



Safe and sound

Part science, part art, part archaeology, part research and part commercial reality – the job of an archaeological conservator has about as many facets as a Palaeolithic hand axe. Becky Wallower went to the City to talk to Liz Barham, who, with her colleague Liz Goodman, provides the archaeological conservation service at Museum of London Archaeology (MOLA).

Liz Barham has worked on some of the decade's most remarkable finds. She was one of the team in protective suits who excavated the Spitalfields Roman woman and her grave goods from her sarcophagus in front of press, cameras and hundreds of public onlookers in 1999. It was Liz who saw the finger marks in the Roman pot of face cream from Tabard Square and sniffed the ointment for the first time in 2000 years, and also helped lift the astonishing objects found *in situ* in the Prittlewell Saxon burial chamber one cold December in 2003.

Not every day is guaranteed to be quite as dramatic as those, but discovery is a constant feature of the work. "Even when it's just a matter of cleaning and conserving a leather shoe," she says, "it's fascinating to see the subtleties of the decoration, the wear of someone's foot, and the multiple repairs emerge."

The conservators deal with objects of virtually any materials in any state of preservation. Their mission is to ensure that artefacts (and occasionally structures) are not only preserved, but as understandable and accessible as possible. They need to be skilled in everything from analysis, treatment and reconstruction, to packing, handling and record keeping. And, whilst conservators have special interests – Liz's is medieval glass, the stuff that

disintegrates before your very eyes as it dries – they need to be as familiar with organic materials such as bone, wood and leather, as they are with pottery, plaster, metals, glass or stone.

Based at the Museum of London, they share lab, analytical and treatment facilities such as the freeze driers and fume cupboards with the museum conservators. However, the MOLA conservators work solely on contracts for archaeological units, other museums and collections. For archaeological projects they are on call from the start to lift complex features such as painted wall plaster, mosaics or cremation burials. "The supervisors are generally experienced enough to know what needs specialist attention," says Liz, "though occasionally we do see a dried out burial urn turning up without enough support. Uncontrolled drying can cause some of the biggest problems as objects split apart and London clay can dry like concrete. It's worth calling on our equipment and experience to deal with the most vulnerable finds." Back in the lab they also X-ray and clean coins for spot dating and begin the longer conservation treatments of any wood or leather that comes up.

They work closely with finds specialists at the assessment and post-excavation stages to determine how best to meet the site's research

objectives for its publication, for example selecting metal finds for analysis and investigative cleaning under the microscope or reconstructing pots for drawing. They also ensure that the finds are stable and packed to meet standards for archive deposition.

Unlike in the past, the conservation objective now is to try to find out as much as possible about an object and stop it from deteriorating while making as little change to it as possible, neither taking away anything integral, nor adding anything irreversible. So the adhesives used are easy to remove, preventing the sort of disasters seen in many old collections where substances such as "soluble nylon", once the conservator's medium of choice, have discoloured the object, bonded with it or dried so hard that removal inevitably causes damage. And where copper alloys, for example, used to be cleaned

ABOVE: Conservator Liz Goodman prepares to lift tiles from a post Great Fire cistern at King Edwards Buildings in the City.

TOP RIGHT: A large stave-built iron-bound bucket found in place in the Saxon grave in Prittlewell is conserved by Liz Barham. Inside she found a copper bowl and scythe blade (inset photo).

BOTTOM RIGHT: Careful conservation of stone objects like this stone frieze from Bishopsgate Goods Yard helps to preserve decorative coating such as painting or gilding.

back to bare metal, conservators now find extra information from the decay process itself. In one case the biocidal properties of copper coins placed over eyes in a burial preserved the eyelashes of the deceased; more commonly the fibres of purse linings are found preserved within the corrosion.

Possibly the biggest changes during Liz's 10 years at MOLA have been in imaging techniques. Digital photography has made recording and sharing information simpler and faster and scanning techniques for X-radiography and 3-D recording are much more accessible. The best record of the Anglo-Saxon Prittlewell lyre, still in its soil matrix, was from a one-minute CT scan out of hours at a local hospital. Laser scanning was also used to create a topographical record of the lyre block, before it was dismantled to conserve the very fragmentary remains.

Some tried and tested techniques, such as the use of polyethylene glycol (PEG) to support the cell structures in wood leave it appearing much as it did when first deposited. In other cases, including treatments for various types of iron objects, the search still goes on for methods of preservation that prevent further corrosion. Display materials and chemicals are always changing and the conservators have to test their approaches constantly in the light of new research. They present their own findings too wherever possible at conferences and in academic journals.

The amount of development along the river and in areas yielding cess and rubbish pits in London have left the conservators having to deal with unusually large quantities of wood and leather; most recently the Roman water-lifting mechanism from Blossoms Inn and the pits at London Bridge found full to the brim with medieval leather shoes. The department has developed techniques and processes to make the work as efficient as possible. The leather and wood, for instance, are handled by batch treatment in glycerol or PEG baths before freeze drying.

Not all the work is in London, though, and not all the material is fresh from site. As well as venturing to deepest Essex for the Prittlewell dig, MOLA conservators have also been called as far a field as the Ukraine to work on a historic site at Chersonesos, where resources and equipment were

even more challenging. Recently the conservators carried out the dendro-cut gap-filling for the Seahenge timbers prior to their display at the King's Lynn Museum. As well as museums, banks, hospitals and churches have all been found to have ancient collections that need their conservation help.

Like most parts of archaeology, conservation is a vocational profession. Liz has known she wanted to be a conservator since her A-level days, when she had work experience with Southend Museum. Practitioners come through various educational routes – arts, science, history and archaeology – but most have a postgraduate degree in conservation. Liz read Classical Civilisation at Warwick before taking her Masters in Conservation at Durham. Perhaps fewer than 100 conservation jobs in commercial archaeology exist in the UK and there isn't an obvious career path (although some move on from commercial archaeology to managerial roles or posts at institutions such as the British Museum, English Heritage or Historic Royal Palaces), but it's an exciting field. "Archaeological projects just draw you in," she says, "The bigger ones can go on for 10 years or more from excavation to publication and it's very satisfying to see them right through to the end."

There's little she doesn't enjoy, although comparatively fresh Victorian cemetery material isn't her favourite, and she recently asked an osteologist to remove the skeletal feet from a pair of shoes before she worked on them. On the other hand her favourite project was probably the work on the Spitalfields woman. "Finding the incredibly fragile glass phial tucked in between the coffin and sarcophagus was stunning, then discovering bay leaves under her head and golden threads from her tunic in the silt, conserving the rare jet pieces... It was a once in a lifetime experience."

Already fewer chemicals are used than in the past, and the future is likely to see improvements in non-destructive analytical and imaging techniques, making the work cheaper, easier and safer for people and for objects. There is always likely to be a need for archaeological conservators, particularly those providing an efficient, commercially aware service. That side of it may not sound as exciting as revealing the pristine colours of a

Roman painted plaster wall, but it's actually what drives MOLA conservators today. To them, doing the best possible job for project managers and their clients is an important part of doing the best job for the archaeology.

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