



# What did the apocrypha know? Glued pottery vessels from Springhead and other Romano- British sites

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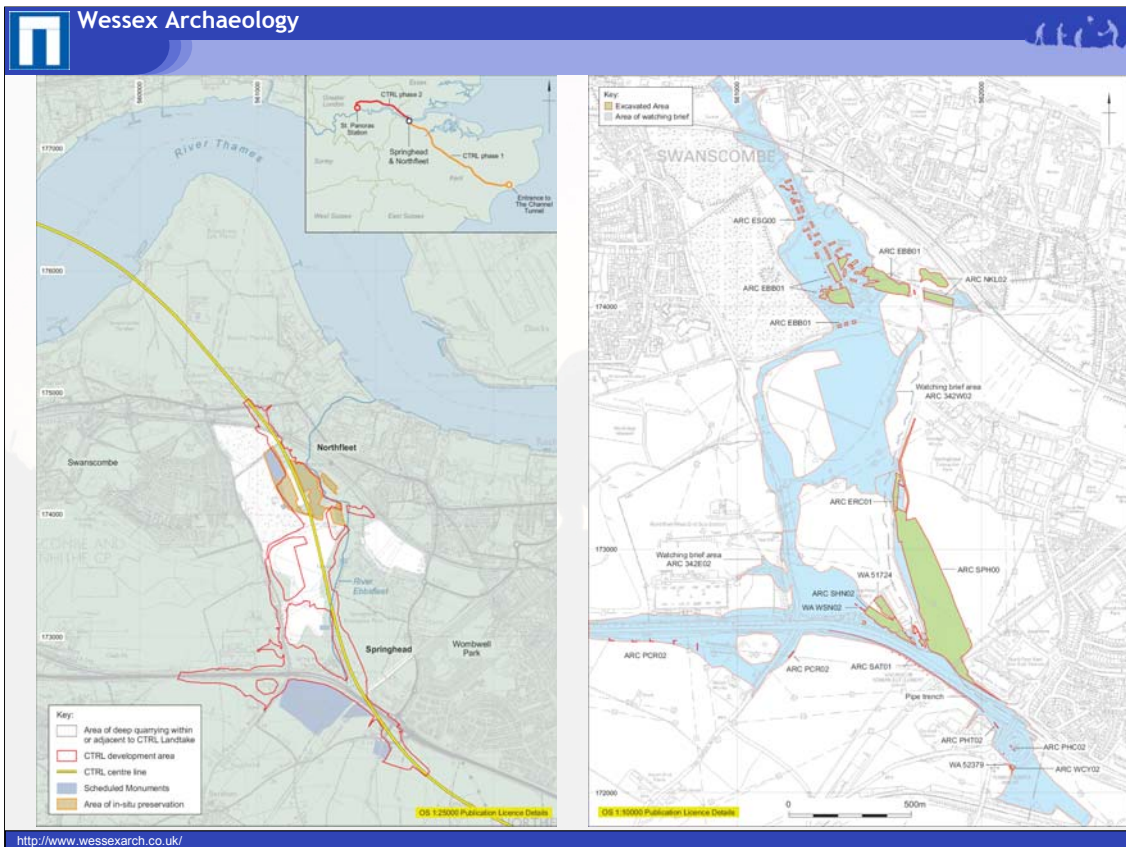
Traditionally, the repair of pottery vessels has been attributed to necessity, resulting from inadequate supplies or lowly status limiting the availability of and access to new vessels, thus forcing the continued use of the old. This paper focuses on the relatively little-recognised practice of using an adhesive derived from birch-bark tar to repair broken pottery vessels.



- Manor Farm, Guildford, Surrey
- Ewell, Surrey
- Staines, Surrey
- West Cotton, Northamptonshire
- Asthall, Oxfordshire
- Cambourne, Cambridgeshire
- Ebbsfleet Lane, Minster, Thanet, Kent
- Zone 19, East Kent Access Road
- Kingsdown, Swindon, Wilts

Evidence for these glued repairs consists of thick, dark grey-brown or black pitch-like deposits surviving on the broken edges and/or along the margins of the break, where it splurged onto the surface of the pot as the sherds were pushed together.

Vessels repaired in this way have now been noted across extensive areas of southern and eastern England.



But the largest group identified to date is from Springhead, Kent. This Romano-British town and temple complex is located on the south bank of the Thames, just west of Gravesend, and was excavated in advance of the Channel Tunnel Rail Link. The total Romano-British pottery assemblage from this site amounted to 121,000 sherds, weighing over 2 metric tonnes. In addition to coarse- and fine- ware vessels repaired with the frequently recognised metal staples and plugs, 56 sherds or groups of joining sherds had been repaired with glue, representing a ‘glued rate’ of 1 in every 2169 sherds



At Springhead, the glued repairs were found on vessels in a wide range of fabrics including South Gaulish and Les Martres samian, Thameside greyware, Patchgrove ware and North Kent/South Essex shell-tempered ware as well as the local north Kent fineware fabrics. At least two of the glued coarseware vessels from Springhead as well as this Central Gaulish samian 18/31 dish from Cambourne [SLIDE, UPPER RIGHT] showed a belt-and-braces approach to the repair, the glue occurring alongside small, post-firing perforations drilled to take metal staples. And one Patchgrove ware sherd [SLIDE, BOTTOM LEFT] had the adhesive filling a hole in the vessel wall.

Most of the Springhead examples dated from the 1st or early 2nd centuries AD, although a Colchester mortaria (belonging within the second half of the 2nd century) and a Thameside greyware everted rim jar (dated to AD 150 – 220/240) indicate that the practice continued into the Middle Roman period. The samian dish from Cambourne is, of course, also of 2nd century AD date. Few late Roman deposits were excavated at Springhead, but a glued Horningsea jar rim from Cambourne [SLIDE, LOWER RIGHT] and an Oxfordshire colour-coated ware bowl from Kingsdown, Swindon, both of late 3rd or 4th century AD date, suggest that the practice continued throughout the Roman period, and in north Kent, local oral tradition holds that cherry tree resin was used to repair broken pots until modern times.

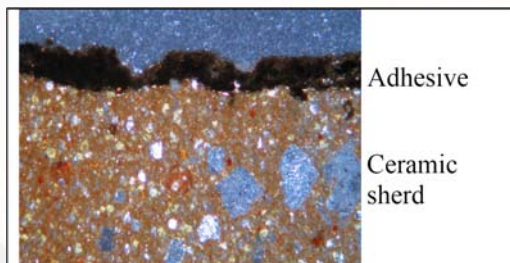


Thin, pitch-like deposits are also commonly observed around the necks and shoulders of large storage jars - and occasionally other finer vessels, too [SLIDE, LIKE THIS ONE] made in north Kent. [IT'S ALSO WORTH NOTICING HERE JUST HOW FLAKEY AND FRAGILE THE EVIDENCE FOR GLUED REPAIR CAN BE – POINT TO BOTTOM EDGE OF SHERD]. And visually at least, these two materials appeared very similar. To ascertain the origin of these substances, 25 samples from Springhead (mostly adhesives but including 6 with surface deposits) and 4 from Cambourne were analysed by Karen Wicks and Lisa-Marie Shillito of the Archaeological, Forensic and Scientific Services, University of Reading, using a combination of

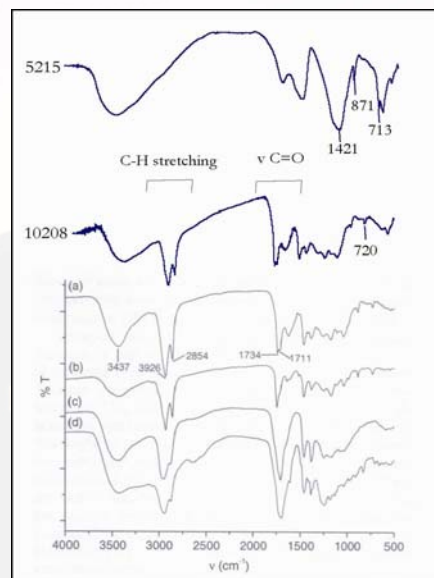
Thin-section analysis

Fourier Transform-Infrared spectroscopy and

Gas chromatography/mass spectrometry



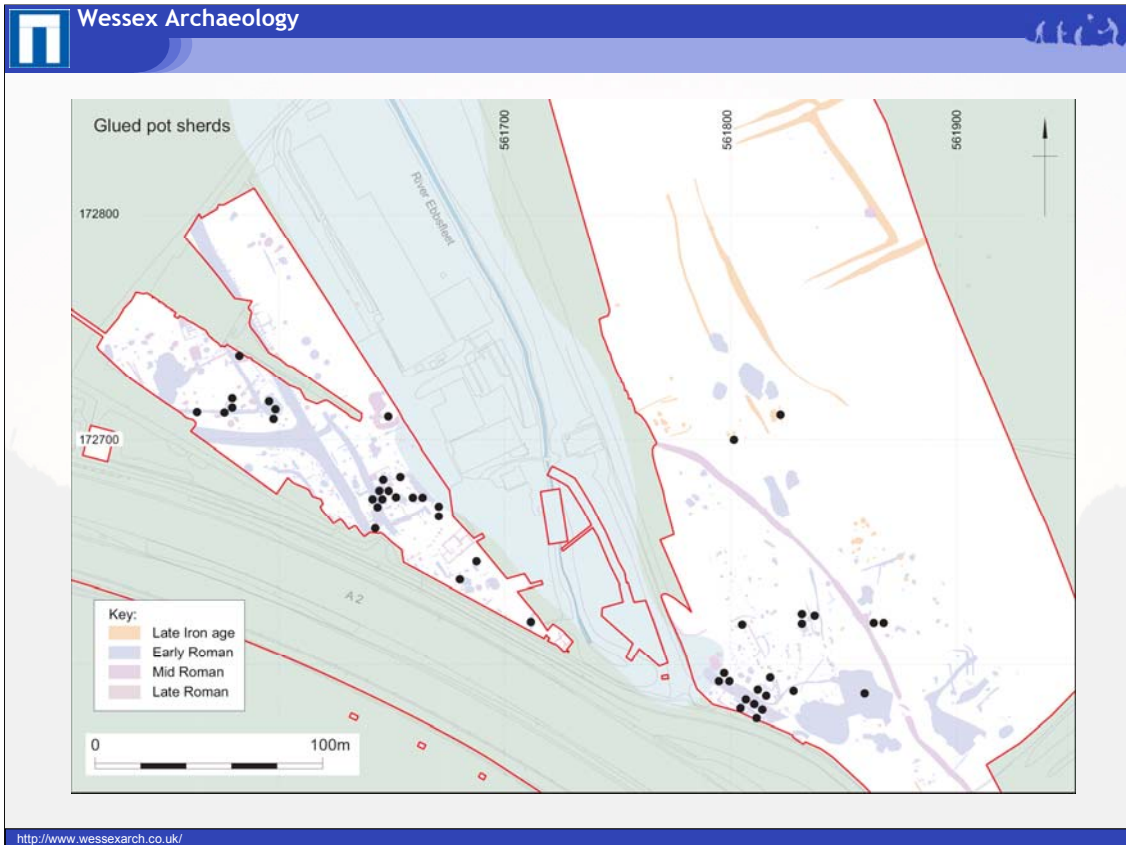
Thin section of sherd 10208



Super imposed infra red spectra from adhesive on sherd 10208 (Regert & Rolando 2002)

These analyses confirmed the principal ingredient as birch bark tar. [THE SLIDE SHOWS THE THIN-SECTION AND INFRARED SPECTRUM FROM THE SAME SHERD, COMPARED WITH SPECTRA FROM a) BIRCH BARK TAR b) PISTACIA RESIN c) PINE RESIN] Birch bark tar is produced by heating birch bark to temperatures in excess of 300/400°C – one of the smelliest processes he’s ever known according to Carl Heron, who undertook some of the previous analysis of similar adhesives from other parts of the world/chronological periods. These showed that substances such as animal fat, beeswax and/or clay were sometimes added to the mixture, but there was no evidence for any such additional materials among the Springhead and Cambourne samples.

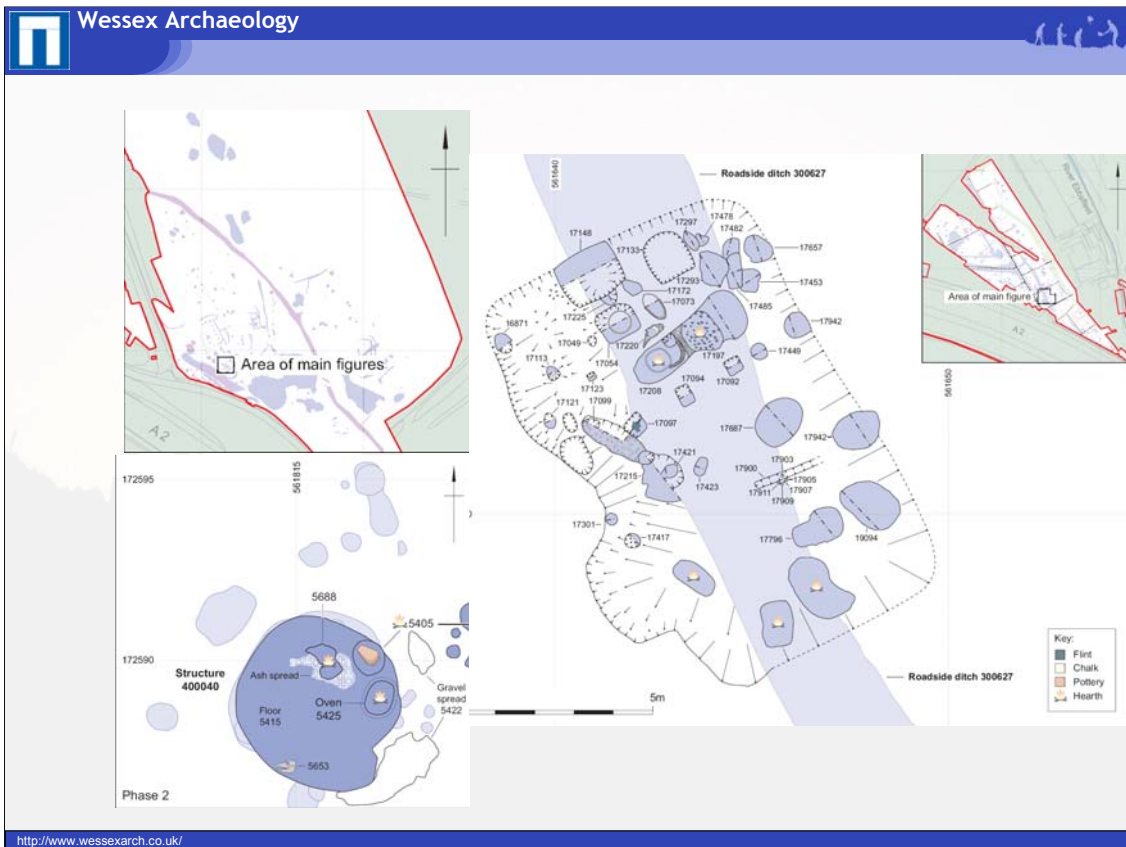




So, why did they do this? And once broken and glued back together again, how effective were these repairs and what could the vessels be used for?

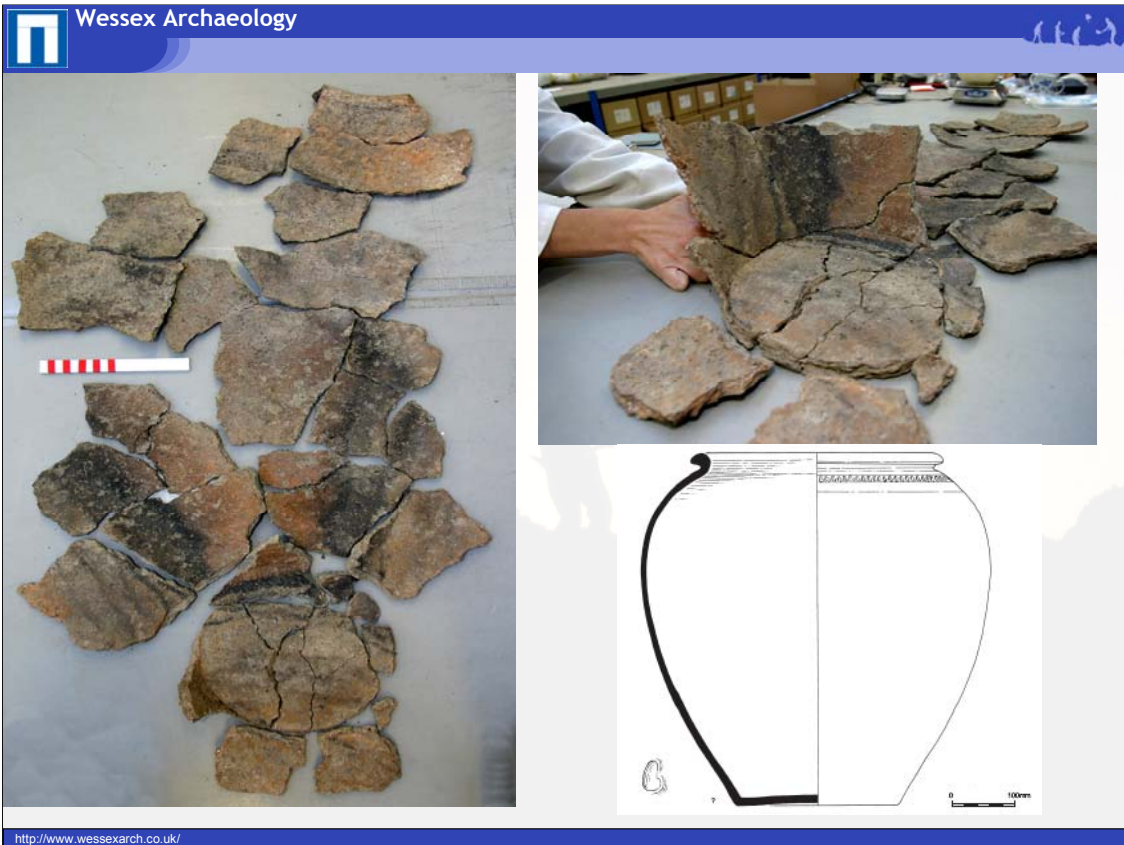
Sadly, like much so much in archaeology, the why and their subsequent use isn't always clear ... There's no evidence that the Springhead community was ever impoverished or that ceramics were in short supply – the sheer size of the pottery assemblage recovered provides ample evidence of this. But for some reason, particular individuals in this and many other communities chose to repair their pots.

At Springhead, the distribution of glued sherds was more or less equal across both parts of the site – 31 examples from the Roadside settlement and 26 from the Sanctuary site. Although distinct clusters are apparent within this, these unfortunately coincide, not only with the greatest quantities of other sherds but of all other artefact types too. So it seems that the majority of glued vessels were simply chucked out with the rubbish



However, three of the glued vessels *were* used for very specific purposes .... Two of the five large, shell-tempered storage jars found *in situ* and used as pot-ovens in this building on property 3 within the Roadside settlement had glued repairs. All these vessels had been placed on their sides in shallow scoops, presumably intact although all were subsequently truncated





They had all been exposed to high temperatures, evidenced by these fans of heat discolouration on their interior surfaces. This must have re-melted the glue but once positioned in the ground, it may not have been important as the vessel would be firmly held in place. Cato, in *De Agri Cultura* refers to bread baked under a pottery vessel known as a *testu*, although using a large storage jar may be a British peculiarity. A concentration of quernstones found on this property lends weight to the possibility that the ovens were used for bread making. Although the ovens pre-date the temple complex on adjacent property 2, they were contemporary with the main temple complex 100m to the south, where previous excavations by Penn uncovered a further 9 ovens, 3 made from similar pots. It is therefore tempting to interpret these ovens as involved in commercial food-preparation, either directly associated with temple activities or simply feeding its visitors.

The third glued vessel from Springhead, a straight-sided beaker in a fine local oxidised ware, had been deposited, along with 2 other pots including a South Gaulish samian form 15/17 dish stamped by Vitalis, as grave offerings in an inhumation burial. As a group, these vessels can be dated to c. AD 65/70 – 80. The samian dish was also chipped and had a scratched graffito on the underside of the base.



<http://www.wessexarch.co.uk/>

In recent weeks, another glue-repaired vessel has been found on the East Kent Access Road, containing cremated human remains. This grave formed part of a Romano-British mixed rite cemetery – but further details won't be available until we move into the assessment stage after Christmas. These vessels clearly indicate that it was acceptable to deposit less-than-perfect pots in burial contexts, perhaps as valued possessions of the deceased.



‘He who teaches a fool is like  
one who glues pot sherds  
together...’

Ecclesiasticus (Sirach) 22:7  
Revised Standard Version

As for effectiveness – well, in the 2nd century BC, Yeshua ben Sira, a Jew, formerly of Jerusalem but working in Alexandria, Egypt wrote this in a collection of ethical teachings.



Clearly, he wasn't being complimentary but his words, perhaps based on a pre-existing proverbial expression used by Greek-speaking Jews, show that gluing pottery vessels was a wide-spread and well-known practice at the time. As for the effectiveness of these repairs, perhaps we should not be as sceptical as Yeshua ... after all, many of these glued joints have survived to us intact!