

Thoughts about erasing writing on Roman wax tablets (*)

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Roman wax tablets, or stylus tablets (*tabulae ceratae*), were wooden tablets with a recess that was filled with wax. Such tablets were used for a vast variety of texts, from letters to writing exercises and legal documents. They were inscribed by writing into the wax with a stylus and, in some cases, this left legible traces in the wooden surface under the wax, presenting us with an enticing insight into everyday writing in Roman times. Wax tablets are well researched (see *e.g.* Speidel 1996; Tomlin *et al.* 2016; Willi 2021, 49–55), but several aspects of their everyday use and its interdependence with the design of the tablets and of associated writing implements remain unclear. Some of these aspects concern the practicalities of erasing text and of renewing the wax in order to reuse the tablet.

From the first century CE onwards, styli were usually made of iron, sometimes of copper-alloy; less frequent are finds of earlier bone styli, which fell out of use by the end of the first century (Schaltenbrand Obrecht 2012, 65). Styli come in a great variety of shapes, weight and size and range from very plain to highly ornate, but all styli have a point and a shaft, and most of them also have an eraser end that was used to correct mistakes (see *e.g.* Hor. *Sat.* 10.72–74). Bone styli usually have olive or drop-shaped erasers, but they are flat and shaped like a small spatula in metal styli (*fig. 1*). (1) Bone styli were usually turned, so a rounded shape would have lent itself well to the production process, but iron styli were forged, so flattening one end would have been easier than producing a rounded shape. The erasers of cast copper-alloy styli seem to have been modelled after the iron styli.

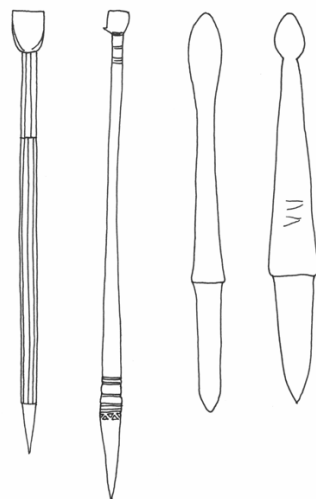


Fig. 1: two examples of iron (left) and two of bone styli with typical erasers (not to scale), redrawn by A. Willi after Schaltenbrand Obrecht 2012, 349, 395, Gostenčnik 1996, 111 and Fingerlin 1998, no. 1337.24. © LatinNow

The general assumption is that in order to erase individual letters or words the wax was flattened, but when we tested this hypothesis with replicas, we found that it is likely that the difference in shape of bone and metal erasers also entailed different erasing techniques. (2) Flattening works well with a rounded eraser; the surface is left smooth, and the writing is easily wiped out, (3) but it is almost impossible to do with a spatulate metal eraser: even if the spot is warmed with a finger first, the writing remains visible and the surface messy. Instead, we resorted to shaving off some of the wax. This technique successfully removes the writing and, with some practice and particularly if the wax is warmed with a finger first, can result in a smooth surface locally.

The outcome of our experimentation thus suggests that the shift from bone to metal styli during the first century CE went hand in hand with a change in the erasing technique, but this change may also have had an impact on the handling of the wax more generally. Shaving off wax with a metal eraser results in a non-negligible loss of wax, and in an uneven surface of the tablet as a whole. When using a metal eraser, the wax filling may thus have had to be refilled more frequently, and if the whole tablet was to be reinscribed again and again, there may have been a need to smooth the whole surface from time to time. This leads us to another writing implement associated with stylus tablets, the wax spatula.

We know from literary sources that the wax was replaced regularly (monthly according to Herodas, *Mimes* 3.14–18) and that new wax was poured into the tablet in a liquid state (Herodotus 7.239; Ovid, *Ars Amatoria* 1.437–438). We have no evidence on how exactly a refill was done, but it is generally accepted that a wax spatula was used in the process. Roman wax spatulas usually consist of an iron blade and an iron or copper-alloy handle, and the blades come in various widths, from a couple of centimetres up to *c.* 10 (*fig. 2*). (4) The association with writing equipment is particularly evident for Type A Feugère, which is often depicted and found together with wax tablets and styli (Willi 2021, 76–79). (5) The use of such wax spatulas seems straightforward: scrape out the old, dirty/uneven wax, pour in new wax, use the spatula (possibly its handle, see Gaitzsch 1984, 194–195, 201) to distribute it evenly, and let it harden. But in the preserved wax tablets, as far as we can tell, there is no good evidence for scraping marks on the wooden surface underneath the wax, as one might expect if a metal spatula had been used to scrape out the wax repeatedly. What is more, if the whole tablet needed to be erased and reinscribed, it would have been very inconvenient to have to remove and replace the whole wax layer each time, not least because it would take a while for the wax to harden. Melting just the surface with a heated spatula would have been more convenient; our experiments showed that melting a thin layer efficiently erases writing and that the wax hardens quickly enough to be reinscribed after less than a minute. But a heated spatula or even a flame may not have been always readily available. We found that if the whole surface of the wax needs to be cleared, shaving off the top layer with a Type A spatula is a quick and efficient method. (6) By controlling which portion of the blade's edge applies most pressure on the wax it allows for targeted erasing and, if needed, also for evening out the surface and removing any disturbances at the same time.

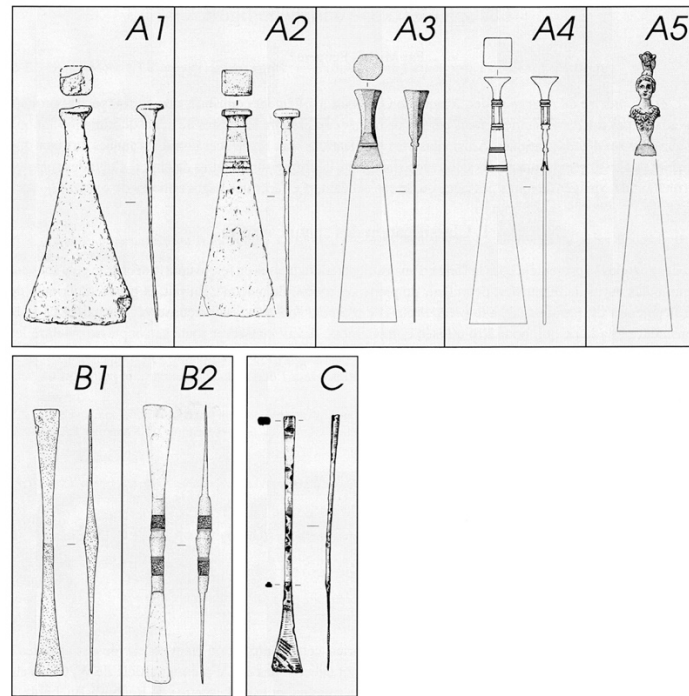


Fig. 2: typology of Roman spatulas after Feugère 1995. © M. Feugère

If this was in fact the way in which wax was used and renewed, by shaving off thin layers and then pouring new wax on top when it got too thin, then this would explain the lack of scraping marks on the wooden surface underneath the wax: the writers might not have often got to the very bottom. It could also explain why we sometimes get traces of writing in the wood, but more commonly we do not: this may only have happened when people got to the bottom of the tablet and let the wax get too thin before topping it up. (7)

Depending on the user and purpose of the tablet, the whole surface of the wax may have had to be erased frequently, perhaps several times a day, and this thought made us revisit a particular type of stylus. A number of iron styli stand out because of their elongated, flared and relatively large erasers, which resemble spatulas (*fig. 3*). Many of the known examples were found in Britain, particularly in London, in the small-town settlement at Elms Farm (Heybridge, Essex; Major 2002, 3, *fig. 1e*) and in the Roman villa at Gorhambury (St Albans; Neal *et al.* 1990, *fig. 136, 605*), but there are finds from the continent as well. Schaltenbrand Obrecht (2012) grouped them together in her ‘Formgruppe H32’, which she dates to the late first/early second centuries CE. Manning had already observed this relatively early date in examples at the British Museum and suggested that this type ‘may well be a genuinely early form’ (Manning 1985, 85).

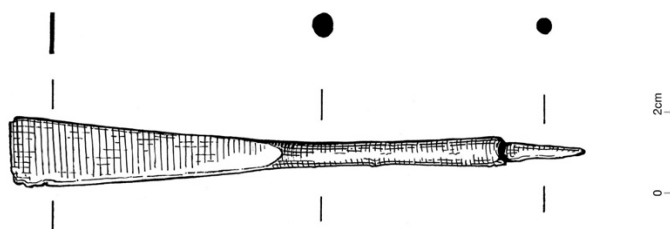


Fig. 3: Roman iron stylus with large eraser from the Walbrook river, London (British Museum, museum no. 1934,1210.68). © The Trustees of the British Museum

While this type was apparently only used during a certain time, its characteristics suggest that it may also have had a specific use: in addition to their large eraser, such spatula-stylus hybrids are bulky and robust, with thicker shafts than other types and a sturdy tip that is difficult to damage (Schaltenbrand Obrecht 2012, 137). The large eraser would have been less practical for correcting mistakes in the often very small writing, but particularly convenient if large portions or the entire waxed surface of a tablet needed to be erased regularly. This, in turn, is more likely to have been the case with tablets used for notes, calculations, drawings or exercises, rather than legal documents or correspondence. Is it possible that these styli were specialised tools made for a certain category or professional group of writers?

Schaltenbrand Obrecht suggested that the chunky shaft of spatula-styli would have been particularly well-suited for the hand of a child and cited a find from the grave of an 8–10-year-old child in Studen-Petinesca (Switzerland: Schaltenbrand Obrecht 2012, 48, 137). However, London examples held in the MOLA archives and in the British Museum weigh between 20–30 g (Schaltenbrand Obrecht 2012, 732, 746), suggesting that they would have been difficult to handle for a young child. In the same child’s burial assemblage, other styli of different types were present (Bacher 2007, pl. 45), perhaps suggesting that a composite set was more useful to a young learner than one specific tool or that the set had aspirational character rather than representing the implements actually used by the deceased. (8) A perhaps more attractive possibility is that styli with large erasers were used by craftsmen (Schaltenbrand Obrecht 2012, 137). Writing was fundamental for the administration of everyday activities in workshops and production centres, and the need to frequently reinscribe tablets can well be imagined in such a context. A robust stylus that was less likely to be lost when it fell on the ground, that was almost impossible to bend, that did not easily roll off flat surfaces and that doubled as a spatula would have been a suitable choice in these dynamic working environments.

It might even be useful to think beyond writing. The large erasers on spatula-styli are reminiscent of certain spatulas that are generally thought to have been used for modelling plaster, clay or wax (Manning 1985, pl. 13, C5–C7, C5 with remains of plaster on the blade;

Feugère 1995 Type C; Schaltenbrand Obrecht 2012, 83–84), and they are also similar to double spatulas (Feugère 1995 Type B), which are sometimes found together with writing equipment while in other cases they seem to have been used for different purposes (Humphreys 2021, 291) (*fig. 2*). The spatula-styli may have been multifunctional: in addition to writing or sketching and erasing on wax tablets, they may have also been useful to make marks on wood, to incise patterns on ceramics or to create ornamental stucco reliefs. Stuccowork was particularly popular during the Late Republic and early Empire and was used for the decoration of walls, ceilings and floors in both interior and exterior spaces (Ling 2010, 199). To realise the often complex designs, the outline of the figures was first engraved on the plastered surface when still wet, then stucco was applied to cover the sketches, modelled, and final details were engraved into the background (Strong 1959, 99). With a spatula-stylus, an artisan would have been able to perform all these steps with one single tool. (9)

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Notes

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(1) Exceptions exist, see *e.g.* a bone stylus with spatulate eraser from Augusta Raurica in Schaltenbrand Obrecht 2012, catalogue no. AR 536; iron styli with rounded ‘olive-shaped’ erasers from Augsburg catalogue nos. AO 32 and AO 34.

(2) We used replica tablets (11 x 14 cm) containing pure beeswax and beeswax blackened with soot. Two replica iron styli were used (length: 16.5/13.8 cm; tip length: 1.8/2 cm; eraser width: 1.2/1 cm; weight: 35/19 g). They have flattened eraser ends that flare out from the shaft, similar to Schaltenbrand Obrecht types A 11, B 15 and B 16. A polished wooden xylophone stick was used to replicate the performance of a rounded bone stylus (diam. of the ‘eraser’ ca. 1.3 cm).

(3) We found that it worked particularly well with pure beeswax; with the blackened wax warming the spot with a finger proved helpful. The wax in Roman tablets was usually blackened, *e.g.* with carbonised material or soot, which may make the wax harder or retard its solidification (Gaitzsch 1984, 192; Tomlin *et al.* 2016, 284–286).

(4) See Gaitzsch 1984, Feugère 1995. Such spatulas are found from the Late Republic onwards (see *e.g.* Rosenfeld 2002, 165), but similar tools must have been used before. More research on Roman spatulas and their chronology is urgently needed.

(5) For types B and C the association is less clear, see *e.g.* Humphreys 2021, 290–292.

(6) We used a replica Type A Feugère iron spatula, width of the blade: 5.2 cm, total length: 17 cm.

(7) Out of the 612 tablets from Vindonissa (Switzerland), 185 have traces of writing on them and 90 of them are legible (Speidel 1996, 16). Out of 405 Bloomberg tablets (London), 224

had no traces of writing on them and around 80 preserved legible texts (Tomlin *et al.* 2016, 1). For our experiments we started out with a wax layer of 2–3 mm. It took *c.* twelve ‘shaves’ of the surface before we started accidentally scratching into the wood while reinscribing the tablet.

(8) We know from literary and iconographic sources that styli were bought, gifted and carried around in sets (Schaltenbrand Obrecht 2012, 29, fig. 11–12; Mart. 14.21), and there is considerable archaeological evidence of writing sets containing multiple, sometimes diverse styli and other tools, for example in burials and hoards (Feugère 2000; Bacher 2007, pl. 45; also note the Titelberg hoard of ‘potter’s tools’ containing styli and a range of spatulas, including types Feugère B and C: Schaltenbrand Obrecht 2012, 82–88). It has been suggested that different styli would have been necessary for those who wrote frequently, and that specific types of points were possibly chosen for different purposes (Schaltenbrand Obrecht 2012, 43, Eckardt 2018, 192). For the aspirational character of children’s burials see *e.g.* Eckardt 2018, 189.

(9) The activity of drawing or sketching on a malleable surface such as wet plaster or wax is not different in practice from writing, and we should consider that similar – or even the same – tools were possibly employed for both purposes.

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