

Comitatus Shoe making Guide

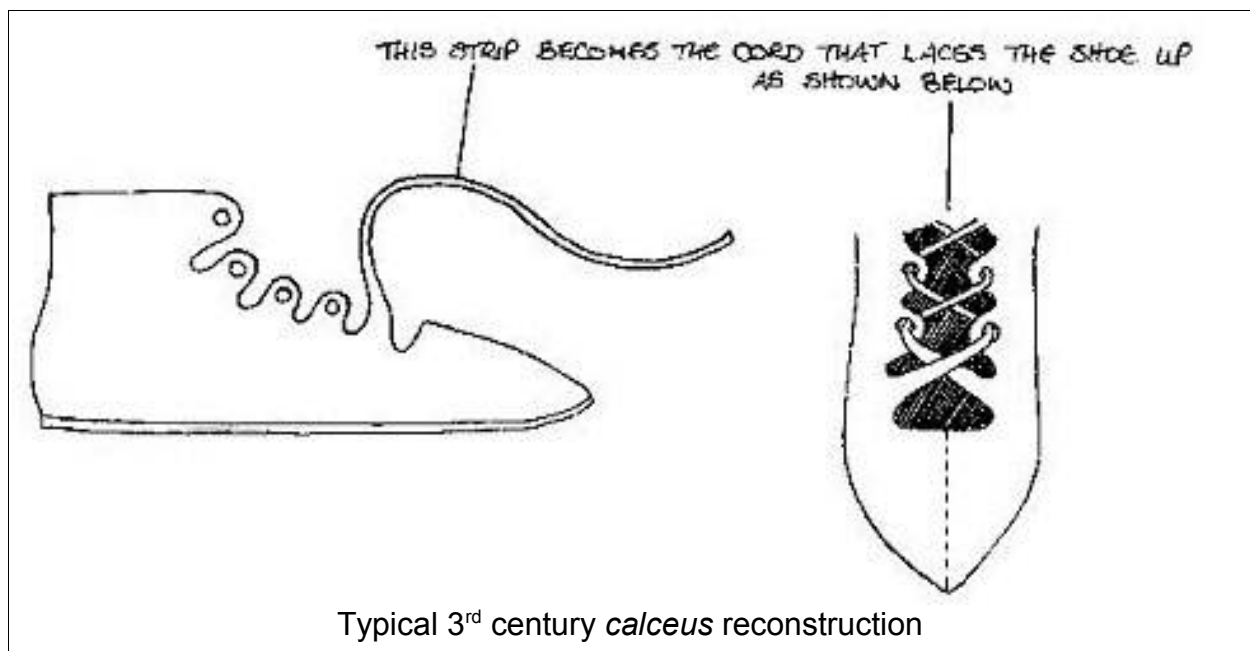
Stephen Kenwright and John Conyard

For a more thorough discussion of Late Roman footwear, see the article 'In Their Shoes' by Ste Kenwright.

Choices To re-enact Late Roman military life, you don't *need* a spatha, mail, or a helmet, but you do need decent footwear. The main options for are: 1) sandals, shoes or boots. 2) hobnailed or plain soles

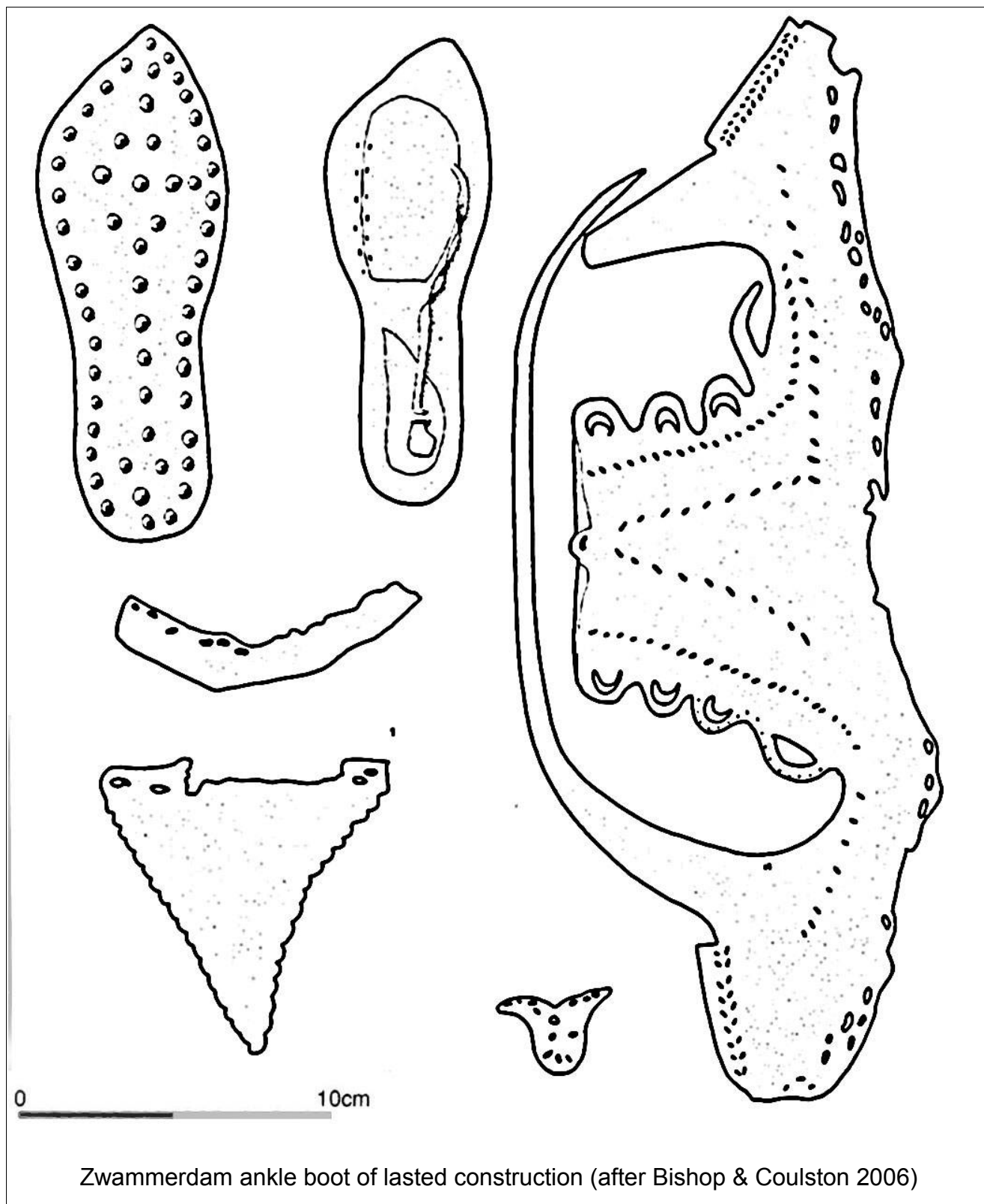
Roman dress is very comfortable in hot weather and Roman sandal styles are actually still fashionable, as well as practical, but one must be realistic about the Great British Summer: there will probably be rain and almost certainly mud to contend with at times not to mention the horses! Soldiers will need shoes or boots: there is much better evidence for shoes in the late C4th, and they particularly suit cavalry and Living History, but most of us prefer better ankle support for marches and infantry displays. Hobnails are slippery on flagstones and rock and might have to be removed for some floors and groundsheets, whilst plain soles are slippery on wet grass, mud, long grass or slopes. Soldiers will experience more problems with the latter, so most start with hobnailed ankle boots and then sort out a pair of plain soled shoes for the odd indoor or town-based occasion. For more pedestrian (couldn't resist, sorry) Living History you might find the opposite more convenient.

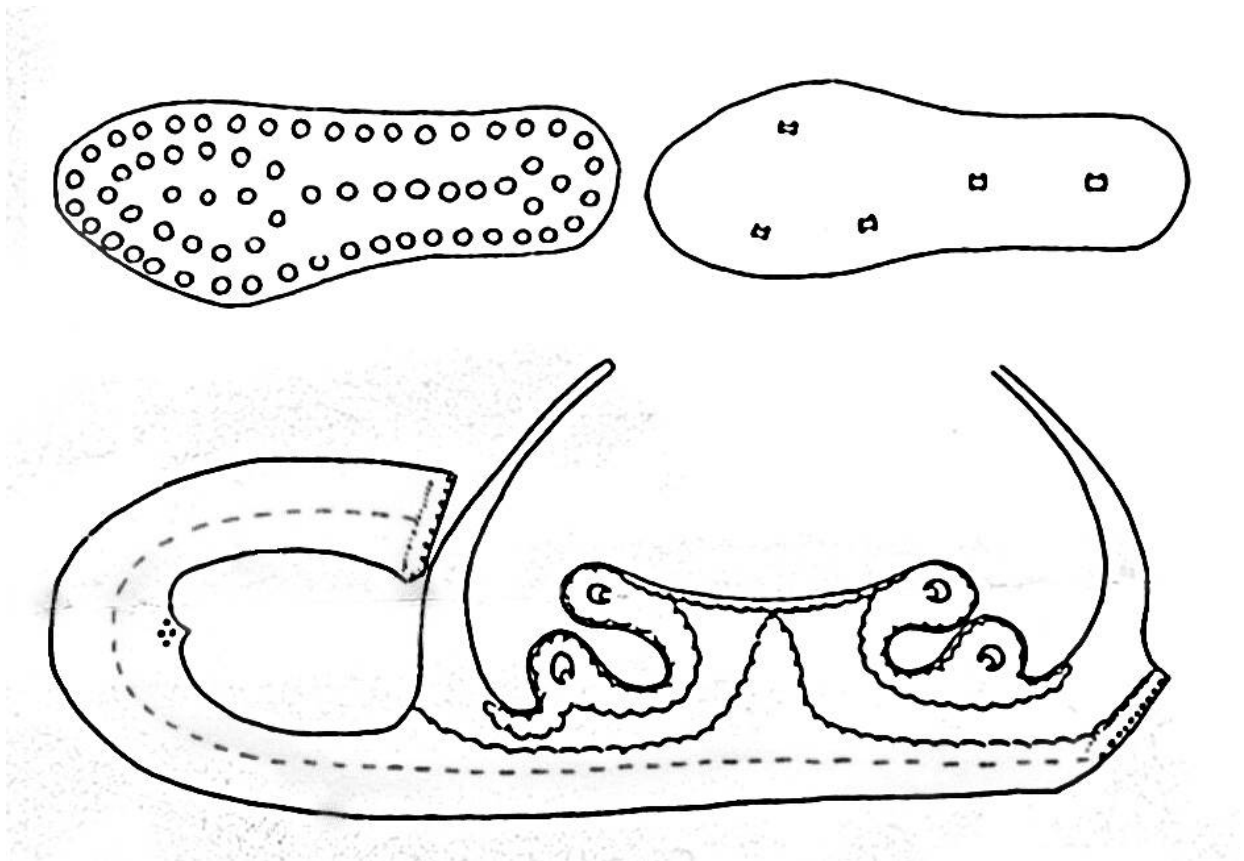
Dura boots Many members wear the empire-wide C3rd style usually termed *calcei* ankle boots (termed the “Ramshaw” by Carol van Driel-Murray and pixie boots by fans), which give good ankle support and keep the weather out surprisingly well. However, they are tricky to make, requiring some skill with lasting, sizing, shaping and assembling components, with inner and outer sole, triangular heel stiffener thinned towards the top, vamp-to-toe seam, integral laces & eyelets and hobnails. Finds from Zwammerdam and Vindolanda can apparently be used as the basis for a pattern.



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They can be made with strong enough leather to provide good ankle support and carry a bomb-proof external sole strong enough for heavy hobnailing. The integral laces are a potential weak point, so err on the wider side at first. Most find the commercial versions from e.g. Plantagenet Shoes cost effective considering time, materials, quality and durability.





Late C3rd lasted low shoe from Vindolanda unfolded upper showing lasting margin (dashed line), outer and inner sole (after van Driel-Murray 2001)

Fell boots early 2nd century Vindolanda finds include other enclosed external sole ankle boots which had separate laces, called “Fell boots” by Carol van Driel-Murray and the “Chesterholm” with oval, rather than round, lace holes. While these finds are even earlier than the Dura Europos type *calcei*, illustrations in the possibly British C5th *Vergilius Romanus* manuscript seem to show broadly similar boots, which suggest reconstructions might be co-opted for the Late and Sub-Roman periods (although hobnails are strictly Roman). Ready made and hobnailed versions of these and other styles have been offered at a discounted price for Comitatus group members by maker Robin Brown of the Legio VIII, trading as Rigorvali at <http://www.rigorevali.co.uk/> - enquire politely before ordering. They are also hard to make yourself, but a cheap imitation can be made by modifying the Deepeeka model of the Dura Europos type *calceus*, cutting off the laces and trimming the ankle height, then holing and re-lacing with separate leather thonging.

One piece shoes or *carbatinae* are of simpler construction and can be worn with an external sole and inner soles for comfort and durability. The typical C2nd - 3rd forms consisted of pierced rays, loops or just lace holes set around the sole which are simply gathered up over the foot and laced closed like a highland dancer's *ghillie*, centrally or meeting closer to one side. More sophisticated versions with more shaped vamps were found with the early C4th cavalry helmet at Deurne. Fortunately, they are surprisingly easy to make yourself, so this guide will focus on them.

Materials

Footwear can be made from vegetable tanned cow leather available e.g. from: <http://www.leprevo.co.uk/hides.html> or rawhide. You will benefit from thick hide (e.g. 5mm) for external soles (say 8/9 oz). You can use soft hide for the upper, for example 4/5 oz, although some experiments suggest thicker leather can still be an advantage.

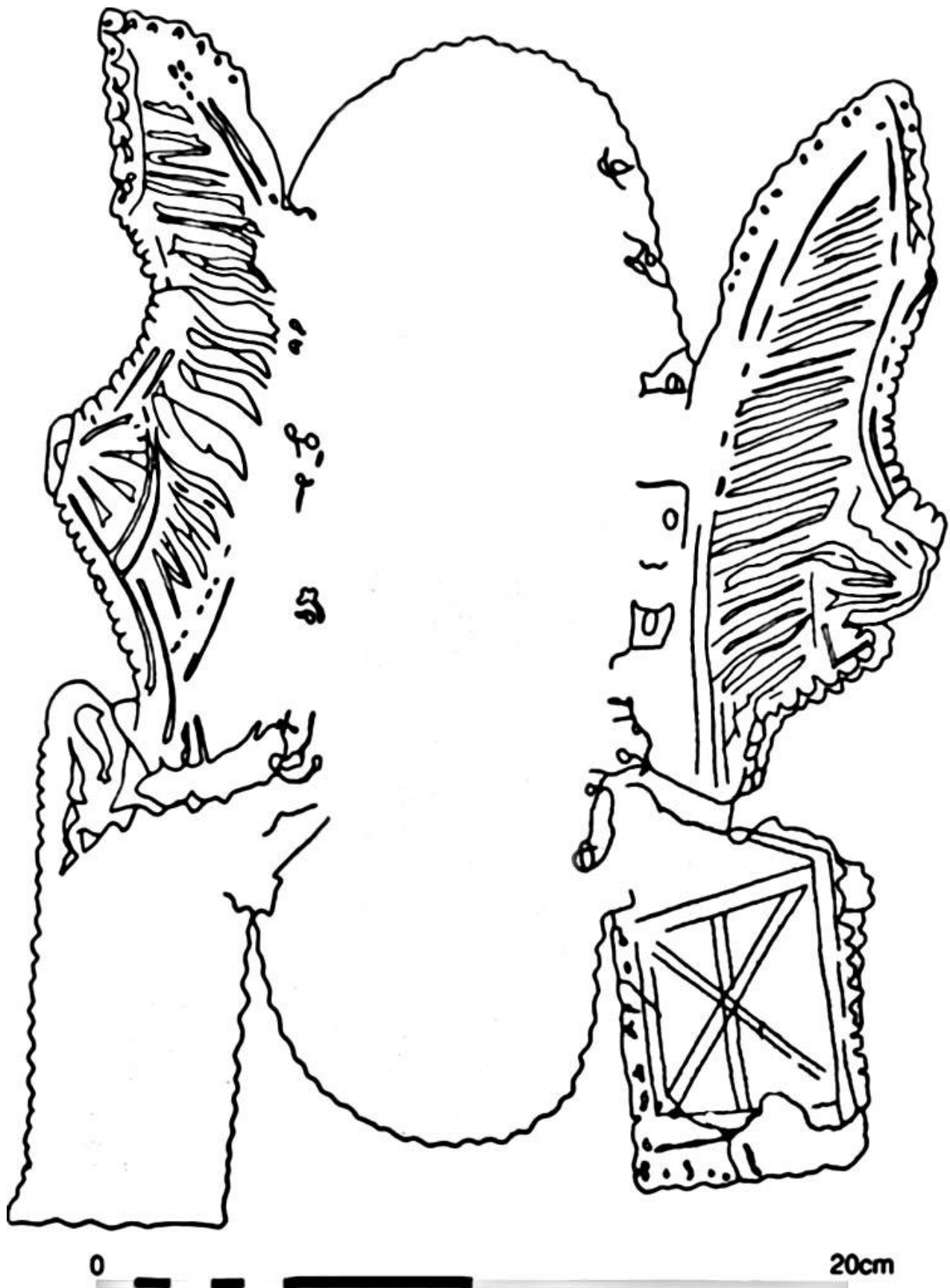
You will need an awl, leather needles, pliers, strong linen thread, a craft knife and something to cut on, some newspaper / card to draw patterns on, a felt marker and perhaps a pair of scissors, some plastic bags and a role of gaffer tape.

To attach an external sole, you can sew them or use hobnails. Good nails come from Steve Dunford, 01963 210959, www.dunford95.freemove.co.uk Next best are 'le Prevo' hobnails and carpet tacks provide a cheap substitute. For really good marching soles on strong leather use 40 nails per shoe, 80 the pair. For lighter use, 20-30 per shoe will do, which was common in the C4th. The nails clamp the soles together, so when you use 25mm of sole, use 28mm nails. If you use 10mm soles, you use 12-15 mm nails etc. Some originals were sewn as well as nailed, which may help to prevent gaps opening up and to keep water out.

Some members have very successfully used Mike Bishop's drawing of the Duerne find as a pattern for the low *carbatina* shoe so typical of our period. The actual Duerne find is sewn, without nails or additional soles and is presumably a riding shoe, not made for heavy duty walking, but statues show thicker soled versions, such as the Tetrarchs, now in Venice, (though the pronounced wedge below is probably an artistic effect).



Statue of the Tetrarchs, Venice



C4th Deurne Shoe (after Bishop & Coulston 2006)

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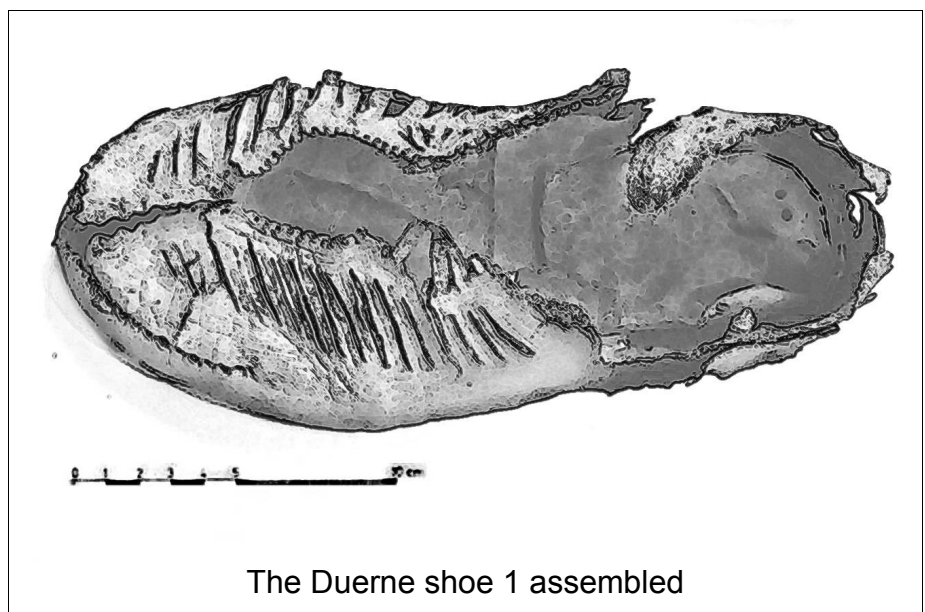
Method Draw a round your foot and cut it out to make a sole template, then make a pattern to fit it: print out and blow the picture up to A3 on a copier until the sole outline is $\frac{1}{4}$ inch less than your actual sole size. One needn't worry about the fancy decorated cut-outs. As the original has likely distorted whilst in the ground and feet are very varied in shape, this is not an exact science, so be brave! Some members have made up a trial piece in a cheap bit of leatherette etc. so they know they are happy with the design before cutting out their best leather. It will help you to cut out if you can print the final version of the pattern onto card. It's a good idea to keep a spare or two in case of wear & tear in the cutting process!

One method to fit shoes to the foot more exactly is to wrap a plastic bag around the foot (with any socks you intend to use on), then wrap this with a good layer of gaffer tape so it conforms to the foot and reaches to the desired height on the ankle. Use scissors to cut the mold off your foot **carefully**, slitting it just enough to allow you to open it out flat, leaving the rough shape of the Deurne pattern or similar when flat: you now have a tape based pattern which will fit like a glove or, if you've done really well, like a shoe. You can transfer that to card, or just use it to size the above pattern more exactly. This gives you the shape of the upper, with integral sole.

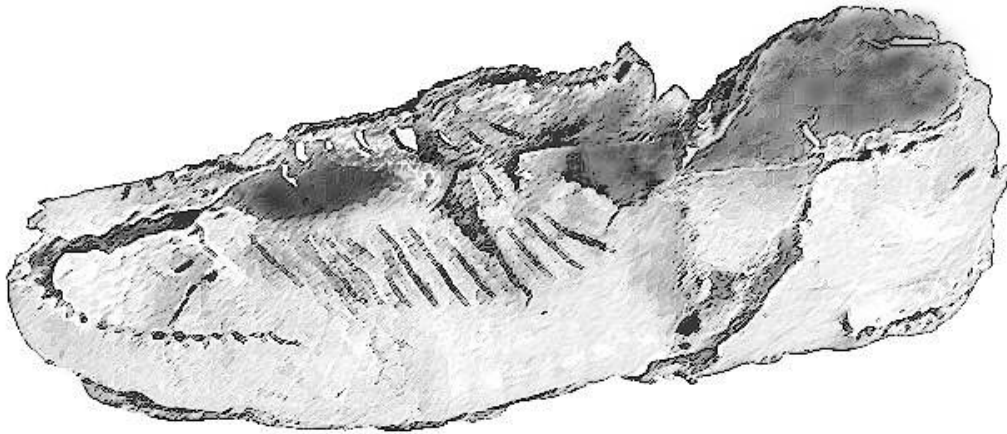
You can choose to add multiple extra sole layers if you wish. To do this, use your sole template to cut a few extra soles, taking 5mm off all around your sole template for the shape of the inner sole. One can build up to 25mm high from 5 layers – this was done mostly with insoles on C2nd finds from Hardknott fort, with 5 or 6 laminae laced together before nailing. Note that insoles of varying thickness could be used to give additional height at the back of the foot, but strictly speaking did not 'step up' like modern heels.

Sew the shoes up inside out. You just need to stitch at the back and front. A variety of stitches were used in Roman times, including tunnel stitch e.g. for the concealed seams of heel reinforcements. Uppers were usually joined with plain or lap seams, but some were butted. Note that on the originals, the toe area was sewn to to the upper at the top, giving a slightly moccasin look, rather than at the sole level, presumably to reduce wear and tear and water leaks. Soak the shoe and turn it rightside out. Dry it off. Nail the external soles to the upper, clamping the nails over. Stick your insole inside. Stick in a piece of leather as a heel stiffener. You can stain them black. Rip-cord around the edges for a special finish.

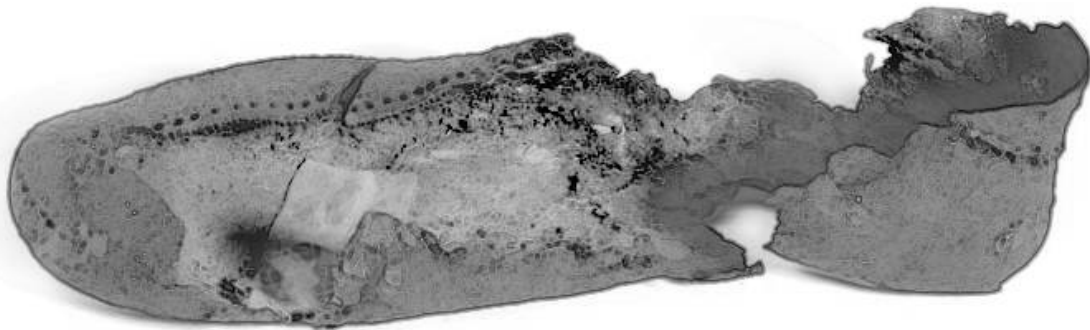
It should look like this (but hopefully in better condition!):



The Duerne shoe 1 assembled

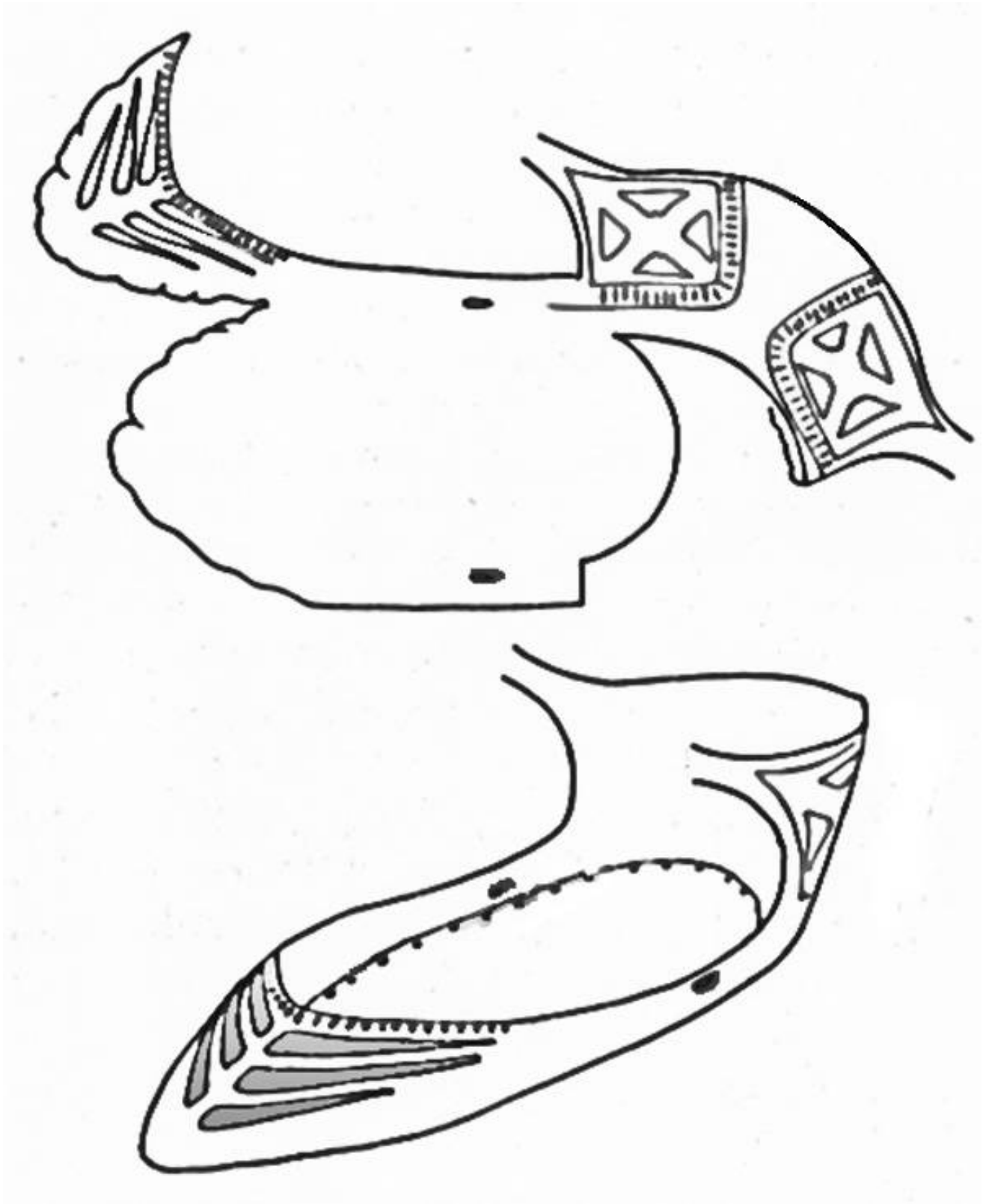


The Deurne shoe 1 assembled

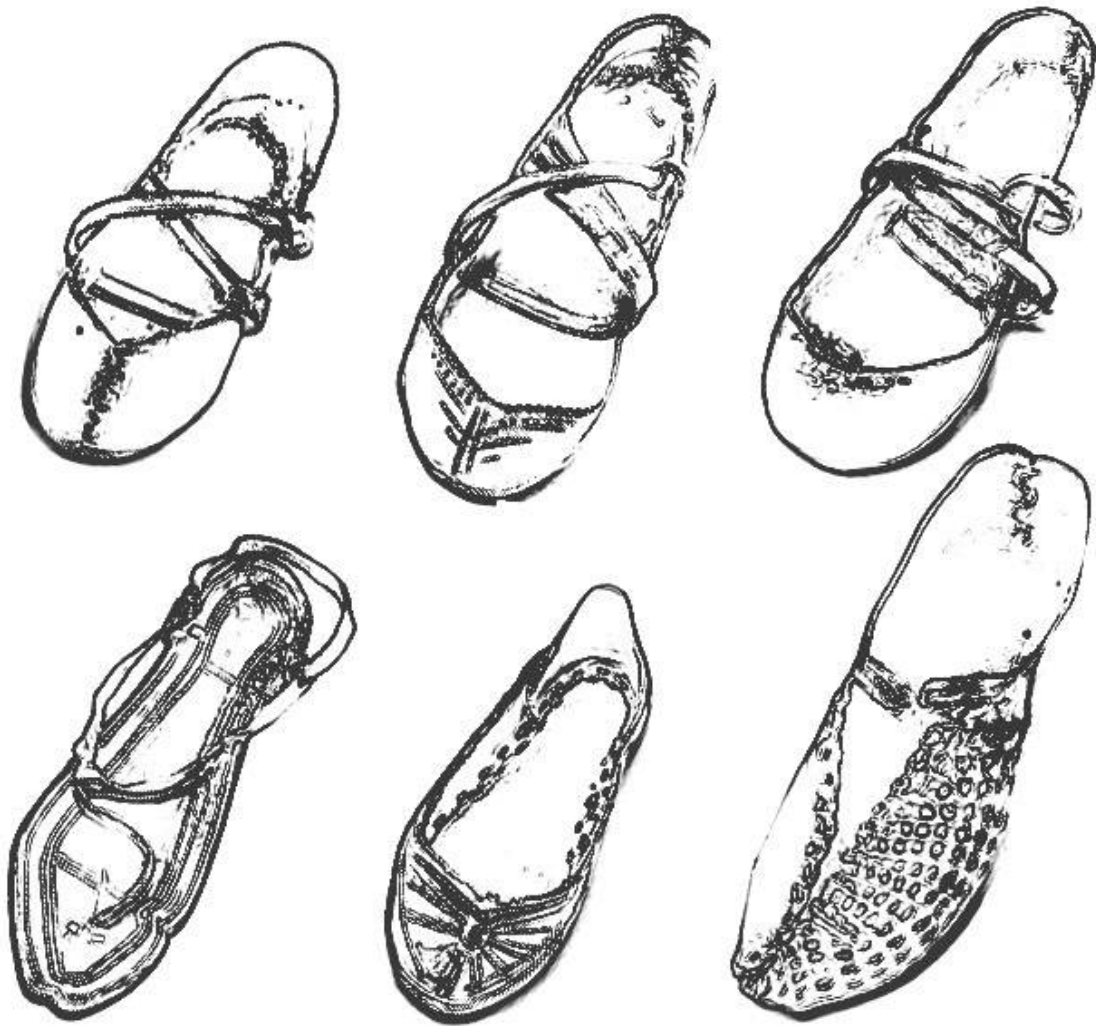


The Deurne find included two low shoes generally identified as *campagi militares* (early C4th)

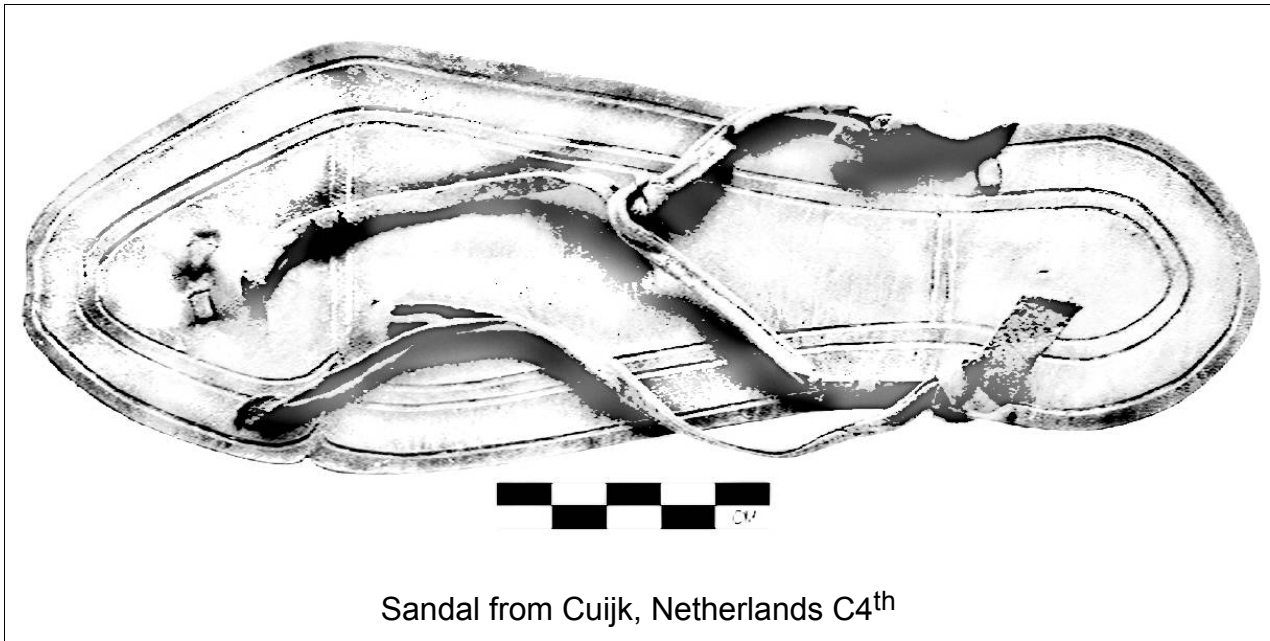
The very low / open campagus seems to have developed an assymetric cutting pattern. An earlier example from Low Ham can form the basis of a pattern for reconstructions. Examples from the Netherlands demonstrate the variety of forms possible.



Low Ham campagus cutting pattern, early C4th (after van Driel-Murray 1987)



Late Roman footwear from Cuijk, Netherlands, replicas by Olaf Goubitz
(after van Driel-Murray 2007)



Sandals Open topped *solea* are simple to make for light use. The soles can be made double thickness and even hobnailed (though they are perhaps more useful plain, to slip on when you want to protect indoor flooring). A thong is run by the big toe is pushed through a slit in the soles and held by a heart shaped end just like modern 'flip-flops', or threaded back for strength, as above. They can have ankle straps added to keep them on more securely. Decoration scored set in from the edge (when the leather is wet) is typical of our period, echoing the marks of thonging or nailing on double soles even when single.

Happy cobbling together!

Thanks to Martin Moser, Paul Elliott and various members of Comitatus for their help in preparing this article.