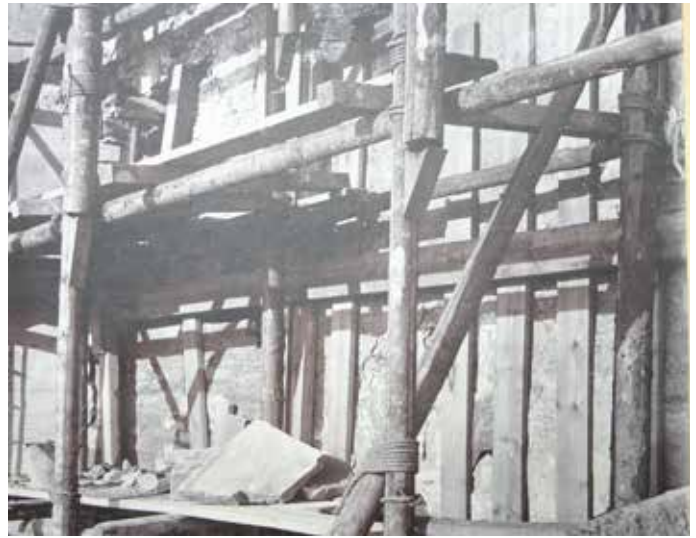


# 5. Scaffolding

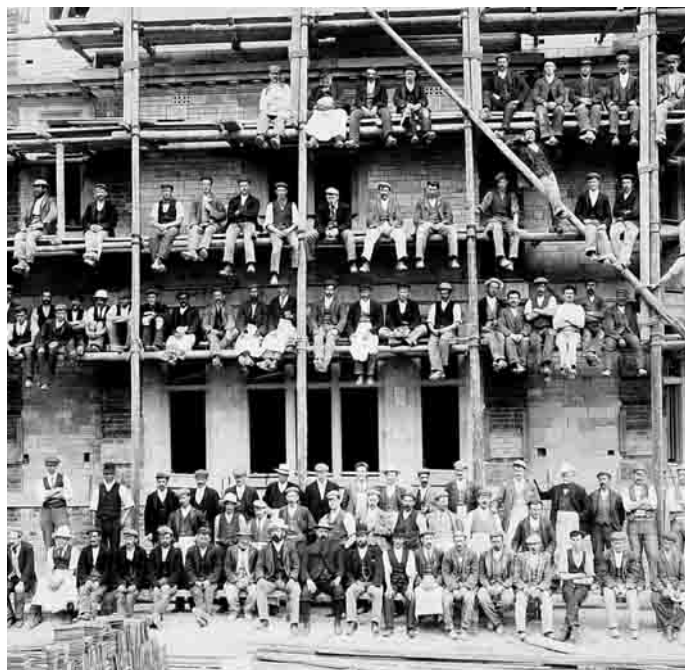
## A brief history

Scaffolding is construction's unloved cousin. It's invited to the party but everyone's pleased when it departs.

Building work above head height has always needed temporary access in some form. Evidence for this lies in the putlog holes in masonry that can still be seen on many early buildings. This includes the SPAB's Old House Project (OHP), St Andrews Chapel at Boxley which still displays various putlogs. Into these sockets would have fitted temporary timbers to provide support for access platforms during construction. These timbers were removed after the building was completed.



scaffolding its depth and which carry the boarded platform. A scaffold's width comes from the 'ledgers' that run horizontally along the wall's length.



In many parts of the world wooden scaffolds are still used – notably bamboo tied with hemp rope in Hong Kong and other parts of Asia. Until relatively recently timber scaffolds were still standard in Britain. Old photographs show these scaffolds with straight vertical 'standards' of up to 50 feet in length. 'Standards' persists into the lexicon of modern metal scaffolding, as do terms such as 'putlog' or 'transom' that now describe metal tubes that project horizontally from the wall to give the

Drawings and photographic records show timber scaffolding in the UK tied together with rope, sometimes (though not always) with wedges of timber used as brackets to extend lifts vertically. There were no safety rails or any equivalent of the modern toe boards that prevent materials and tools falling on people below. Sometimes there was not even much of a platform from which to work. Accidents must have been very common.

A few 18th and early 19th century examples from the Stamford Coroner's court (compiled by John Hartley for the Stamford History Society), show the risk of death from falling, or from other scaffold-related accidents:

1836, William Roberts, 32: Fell from scaffolding while repairing houses

1811, Thomas Jorden, 45: Fell from roof while slating house

1790, John Rawlinson: Fell from ladder or scaffold

## Modern systems

Timber is no longer used for scaffolding in the UK today, but scaffolding is not of one type and can even display local differences. On the Isle of Man the patent Kwikstage scaffold system is the most commonly used form. On Jersey, the alternative Cuplock system dominates. These systems perhaps have become the norm because of a limited number of scaffolding firms in an island context. They lend a distinct character to building sites. Elsewhere in the UK, systems with separate metal tubes and couplings are most common, though the patent systems which are easier to erect can be spotted on many small sites and self-build projects.

By law, modern scaffolding in the UK must provide a safe working environment. Government guidance specifies that:

- A builder or scaffolding contractor who is trained and competent must put up scaffolding;
- If the scaffolding is to be put up on a highway, a licence must be obtained;
- Scaffolding must be checked: before first use, every 7 days while it's up, and after alterations, damage or extreme weather conditions.

Further guidance on good practice is available from the Health and Safety Executive (HSE) (see references at the end).



## OHP scaffolding

At the Old House Project, scaffolding was necessary from the earliest days of the our ownership. Localised repair was needed to a leaking roof valley, and where overhanging trees had dislodged tiles. For this, our experts at Ashford and Cranbrook Roofing were able to use freestanding scaffold towers for access.



By summer 2020 we were ready to start the main phase of work to the roof and chimneys. After much thought and having established that the roof slopes to the main part of the building were in reasonably good condition, we opted for repair, rather than full roof recovering. Carrying out a repair was in line with the SPAB Approach to conservation – which the OHP seeks to demonstrate. It also had the advantage of allowing work to proceed without listed building consent (as agreed with the local authority) and in avoiding the costs of a full temporary covering for the roof during work. In many cases a fully sheeted covering, supported by the scaffold, will be a wise investment if the whole roof covering is to be replaced, but with an experienced roofing contractor and piecemeal repair work the considerable cost of a fully sheeted roof was possible to avoid. Careful localised protection was still used where any tiles were stripped.

The OHP scaffold was devised to facilitate the roof and chimney repair work we intended, but also to allow access for training and public engagement.



analysis of the roof timbers by Dr Martin Bridge (funded by Historic England). Visitors could observe these works without intruding on their progress.

### Access without damage

Just as importantly, the scaffold needed to allow access without causing damage to the precious fabric of the building. Regrettably it is not at all uncommon for the process of scaffolding to cause harm. This can result from impact with architectural features as the tubes are carried

Weald Scaffolding, a firm used regularly by Ashford and Cranbrook Roofing, were asked to do the work. They were interested in the OHP and proved willing to meet our requests, even though some had not been asked of them previously. For public and educational access we specified that they should provide some areas of double-width scaffold. This was especially necessary since social distancing restrictions, related to Covid-19, applied at the time, but it also allowed space for group access. Building-in this provision is useful for any conservation or building project with an educational or community focus. Work that could



through the building (temporary protection is strongly advised where scaffolding must be taken through a building before erection), through breakage of historic glass, or where scaffold tubes lack end caps resulting in damage where the metal of the tube abuts masonry or timber. In addition, special thought needs to be given to anchorage of a scaffold to avoid the need for fixings to be drilled into historic masonry. By doubling-up the scaffold width at the OHP, greater stability was easily achieved, allowing the structure to be completely self-supporting.



be observed from the scaffold included the roof covering repair by Ashford and Cranbrook but also carpentry repair to the underlying roof structure by John Russell's expert carpentry team, chimney repair and repointing by brick specialists Mathias Restoration Brickwork and dendrochronological

Our particular need with the work to St Andrews was to allow access for roof repair without causing unintended damage or disturbance to the many Kent peg tiles that were in good condition. The scaffold was designed to include a tube running horizontally at ridge level. This allowed a ladder to

be run from the working platform at eaves level to the ridge without resting on (and risking breakage of) the existing and historic handmade tiles. This idea was novel and surprised the scaffolders at first, but they embraced it readily and it seemed to work well for our roofers.



## Cost

To get the best price it is important to use a scaffolder who has come recommended or who, in our case, had worked closely with our roofers. Having a drawing of your scaffold requirements will save a lot of time and possibly money. Most scaffold firms will provide a design service but where complex scaffolds are needed a structural engineer can be instructed to design the scaffold ready for your chosen scaffold firms (ideally get three quotes) to discuss on site, cost up and if required, erect. Alterations during a project are also possible, though extra costs will be charged and any alteration work must to be undertaken, checked and signed off by the original scaffolder in charge. Hired scaffolding usually incurs charges for each week it is in place. With long term projects it can sometimes save cost overall to purchase scaffolding and to sell it at the end, though its management will then require thought and suitable insurances if no scaffolding firm is directly involved.

The full scaffold cost for the OHP proved very reasonable and involved a four-figure sum that was within budget. However, for another SPAB project carried out at the same time, and involving a more complex scaffold that had more levels, we received quotes from three firms that were all around £50, 000. Thankfully with some negotiation and the loss of a covered roof we ended up at £30 000. So do your homework, understand what you need and work closely with your professionals, contractor and scaffolder at all times.

## References

[HSE guidance Construction: Scaffold checklist - HSE](#)

[Scaffolding rules: GOV.UK \(www.gov.uk\)](http://www.gov.uk)

[Scaffolding and Temporary Works for Historic Buildings, Ian Hume \(buildingconservation.com\)](http://buildingconservation.com)

[Scaffolding, Bridget Drake-Wilkes \(Building Conservation Director, 2021\)](#)

