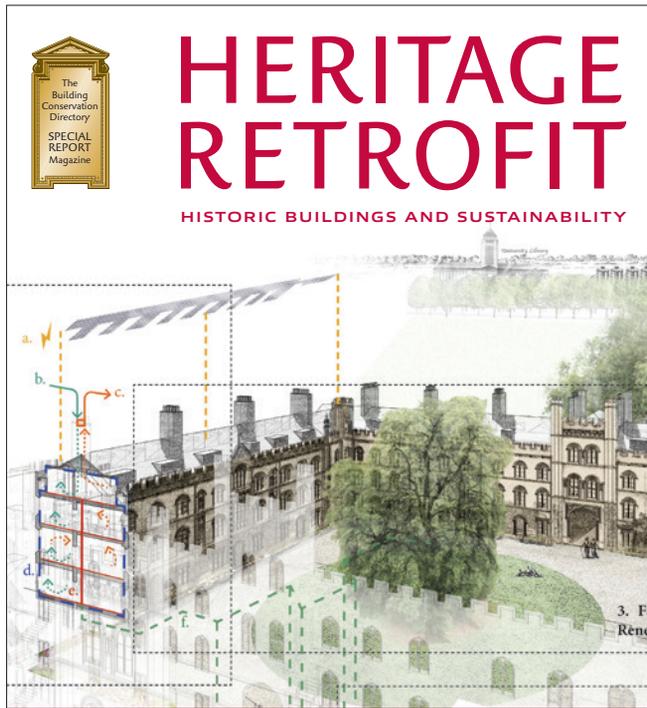
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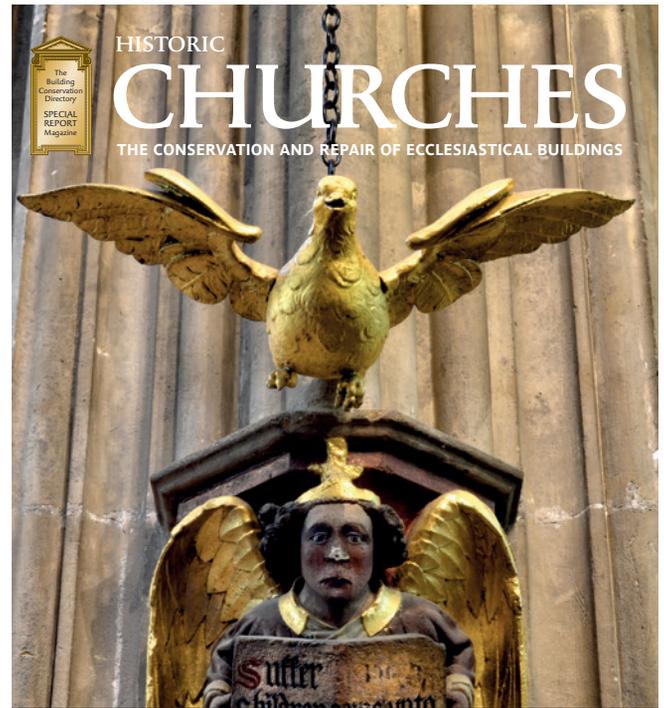
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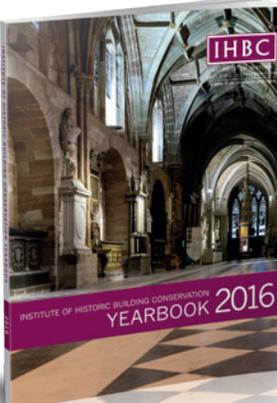
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www.almshouses.org

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www.avoncroft.org.uk

### The Bat Conservation Trust

Tel 0345 130 0228  
www.bats.org.uk

### Beamish Museum

Tel 0191 370 4000  
www.beamish.org.uk

### Big Lottery Fund

Tel 020 7211 1800  
www.biglotteryfund.org.uk

### The Brick Development Association

Tel 020 7323 7030  
www.brick.org.uk

### British Architectural Library

Tel 020 7580 5533  
www.architecture.com

### British Artist Blacksmiths Association

Tel 01526 830303  
www.baba.org.uk

### The British Brick Society

Tel 020 8954 4976  
www.britishbricksoc.co.uk

### British Geological Survey Building Stones

Tel 0131 667 1000  
www.bgs.ac.uk/mineralsuk/buildingstones

### British Institute of Interior Design

Tel 020 7349 0800  
www.biid.org.uk

### British Institute of Non-Destructive Testing

Tel 01604 893811  
www.bindt.org

### The British Property Federation

Tel 020 7828 0111  
www.bpf.org.uk

### British Society of Master Glass Painters

Tel 01643 862807  
www.bsmgp.org.uk

### British Standards Institution

Tel 020 8996 9000  
www.bsigroup.co.uk

### British Sundial Society

www.sundialsoc.org.uk

### The Brooking National Collection

Tel 01483 276565  
www.thebrookingcollection.org

### The Building Conservation Directory

Tel 01747 871717  
www.buildingconservation.com

### The Building Limes Forum

www.buildinglimesforum.org.uk

### Building Limes Forum Ireland

www.buildinglimesforumireland.com

### Building Research Establishment Ltd

Tel 0333 321 8811  
www.bre.co.uk

### Building Research Establishment Scotland

Tel 01355 576200  
www.bre.co.uk/scotland

### Buildings at Risk Register for Scotland

Tel 0131 651 6854  
www.buildingsatrisk.org.uk

### Built Environment Forum Scotland

Tel 0131 220 6241  
www.befs.org.uk

### Cadw

Tel 01443 336000  
www.cadw.wales.gov.uk

### Campaign for the Protection of Rural Wales

Tel 01938 552525  
www.cprw.org.uk

### Canal & River Trust

Tel 0303 040 4040  
www.canalrivertrust.org.uk

### Capel - The Chapels Heritage Society

Tel 01492 860449  
www.capeli.org.uk

### The Carbon Trust

Tel 020 7170 7000  
www.carbontrust.com

### The Carpenters Fellowship

Tel 01249 782100  
www.carpentersfellowship.co.uk

### Cast Metals Federation

Tel 0121 601 6397  
www.castmetalsfederation.com

### Cathedral Architects Association

Tel 01904 644001  
www.cathedralarchitects.org

### Cathedral Communications Limited

Tel 01747 871717  
www.buildingconservation.com

### The Chapels Society

www.chapelsociety.org.uk

### The Chartered Association of Building Engineers

Tel 01604 404121  
www.cbuide.com/home

### Chartered Institute for Archaeologists

Tel 0118 378 6446  
www.archaeologists.net

### Chartered Institute of Architectural Technologists

Tel 020 7278 2206  
www.ciat.org.uk

### The Chartered Institute of Plumbing and Heating Engineering

Tel 01708 472791  
www.ciphe.org.uk

### The Chartered Institution of Building Services Engineers

Tel 020 8675 5211  
www.cibse.org

### Chiltern Open Air Museum

Tel 01494 871117  
www.coam.org.uk

### The Church of England - Cathedral and Church Buildings Division

Tel 020 7898 1863  
www.churchcare.co.uk

USEFUL CONTACTS *continued*

- The Church Monuments Society**  
Tel 01837 851483  
www.churchmonumentsociety.org
- The Church of Scotland**  
Tel 0131 225 5722  
www.churchofscotland.org.uk
- The Church in Wales**  
Tel 029 2034 8200  
www.churchinwales.org.uk
- The Churches Conservation Trust**  
Tel 0845 303 2760  
www.visitchurches.org.uk
- Chartered Institute of Architectural Technologists – Accredited Conservationists**  
Tel 020 7278 2206  
www.ciat.org.uk
- The Cinema Theatre Association**  
Tel 020 8981 7844  
www.cta-uk.org
- The Circa Trust (Construction Industry Resource Centre Archive)**  
Tel 0117 968 7850
- Civic Voice**  
Tel 0151 707 4319  
www.civicvoice.org.uk
- Coflein – Royal Commission on the Ancient and Historical Monuments of Wales**  
Tel 01970 621210  
www.coflein.gov.uk
- The Concrete Repair Association**  
Tel 01420 471615  
www.cra.org.uk
- The Conservation Accreditation Register for Engineers**  
Tel 020 7222 7722  
www.ice.org.uk
- The Conservation Register**  
Tel 020 3142 6799  
www.conservationregister.com
- Construction History Society**  
Tel 01223 332950  
www.constructionhistory.co.uk
- Construction Industry Council**  
Tel 020 7399 7400  
www.cic.org.uk
- The Construction Industry Training Board**  
Tel 0344 994 4400  
www.citb.co.uk
- ConstructionSkills**  
Tel 0344 994 4400  
www.cskills.org
- Copper Development Association**  
Tel 01442 275705  
www.copperalliance.org.uk
- Corpus of Romanesque Sculpture in Britain and Ireland**  
www.crsbi.ac.uk
- Corrosion Prevention Association**  
Tel 01420 471614  
www.corrosionprevention.org.uk
- COTAC – Council on Training in Architectural Conservation**  
Tel 020 8522 1705  
www.cotac.org.uk
- Council for British Archaeology**  
Tel 01904 671417  
new.archaeologyuk.org
- Council for British Archaeology – Wales**  
Tel 01792 634236  
www.britarch.ac.uk/cbacymru
- Country Houses Foundation**  
Tel 0845 402 4102  
www.countryhousesfoundation.org.uk
- Courtauld Institute of Art**  
Tel 020 7848 2777  
www.courtauld.ac.uk
- Creative and Cultural Skills**  
Tel 020 7015 1800  
www.ccskills.org.uk
- Defra**  
Tel 03459 335577  
www.gov.uk/government/organisations/department-for-environment-food-rural-affairs
- Department of Arts, Heritage and the Gaeltacht**  
Tel +353 (0)1631 3800  
www.ahg.gov.ie
- Department for Business, Energy & Industrial Strategy**  
Tel 020 7215 5000  
www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy
- Department for Communities and Local Government**  
Tel 0303 444 0000  
www.gov.uk/government/organisations/department-for-communities-and-local-government
- Department for Communities Northern Ireland – Historic Environment Division**  
Tel 028 9082 3177  
www.communities-ni.gov.uk/topics/historic-environment
- Department for Culture, Media and Sport**  
Tel 020 7211 6000  
www.gov.uk/government/organisations/department-for-culture-media-sport
- Department for Infrastructure, NI**  
Tel 028 9054 0540  
www.infrastructure-ni.gov.uk
- Department for Transport**  
Tel 0300 330 3000  
www.dft.gov.uk
- Design Council Caba**  
Tel 020 7420 5200  
www.designcouncil.org.uk
- DOCOMOMO - UK**  
Tel 020 7253 6624  
www.docomomo-uk.co.uk
- Dry Stone Walling Association of Great Britain**  
Tel 01539 567953  
www.dswa.org.uk
- Earth Building UK & Ireland**  
www.ebuk.uk.com
- The East Anglian Earth Buildings Group**  
Tel 01379 687705  
www.eartha.org.uk
- Ecclesiastical Architects and Surveyors Association**  
www.easnet.co.uk
- Edinburgh World Heritage**  
Tel 0131 220 7720  
www.ewht.org.uk
- English Heritage**  
Tel 0370 333 1181  
www.english-heritage.org.uk
- English Stone Forum**  
www.englishstone.org.uk
- Entrust**  
Tel 01926 488300  
www.entrust.org.uk
- Europa Nostra**  
Tel +31 (0)7030 24050  
www.europanostratrust.org
- European Confederation of Conservator-restorers' Organisations**  
www.ecco-eu.org
- European Heritage Network**  
Tel +33 (0)3884 13458  
www.european-heritage.net
- Fáilte Ireland**  
Tel +353 (0)1884 7700  
www.failteireland.ie
- Federation of Traditional Metal Roofing Contractors**  
Tel 01342 301627  
www.ftmrc.co.uk
- The Fire Protection Association**  
Tel 01608 812500  
www.thefpa.co.uk
- The Folly Fellowship**  
www.follies.org.uk
- Fortress Study Group**  
www.fsgfort.com
- Friends of Friendless Churches**  
Tel 020 7236 3934  
www.friendsoffriendlesschurches.org.uk
- Funds for Historic Buildings**  
Tel 020 7925 0199  
www.ffhb.org.uk
- The Furniture History Society**  
Tel 01444 413845  
www.furniturehistorysociety.org
- The Garden History Society - see The Gardens Trust**
- The Garden History Society in Scotland**  
www.gardenhistorysociety.org
- The Garden Museum**  
Tel 020 7401 8865  
www.gardenmuseum.org.uk
- The Gardens Trust**  
Tel 020 7608 2409  
www.thegardenstrust.org
- Geffrye Museum**  
Tel 020 7739 9893  
www.geffrye-museum.org.uk
- The Georgian Group**  
Tel 020 7529 8920  
www.georgiangroup.org.uk
- The Glaziers' Trust**  
Tel 020 7403 6652  
www.worshipfulglaziers.com
- Global Heritage Fund**  
Tel +1 650 325 7520  
www.globalheritagefund.org
- The Guild of Architectural Ironmongers**  
Tel 020 7033 2480  
www.gai.org.uk
- Heritage Alliance**  
Tel 020 7233 0500  
www.theheritagealliance.org.uk
- Heritage Conservation Trust**  
Tel 020 7259 5688  
www.heritageconservationtrust.org.uk
- The Heritage Council**  
Tel +353 (0)5677 70777  
www.heritagecouncil.ie
- Heritage Craft Alliance**  
Tel 01677 422289  
www.heritagecraftalliance.co.uk
- The Heritage Crafts Association**  
Tel 01793 845554  
www.heritagecrafts.org.uk
- The Heritage Education Trust**  
Tel 01522 583695  
www.sandfordaward.org
- The Heritage Funding Directory**  
Tel 020 7233 0500  
www.theheritagealliance.org.uk
- Heritage Ireland**  
Tel +353 (0)1647 6635  
www.heritageireland.ie
- Heritage Lottery Fund**  
Tel 020 7591 6000  
www.hlf.org.uk
- The Heritage Society of Engineers Ireland**  
+353 (0)1663 3040  
www.engineersireland.ie
- Historic Buildings Council (Northern Ireland)**  
Tel 028 9082 3250  
www.hbcni.gov.uk
- Historic Chapels Trust**  
Tel 020 7481 0533  
www.hct.org.uk
- Historic England**  
Tel 020 7973 3700  
www.historicengland.org.uk
- Archive**  
Tel 01793 414600  
archive.historicengland.org.uk
- East of England**  
Tel 01223 582749
- East Midlands**  
Tel 01604 735460
- Fort Cumberland**  
Tel 023 9285 6704
- London**  
Tel 020 7973 3000
- North East**  
Tel 0191 269 1217
- North West**  
Tel 0161 242 1416
- South East**  
Tel 01483 252020
- South West**  
Tel 0117 975 1308
- West Midlands**  
Tel 0121 625 6870
- Yorkshire and Humber**  
Tel 01904 601901
- Historic Environment Information Resources Network**  
Tel 01904 671417  
www.britarch.ac.uk/HEIRNET

**Historic Environment Scotland**

Tel 0131 668 8600  
www.historicenvironment.scot

**Historic Farm Buildings Group**

www.hfbg.org.uk

**Historic Gardens Foundation**

Tel 020 7633 9165  
www.historicgardens.org

**Historic Houses Association**

Tel 020 7259 5688  
www.hha.org.uk

**Historic Monuments Council  
(Northern Ireland)**

Tel 028 9054 3050  
www.hmcni.gov.uk

**Historic Religious Buildings  
Alliance**

Tel 020 7233 0900  
www.hrballiance.org.uk

**Historic Royal Palaces**

www.hrp.org.uk

**Historic Towns & Villages Forum**

Tel 01865 612033  
www.historictownsforum.org

**Homes and Communities Agency**

Tel 0300 123 4500  
www.gov.uk/government/  
organisations/homes-and-  
communities-agency

**ICCROM (International Centre  
for the Study of the Preservation  
and Restoration of Cultural  
Property, Rome)**

Tel +39 0658 5531  
www.iccrom.org

**ICOMOS UK (International Council  
on Monuments & Sites UK)**

Tel 020 7566 0031  
www.icomos-uk.org

**Industrial Rope Access Trade  
Association**

Tel 01233 754600  
www.irata.org

**The Institute of Conservation**

Tel 020 3142 6799  
www.icon.org.uk

**Institute of Historic Building  
Conservation**

Tel 01747 873133  
www.ihbc.org.uk

**Institute for Sustainable  
Construction**

Tel 0131 455 2819  
www.napier.ac.uk

**Institution of Civil Engineers**

Tel 020 7222 7722  
www.ice.org.uk

**Institution of Structural Engineers**

Tel 020 7235 4535  
www.istructe.org

**The International Institute for  
Conservation of Historic and  
Artistic Works**

Tel 020 7799 5500  
www.iiconservation.org

**International Lead Association**

Tel 020 7833 8090  
www.ila-lead.org

**Irish Georgian Society**

Tel +353 1679 8675  
www.igs.ie

**Jewish Heritage UK**

Tel 0161 238 8621  
www.jewish-heritage-uk.org

**The Landmark Trust**

Tel 01628 825920  
www.landmarktrust.org.uk

**The Landscape Institute**

Tel 020 7685 2640  
www.landscapeinstitute.org

**The Lead Contractors  
Association**

Tel 01342 317888  
www.leadcontractorsassociation.com

**Lead Sheet Association Ltd**

Tel 01622 872432  
www.leadsheet.co.uk

**The Listed Places of Worship  
Roof Repair Fund**

Tel 01392 223979  
www.lpowroof.org.uk

**Locality**

Tel 0845 458 8336  
www.locality.org.uk

**The London Parks and Gardens  
Trust**

Tel 020 7839 3969  
www.londongardenstrust.org

**The London Stained Glass  
Repository**

Tel 020 7403 6652  
www.worshipfulglaziers.  
com/The-London-Stained-  
Glass-Repository-11.htm

**Maintain our Heritage**

Tel 01225 590450  
www.maintainourheritage.co.uk

**Master Carvers Association**

Tel 01525 851594  
www.mastercarvers.co.uk

**Master Locksmiths Association**

Tel 01327 262255  
www.locksmiths.co.uk

**Mausolea and Monuments Trust**

Tel 07856 985974  
www.mmtrust.org.uk

**The Milestone Society**

Tel 01299 832338  
www.milestonesociety.co.uk

**Monumental Brass Society**

Tel 01787 281845  
www.mbs-brasses.co.uk

**Museum of Bath Architecture**

Tel 01225 333895  
museumofbatharchitecture.org.uk

**The Museum of Domestic Design  
and Architecture**

Tel 020 8411 5244  
www.moda.mdx.ac.uk

**The National Archives**

Tel 020 8876 3444  
www.nationalarchives.gov.uk

**National Association of  
Decorative and Fine Arts  
Societies**

Tel 020 7430 0730  
www.nadfas.org.uk

**National Churches Trust**

Tel 020 7222 0605  
www.nationalchurchestrust.org

**National Council for the  
Conservation of Plants and  
Gardens**

Tel 01483 447540  
www.plantheritage.com

**The National Federation of Builders**

Tel 0345 057 8160  
www.builders.org.uk

**National Heritage Ironwork Group**

Tel 07503 764712  
www.nhig.org.uk

**National Heritage Memorial Fund**

Tel 020 7591 6044  
www.nhmf.org.uk

**The National Heritage Roofing  
Contractors' Register**

Tel 020 7638 7663  
www.nfrc.co.uk/nfrc/search-  
members/heritage-roofer

**The National Heritage Training  
Group**

Tel 01246 252363  
www.the-nhtg.org.uk

**National Monuments Record of  
Wales**

Tel 01970 621210  
www.rcahmw.gov.uk

**National Museums & Galleries  
of Wales**

Tel 029 2039 7951  
www.nmgw.ac.uk

**National Piers Society**

Tel 01404 831335  
www.piers.org.uk

**National Records of Scotland**

Tel 0131 535 1314  
www.nrscotland.gov.uk

**National Society of Master  
Thatchers**

Tel 01530 222954  
www.nsmtld.co.uk

**The National Thatching Straw  
Growers Association**

Tel 01379 852335  
www.ntsga.org.uk

**The National Trust**

Tel 0844 800 1895  
www.nationaltrust.org.uk

**National Trust for Scotland**

Tel 0131 458 0200  
www.nts.org.uk

**Natural England**

Tel 0300 060 3900  
www.gov.uk/government/  
organisations/natural-england

**The Newcomen Society**

Tel 020 7371 4445  
www.newcomen.com

**North of England Civic Trust**

Tel 0191 232 9279  
www.nect.org.uk

**Northern Ireland Assembly**

Tel 028 9052 1137  
www.niassembly.gov.uk

**Open Spaces Society**

Tel 01491 573535  
www.oss.org.uk

**The Orton Trust**

Tel 01536 711600  
www.ortontrust.org.uk

**Passive Fire Protection Federation**

Tel 01420 471621  
www.pfpf.org

**Pastmap**

www.pastmap.org.uk

**Planning Officers Society**

Tel 01296 422161  
www.planningofficers.org.uk

**The Prince's Regeneration Trust**

Tel 020 3262 0560  
www.princes-regeneration.org

**Professional Accreditation of  
Conservator-Restorers**

Tel 01626 824510  
www.icon.org.uk

**The Property Care Association**

Tel 0870 121 6737  
www.property-care.org

**Public Monuments and  
Sculpture Association**

Tel 020 7490 5001  
www.pmsa.org.uk

**Railway Heritage Trust**

Tel 020 7904 7354  
www.railwayheritagetrust.co.uk

**Royal Archaeological Institute**

www.royalarchinst.org

**Royal Commission on the Ancient  
and Historical Monuments of Wales**

Tel 01970 621210  
www.rcahmw.gov.uk

**Royal Horticultural Society**

Tel 0845 260 5000  
www.rhs.org.uk

**The Royal Incorporation of  
Architects in Scotland**

Tel 0131 229 7545  
www.rias.org.uk

**The Royal Institute of the  
Architects of Ireland**

Tel +353 (0)1676 1703  
www.riai.ie

**Royal Institute of British Architects**

Tel 020 7580 5533  
www.architecture.com

**Royal Institution of Chartered  
Surveyors**

Tel 024 7686 8555  
www.rics.org

**Building Conservation  
Accreditation Scheme**

Tel 024 7686 8555  
www.rics.org/uk/join/member-  
accreditations-list/building-  
conservation-accreditation

**Royal Society of Architects in Wales**

Tel 020 7580 5533  
www.architecture.com/wales

**Royal Society of Ulster Architects**

Tel 028 9032 3760  
www.rsua.org.uk

**Royal Town Planning Institute**

Tel 020 7929 9494  
www.rtpi.org.uk

**SAVE Britain's Heritage**

Tel 020 7253 3500  
www.savebritainsheritage.org

**Scotland's Churches Trust**

Tel 0131 225 8644  
www.scotlandschurchestrust.org.uk

**Scottish Canals**

Tel 0141 332 6936  
www.scottishcanals.co.uk

**The Scottish Civic Trust**

Tel 0141 221 1466  
www.scottishcivictrust.org.uk

**The Scottish Government,  
Culture & Historic Environment  
Division**

Tel 0131 244 7888  
www.gov.scot/Topics/  
ArtsCultureSport

**Scottish Ironwork Foundation**

ironworks.scran.ac.uk

USEFUL CONTACTS *continued***Scottish Lime Centre Trust**

Tel 01383 872722  
www.scotlime.org

**The Scottish Redundant Churches Trust**

Tel 0131 563 5135  
www.srct.org.uk

**Sir John Soane's Museum**

Tel 020 7405 2107  
www.soane.org

**Society of Architectural Historians of Great Britain**

www.sahgb.org.uk

**Society of Architectural Illustration**

Tel 01892 852578  
www.sai.org.uk

**Society for Church Archaeology**

Tel 020 7898 1875  
churcharchaeology.org

**The Society for the Protection of Ancient Buildings**

Tel 020 7377 1644  
www.spab.org.uk

**The Society for the Protection of Ancient Buildings in Scotland**

Tel 0131 557 1551  
www.spab.org.uk/spab-in-scotland

**St Fagans – National History Museum**

Tel 029 2039 7951  
www.museumwales.ac.uk

**Stained Glass Museum**

Tel 01353 660347  
www.stainedglassmuseum.com

**Steel Window Association**

Tel 0844 249 1355  
www.steel-window-association.co.uk

**Stone Federation Great Britain**

Tel 01303 856123  
www.stonefed.org.uk

**Stone Roofing Association**

Tel 01286 650402  
www.stoneroof.org.uk

**Street Pride**

Tel 0151 707 4319  
www.civicvoice.org.uk/  
campaigns/street-pride

**The Sustainable Traditional Buildings Alliance**

Tel 020 7704 3501  
stbauk.org

**The Temple Trust**

Tel 020 7482 6171  
www.thetempletrust.org.uk

**The Theatres Trust**

Tel 020 7836 8591  
www.theatrestrust.org.uk

**The Tile Association**

Tel 0300 365 8453  
www.tiles.org.uk

**Tiles & Architectural Ceramics Society**

www.tilesoc.org.uk

**Timber Research and Development Association**

Tel 01494 569600  
www.trada.co.uk

**The Timber Trade Federation**

Tel 020 3205 0067  
www.ttf.co.uk

**The Tools and Trades History Society**

www.taths.org.uk

**Town and Country Planning Association**

Tel 020 7930 8903  
www.tcpa.org.uk

**The Traditional Paint Forum**

www.traditionalpaintforum.org.uk

**The Twentieth Century Society**

Tel 020 7250 3857  
www.c20society.org.uk

**UK Association of Preservation Trusts**

Tel 020 3642 2225  
www.ukapt.org.uk

**UK Cast Stone Association**

Tel 01604 405666  
www.ukcsa.co.uk

**Ulster Architectural Heritage Society**

Tel 028 9055 0213  
www.uahs.org.uk

**Understanding Conservation**

Tel 020 8522 1705  
www.understandingconservation.org

**Urban Design Group**

Tel 020 7250 0892  
www.udg.org.uk

**Vernacular Architecture Group**

Tel 01633 889019  
www.vag.org.uk

**Victoria County History**

Tel 020 7862 8740  
www.victoriacountyhistory.ac.uk

**The Victorian Society**

Tel 020 8994 1019  
www.victoriansociety.org.uk

**Wallpaper History Society**

www.wallpaperhistorysociety.org.uk

**War Memorials Trust**

Tel 020 7233 7356  
www.warmemorials.org

**Weald & Downland Open Air Museum**

Tel 01243 811363  
www.wealddown.co.uk

**Welsh Government**

Tel 0300 060 3300 (English) or  
0845 010 4400 (Welsh)  
www.wales.gov.uk

**The William Morris Society**

Tel 020 8741 3735  
www.williammorrisociety.org.uk

**World Monuments Fund Britain**

Tel 020 7251 8142  
www.wmf.org.uk

**The Worshipful Company of Glaziers and Painters of Glass**

Tel 020 7403 6652  
www.worshipfulglaziers.com

See [www.buildingconservation.com](http://www.buildingconservation.com) for the latest EVENTS information

www.**buildingconservation.com**



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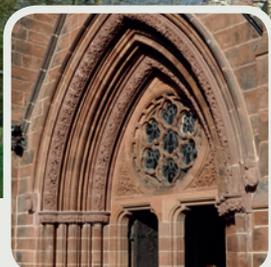
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# the Natural StoneShow 2017

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EXCEL  
LONDON

25 - 27 April



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**Ask the Expert** for guidance on selecting British stone within the Stone Federation Great Britain Village.

**Get free specialist advice** on conservation and restoration from organisations represented in the Conservation Area including SPAB, IHBC and Historic England.

**Learn** about the award winning Repair and Restoration projects at the Natural Stone Awards Gallery.

For show updates and to register for your free ticket to the event visit [www.stoneshow.co.uk](http://www.stoneshow.co.uk)



The Natural Stone Show 2017 is a Natural Stone Specialist event & part of the QMJ Group

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Enquiries to: Chris Lamb  
07702 864 198  
Email: [chris.lamb@heritagebc.co.uk](mailto:chris.lamb@heritagebc.co.uk)  
[www.heritagebuildingandconservation.co.uk](http://www.heritagebuildingandconservation.co.uk)

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St Olavs Court  
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T: 020 3597 7366

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14 Market Place  
Pocklington  
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