

COTAC Insight 2g: The Need to be Aware of the Built Heritage

Exploring ICOMOS Education and Training Guideline (g): Inspect and make reports intelligible to non-specialist readers of monuments, ensembles or sites, illustrated by graphic means such as sketches and photographs



Repair and Maintenance Cluster Activities

Core Activities Levels of Intervention

Conservation

Restoration

Rehabilitation

Repair

Maintenance

Experienced Specialist requirements

*New build
interface*

Multi-skilled applications

Supply base

Specialist labour

*Traditional
materials*

Research support

Skilled Labour

*Traditional
materials*

Academic support

Craft Labour

*Traditional
materials*

New materials

**Multi-skilled
Labour**

*Matching
replacement
units and elements
(DIY supplies)*

**Inspection checks
and servicing**

*Housekeeping
Systematic care
(DIY supplies)*

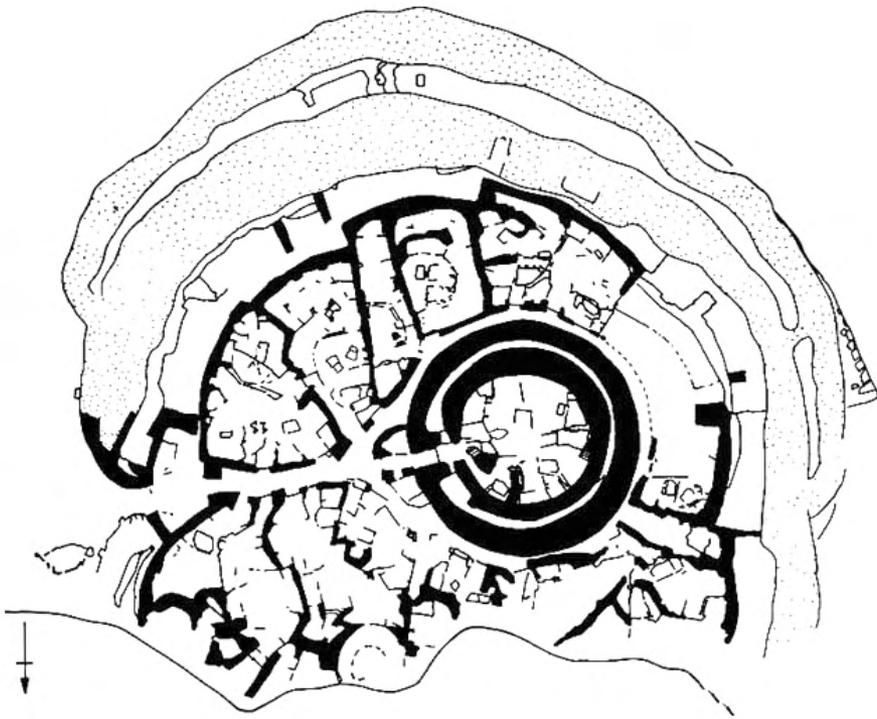
**Need to recreate the traditional material supply chain:
e.g. Slate/stone/lime/thatch/timber**

**Need to recreate manufactured unit replacements:
e.g. Cast-iron ware/windows/ fittings/fixtures**

Across what could be classified as the construction industry Repair and Maintenance Sector, various distinctions can be drawn across five core activities. These indicate different degrees of intervention, spanning from multi-skilled to specialist expertise. Related levels of support and required material supplies might also be suggested. But, bearing in mind much of what was originally specified and used to create pre-1919 traditionally constructed building may no longer be available, compromised decision may have to be made. Such integrated considerations inevitably emerge during inspections and will need to be carefully considered when formulating report findings.



An holistic approach to reporting on the needs of a heritage building should include, amongst other matters, an assessment of the risks involved. This to cover welfare, safety, access, and external and internal protection for structure and elements



Broch of Gurness



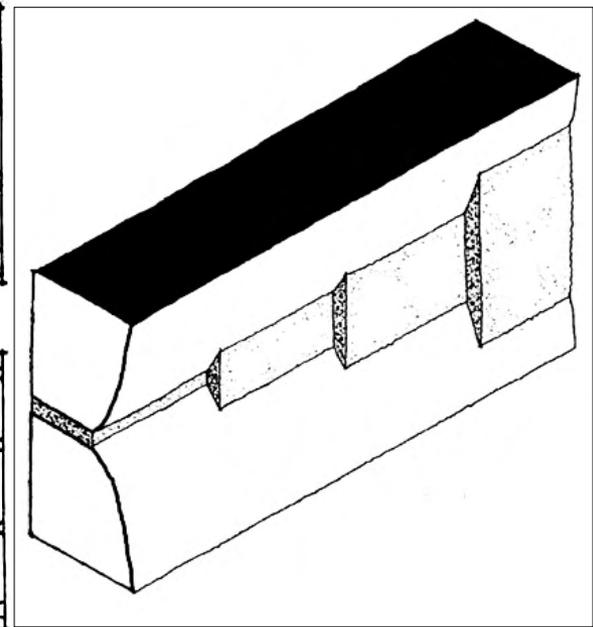
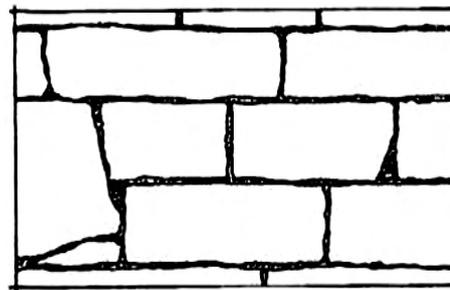
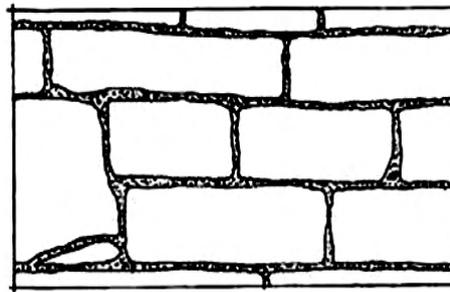
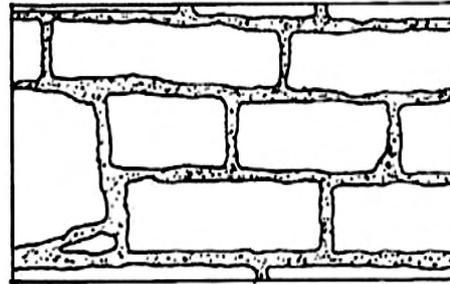
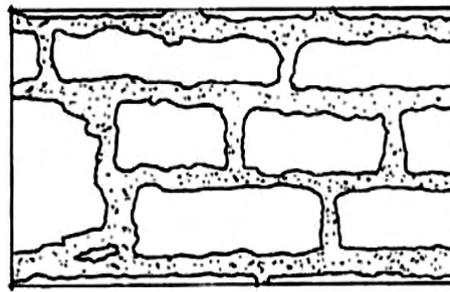
Scaled plans might offer a limited 2D appreciation of structures in their location but cutaway drawings, terrestrial and air photography are better at revealing a greater understanding of their setting functions and constructional details, especially if the complex is of unusual design, and the images can be annotated.



A knowledge of regional traditional building construction can aid interpretation of remaining evidence. Here, pantiled and slated roofs have replaced previous thatched roofs, evinced by the higher set crow-steps and projecting 'thackstones' set in the chimney to provide weathering for the upper thatch cover. Such evidence could warrant an internal examination of the supporting roof structure to confirm its likely replacement when the change took place.



Interpreting the texture of building surfaces can offer an increased understanding of required maintenance work or some more significant changes that have taken place. A few slipped slates can visually disrupt an otherwise intact roof covering, whilst more obvious changes can be observed where different materials have been used. Smooth and fine textured replacement slates set against their roughly trimmed neighbours clearly reveal a reroofing project on an adjacent property, and the evidence of loss of a triangular ridged (3-sided) roof dormer window on another.



A relatively straightforward task of repoint a masonry wall can be badly mishandled, with major visual consequences to the character of the building if the work is not properly specified or explained. Although easier to apply, only a few additional mm in the thickness of the repointing mortar can increasingly smear onto the adjacent stone facework changing its appearance. To avoid this, a sketch can readily illustrate consequences before work starts.

1912-15

BUILDING CONSTRUCTION AND DRAWING

A TEXT BOOK ON THE PRINCIPLES AND DETAILS OF MODERN CONSTRUCTION

Compiled to assist Students preparing for the Examinations of the Board of Education, the Royal Institute of British Architects, the Surveyors' Institution, the City Guilds, the Lancashire and Cheshire Union of Institutions, the Civil Service, and other Technical Examinations

BY CHARLES F. MITCHELL,

Lecturer on Building Construction to the Regent Street Polytechnic, London, Head Master of the Polytechnic Technical School.

ASSISTED BY GEORGE A. MITCHELL, A.R.I.B.A., Honorary Medalist Building Construction, National Silver Medalist in Carpentry and Joinery, Honorary Medalist in Brickwork, Masonry, and Plastering, &c.

FIRST STAGE (OR ELEMENTARY COURSE).

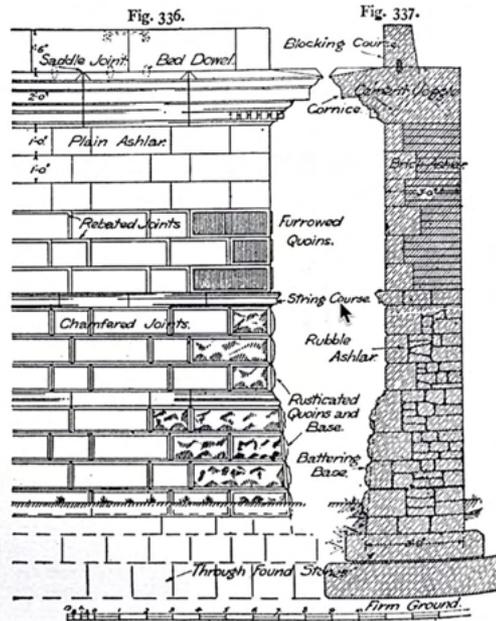
Eighth Edition, Revised and Enlarged.

(NINETY-SEVENTH THOUSAND.) With about 1,100 Illustrations.

LONDON:

B. T. BATSFORD LTD. 94 HIGH HOLBORN

1915



1939

BUILDING CONSTRUCTION FOR NATIONAL CERTIFICATE

VOLUME I (First Year Course)

By E. G. WARLAND

M. I. Stuart Esq. Head of the Department of Building and Architecture, City Technical College, Liverpool. Author of 'Modern Practical Masonry' and 'The Fabric of Modern Buildings'. Examiner in Building Construction Union of Lancashire and Cheshire Institutes.



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BUILDING CONSTRUCTION

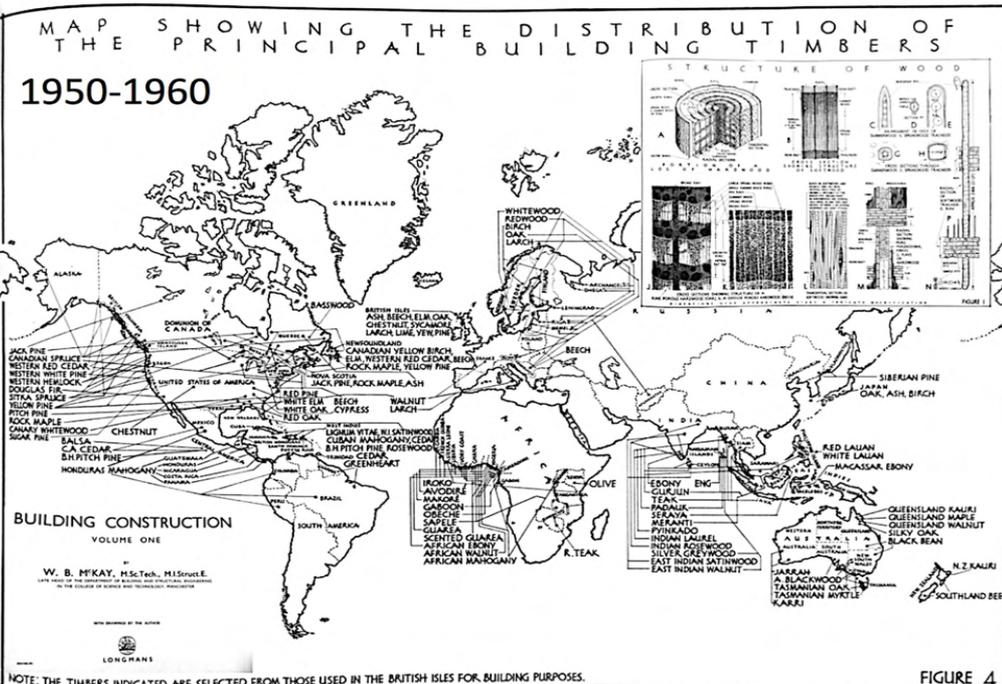
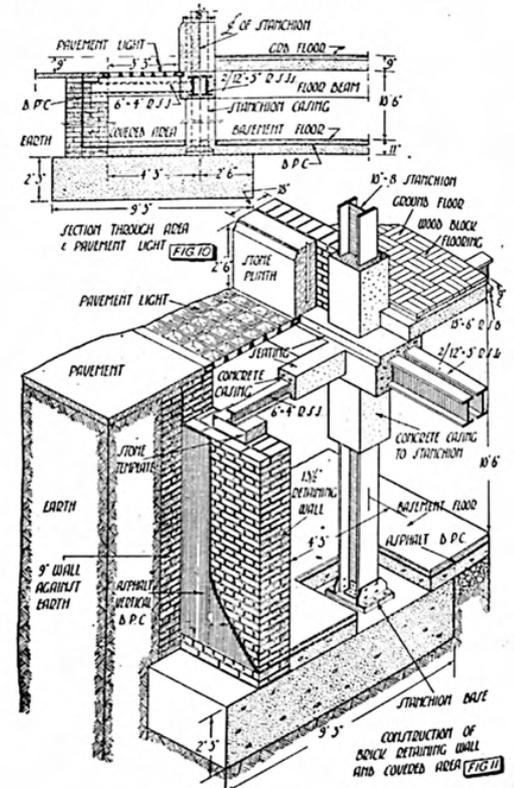
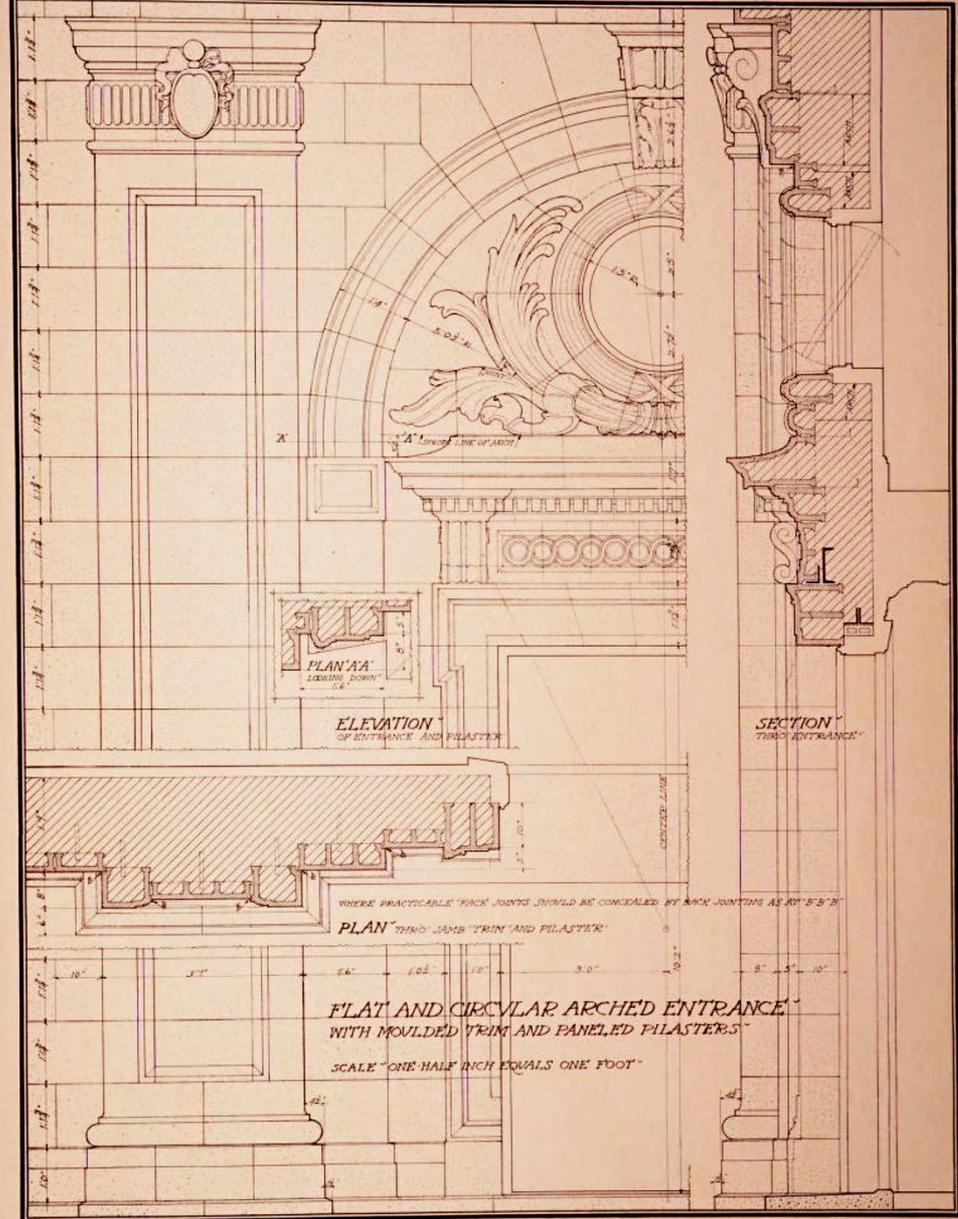


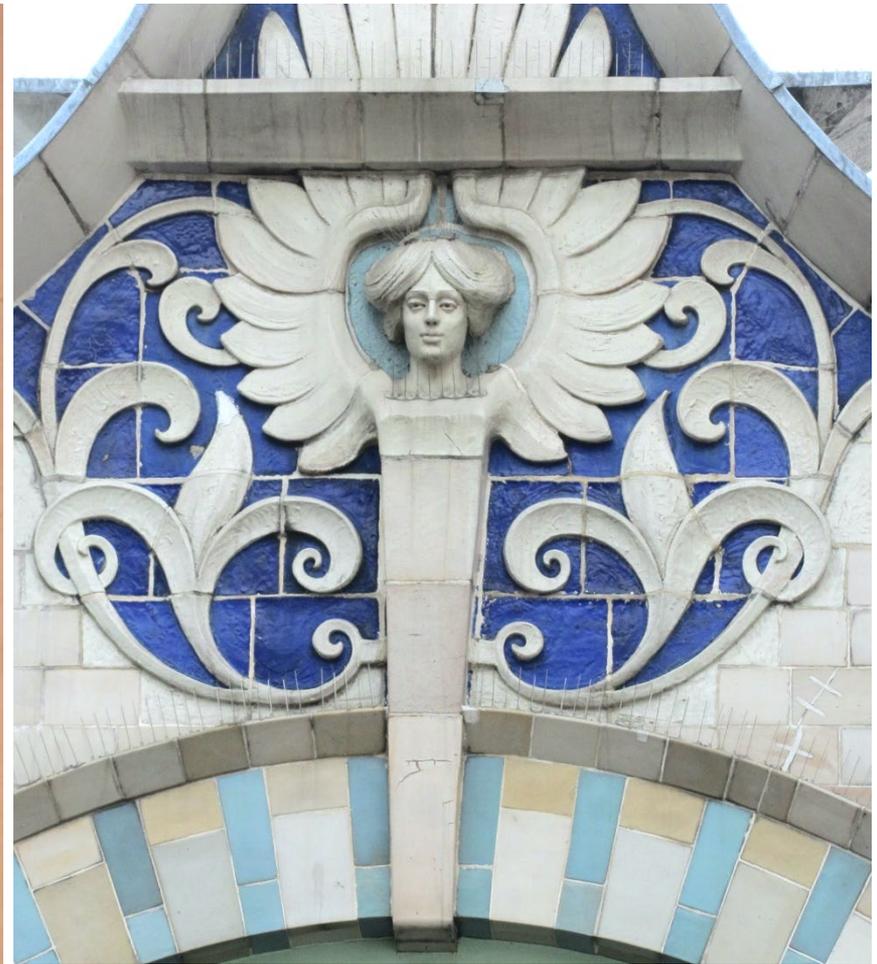
FIGURE 4

'Best practice' drawings promoted as learning material by period Building Construction Manuals can still serve their original purpose by reassessing their illustrations against on-site evidence. Their listing of materials normally used at the time can be informative when preparing inspection reports.

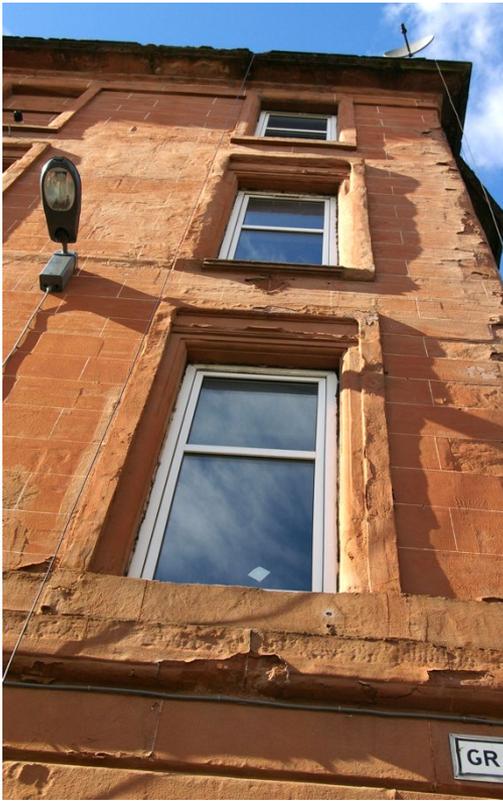
ARCHITECTURAL TERRA COTTA · · · STANDARD CONSTRUCTION



NATIONAL TERRA COTTA SOCIETY · V · S · A · · · PLATE NO. 2



Understanding how building materials emerged during the 20thC may require research into the manufacturer's constructional techniques promoted at that time. The American 1914 *Architectural terra cotta standard construction*. Architect's ed. by National Terra Cotta Society offers a comprehensive set of illustrative Plates showing designs and constructional details and could aid in the preparation of a report on the material.



Promoted properties for new-build applications	Conservation, repair, maintenance and removal consequences
Excellent adhesion	Difficult to remove
Resistant to abrasion	Difficult to remove by mechanical methods, scraping, grinding etc
Resistant to chemicals	Difficult to dissolve and may require the use of expensive, poisonous and/or dangerous materials
Special	Narrow use
New	Not proven
Modern	Short stockholding

In the pre-industrial era, buildings were generally constructed so they could be readily taken apart. This is much more difficult to achieve in the post-industrial world, as repair and maintenance needs were often not planned into the process. A performance mismatch occurs when 'non-repairable' technologies and treatments are imported into the repair processes of heritage buildings. Caution therefore needs to be expressed in any advisory report that might promote or address modern material technologies.

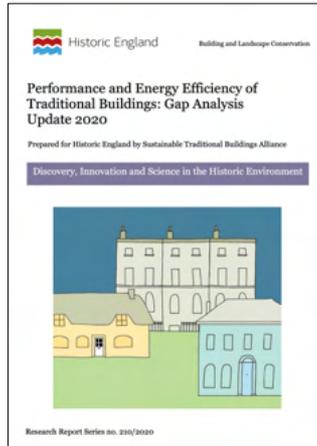
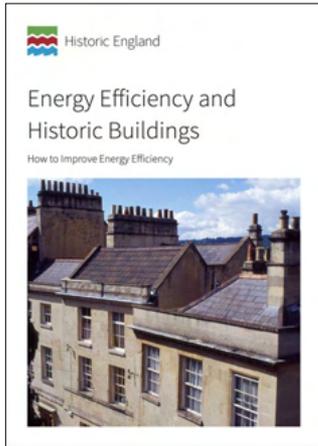
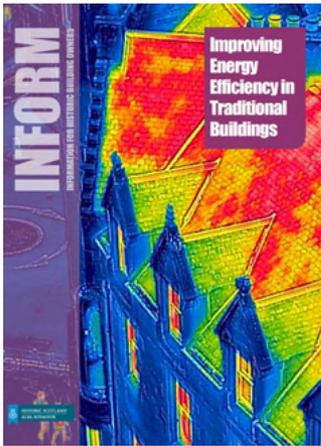


Traditional wall construction: working with nature	Modern wall construction: working against nature
Relies upon the mass of the wall for weatherproofing	Relies on external waterproof materials
Built with soft, porous, flexible and breathable materials	Built with hard, impervious and inflexible materials.
Absorbs moisture and allows quick, natural drying	Physical break (cavity) to prevent moisture transferring to the inside of building.
Relies on natural ventilation to control the internal environment to prevent condensation and mould growth etc.	Relies on mechanical extraction and physical ventilation to control the internal environment to prevent condensation and mould growth etc.

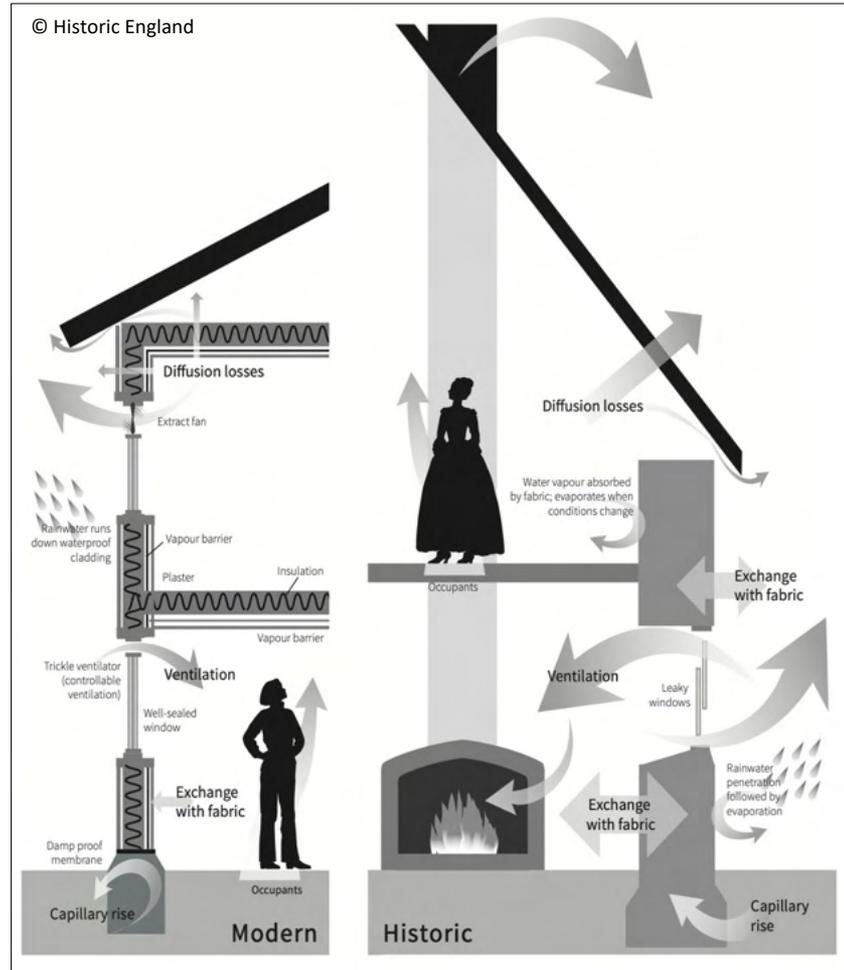
The education, training, skills and working methods for these two work sectors are fundamentally different. Explaining these differences may be required when preparing reports and guidance. This to ensure follow on project work is appropriately resourced for the tasks in hand.



Reporting on the deterioration of materials and building elements requires a clear distinction to be made between what might be saved and what is at the end of its operational life. Whilst safety, financial and commercial concerns can intervene, setting out pragmatic options requires the application of judgment, based on an understanding and analysis of detailed on-site findings.



Web-sourced images



Much has recently been published on improving energy efficiency in traditional buildings. There is a fundamental need to recognise that historic and newer-build constructional methods perform in totally different ways. Preparation of reports addressing what might be installed requires that this basic difference is recognised and accommodated.

