



ARCHAEOLOGICAL LEATHER GROUP NEWSLETTER

50 September 2019

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CONTENTS

- 2 **Editor's note; Forthcoming meetings**
- 2-3 Report on the 2018 Autumn Meeting
- 3-4 Miscellany
- 5-6 *Urine in the Leather Industry* by Roy Thomson
- 6 *Gilt leather techniques: video*
- 7-12 *Pinked, pleated and puckered: Roman period moneybags* by Marquita Volken
- 12 Book Review by Roy Thomson
- 13-15 *Dressing the Dead: Leather Shoes from St. Mary's Parish Church Kilkenny* by John Nicholl
- 16-17 *What to see in Naples* by Carol van Driel-Murray
- 17-18 *The Annual Leather Meeting in Allariz* by Franklin Pereira
- 18 Contact details for the ALG Committee

Editor's note

A very warm welcome to readers of this second Newsletter of 2019. We have two contributions here from Roy Thomson, one of which tackles an issue recently raised among the Science Advisors at Historic England: evidence for the use of urine in industrial processes, in this case the leather industry. Marquita Volken has reconstructed three types of money bag from the Roman period and has been experimenting with their coin-holding capacity. She considers whether one type of bag may have been calibrated to hold set quantities of coin.

A welcome second article from John Nicholl, who we first heard from in 2017, discusses some early 17th century shoes from a burial vault in Kilkenny, Ireland. Carol van Driel-Murray describes an exceptional collection of 16th century clothing and footwear she came across recently in a church in Naples. And lastly, Franklin Pereira reports on the Annual Leather Meeting of craft practitioners at Allariz in northern Spain. He also gives notice of an online video where he has demonstrated the processes involved in making *guadameci* (gilt leather) as traditionally practised in Portugal.

We have had an update from our Meetings Co-ordinator, Angela Middleton, on arrangements for the September meeting in Copenhagen and it is good to see that at least 21 members will now be going.

Please continue to support the Newsletter by sending in your articles and notes on leather-related subjects. The next issue will appear in March 2020 and contributions should reach me by Monday 2nd.

Many thanks!

Sue Winterbottom

Forthcoming meetings

2019 Autumn Meeting

Thank you to everyone who has booked a place on our forthcoming visit to Copenhagen (27th-29th September). Vivi Lena Andersen and colleagues have put together an interesting and inspiring program and we are very pleased to have 21 bookings for this event.

If your plans have changed since you made the

booking and you are no longer able to attend, please drop Angela Middleton an email:

angela.middleton@historicengland.org.uk

Likewise, if you decide at the last minute to join us, please get in touch. We can still accommodate you (see [Newsletter 49](#) for details). We will email the final arrangements and other relevant information directly to each participant before the visit.

2020 Spring Meeting

There are no firm plans in place so far for next year's **Spring Meeting**. **Some ideas have been put forward** but the committee will look at the feedback we have received following the recent Survey sent to members on the subject of our two annual meetings (see page 4 below). As soon as arrangements are in place members will be notified by email and the details will be posted on the ALG website on the Meetings page.

Report on the 2019 Spring Meeting and AGM

by Quita Mould

The spring meeting and 2019 AGM was held at the National Maritime Museum, Greenwich, in London. We were welcomed by Kris Martin, Exhibitions Curator, who provided a brief introduction to the four new galleries that had opened in 2018 enabling a thousand more objects to be displayed. Dr Claire Warrior, Senior Curator Exhibitions, gave us a guided tour of one of the new galleries, *The Polar Worlds*, which **tells the story of this nation's contribution to Arctic and Antarctic exploration**. We were joined by Nicky Yates, Senior Textiles Conservator, who described the work undertaken to make some of the items ready for display.

Among a range of interesting leather and skin items in the exhibition were a polar over-suit dating to c. 1875 and a pair of Captain R. F. **Scott's overshoes from his final Antarctic expedition in 1910-12**. They have low cut vamps and quarters, fastening over the ankle with leather

Cover photo: Tanned salmon fish skin. Photo by Anita Fors, free to distribute under Creative Commons licence: <https://creativecommons.org/licenses/by-sa/4.0/legalcode>

straps, and low wooden heels; without the heels they are remarkably similar in style to the low cut, strap fastening shoes worn in the 16th century. The vamps and quarters are of seal skin, hair on, joined at the sides with pieces of canvas. They had been made at base camp with whatever was to hand using a *veldtschoen* or stitch-down construction and had been worn over soft *finnesko* boots and attached to skis. These **overshoes were said to have been taken from Scott's** body when he was found. A blog by Nora Meller, with excellent photographs of the overshoes and a description of how they were prepared for exhibition, can be found on the Royal Museums Greenwich website at:

<https://tinyurl.com/y22r5mfg>

Similarly, a blog by Nicky Yates showing a leather oversuit, dating to 1875, worn by Lieutenant Alfred Parr on his Arctic expedition to the North Pole can be found at:

<https://tinyurl.com/y32ysxov>

The over-suit comprises a hooded and belted coat and trousers of oil-tanned leather, the coat **has a red wool lining; Parr's platform-**soled overshoes are also part of the display. The over-suit was the subject of lively speculation as to what might have caused the speckled areas of discoloration present on the surface of the leather. Other items in the gallery to raise discussion included a sea boot c. 1845 from Sir John Franklin's expedition found at Starvation Cove, Northern Canada, and two items c. 1910 belonging to members of Scott's final Terra Nova Expedition. One was a leather waistcoat worn by Francis Drake, the meteorologist, and the other a reindeer skin sleeping bag owned by Murray Levick, the surgeon. Our thanks are due to Kris Martin, Claire Warrior and Nicky Yates of the National Maritime Museum for hosting our meeting and to Angela Middleton for arranging our visit.

Editor's postscript

Quita has described our visit very thoroughly; I would just like to add, since this was my first time at the museum, how impressive the building and its facilities are and how evocative are the objects in the *Polar Worlds* gallery that we visited. We had a very good lunch in the café at the back of the building, overlooking Greenwich Royal Park, and were most impressed when Jackie's choice appeared with a tempura-fried



Captain R. F. Scott in 1911

samphire garnish. Less satisfying was something we commented on in the galleries: descriptions of the objects were often vague about the materials from which they were made. In *Polar Worlds*, for example, it seemed unclear whether the magnificent patchwork fur sleeping bags from Scott's expedition were made from seal or reindeer skins – and while this might not trouble most visitors, an ALG group would really like to know!

Miscellany

BBC Antiques Roadshow: Native American Beadwork

A recently broadcast episode of this popular programme featured an impressive collection of deerskin and beadwork clothing and other items acquired by the owner's grandfather who was an English railway entrepreneur and rancher in the Rocky Mountains in the 1890s. The collection on display contained belts, purses, mocassins, gloves, jackets, trousers and a 'papoose' or baby board. Interesting both to see how a modern

family could acquire such items and, on another level, to learn what they might now be worth on the open market. The programme can be found here:

<https://tinyurl.com/y26r17j7>

Survey about ALG meetings

Hopefully, as an ALG member, you will have received an email asking you to participate in a survey. A couple of our recent meetings have not been well attended; the Committee would like to find out the reasons for this and, if possible, to try to remedy the situation.

There has been a good response so far and it would be immensely helpful if you could take a few minutes to complete the short anonymous survey if you have not already done so:

<https://www.surveymonkey.co.uk/r/X69PNLB>

We will summarise the results in the next issue of the Newsletter.

Angela Middleton
Meetings Co-ordinator

Article: 18th century shoes

Angela Middleton has drawn our attention to the following article by Alison Fairhurst, **'Women's Shoes of the Eighteenth Century: Style, Use, and Evolution'**, pp.25-43 in The Journal of Dress History, vol.1, Issue 2 for Autumn 2017.

The article principally concentrates on shoes with textile uppers and leather soles but there are passing references to all-leather shoes. Quita Mould comments that the article is clearly written, very well illustrated and an enjoyable read.

The journal is freely available to read online at:

<https://tinyurl.com/yydx9x3v>

Delft Leather Conference



OCT 25 Archeologisch en historisch leer uit de Lage Landen
Hosted by Archeologie Delft

On Friday October 25th, 2019 Archeologie en Monumenten Delft is hosting the second archaeological and historical leather conference for the Low Countries in Delft. The primary spoken language of the conference will be Dutch; however, a number of presentations and posters will be in English.

The keynote speaker will be Anna Kowalska, archaeologist and curator at the National Museum in Szczecin, Poland and assistant professor at the Institute of Archaeology and Ethnology at the Polish Academy of Sciences in Szczecin. (Language, English.)

Further information about the conference – location details, programme, cost and registration - can be found on this webpage, in both Dutch and English:

<https://tinyurl.com/y2b7pfzb>

and the contact email for the conference is leercongres@delft.nl

If you are planning to attend, the organisers request that you please register before September 27th 2019.



Urine in the Leather Industry

by Roy Thomson

From time to time one comes across the statement that **“urine was used in the past to tan leather”**. Was urine used by tanners and, if so, what for? I have looked at the literature and found the following:

R J Forbes (Leather in Antiquity in *Studies in Ancient Technology*, vol. V. Leiden: E. J. Brill, 1957) suggests that urine was used to aid a fermentation process which was widely used in the Classical World to speed up the removal of hair prior to tanning. He implies that the ammonia present in aged urine was an alternative alkali to that found in wood ash employed to treat hides at some Bronze Age sites.

Ronald Reed (*Ancient Skins, Parchments and Leathers*. Seminar Press, 1972) discussing rabbinic texts concerning leather manufacture, states that infusions of vegetable materials, such as mulberry leaves or bryony, either in water or urine, were used in unhairing systems and that similar processes were recorded by Pliny.

Otis T. Mason (*Aboriginal Skin Dressing: report to US National Museum, Washington, 1889*) quoting a range of sources, states that after scraping skins, **‘Eskimos’ lay them in urine tubs for 24 hours** to extract the fat and oil before further processing. Again, it is probably the alkaline ammonia in the aged urine which is effective. It is interesting that discussing the methods employed by **‘Indians’ urine is not mentioned**. They use wood ash.

Lotta Rahme (*Leather: Preparation and Tanning by Traditional Methods*. Oregon: Caber Press, 1995) writing about dehairing methods states that when urine is allowed to stand, it forms ammonia which removes hair due to its alkalinity.

Turning to leather manufacturing processes in medieval Europe, I have looked again at a number of craft recipe books which have been translated and published in English. These include:

Mark Clarke *Tricks of the Medieval Trades*, Arche-type, 2018. This consists of a translation of the 14th century *Trinity Encyclopaedia*, with an introduction and commentary. Of the 72 recipes, 9 give details of the tanning and dyeing of leather.

Sidney Edelstein and Hector Borghetty *The Plithco of Gioanventura Rosetti*, Cambridge, Mass. MIT Press, 1968. This is a translation of the first, 1548 edition. It includes a section of 48 recipes on the art of dressing leathers. These cover the tanning, tawing and dyeing of skins in great detail.

L[eonard] M[ascall] *A Profitable Boke Declaring Diuerse Approoued Remedies...* Thomas Purfoot and William Ponnsonbie, 1583. This was translated from the Dutch or German and includes 30 recipes for tanning, tawing, dyeing and currying leather.

None of the recipes in these 3 works mentions the use of urine in pretanning or tanning. The only uses of urine in these texts are in leather dyeing.

For the post-medieval/early industrial period, I have looked at:

C[harles] V[allencey] *The Art of Tanning and Currying Leather*, Nourse, 1780. This is a reprint of the 1774 edition which itself is a translation from the Lalande *Cyclopaedia*. Again, there is only one mention of urine, in association with the dyeing process.

Nineteenth/early twentieth century texts I have consulted are:

Charles Tomlinson *The Useful Arts and Manufactures of Great Britain*, second series, SPCK, [1863].

H. Dussauce *Arts of Tanning, Currying and Leather Dressing*, Philadelphia: Carey Baird, 1867 2nd ed.

Jackson S. Schultz *Leather Manufacturing in the United States*, New York: Shoe and Leather Reporter, 1876.

Alexander Watt *The Art of Leather Manufacture*. Crosby Lockwood, 1885.

M. C. Lamb *Leather Dressing, Staining, Dyeing and Finishing*, Leather Trades Publishing Co., 1906. There is no mention of urine in any of these books.

I also looked at the book which describes the early scientific work examining the bating process: Joseph Turney Wood *The Puering, Bating and Drenching of Skins*, Spon, 1912. This includes reprints of papers written by Wood in the last decade of the 19th century. The only mention of

urine is as a possible contaminant present in dog faeces collected from hunt kennels. This might accelerate the bacterial breakdown of the dung. Otherwise, it apparently had no effect on the bating action.

Regarding the possible chemistry involved, urine does not contain any component which might crosslink collagen fibres, stabilising them. Therefore urine does not tan leather.

On the other hand, urine may have an effect on the processes used to prepare the skins before tanning. The major component of urine is urea which will rapidly break down to form ammonia, which has a strongly alkaline effect. This would accelerate the breakdown of non-collagen proteins, aiding unhairing. The ammonia would also help to disperse fats and other non-protein constituents of the skin. K. H. Gustavson (*The Chemistry and Reactivity of Collagen*. New York: Academic Press, 1956) states that relatively high concentrated solutions of urea have a denaturing action on proteins. It is therefore possible that, at the concentrations present in fresh urine, it might have a mild action on the non-fibrous proteins, aiding the pretanning processes.

To conclude,

1. Urine does not have any tanning effect.
2. The ammonia formed by the breakdown of urea in the urine would have an alkaline action, aiding pretanning.
3. The relatively low levels of urea present in fresh urine might have an effect on non-fibrous proteins, again aiding pretanning.
4. Urine was used by the Inuits to prepare skins prior to tanning. Similar processes are thought to have been used in Classical times.
5. There is no evidence that tanners or tawyers used urine in Europe from medieval times onwards, except in association with dyeing.

Gilt leather techniques: video

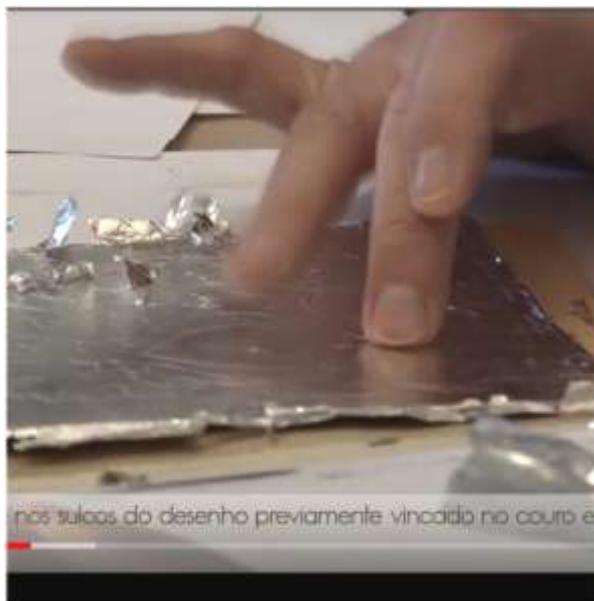
Franklin Pereira has sent a link to a 10 minute YouTube video produced by the Alberto Sampaio Museum at Guimarães (Portugal), demonstrating the sequence of steps used to create gilt leather by traditional methods:

Guadameci: a arte dos couros dourados

<https://tinyurl.com/y4gf2ks4>

As many of you will know, Franklin has studied *Guadameci* (Gilt leather) production methods for many years and is a practitioner himself. He can be seen in the video working on a small panel. It is a very instructive sequence and although modern materials (such as cotton buds!) make an occasional appearance, traditional punches and stamps are used to create the final textured surface.

The video has background music so if you would like to hear it, please check that sound is turned on.



Guadameci technique: finger pressure forces the silver foil into the grooves of the design previously marked out on the leather.



Pinked, pleated and puckered: Roman period moneybags

by Marquita Volken

The complete bag and a fragment of a second example from the second century Roman military camp at Vechten (Netherlands), published in 1980 by C. van Driel-Murray, is the starting point for discussing moneybags (van Driel-Murray 1980, 354, fig. 11-12). The goatskin leather bag was made by folding a rectangle in half, grain sides together, the bottom was trimmed to a rounded shape and opening edges pinked at the top. The bottom and side were sewn and the bag was turned right side out. A possible closing system may have been a simple thong threaded through two holes near the top of the side seam, though these could have also been for suspension (Fig. 1b). Otherwise, only fine wrinkles at the same level as the two holes are the only indication of how the bag must have been tied shut. The rounded bottom of the bag shows some damage, presumably from wear, and the middle section of the bag shows long vertical wrinkles ending at the level of the fine wrinkles and the two small holes. Metrological analysis of the Vechten bag shows it could have been made in units either of inches (Roman *uncia* 24.6 mm; Imperial inch 25.4 mm) or *digiti* (18 mm). The opening is 5 inches wide, meaning the total unfolded width, including the seam margins (probably $\frac{1}{4}$ inch on each side), would have been $10\frac{1}{2}$ inches or 26.67 cm. The closest equivalent is 14 *digiti* or 25.95 cm, including seam allowance. The length of the bag is 23.5 cm, not including seam allowance. Including seam allowance, the length in inches would probably have been $9\frac{1}{2}$ inches (24.13 cm), which is virtually indistinguishable by eye from 13 *digiti* (24.05 cm). The pinked top edge is too roughly made to determine a metrological unit.

From the excavations at Angel Court, Walbrook, London, a third century leather fragment, initially identified as a probable garment, is more likely to be small bag (Thornton 1977, 75, fig. 24, no. 525). The top edge of the fragment is pinked, both sides show stitching and the lower part is fragmented (Fig. 1c). The construction appears to have been of two panels of equal size, stitched along the sides and bottom. Like the Vechten bag, the Angel Court example has a smooth section below the pinked edge while the

remaining portion has long vertical wrinkles. The full dimensions are not available due to the fragmentary lower portion. The panel width, with seam allowance, is $6\frac{1}{2}$ inches (16.5 cm); the surviving length is 19 cm, but the probable complete length with a rounded bottom might have been either 9 or 10 inches. Though slightly larger than the Vechten bag, the Angel Court fragment matches the general shape, wear marks and leather quality.

From the late first century BC shipwreck at Commaccio (Italy), comes an enigmatic fragment identified as a *peilytron* or leather sock, found near a shoe (Parmeggiani 1990, 215, plate 32, cat. no. 141). The top edge is pinked, with a line of fine wrinkles below and the middle section has long vertical wrinkles. If the piece is folded in half it has exactly the same width as the Vechten bag, but is ca. 3 cm longer (Fig. 1 a). The lower section does have the proportions necessary to fit on a foot, but the opening is too narrow to fit around the heel and ankle. Given the striking similarities to the previous bags, this may be a bag rather than a sock.

Pinked edges occur on two late second century leather fragments from Zwammerdam (Netherlands), but their fragmentary condition does not permit further discussion (van Driel-Murray 1977, 278, fig. 43, nos. 1-2). A leather base for lamellar horse armour from Dura-Europos shows a pinked lower edge although the pinking is on a larger scale than on any of the bags (ca. 2 cm deep cuts) (James 2004, 134, fig. 81, no. 452).

A further example, found in 1952 at Barger-Compascuum (Netherlands), was filled with 312 silver *denarii*, confirming its function as a late second century moneybag (Glasbergen 1956; Zadoks-Josephus Zitta 1956). K. Schlabow's study provides an exceptionally complete technical description and reconstruction (Schlabow 1956). The Barger-Compascuum bag is more complex than the other examples: featuring pleats, a drawstring passage with sewn-in lining, a suspension oval, plus an interior division of the lower half (Fig. 1d). The bag is composed of two large panels with rounded bottom and pinked opening. The panels and the interior division panel were sewn together from the outside with a folded strip covering the edge. Triangular reinforcements were sewn over the exit holes at each side of the lined drawstring passage. The

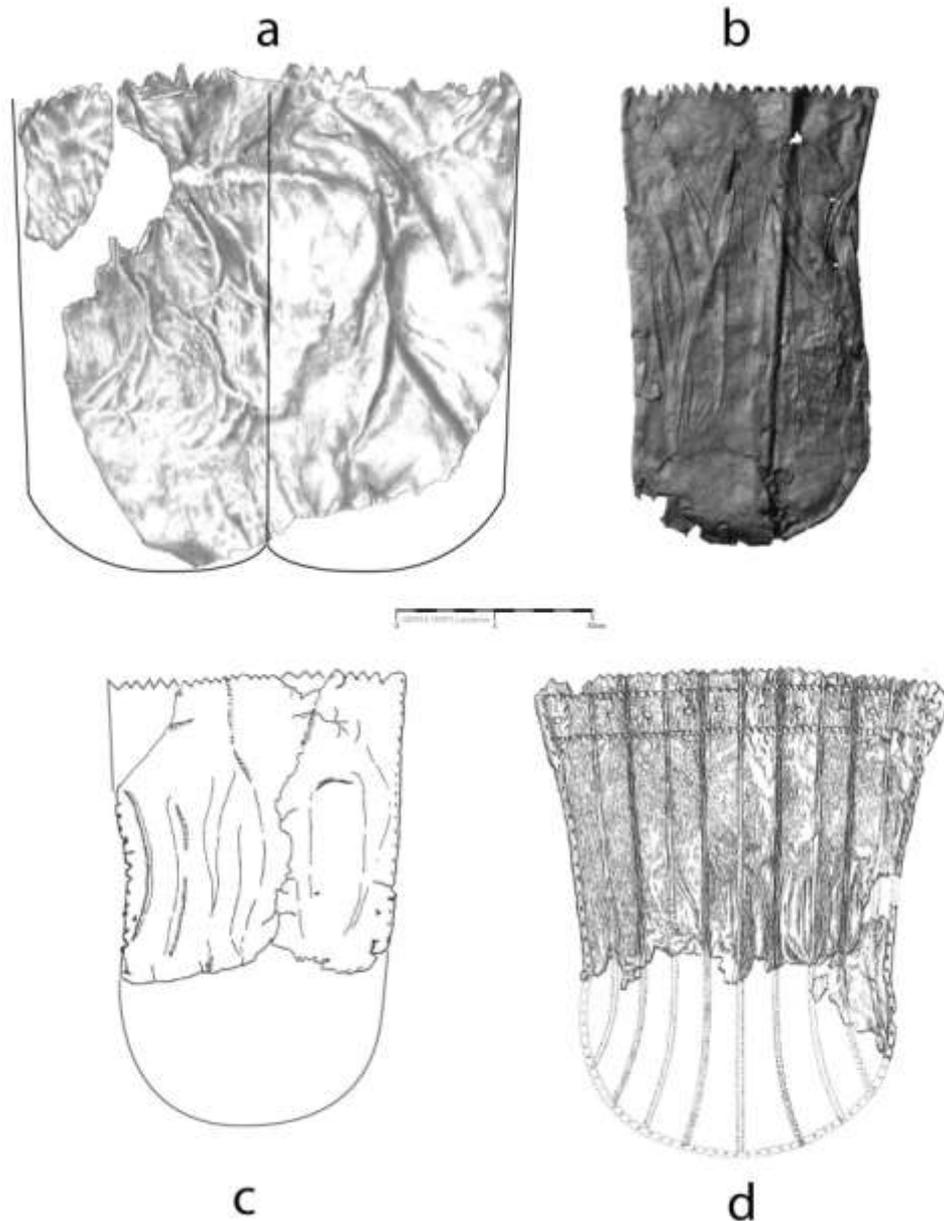


Fig. 1 Archaeologically recovered examples of vegetable tanned leather bags: a) Commaccio (last quarter 1st century BC); b) Vechten (2nd to 3rd century AD); c) London (end 3rd century AD); d) Barger-Compascuum (one panel only, end 2nd century AD). With 10 cm scale

lace attaches to a thick leather suspension oval. The bag is slightly larger (22 x 26 cm) than the other examples, with inches clearly being the metrological norm.

The three hundred year long stable form of the bags supports their use as coin bags, concurring with the constant size of Imperial coinage. As coins had both face and intrinsic value, a calibrated bag would certainly have facilitated counting by weight. A particularity of the Vechten type bags is the lack of a closing system by means of a permanently fixed thong or draw-string. Possibly the fastening string or leather

thong also indicated the amount of coins within the bag. In this case, a seal or tag could indicate the exact value, while the thong would be fastened at the 'full' mark, which could occur at various levels depending on the type and quantity of coins.

To test this theory of a calibrated moneybag, a reconstruction of the Vechten bag was used. In the first test, one Roman *Libra*, represented by 96 silver *denarii* reproductions and metal blanks of the same size, was used to estimate its capacity. This amount filled the bottom of the bag to roughly $\frac{3}{4}$ of an inch deep. An interesting fea-



Fig. 2 Reconstructions of the Vechten bag; left filled with five *Libra* /60 sesterces, right filled with four *Libra* /384 denarii. Note the fine wrinkles formed by the tie thong and the long pleats in the middle section of the bags (made from adult goat leather).

ture of the round shape of lower part of the bag is that it folds flat under the weight of the coins, making an oval base from which the sides rise straight up. Adding four more coins to reach 100 silver *denarii*, would make a face value of four gold *aurei* (25 *denarii* =1 *aureus*). A second *Libra* of 96 metal blanks filled the bag about another $\frac{3}{4}$ of an inch. On the Vechten bag the distance between the start of the curve for the base and the fine wrinkles and top hole at the seam side is six inches, which contains eight units of $\frac{3}{4}$ of an inch. The lower hole is at the level of six units of $\frac{3}{4}$ of an inch. Further filling of the bag with coin blanks showed that after the fourth *Libra* the sides started to stretch outwards slightly, making the rising level of coins slightly less than $\frac{3}{4}$ of an inch per *Libra* (Fig. 2, right). Thus the Vechten bag could hold at least eight Roman *Libra* of *denarii* (2,600 g), or 768 coins, to which 32 additional coins (109.12 g) could be added to make 800 *denarii* with the equivalent face value of 32 gold *aurei*.

Sesterces were also an important coinage. There are 12 sesterces to a Roman *Libra*: when 12 reproduction sesterces coins were placed in the Vechten bag they barely covered the base. Five *Libra* (1,625 g) consisting of 60 coins (a mix of reproductions and Swiss 2 Franc coins, which have the same dimensions as sesterces) filled the Vechten bag to a bit more than one sixth full (Fig. 2, left). This provides an estimate of 300

sesterces or 25 *Libra* (8,125 g) to fill the bag, which would be a useful quantity since it represents the value of 75 *denarii* or three *aurei*.

The features of a pinked opening, rounded bottom, and general size are seen on the Barger-Compascuum bag, yet the construction and function of this bag is quite different from the previous examples (Fig. 3). Though the bag has a rounded base, the covered seam plus the interior division make it difficult to sit the bag up-



Fig. 3 Reconstruction of the Barger-Compascuum moneybag, showing how it might have looked when new.

right; only by folding the curved bottom to one side will the bag rest on its base. It took the weight of three *Libra* and strongly folding the bottom to one side before the bag would sit upright. Unlike the Vechten type bags, it is easy to reach in with the hand and pick up a single coin from the bottom of the bag.

The Barger-Compascuum bag appears to have been designed for personal use rather than as a calibrated moneybag. The most obvious differences in comparison with the Vechten type bags are the interior division, the pleats and the drawstring fixed to a suspension oval. The Vechten type bags were made using very basic skills, a simple stitch around the sides, and from goat or calf leather of ordinary quality. The Barger-Compascuum bag is more sophisticated in design and is of fine quality calf leather. Each **stitch of the drawstring's lining is placed exactly** so that only a single stitch shows at the top of the folds when the bag is closed. The side seam, with folded edge covering, also requires a high level of skill to sew. The common elements of a pinked top and rounded bottom appear to have

been part of the identifying features of a money-bag, regardless of whether it was for common or personal use.

Smaller pleated pouches were also used for carrying coins, but so far all the examples lack pinked opening edges. These pouches are made from a circular sheet of leather folded and pleated into equal radial sections with a double drawstring passing through slots around the edges. The double drawstring closing method uses two thongs, the centre point of each fixed to opposite sides of the bag on a tab fitted with a metal ring (or with a bead in medieval examples) that serves as the grip for pulling the bag open. The four loose ends of the drawstrings pass through the slots, exiting through the tabs and each set is knotted together, often with a decorative bead also serving as a grip. The bag closes by pulling both knots and opens by using the tabs and rings to pull it open (Goubitz 2007, 61).

A nearly complete double drawstring pouch with metal rings on tabs was found at the Annetwell

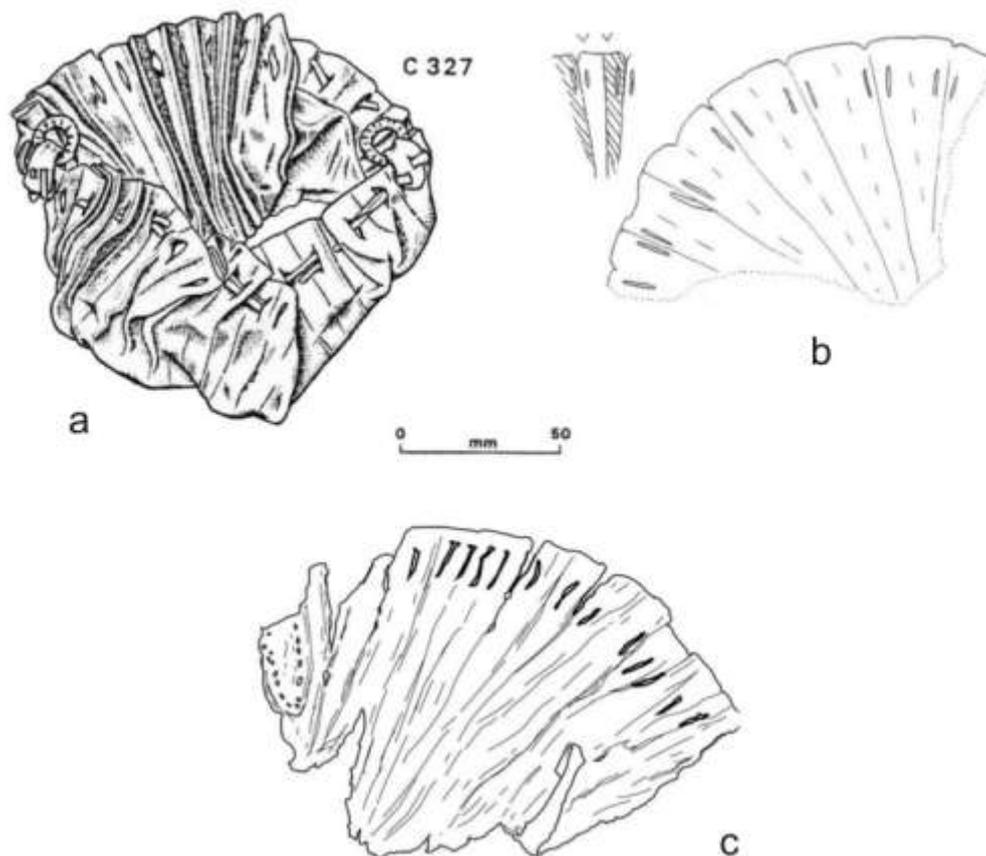


Fig. 4 Double drawstring pouches: a) Annetwell Street, Carlisle; b) Vindolanda; c) The Roman Military Museum, Walltown (Vindolanda). With 50 mm scale

Street excavations at Carlisle (Caruana *in prep.*) from Period 5A (105-125 AD); the estimated diameter is ca. 20 cm (Fig. 4a). Similar fragments occur at Vindolanda (van Driel-Murray 1993, 52, fig. 21-2, here Fig. 4b) including three large fragments displayed at the Roman Military Museum, Walltown, one with the stitches showing the placement of a sewn-on tab (Fig. 4c).

The average size appears to be a circle of diameter eight to twelve inches, the smaller versions having a filling capacity of one *Libra*, while the larger can hold two *Libra* (Fig. 5). One would think that the pleated drawstring pouch was probably, like the Barger-Compascuum bag, for personal use, but the pair of rings on the pull tabs could have been fastened together with a **lace or seal to secure the pouch's contents, thus making a calibrated sealed bag for quantities smaller than one or two *Libra*.**

Assigning a Latin name to an archaeological leather object is notoriously difficult but the Vechten type bags may be a *follis*. Mistakenly used as a name for a large bronze coin introduced in AD 294, it is now generally accepted as referring to a sealed leather bag containing a set quantity of coins in ancient texts concerning money (Lewis and Short, 1879). A fourth century text uses the term *follis*, or moneybag, to **refer to a Legion's ten bags of savings that were stored in a basket.** An eleventh bag contained a contribution from the whole legion as a common fund for burial expenses (F. Vegetius Renatus, *Mil.* 2.20). Other texts also use the word *follis* for moneybags (Juv. *Sat.* 14, 281; *Dig. Just.* 35, 1 82; Aug. *Civ. D.* 22, 8; Lampr. *Hellog.* 22.3; Plaut. *Aul.* 2, 4, 23). The text by Juvenal actually cites two types of bags, a *follis* ("..tenso folle..") and an *aluta* ("..superbus aluta.."). The *aluta* bag may be a personal money purse, perhaps similar to the Barger-Compascuum bag. *Aluta* is often understood in Antiquity to be a type of soft leather prepared with alum, known today as white tawed leather, which does not survive in water logged sites, in contrast to vegetable tanned leathers which do. The distinct characteristics of the standard size, lack of fixed fastening thong, pinked opening and curved base for the Vechten type leather bags can probably be safely considered as the identifying features for the *follis* Roman moneybag. Though the elements of a pinked opening and rounded bottom can also be found on the Barger-Compascuum bag, its function as a personal moneybag or purse



Fig. 5 A double drawstring pouch (12 inch diameter, calfskin) in closed position, containing two *Libra* of coins.

certainly excludes it from being considered as a *follis*. Other Latin names for money pouches include *crumena*, *sacculus* and *funda*, though their relation to the archaeological finds is difficult to ascertain. The *marsupium*, a leather pouch drawn in at the mouth, is a tempting possibility for the double drawstring pouch.

Very special thanks to Sue Winterbottom for drawing attention to the Annetwell Street pouch.

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- Aurelius Augustinus, *De Civitate Dei* 22, 8
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- Juvenal, *Satires* 14, 281
- Marcus Plautus, *Aulularia* 2, 4, 23

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Book Review

Clarke, Mark *Tricks of the Medieval Trades. The Trinity Encyclopaedia: a collection of fourteenth century English craft recipes*. Archetype Press, 2018.

This book consists of a translation of a medieval manuscript from the library of Trinity College, Cambridge. It lists a series of recipes for manufacturing and adulterating pigments, dyeing, processing skins and furs, counterfeiting semi-precious materials and making soaps and confectionery. There is also an introduction and a detailed technical commentary. Of the 70 recipes, 9 are associated with the processing of skins. These discuss the production of red imitation Morocco and Cordoban skins, a soft chamois-like material from parchment, furs from sheep and rabbit skins, Hungarian leather for harness and

a "green sturdy" parchment-like material used by the Saddlers of London.

Mark Clarke states that there are around 650 surviving European medieval manuscripts analogous to what he has termed the *Trinity Encyclopaedia*. So why is this collection so special, warranting the publication of this excellent book? For industrial historians, this is mainly because many of the descriptions of how the processes were carried out are so detailed and appear to be transcriptions of an oral narration of personal experience by practising craftsmen. This is especially the case with the skin processing recipes. It is also important that from textual examination it appears that most of these recipes, rather than being translations from earlier works, were written in Middle English in the late 14th century, possibly in Suffolk.

Members of the ALG will be interested to note that all the skin processing recipes include variations of the alum tawing process. There is no mention of vegetable tanning. This could be because the latter is a more complex procedure requiring more extensive equipment or because vegetable tanning was more closely controlled by the Guild structure.

This is a book to be read in full. As well as **Clarke's Introduction and the detailed footnotes**, the closing pages are rewarding too. In particular, these include a glossary of Middle English technical terms found in the text. Many of the words associated with skin processing, (bazene, cheverel, mastering, polling stake, withy), are not found elsewhere in this context or are only known from later documents.

In this volume, Mark Clarke presents us with an invaluable addition to our knowledge of medieval skin processing techniques.

Roy Thomson

Editor's note: if you visit the relevant page of the Archetype Press website:

<https://tinyurl.com/yyw29xrz>

You can download some sample pages from Mark Clarke's book. They include the section on the production of "red bazene" leather - the imitation Cordoban leather which Roy refers to. The book costs £35

Dressing the Dead: Leather Shoes from St. Mary's Parish Church Kilkenny

by John Nicholl

Introduction

St. Mary's Parish Church is located in the centre of the walled Hightown of Kilkenny City, beside the main marketplace on the High Street. Built around the year 1200 by the Earl of Pembroke and Lord of Leinster, William Marshal, it was one of the largest parish churches in medieval Ireland. It was much altered in the middle of the eighteenth century, when large parts of the original church were demolished. Rubble from this demolition was used to raise the remaining floor level and seal the earlier burial sites and memorials, thus preserving them.

In 2015-16, a series of excavations was carried out by Kilkenny Archaeology, during the construction of the Medieval Mile Museum on the site. Amongst the finds recovered were three incomplete shoes of post-medieval design. Two shoes 351:1 and 351:2 were found in the burial vault in the south transept of the church which is almost certainly an early-seventeenth century burial vault of the Archer family. They were located *in situ* at the east end of Burial 14 within the remains of an oak coffin. The shoes can most likely be dated to 1610 – 1640 AD. The Archer family was one of the three principal families of Kilkenny during this period (Pers.comm C. O'Driscoll, Kilkenny Archaeology).

A third and fragmentary shoe sole, 3025:10 was found in the northwest sector of the churchyard and is most likely of 19th century date.



Fig.1 The shoes as found in the coffin remains.
Photo: Kilkenny Archaeology

Discussion of Finds

The two shoes recovered from Burial 14, 351:1 and 351:2 are interesting examples of the early development of heeled footwear in seventeenth century Ireland. The shoes appear to have been made especially for the funeral and burial and there are no traces of any wear and tear on the soles.

The folded welt is in two sections: a short section, which ran around the lasting margin at the heel and a longer separate piece, which ran around the rest of the lasting margin to connect with the heel welt. From waist to toe, the midsole and treadsole would appear to have been stitched to the main welt, with only the midsole being stitched to the heel welt.

The four heel lifts were stacked and pegged together before being pegged in place between the midsole and treadsole. Two large pegs were driven through the centre line of the lifts as well as a continuous line of smaller pegs around the edges. There are no traces of stitching on the heel lifts or on the treadsole at the heel.



Fig. 2 Detail of spring-heel between midsole and treadsole. Photo: J. Nicholl

The unworn nature of the treadsoles preserved the shoemaker's guidelines for cutting and assembling the shoe (Figs. 3 and 4). The guidelines, on the grain surface of the leather, consist of a deeply cut stitch/peg channel which runs parallel to the edge of the sole and is inset by approximately 10mm all around. A further straight line is cut down the centre of the sole on the inside of the stitch channel from toe to heel. Four peg holes are located along this centre line.

A pair of parallel lines, approximately 5mm apart are cut from inside the stitch channel across the waist. A second pair of lines, located approximately 30mm nearer to the front of the sole are

also cut across the width from stitch channel to stitch channel.

These guide marks would have been quickly worn away with use as in an example recovered from Kevin Street in Dublin, where only faint traces of similar guidelines can be seen at the waist of the shoe (Fig. 5). This shoe also has a spring heel located between the midsole and treadsole as do a further four examples from this site (Nicholl 2017a).

As can be seen from Figs. 3 and 4, there are slight differences in the outline of the two shoes, which suggest that they might not actually be paired shoes. The toe of 351:1 is definitely square with sharp corners while the toe of 351:2 is more rounded. However, the fact that they

were found within the same burial would seem to argue against this. The discrepancy could be accounted for as a slight error on the shoemaker's part in cutting out the soles.



Fig 3 Treadsole with shoemaker's guide marks. Photo: J. Nicholl



Fig. 5 Worn treadsole with shoemaker's marks from Kevin Street, Dublin. Photo: J. Nicholl



Fig. 4 Treadsole with shoemaker's guide marks. Photo: J. Nicholl

The unworn nature of the treadssoles also suggests the shoes were made specifically for the burial. The commissioning of footwear for burial is not without precedent. An entry in the Account Roll of the Priory of the Holy Trinity in Dublin for the year 1346 records the purchase **of shoes for the Prior for his burial**, “*Also in shoes bought for him for his burial, 3d* “ (Mills, 1996, 113).

Recent excavations in a convent chapel in the city of Rennes, France, recovered the body of Louise de Quengo who died in 1656 and was buried in simple religious vestments and leather shoes with cork soles (The Guardian 2015). There is now a growing appreciation that the post-medieval dead were buried with a variety of grave goods and that some were dressed for burial, perhaps as a mark of respect to their position in life (Renshaw and Powers 2016, 161).

It should also be borne in mind that shoes have been endowed with symbolic meanings by many cultures (Sewell 2011), but especially in the seventeenth century, when shoes were considered as potent symbols to ward off evil and witchcraft. The practice of hiding shoes in buildings as protection against witches was widespread in England and, to a lesser extent in Ireland during the reign of James I (Nicholl 2017b). Perhaps the dressing of the dead in everyday shoes for burial is a reflection of this practice.

Given the evidence for early 17th century shoe-making methods, it is tempting to consider the two shoes as belonging to a male member of the Archer family (possibly Thomas Archer d. 1617), in whose vault the shoes were found and who was buried, suitably attired and shod, as befitted his rank in Kilkenny society.

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Fig. 6 Detail of shoe with vamp in position and two side seams.

Photo: J. Nicholl

What to see in Naples

If you are in Naples, ignore the Archaeological Museum for once and head for the church of San Domenico Maggiore instead. As you gaze in wonder at the woodwork and frescos of the sacristy you will notice some odd red boxes along a gallery high above you. These are the coffins of the Aragonese kings, moved there from the church choir in the early 18th century. The clothing taken from the mummified bodies in the 1980s is now displayed in the old vestment cupboards: complete sets of fashionable dresses, shirts, jerkins, hose and shoes, all belonging to known persons of the 16th century royal family.

Most of the clothing is silk or linen, but there is a leather cushion as well as belts and sword sheaths. Shoes are often of silk or

velvet, with a leather sole. The clothes are difficult to photograph on account of reflected light, but you can see the decorative stitching on these high, suede boots belonging to a 3-4 year old boy (below, with detail). **Poignant are the many infants' dresses**, but even the new-born babies wore shoes with leather soles and silk uppers. The shoes **worn by Fransesco Ferrante d'Avalos, 1525** are of dark satin with a leather sole, worn over long, black, footed hose. This is a unique collection of clothing that is little known outside Italy. My photographs are not very good, but they give an impression of the astounding variety of clothing represented in this collection: well worth a visit.

Carol van Driel-Murray



Child's high boots and (below) stitching detail



Clothing of the Aragonese Kings at S. Domenico Maggiore, Naples



Clothing of the Aragonese Kings at Naples: hose and footwear
(see previous page)

The Annual Leather Meeting in Allariz, Northern Spain

by Franklin Pereira (Portugal)

The 7th Annual Leather Meeting in Allariz, northeastern Spain, took place from 3rd to 5th May, this time organized by Pepe Pereira, José Villar and the Leather Museum team.

Once again, a group of some 60 interested people met to learn and share several types of leathercraft in workshops (Photo below): braiding by José Bertolo; flower tooling by José Mallo; dyeing by André Ruiz; moulding using hot sand by Ernesto Sánchez (Photos 2 and 3 opposite); air-brush painting by José Villar; stitching by Pepe Pereira; and a slide show by myself on leather art from the pre-Christian era onwards.

An exhibition was dedicated to 133 pencil wallets, made at the Leather Museum, and the municipal gallery displayed recent pieces by artist Juan Olmedo of Córdoba (Photo 4).

The 6 bowls were described as 'receptacles for metaphors' and could be opened. All were made using the *cuirbouilli* technique at different temperatures, in cowhide of different thicknesses - in some cases reused - and displaying both the grain and flesh sides.

On the ground floor of the Leather Museum there was a market of tools, threads, dyes and hides.

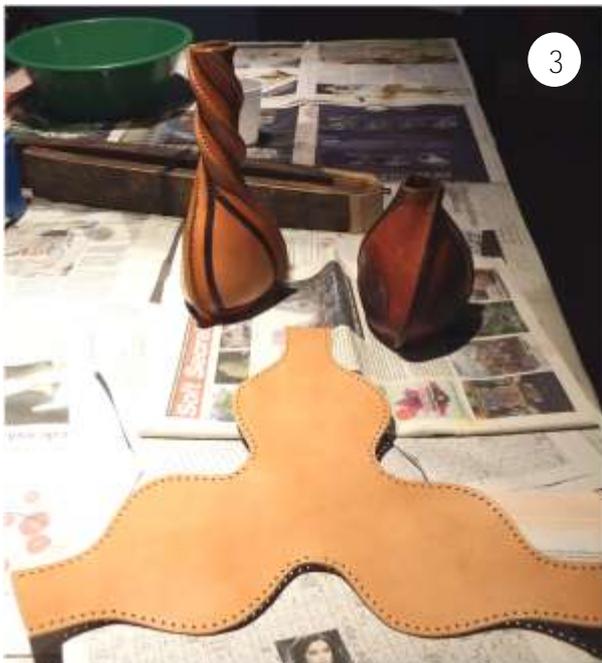
2020 will mark the 25th anniversary of the Leather Meetings, hence something special is being organized by all the team.





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Photos from the Leather Meeting at Allariz



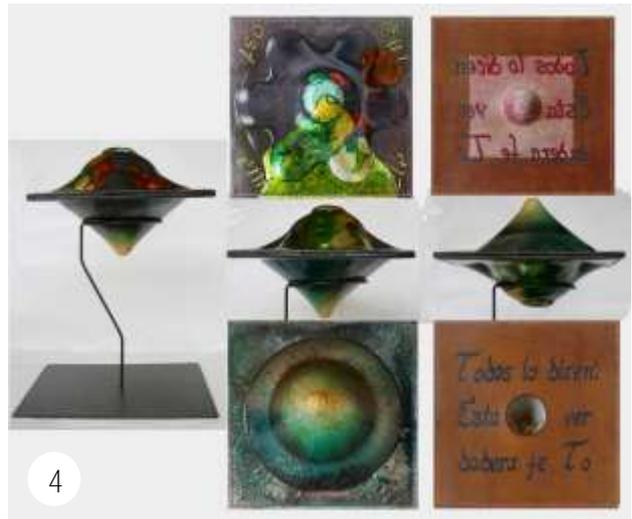
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4

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