

COTAC Insight 2e

The Need to be Aware of the Built Heritage

Exploring ICOMOS Education and Training Guideline (e): Understand and analyse the behaviour of monuments, ensembles or sites as complex systems



Dealing with the complexity of understanding and assessing medieval defensive structures usually starts with the need to gain safe physical access in order to inspect and analyse requirements. Remote 'drone' acquired surveys can offer a safe alternative.



Through the simple device of using corbels with sufficient tail weight and length, a complex structural change in plan form can occur: here from the cylindrical to the rectangular. In horizontally coursed rubble masonry built of whin stone (with sandstone window dressings) the hardness of the whin has retained its sharpness since it was originally built as a Z-plan 16th C. tower house.



In this montage of details the architectural and structural complexity of working with sandstone is revealed. Set in walling of roughly worked and squared rubble, all openings are formed in either half round or segmental arches. The hooded fireplace and 14-light solar are spanned by flat arches. The spiral stair is composed of repeat wedge profiled slabs with an integrated half round newel, with each tread tail built into the enclosing stairwell masonry. Each tread is progressively placed to bear on the one below.





On a comparison with masonry, internal historic timber detailing can be much more fragmented in construction and finish whilst also being more vulnerable to insect and fungal decay and loss due to its organic nature.



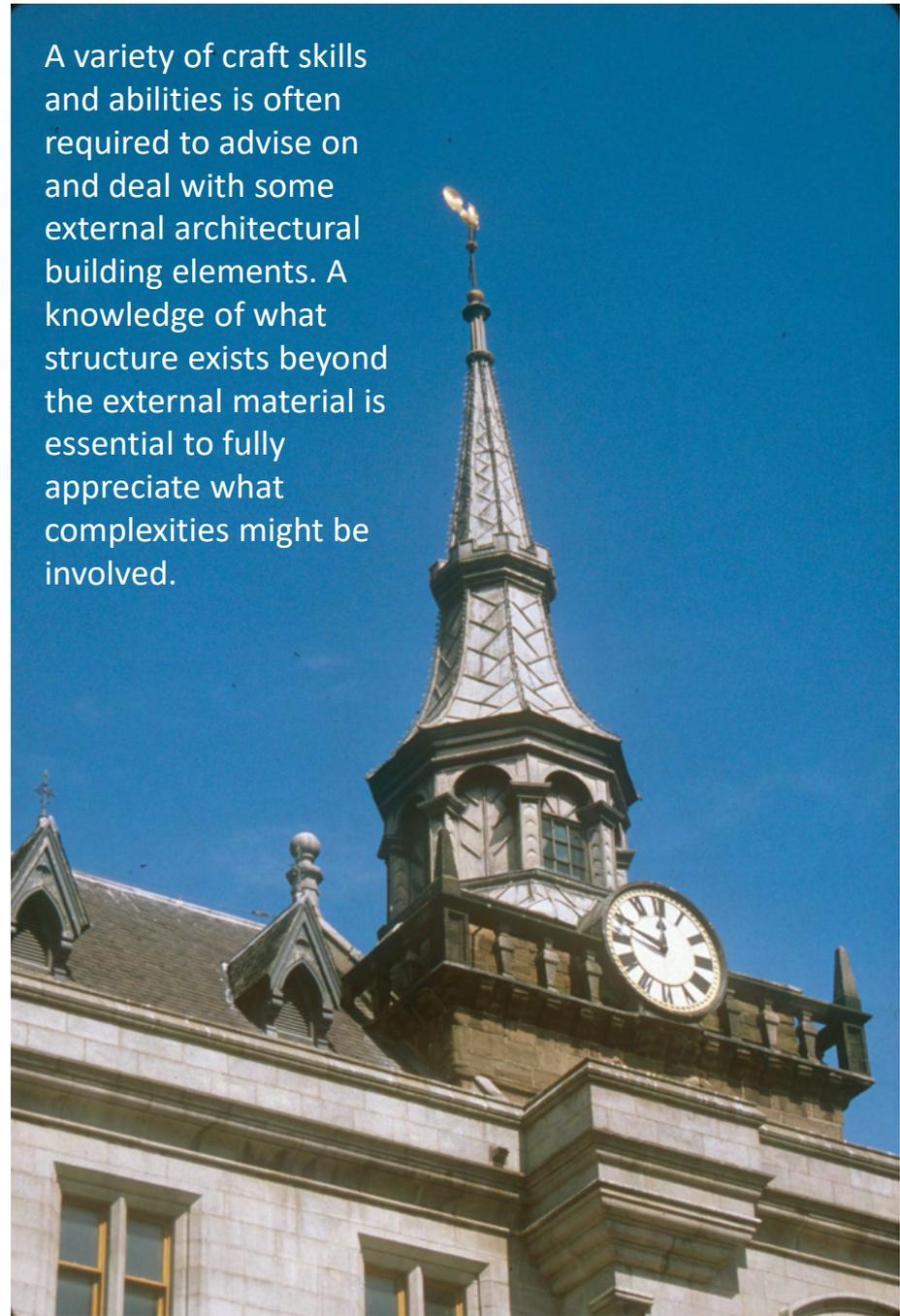
Applied surface finishes require a stable substrata which, in turn, requires separate supporting structures to retain the entire in situ. A variety of skills and knowledge are required to deal with the complexities

Lath and plaster working techniques were generally used to finish interior walls and ceilings from the 1700's to the mid 1900's being superseded by modern gypsum plaster and plasterboard. This exemplar exhibit shows the various stages involved in reaching a decorative finish. The insert images show creating an in-situ 'horse-run' moulding and the casting of a sectional moulded feature for later application.





A variety of craft skills and abilities is often required to advise on and deal with some external architectural building elements. A knowledge of what structure exists beyond the external material is essential to fully appreciate what complexities might be involved.





Conversely, the mis-application or ill-informed application of 'craft' skills can have a significant visually disfiguring impact on the value of the heritage asset, even when the correct traditional work approach is clearly evident, highlighting a complete lack of site work control.

Numerous structural and design changes have occurred over time as evinced by the various patches of different materials. Interpreting these can be challenging but reveal much about historic development

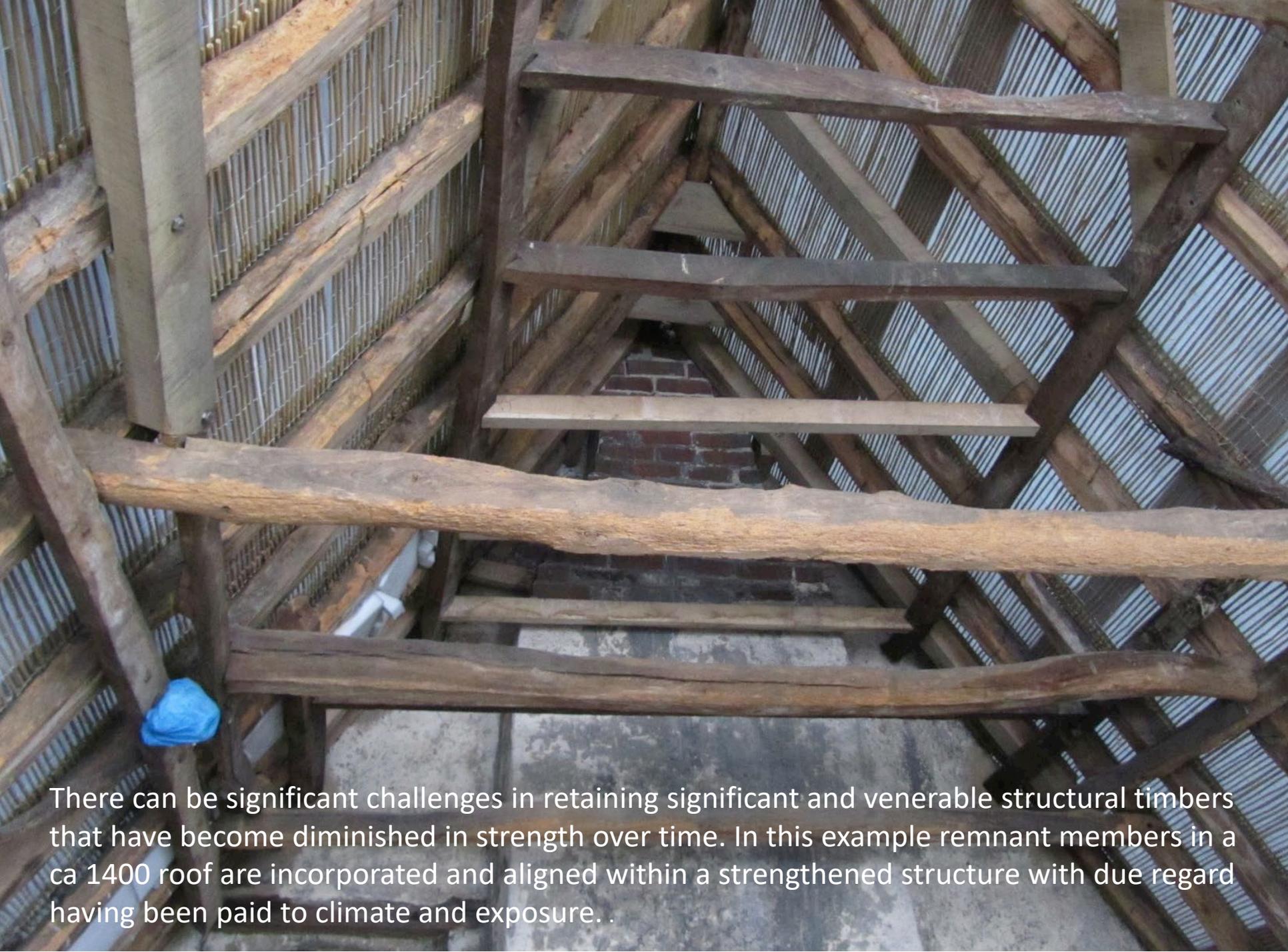




The recessed 'ghosting' of lost related structural elements are evinced by the recesses which suggest an arched arcade.



Uncovering un-safe structural elements during a routine inspection can call for immediate action to alleviate any temporary safety concerns. This allows time for survey recording, for the situation to be analysed and a more permanent and sympathetic solution to be devised. Temporary fire detection systems may be required.



There can be significant challenges in retaining significant and venerable structural timbers that have become diminished in strength over time. In this example remnant members in a ca 1400 roof are incorporated and aligned within a strengthened structure with due regard having been paid to climate and exposure. .

From an exposed wall head, water penetration can saturate the build leading progressively to the failure of wall face renders, the disintegration of internal and external lime mortar and eventual loss of individual face stones. Ultimately the process converts architecture into archaeology.





An effective analysis of the patterns of structural cracking and settlement in a building is essential to create a full understanding of what has happened at a particular location so that appropriate remedial actions can be planned and implemented.

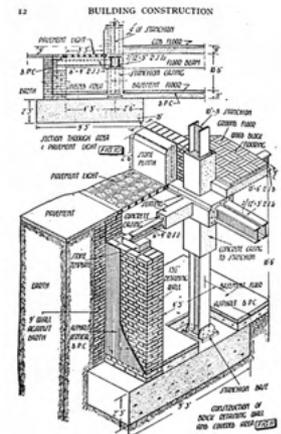




Understanding 'unusual' patterns of fractures and surface failures on the face of modern buildings of composite steelwork construction dating from the ca 1930's could benefit from a review of what the building construction manuals were promoting at the time. A key aspect being how well the underlying steel work was to be protected from rusting.

1939
**BUILDING
 CONSTRUCTION**
 FOR NATIONAL CERTIFICATE
 VOLUME I
 (First Year Course)

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University of Leicester: School of History, Politics and International Relations 2021: Building and Enriching Shared Heritages Project

For access to a helpful set of research guidance notes see: <https://le.ac.uk/history/outreach/besh/historical-research>

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An introduction to historical research

These pages give you information about doing research in libraries and archives, using maps and directories, and online sources for Leicestershire history.

- [Using an academic library](#)
University libraries hold books, journals and other resources which can provide information that is relevant to almost any local study or heritage project.
- [Doing archival research](#)
Learn about visiting an archive.
- [Using maps to find out about the past](#)
Old maps can provide topographical and other information about places.
- [Historical trade directories](#)
Trade directories contain general information about towns and villages.
- [Online sources for Leicestershire history](#)
A guide to online sources for Leicestershire history.

Trompe-l'œil (French for 'deceive the eye') is an art technique that uses realistic imagery to create an optical illusion that the depicted object exists in three dimensions. Specialist conservation work will be required to address its complexities.

In pursuing the need to appreciate *'Guideline (e) Understand and analyse the behaviour of monuments, ensembles or sites as complex systems'*, amongst other sources, accessing a number of technical publications can be revealing as to the diversity of what might be considered and taken into account.

In addition a number of Guideline-specific URL links are offered on the COTAC Global website under the Menu tab *'Digital Bibliography'* at *'e. Understand the behaviour of monuments and sites as systems'*. See: http://www.cotac.global/digital_bib/

A range of technical conservation guidance and research report findings on many aspects of the repair and maintenance of the historic built environment are also accessible at:

<https://historicengland.org.uk/advice/technical-advice/>

<https://www.englished.scot/building-advice/>



 <p>Historic England</p> <p>Technical Conservation Guidance and Research</p>  <p>November 2020</p>	 <p>Looking After Historic Buildings How to maintain and repair historic buildings, including advice on the types of materials and treatment methods to use.</p>  <p>Building Services Engineering How to look after building services such as electrics, heating, plumbing and ventilation in historic buildings.</p>	 <p>Looking After Parks, Gardens and Landscapes Advice on caring for historic parks and gardens, and landscape management of other sites such as archaeological monuments.</p>  <p>Energy Efficiency How to improve the energy efficiency of older buildings in ways that are sympathetic to their historic character.</p>
 <p>Flooding & Historic Buildings How to inspect, conserve and repair historic buildings after flooding, as well as ways to prevent flood damage in the first place.</p>  <p>Emergency Planning and Fire Advice Look for advice about fire safety and emergency planning in the heritage sector.</p>	 <p>Looking After War Memorials Aimed at anyone who manages or cares for a war memorial or memorial garden, this page provides practical advice to help you.</p>  <p>Improving Accessibility How to adapt historic buildings and landscapes to make them more accessible to people with disabilities.</p>	 <p>Archaeological Science See our advice and guidance on archaeological science.</p>  <p>Recording Heritage How to survey historic places to the best standard possible, using our wide-ranging technical survey guidance.</p>
 <p>Information Management This section is aimed at those responsible for recording, curating and maintaining information about the historic environment.</p>	 <p>Project Management Our general approach to project management, with specialist advice, guidance and training.</p>	



Building advice
Guidance for owners of traditional buildings

 <p>Building components Learn how to maintain the main parts of a building and how to avoid common repair and maintenance problems.</p>	 <p>Building materials Gain insights into the use of traditional building materials, and find out how to work with and care for them.</p>
 <p>Common problems Identify the most common problems of the historic environment, and find out how to prevent and repair them.</p>	

