The shoe style ‘Einbeck’ and four patten styles from the city of Einbeck

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Introduction

The town of Einbeck, located in Lower Saxony, Germany, is renowned for its beautiful sixteenth century timber framed houses, under which lies a wealth of archaeological material, conserved in humid ground that allows the preservation of many organic materials such as wood, bone and leather. In 2002 the archaeological treasures and medieval to modern period history of Einbeck were presented in the book Einbeck im Mittelalter by Andreas Heege with Eva Roth Heege. Given the immense quantity of material presented, the archaeological leather finds are summarily presented in short section of a few pages though more than a thousand leather fragments were recovered (Heege/Volken/Volken 2002, 294–299). A select number of medieval shoe styles were illustrated, including a rare mid fourteenth century style with a distinctive round open side, named the Petersilienwasser (-J) style after the important archaeological site in the town centre (Heege et al. 2002, 298, figure 627 bottom and in: Volken 2014, cat. no. 17.25). Medieval shoe styles and their cutting patterns are remarkably uniform throughout Europe, which allows a named shoe style/cutting pattern typological classification for recovered archaeological shoes. The lack of strictly regional shoe styles is most probably due to a widespread control of production methods by shoemaker’s guilds.

Medieval shoes were made with the turn shoe construction, which imposes a single, thin leather sole. When walking on natural grounds (earth, wood, gravel) the thin leather sole wears away slowly, but stone, pavement and other hard surfaces abrade the soles quickly. Leather soles are also slippery in mud, snow and on wet grass. To compensate for these difficulties, wood overshoes with leather straps, called pattens, were worn with shoes. Wood is an excellent insulating material, keeping the feet warm, while the thickness of the wood keeps the shoes up and out of wet ground. The leather straps, nailed to the wood base of the patten, keep the patten on the foot but allow movement when walking since the back part of the foot is free. Heavy wood pattens with thick stilts on the front and back are ideal for walking on muddy unpaved streets (Volken 1997). But wood pattens are slippery when walking on wet wood pavements, this is corrected by applying iron bars across the stilts, these are known as pat-
ten irons. The archaeologically recovered leather finds from Einbeck, consisting mostly of shoes, also contained patten wood bases, leather straps and patten irons.

The ‘Einbeck’ style shoe

The archaeological leather shoes found at Einbeck, though unpublished in their entirety, were included in the first comprehensive typology and chronology for archaeologically recovered leather shoes (Volken 2014). The shoes styles are named after the first published example. A late fifteenth/early sixteenth century shoe style has been named after the town (fig. 1), the Einbeck style uses with two cutting patterns (-Js, -Vqs) and is a medium height shoe with a paired lace fastening on a centre slit and a long double layer rolled collar around the opening (Volken 2014, cat. nos. 18.31, 16.03). When the shoe type has a buckle fastening it is the Saint Agnes style (Volken 2014, 16.06). The Saint Agnes shoe style is clearly shown on a figure from the right panel of The Judgment of Cambyses (1498) by Gerard David, a painting commissioned by the city authorities of Bruges for the town hall (Groeninge Museum, Bruges, Belgium). An example of the Einbeck style is depicted on a lime wood sculpture from Tiffen (Kärnten, Germany) dating from around 1500 (Boockman 1986, fig. 397).
Among the published archaeological archives, the Einbeck style is quite scarce; apart from the example presented here, a single example from Deventer and another from Dordrecht complete the total number found (Goubitz 1992, 30, fig. 5, Goubitz 2001, 192, fig. 3). The Saint Agnes style is also represented by three examples, two from the Netherlands (Deventer and Leiden) and one from Fribourg Switzerland (Goubitz 1992, 30, fig 6, van Driel-Murray 1984, 156, fig. 12, no. 40, Volken/Volken 2007, nos. 122–123). The rarity of this style can be attributed to the short period in which it was in fashion, but also the reticence for studying and publishing more modern archaeological periods. Further examples have probably been recovered in archaeology and still await identification and publication.

Pattens

For each period, the type of pattens used have specific uses in relation to the type of ground encountered. As the types of terrain vary widely throughout Europe, the shapes of the pattens also vary. The introduction of paving in the mid to late fifteenth century also changed the way pattens were used, introducing flatter stilt-less pattens. By the end of the fifteenth/beginning sixteenth century, pattens were rendered nearly obsolete by the invention of the welted and stitched down shoe sole constructions incorporating several layers of thick leather (Volken/Volken 2009). Patten makers only formed guilds in the late fourteenth to early fifteenth century, so the methods of production and subsequent styles may have been less regulated than shoe styles and cutting patterns. A comprehensive overview of all known archaeologically recovered pattens has yet to be compiled but the few publications containing pattens do show a wide variety of shapes and styles, some of which may be regional fashions (Grew/Neergard 1988, 91–101; Goubitz 2001, 249–266).

Four styles of pattens were found in Einbeck, dating from the thirteenth to early sixteenth century. The first patten presented here, the Northeim style, dates from the mid thirteenth to fourteenth century. This style of leather patten strap is an example of the difficulties in identifying a complete object when presented as fragments separate from the wood base (fig. 2). The only previously published strap fragments had been identified as probably being leather from a saddle (Schnack 1998, 53, Abb. 54,5,6,7). Unbeknownst to the author, a complete example had been found at Northeim and published during the time the Einbeck leather was being studied in 2000, published in 2002 (Merl 2001; Teuber/Just 2013, 45). As this was first published complete example, the site name is used for identifying this style. Among the leather finds from Einbeck are over 25 patten strap fragments of 2 to 3.5 mm thick cow leather, three of which were found as a group, allowing the identification of these thick leather strap pieces as being patten leathers (fig. 3). Individually these pieces are not easily identifiable as a belonging to a wood based patten - the heavy buckle and strap would logically be identified as part of belts or saddle straps, while the long sides could also be interpreted as part of saddles or other heavy equipment. Nail holes along the lower edges show the pieces had been fixed to a wooden support. Impressions around the nail holes and lower edges also show that a narrow strip of leather had been used as reinforcement. Most of
the patten leathers were cut off just above the line of nailing, so the link to
the wooden part of the patten is missing. All the upper edges have one row or
two rows of stitch holes. The edge margin of well-preserved grain shows that a
long narrow strip was used as a folded over edge binding and sewn on with a
straight through two thread stitch. No fragments of these edge binding bands
have been found, an indication that it may have been of non-vegetable tanned
leather, such as chamois tanned or white tawed leather. The large D ring buckle
and the associated strap make this style of patten adjustable to personal needs.

At Einbeck a wooden patten base was found that could have been used for a
Northeim style patten, but would have also been suitable for another style of
patten strap, such as the second type of strap found at Einbeck (fig. 4, and be-
low). The preferred wood types for patten bases were alder, willow and poplar:
all types of light weight wood with a fine grain and high resistance to water. This
form of round-toed stilted patten base has also been found in the Netherlands in thirteenth century contexts, notably at Dordrecht – but buckle fastening style Northeim uppers have yet to be identified among the recovered leather from this site (Goubitz 2001, 256–257).

The complete example found at Northeim permits a reliable reconstruction of the assemblage of the pieces (fig. 5). The thick upper leather, complete with a bound edge, was nailed to the wood base with the leather reinforcement strip. Patten irons were nailed to the stilts. The heavy sole weight leather for the uppers, plus the double row of stitches for the folded over edge binding makes for a very robust construction. The strap, also reinforced with edge binding and double rows of stitching, and the heavy iron buckle also point to the need for resisting strong use and stress while walking with these pattens, as well as being adjustable. The enclosed toe and sides plus the back part being situated nearly at the end of the base shows that these pattens were probably meant for protecting the entire shoe and to keep it firmly to the foot. Normally pattens are identified as a type of footwear for walking in the muddy and unpaved streets,

Fig. 4. The wooden base of a mid thirteenth to early fourteenth century patten found at Einbeck (EIN 191/-152-120, drawing: Pit Becker).

Fig. 5. Schematic profile of the Northern style wood patten, showing the leather upper nailed to the wood base and patten irons nailed to the stilt (drawing: M. Volken).
implying an urban utility. In this case, in addition to the practical function of walking within the village, a more agricultural context is proposed, since these pattens would also be eminently practical for walking in heavy turned earth during ploughing or planting. As the fragments from Einbeck all indicate large sizes, suitable for adult men, perhaps these sturdy pattens should be considered as the thirteenth century equivalent of the modern farmer’s rubber wellingtons.

A second style of mid thirteenth to early fourteenth century patten leathers occurs at Einbeck, which may have also used the same type of wood base as the Northeim style (fig. 6). The patten leather lacks a fastening, making it a slip-on type patten that is not adjustable. They are also made from thick leather with a folded over edge binding stitched on through all the layers. The open centre line is made by a circular cut at the instep and extending to the toe, where the two halves are sewn together (fig. 7). This style of slip-on patten leather is more easily identifiable as such and appears in the Netherlands, Germany and Poland (van der Walle/van der Woude 1989, Wirth 1995, Ceynowa 2009). The open centre line shows a great variety of sizes and shapes, including e.g. heart shaped (Goubitz 2001, 256, fig. 8, 9). A highly decorated version for a leather
covered cork patten was found in London during the nineteenth century, and was part of the medieval collection of the British Museum (Ward-Perkins 1940, 199). Leather covered cork pattens appear during the fifteenth century so the centre slit on this example probably shows a later re-use of the basic pattern shape. The long sides protect the front half of the foot but do not extend as far back on the wood base like the Northeim style. Large sizes are more rare for this style, which may be an indication that these were a style more appropriate for women. Determining the difference between shoe styles for men or women is very difficult for the medieval period since many shoe styles occur from small children’s sizes up to large sizes. If this slip-on style occurs uniformly in smaller sizes, it may be an instance of gender specific footwear. The three examples from Einbeck are estimated to be between size 37 and 40 Paris point, the usual range for women’s sizes today (though it is often assumed that people were smaller during the Middle Ages, the archaeological shoe soles from medieval population of Einbeck showed a high percentage of large sizes including several with a modern size 52–53).

The shape of the wood base for pattens undergoes several transformations during the fourteenth century. While the wide variety of shapes and models found in archaeological records hardly permits generalisation, some features seem to be more general or in common. The waist or central section of the wood base becomes narrower, corresponding to the narrow waisted shoe soles. A long, ‘prow’ shaped toe develops, which often has been explained in terms of fashion. The wood patten base seems to imitate the fashion for long toed poulaines of the third quarter of the fourteenth century. Experimental archaeology tests have shown that the long point is actually functional, serving to cut into the muddy earth to create a stable point for a lever action with the front stilt, thus allowing more force and security when walking in deep mud (Volken 1997). By the fifteenth century, the stilts on some models have become more elegant and triangular, while the toe becomes even more elongated.

The standard strap for fifteenth-century pattens is made of two triangular parts, joined on the centre of the foot by either a pin or a buckle (Goubitz 2001, 258–259). This type of adjustable patten strap was used all throughout Europe. Though a wood base was not found, the very distinctive mid to late fifteenth century leather patten strap found at Einbeck can be used to reconstruct how such a patten would have looked (fig. 8). The strap, made in two parts, is plain cut from cow leather and joined with a ‘T’ shaped pin or nail (fig. 9). The pin system for making an adjustable strap works by fixing the pin through the half
circle shape cut out of the lateral side, the strap from the medial side is passed through the opening and also pierced by the pin. The example from Einbeck has a creased line along the plain cut edges, serving both as decoration and compacting the edge for reinforcement. Though the example from Einbeck was cut off from its wood base, it was nailed to the wood patten base much in the same way as the thirteenth and fourteenth century examples. Iconographical sources from the fifteenth century show that men, women and children wore this type of adjustable patten fastening with a pin. The extant straps with pins all show round-headed pins, making the ‘T’ headed pins at Einbeck the first published example of this type of pin associated with patten leathers.

The most unusual form of patten found at Einbeck is a child’s sized example, complete with the leather strap and more than half of the wood base present (fig. 10). The toe is missing but the overall shape plus the reinforcement bars along the sides allow the wide round toe to be reconstructed, which rather amusingly resembles a ping pong paddle. The strap is nailed to the wood base with figure ‘8’ headed nails; the entire length of the leather base has a copper alloy reinforcement bar instead of the usual leather strip. The strap is made from two triangular pieces of thick cowhide, joined at the centre with a ‘T’ shaped pin. The adjustable fastening is less elaborate than the fifteenth century examples; the pin passes through the edge of the lateral strap, pierces the fastening strap that passes through a slot, the pointed end also passes through the slot and finishes by piercing the middle of the fastening strap. The direction of the fastening strap shows this patten to be for the right foot. The long part of the strap is always passes from the medial to the lateral side of the foot on both

Fig. 10. A child’s patten for the right foot found at Einbeck with an unusual ping pong paddle form (drawing: Pit Becker).

Fig. 11. Fragment of a leather patten strap with ‘T’ shaped pin adjustable fastening from Einbeck Münsterstrasse 221/-209-6 (drawing M. Volken).
shoes and pattens since if it passed from the lateral to the medial side both strap ends and buckles would catch on each other while walking. A second leather patten strap for a right foot, identical to the nearly complete example, was also found with the ‘T’ shaped pin, but it has been cut off the wood base (fig. 11). Both patten straps have plain cut edges and are made from thick cowhide (2.0 to 2.5 mm thick).

Among the archaeological archives this unusual patten shape has a single parallel example, also child sized, found at Groningen (fig. 12, Goubitz 1988, 47, fig. 44G, Goubitz 2001, 258, fig. 14b). Olaf Goubitz remarked on the rarity of small children’s sized pattens and estimated the size as being around 20 Paris point (13.2 cm) (Goubitz 1988, 49). Both the Groningen and Einbeck paddle shaped pattens are flat soled, with a slight rise of the back section. Flat pattens are useful only for paved streets and appear during the second half of the fifteenth century, but the broad round ‘cow mouth’ style toe indicates a date at the end of the fifteenth/beginning sixteenth century.

The ‘cow mouth’ fashion first appears in Europe during the final decade of the fifteenth century, with very broad round-toed shoes appearing in paintings, bas-relief sculptures and archaeologically recovered leather shoes. The particularly bulbous, circular toe shape is attested in the last decade of the fifteenth century in the painting by Geertgen tot Sint Jans, The Tree of Jesse and among the archaeological leather recovered from the shipwreck Bant (M 40) in the Noordoostpolder (Rijksdienst voor het Cultureel Erfgoed, M40-Z1950XII-405). The same excessive fashion appears also in Germany on the bas-relief lime wood sculpture at Tiffen (Kärnten) with one figure wearing a pair of very bulbous toed ‘Einbeck’ style shoes (Boockman 1986, fig. 397). A pair of leather covered cork pattens in the Bavarian National Museum in Munich show exactly the same shape of sole and bulbous toe as the shoes pictured in Geertgen tot Sint Jans’ painting (Durian-Ress 1992, 24–25). Archaeological finds of these early cow mouth style shoes are known from London (Swann 1975, 5–6, The Metropolitan Museum of Art, Onlinezugriff) as well as Oxford, Coventry, Exeter...
and St Neots (Jones 1976, 293; Thomas 1980, nos. 57/113/9, 78/82/7, 78/82/11, 78/82/35; Friendship-Taylor 1984, fig 24; Thornton 1972, 96, fig. 44).

By the first years of the sixteenth century the excessively bulbous toe shape is abandoned in favour of a more square toed shape. Over the following 30 years the exaggerated toe shape undergoes several transformations, finally being replaced by a normal toe shape before the middle of the century. The specifically round, paddle shape of the child’s patten from Einbeck and Groningen places it within the first appearance of the cow mouth style, 1490 to 1500. This is the same period when pattens start to be replaced by robust construction shoes, but children were still wearing these ‘cute’ little paddle shaped pattens probably because it was more sensible for children, and their rapidly growing feet, to continue wearing the less expensive and easier to produce turn shoe construction shoes.

**Patten irons**

One of the most common iron objects recovered from the archaeological layers at Einbeck was patten irons. These bars of iron with holes pierced for nailing onto the stilts and toes of wood patten bases show a variety of shapes (fig. 13). The irons may have served several purposes, first to prevent wood pattens from slipping on wet wood pavements or footpaths, second to strengthen the wood base, preventing splitting and cracking and third to prolong the working life of the patten by preventing excessive wear on the contact points of the stilts. Patten irons have not been studied in detail so lack a typology and chronology (Goubitza 2001, 261). The patten irons from Einbeck date from the same periods as the pattens, from the thirteenth to early sixteenth centuries.

**Conclusion**

The medieval patten is undoubtedly the most humble object recovered from the excavations at Einbeck, made for protecting thin leather shoes and destined for use in muddy streets and hard work in the fields. While shoemakers
had powerful and important guilds to protect their status, patten makers’ guilds only appear in the fifteenth century. The late development of the patten maker’s guilds reveals the low status of the craft. Yet as a composite object, making pattens required a variety of skills: collecting and seasoning the right type of wood and carving it to the correct shape, cutting and sewing the leather straps and smithing the protective irons, pins, nails.

Leather patten straps appear among archaeological material from the thirteenth century, though their use was certainly earlier, as based on iconographical sources showing pattens being worn, like the early twelfth century sculptures from Vézelay France. When found, patten straps usually have been cut off of the wood base, probably so the wood base could be repurposed as firewood, which also accounts for the rarity of wood bases.

Though pattens are, perhaps, not the most exciting of archaeological materials, their presence still provides interesting information. The thirteenth to fourteenth century pattens from Einbeck, fitted with patten irons, suggest the footpaths of the village were paved with wood, most probably in the form of wooden walkways along the house frontages. The robust Northeim patten style, while being useful for walking around the village, was probably more useful working in the fields, providing firm footing in heavy wet earth. The emphasis on agricultural work is important in view of the role that Einbeck played in the Middle Ages for beer brewing. The late fifteenth to early sixteenth century child’s paddle shaped patten with the flat bottom shows stilts were not longer necessary, implying a generalised paving or consolidation of the village footpaths. The recovered leather shoe made in the style ‘Einbeck’, roughly contemporary with the child’s round paddle shaped patten, in addition to the other late fifteenth century to early sixteenth century footwear found at Einbeck, reveals how the citizens of Einbeck were following the latest European fashions.

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