Catalogue of worked bone objects

- scale in cm
- depth (Tiefe) at OD
- period according to the layer the object was found in

Plates I & II: Long combs

Number: 1
Excavation: Kirchstraße
Find number: EMDK 1311-109
Description: long comb (fragment), length: 5.1 cm, width at the top: 4.5 cm.
Decoration: two sets of four and six horizontal parallel lines.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from proximal end of plantar side of the bone, at least 17 teeth with a width of 1.4 mm, big foramen (natural opening in the bone, entrance of blood vessel) is open and could not be used for hanging. A hole (Ø 2.8 mm) was drilled and used for hanging. Teeth and decoration sawn with a 0.5 mm saw blade.
Period: 14th-17th century.

Number: 2
Excavation: Kirchstraße
Find number: EMDK 1311-108
Description: long comb (fragment), length: 8.5 cm, width at the top: 5.1 cm.
Decoration: three sets of three horizontal parallel lines.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from proximal end of plantar side of the bone, 13 teeth with a width of 1.7 mm, big foramen (Ø c 4.0 mm) used for hanging. Teeth sawn with a less than 0.4 mm saw blade, decoration sawn with a 0.7 mm saw blade.
Period: 14th-17th century.

Number: 3
Excavation: Rosenstraße
Find number: Standlinie +3.90/Süd 0.50/Tiefe +2.10?
Description: long comb (fragment), length: 6.9 cm, width at the top: 4.0 cm.
Decoration: a set of 11 horizontal parallel lines.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from plantar side of the bone, at least 10 teeth with a width of 1.6 mm, big foramen could be used for hanging (Ø 9.0x4.4 mm). Teeth and decoration sawn with a 0.5 mm saw blade.
Remark: high polish due to intensive use.
Period: 12th century.
Number: 4
Excavation: Kirchstraße
Find number: EMDK 1047-1
Description: long comb (fragment), length: 7.2 cm, width at the top: 3.9 cm.
Decoration: none.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from proximal plantar side of the bone, 16 teeth with a width of 1.3 mm, big foramen is open and could not be used for hanging, a smaller foramen (Ø 1.7 mm) was neither used for hanging. A hole (Ø 3.4 mm) was drilled and used for hanging. Teeth sawn with a 0.4 mm saw blade.
Period: 14th-16th century.

Number: 5
Excavation: Schulstraße
Find number: Standlinie 1.30/West 4.25/Tiefe +4.60.
Description: long comb (fragment), length: 8.7 cm, width at the top: 4.2 cm.
Decoration: two sets of three horizontal parallel lines and one set of four horizontal parallel lines divided by two sets of double-lined crosses.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from plantar side of the bone, 15 teeth with a width of 1.5 mm, big foramen could be used for hanging (Ø 2.6 mm). Teeth and decoration sawn with 0.4 mm saw blade.
Remark: high polish due to intensive use.
Period: find from disturbed layers.

Number: 6
Excavation: Schulstraße
Find number: Standlinie +8.00/West 2.30/Tiefe +3.60.
Description: long comb, length: 14.1 cm, width at the top: 4.6 cm.
Decoration: two sets of three horizontal parallel lines and in between one double-lined cross.
Raw material: cattle metacarpus.
Manufacture: smoothened plate from plantar side of the bone, 12 teeth with a width of 2.0 mm, big foramen is open and could not be used for hanging, a drilled hole (Ø 3.0 mm) was used for hanging. Teeth and decoration sawn with a 0.7 mm saw blade.
Remark: high polish due to intensive use.
Period: second half of 13th century.

Number: 7
Excavation: Kirchstraße
Find number: EMDK 1552-1
Description: long comb, length: 14.1 cm.
Decoration: none.
Raw material: cattle metatarsus.
Manufacture: smoothened plate from proximal back of the bone, at least 18 teeth with a width of 1.4 mm, big foramen is open and could not be used for hanging, maybe a smaller natural foramen (Ø 1.9 mm) was used for hanging. Teeth sawn with a 0.4 mm saw blade.
Period: Haus Kirchstraße 11.
Number: 8
Excavation: Schulstraße
Find number: Standlinie +9.00/West 3.20/Tiefe +3.30.
Description: long comb, length: 15.5 cm, width at the top: 3.7 cm.
Decoration: none.
Raw material: cattle metacarpus.
Manufacture: smoothened plate from plantar side of the bone, 8 teeth with a width of 1.1-4.0 mm, big foramen is open and could not be used for hanging. Teeth sawn with a 0.9 mm saw blade.
Remark: high polish due to intensive use.
Period: second half 13th century.

Number: 9
Excavation: Schulstraße
Find number: Standlinie +4.25/West 4.25/Tiefe +4.35.
Description: long comb (fragment), length: 7.9 cm, width at the top: 3.0 cm.
Decoration: none.
Raw material: cattle metatapodia.
Manufacture: smoothened plate from plantar side of the bone, 6 teeth with a width of 2.5 mm. Teeth sawn with a 1.0 mm saw blade.
Remark: none.
Period: find from disturbed layers.

Number: 10
Excavation: Kirchstraße
Find number: EMDK 768-1
Description: long comb (fragment), length: 7.1 cm, width at the top: 2.5 cm.
Decoration: two sets of seven and one of six horizontal parallel lines.
Raw material: cattle rib.
Manufacture: thin rib plate smoothened with rounded-off edges, 11 teeth with a width of 1.3 mm, round hole (drilled) at the top (Ø 3.1 mm) for hanging. Teeth and decoration sawn with a 0.4 mm saw blade.
Period: 13th century.

Number: 11
Excavation: Schulstraße
Find number: Standlinie -2.00/Ost 1.80/Tiefe +3.00.
Description: long comb, length: 13.4 cm, width at the top: 2.6 cm.
Decoration: none.
Raw material: cattle metacarpus/tarsus.
Manufacture: smoothened plate from plantar side of the bone, 7 teeth with a width of 2.9 mm, a drilled hole (Ø 2.7 mm) was used for hanging. Teeth sawn with a 0.5 mm saw blade.
Remark: high polish due to intensive use.
Period: first half 13th century.

Number: 12
Excavation: Kirchstraße
Find number: EMDK 1274-27
Description: broken-off long comb tooth (last).
Raw material: cattle metacarpus/tarsus.
Period: 14th-16th century.
Number: 13
Excavation: Kirchstraße
Find number: EMDK 2070-1
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: 12th century.

Number: 14
Excavation: Kirchstraße
Find number: EMDK 1426-4
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: 13th century.

Number: 15
Excavation: Rosenstraße
Find number: Standlinie +4.50/Nord 1.20/Tiefe +4.50.
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: second half 14th century.

Number: 16
Excavation: Kirchstraße
Find number: EMDK 1262-7
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: 13th-19th century.

Number: 17
Excavation: Schulstraße
Find number: Standlinie +1.00/Ost 2.75/Tiefe +3.90.
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: second half 13th century.

Number: 18
Excavation: Schulstraße
Find number: Standlinie +1.50/Ost 1.30/Tiefe +3.00.
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: first half 13th century.

Number: 19
Excavation: Rosenstraße
Find number: Standlinie +1.00/Süd 0.50/Tiefe +3.10.
Description: broken-off long comb tooth.
Raw material: cattle metacarpus/tarsus.
Period: first half 13th century.
Number: 20  
Excavation: Kirchstraße  
Find number: EMDK 37-1  
Description: long comb (fragment), length: 8.1 cm, width at the top: 3.5 cm.  
Decoration: none.  
Raw material: cattle metacarpus.  
Manufacture: smoothened plate from proximal plantar side of the bone, 12 teeth with a width of 0.6 mm, a drilled hole (Ø 4.5 mm) was used for hanging. Teeth sawn with a 0.3 mm saw blade.  
Period: stray find.

Plates III-IV: Composite combs

Terminology used in the description of composite combs (after MacGregor 1985, Figure 43).

- teeth were sawn after piecing the combs together

Number: 21  
Excavation: Kirchstraße  
Find number: EMDK 1750  
Description: composite winged comb, length: 17.1 cm, length side-plate: 15.4 cm.  
Decoration: three sets of five-seven vertical lines on both side-plates.  
Raw material: side-plate cattle metacarpus/tarsus, tooth-plate unknown.  
Manufacture: approx. seven tooth-plates, drilled hole (Ø 5.7 mm) in the end-plate for hanging, nine rivet holes (Ø 3.1 mm), copper alloy rivets. Decoration sawn with a 0.5 mm saw blade, teeth sawn with a 0.9 mm saw blade.  
Period: 12th century.

Number: 22  
Excavation: Rosenstraße  
Find number: Standlinie -5.00/Süd 1.00/T +1.90.  
Description: composite comb (fragment) with coarse and fine teeth, length: 18.0 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: at least eight comb-plates (20.6, 17.7, 19.8, 24.8, 16.5, 24.3 and 21.3 mm wide), at least ten rivet holes (Ø 2.7 mm), copper alloy rivets, hole (Ø 2.9 mm) for case. Teeth (1.0 and 2.5 mm wide) sawn with a 0.6 mm saw blade.  
Period: 11th century.
Number: 23
Excavation: Rosenstraße
Find number: Standlinie +5.80/Süd 0.30/T +2.20.
Description: winged composite comb (fragment), length: 16.3 cm.
Decoration: only front side-plate has an elaborate decoration of groups of vertical lines, double crosses and rectangles filled with herringbone pattern.
Raw material: red deer antler.
Manufacture: at least nine comb-plates (24.6 (wing), 11.4, 19.3, 16.3, 16.5, 17.6 and 12.3 mm wide), at least ten rivet holes (Ø 2.6 mm), copper alloy rivets. Teeth (1.7 mm wide) sawn with a 0.5 mm saw blade and decoration sawn with a 0.4 mm saw blade.
Remark: the comb demonstrates high craftsmanship, teeth heavily worn down, very high use polish.
Period: 12th century.

Number: 24
Excavation: Rosenstraße
Find number: T +3.90.
Description: winged composite comb, length: 14.0 cm, length of side-plate: 11.1 cm.
Decoration: V-shaped cuts on the rims of the wings.
Raw material: red deer antler.
Manufacture: six tooth-plates (wing plates 23.3 and 26.7, other plates 22.1, 21.3, 20.6 and 22.6 mm wide), seven rivet holes (Ø 2.3 mm), copper alloy rivets, a hole (Ø 2.5 mm) in each wing for the attachment of the case. Teeth (0.8 mm wide) sawn with a 0.4 mm saw blade.
Remark: the comb bears witness of high craftsmanship.
Period: 14th century.

Number: 25
Excavation: Rosenstraße
Find number: Standlinie -4.30/Nord 0.40/T +1.60.
Description: winged composite comb (fragment), length: 17.4 cm.
Decoration: none.
Raw material: red deer antler.
Manufacture: at least nine comb-plates (35.0 (wing), 17.3, 18.4, 19.1, 16.6, 17.8, 16.9 and 17.2 mm wide), at least eight rivet holes (Ø 3.8 mm), copper alloy rivets. Teeth (0.9 mm wide) sawn with a 0.4 mm saw blade.
Period: late 10th-early 11th century.

Number: 26
Excavation: Rosenstraße
Find number: Standlinie -2.00/Süd 1.10/T +1.60.
Description: winged composite comb, length: 19.2 cm (side-plate).
Decoration: none.
Raw material: red deer antler.
Manufacture: nine comb-plates (19.8, 19.4, 23.4, 21.1, 22.6, 23.2 and 16.8 mm wide), nine rivet holes (Ø 1.9 mm), copper alloy rivets. Teeth (2.3 and 1.2 mm wide) sawn with a 0.6 mm saw blade.
Period: late 10th-early 11th century.
Number: 27  
Excavation: Schulstraße  
Find number: Standlinie +5.30/West 2.80/T +3.00.  
Description: composite comb (fragment), length: 12.3 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: at least four comb-plates (20.6 and 20.2 mm wide), at least eight rivet holes (Ø 2.6 mm), copper alloy rivets. Teeth (1.7 mm wide) sawn with a 0.4 mm saw blade.  
Period: first half 13th century.

Number: 28  
Excavation: Schulstraße  
Find number: Standlinie +1.50/West 0.20/T +1.50.  
Description: five comb-plates of composite comb, two with coarse and three with fine dentition.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: comb-plates (22.9 and 21.3 (end-plates), 19.0, 19.1 and 23.2 mm wide), rivet holes (Ø 2.6 mm), a drilled hole (Ø 3.9 mm) in one end-plate for hanging. Teeth (2.0 and 0.8 mm) sawn with a 0.4 mm saw blade.  
Period: end 10th-early 11th century.

Number: 29  
Excavation: Pelzerstraße  
Find number: Standlinie 8.20/Nord 7.00/T 0.40.  
Description: composite comb (fragment), length: 7.7 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: at least five tooth-plates (16.5 and 16.7 mm wide), at least three rivet holes (Ø 2.3 mm), copper alloy rivets. Teeth (1.1 mm wide) sawn with a 0.4 mm saw blade; left half of the teeth sawn from one side right half from the other side.  
Period: 10th-11th century.

Number: 30  
Excavation: Schulstraße  
Find number: Standlinie +4.50/West 0.70/T +2.70.  
Description: composite comb (fragment), length: 7.0 cm.  
Decoration: V-shaped lines on both side-plates.  
Raw material: red deer antler.  
Manufacture: three comb-plates (28.9 and 22.0 mm wide), five rivet holes (Ø 2.5 mm), copper alloy rivets. Teeth (0.9 and 1.3 mm wide) and decoration sawn with a 0.4 mm saw blade.  
Period: first half 13th century.

Number: 31  
Excavation: Schulstraße  
Find number: Standlinie 8.80/Ost 1.70/T +1.50.  
Description: composite comb side-plate (fragment), length: 7.3 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: three rivet holes (Ø 2.7 and 3.8 mm), copper alloy rivets. Teeth sawn with a 0.4 mm saw blade.  
Period: late 10th-early 11th century.
Number: 32
Excavation: Schulstraße
Find number: Standlinie +3.00/Ost 2.80/T +2.70.
Description: composite comb side-plate (fragment), length: 7.2 cm.
Decoration: two rows of irregularly spaced dot-circle’s divided and enclosed by horizontal lines.
Raw material: red deer antler.
Manufacture: three rivet holes, copper alloy rivets.
Period: first half 13th century.

Number: 33
Excavation: Schulstraße
Find number: Standlinie +5.85/West 2.70/T +3.30.
Description: composite comb (fragment), length: 13.8 cm.
Decoration: none.
Raw material: cattle metacarpus/tarsus.
Manufacture: five comb-plates (25.6, 27.8 and 24.7 mm wide), eight rivet holes (Ø 2.4 mm), copper alloy rivets, hole (Ø 0.4 mm) for attachment comb case. Teeth (0.5 and 1.4 mm wide) sawn with a 0.5 mm saw blade.
Remark: reconstructed by Miss Silvia Kalabis (Wilhelmshaven).
Period: second half 13th century.

Plate V: (Composite) combs and comb cases

Number: 34a & 34b
Excavation: Pelzerstraße
Find number: Standlinie 8.10/Süd 7.00/T +2.20.
Description: one-piece double comb, length: 4.8 cm, width: 3.6 cm.
Raw material: red deer antler.
Decoration: on the front the piece of antler between the two rows of teeth is decorated with two rows of irregularly spaced dot-circle’s (Ø 2.8 mm) which are divided by three sets of two horizontal lines. On the back, beside seven irregular dots, only two rows with two lines are placed over the beginnings of the teeth. One side of the comb is decorated with lines cut out forming a V in the middle.
Manufacture: smoothened plate of antler (profile: flat diamond), spongy tissue is visible on the back, on one side 17 coarse teeth (1.3 mm wide) sawn with a 0.5 mm saw blade and on the other side 28 fine teeth (0.7 mm wide) sawn with a 0.4 mm saw blade. Part of the decoration was cut-out, part was sawn with a 0.4 mm saw blade.
Remark: The manufacture indicates high craftsmanship and is in sharp contrast with the crude decoration.
Period: 12th-13th century.

Number: 35
Excavation: Schulstraße
Find number: Standlinie +6.80/West 2.30/T +2.70.
Description: double-sided composite comb (fragment), length: 5.0 cm.
Decoration: groups of three vertical lines on both of the side-plates.
Raw material: red deer antler (side-plate) and bone (tooth-plate).
Manufacture: two tooth-plates, five rivet holes (Ø 2.0 mm), copper alloy rivets, a hole (Ø 2.5 mm) in the end-plate for hanging. Teeth (2.1 and 1.2 mm wide) sawn with a 0.4 mm saw blade and decoration sawn with a 0.3 mm saw blade.
Period: first half 13th century.
Number: 36  
Excavation: Rosenstraße  
Find number: Standlinie +1.40/Nord 1.30/T +3.00.  
Description: roughly made composite comb side-plate (fragment), length: 12.5 cm.  
Decoration: none.  
Raw material: bone.  
Manufacture: six rivet holes (Ø 3.0 mm), copper alloy rivets. Teeth sawn with a 0.4 mm saw blade.  
Period: first half 13th century.

Number: 37  
Excavation: Pelzerstraße  
Find number: Standlinie 8.10/Nord 7.00/T +2.20.  
Description: side-plate of a composite comb (fragment), length: 5.2 cm, width: 1.0 cm.  
Decoration: two rows of irregularly spaced dot-circle’s (Ø 3.2 mm).  
Raw material: red deer antler.  
Manufacture: three rivet holes (Ø 2.4 mm), copper alloy rivets.  
Period: 12th-13th century.

Number: 38  
Excavation: Rosenstraße  
Find number: Standlinie +4.50/Nord 0.50/T +0.10.  
Description: end-plate of composite comb, wide: 2.5 cm.  
Decoration: none.  
Raw material: bone.  
Manufacture: at least one rivet hole, hole (Ø 2.8 mm) for hanging. Teeth (1.9 mm wide) sawn with a 0.5 mm saw blade.  
Period: outside excavation stratigraphy.

Number: 39  
Excavation: Kirchstraße  
Find number: EMDK 1859  
Description: tooth-plate of a composite comb, height: 4.7 cm, width: 1.9 cm.  
Decoration: none.  
Raw material: cattle metacarpus/tarsus.  
Manufacture: 11 teeth, rivet hole (Ø 3.0 mm). Teeth sawn with a 0.5 mm saw blade.  
Period: 12th century.

Number: 40  
Excavation: Schulstraße  
Find number: Standlinie +11.00/West 2.80/T +3.00.  
Description: tooth-plate of composite comb, width: 2.1 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: tooth-plate with rivet hole (Ø 2.2 mm). Teeth (1.3 mm wide) sawn with a 0.7 mm saw blade.  
Period: first half 13th century.
Number: 41  
Excavation: Schulstraße  
Find number: Standlinie –0.50/West 2.20/T +2.70.  
Description: tooth-plate of composite comb, length: 1.8 cm.  
Decoration: none.  
Raw material: bone.  
Manufacture: two rivet holes (Ø 3.3 mm). Teeth (1.7 mm wide) sawn with a 0.7 mm saw blade.  
Period: first half 13\textsuperscript{th} century.

Number: 42  
Excavation: Rosenstraße  
Find number: Standlinie +4.00/Nord 0.50/T +3.70.  
Description: decorated triangular comb case (fragment).  
Decoration: sets of four vertical lines bordered by a V-shaped horizontal line on the rim of the case.  
Raw material: bone, probably cattle rib.  
Manufacture: comb case length 12.4 cm, hole with a copper alloy rivet. Decoration sawn with a 0.3 mm saw blade. High gloss.  
Period: second half 13\textsuperscript{th} century.

Number: 43  
Excavation: Rosenstraße  
Find number: Standlinie +1.90/Nord 2.00/T +3.40.  
Description: winged composite comb (fragment), length: 4.8 cm.  
Decoration: none.  
Raw material: red deer antler.  
Manufacture: two tooth-plates, three rivet holes (Ø 2.9 mm), copper alloy rivets. Teeth (1.1 mm wide) sawn with a 0.4 mm saw blade.  
Period: second half 13\textsuperscript{th} century.

Number: 44  
Excavation: Schulstraße.  
Find number: Standlinie -1.10/West 1.90/T +1.50  
Description: decorated triangular comb case (fragment).  
Decoration: sets of ten partly dotted vertical lines cover the ends, in the middle an elaborate decoration of dot-circle’s (Ø 4.0 mm), vertical and crossed double lines fills a rectangular space.  
Raw material: red deer antler.  
Manufacture: comb case length 11.2 cm, hole (Ø 2.4 mm) in one end for attachment on the comb. Decoration sawn with a 0.7 mm saw blade. High gloss.  
Period: late 10\textsuperscript{th}–early 11\textsuperscript{th} century.

Number: 45  
Excavation: Kirchstraße  
Find number: EMDK 1625  
Description: comb case triangular (fragment), length: 10.6 cm.  
Decoration: four deep horizontal parallel lines.  
Raw material: cattle rib.  
Manufacture: smoothened rib plate with rounded-off edges. Four drilled holes (Ø 2.2 mm).  
Period: 13\textsuperscript{th} century.
Number: 46
Excavation: Rosenstraße
Find number: Standlinie –1.00/Süd 1.00/T +1.60.
Description: composite comb (fragment), length: 6.6 cm.
Decoration: sets of four vertical lines on both side-plates.
Raw material: red deer antler.
Manufacture: four tooth-plates (20.6 and 18.8 mm wide), three rivet holes (Ø 2.2 mm), copper alloy rivets. Teeth (1.2 mm wide) sawn with a 0.4 mm saw blade, decoration sawn with a 0.2 mm saw blade.
Period: late 10th-early 11th century.

Plates VI: Leisure

Number: 47
Excavation: Schulstraße
Find number: Standlinie –2.60/Ost 2.50/T +3.60.
Description: whistle (fragment?).
Decoration: none.
Raw material: left Anser sp. ulna.
Manufacture: proximal end roughly broken off, distal end (top of whistle) carefully cut-off, the fipple was cut out in a rounded-off triangle shape, very glossy through use.
Period: second half 13th century.

Number: 48a & 48b
Excavation: Kirchstraße
Find number: EMDK 1482-1
Description: flute, length: 12.0 cm.
Raw material: right sheep/goat metatarsus.
Manufacture: proximal part with quadratic hole (Ø 8.1 mm) in the still present joint surface, medial three holes: two proximal (Ø 4.2 and 5.5 mm) and one distal (labium) in proximal direction slanting (Ø 4.5 mm x 10.8 mm), lateral one hole (Ø 4.8 mm), distal lateral bone slanting pointed (mouth piece), the flute was used ‘bone wrong’.
Period: 14th-16th century.

Number: 49
Excavation: Kirchstraße
Find number: EMDK 1280-114
Description: worked piece of bone, length: 5.7 cm.
Raw material: cattle 1st phalanx.
Manufacture: dorsal line decoration made of three vertical parallel lines covered by two slanting crossing lines.
Period: 13th-20th century.

Number: 50
Excavation: Schulstraße
Find number: Standlinie +3.00/Ost 2.80/T +2.70.
Description: mount.
Decoration: two rows of V-shaped lines.
Raw material: cattle rib.
Manufacture: smoothened thin plate of bone (thickness 1.7 mm), two rivet holes (Ø 2.2 mm) at the ends, decoration sawn with a 0.5 mm saw blade.
Period: first half 13th century.
Number: 51
Excavation: Schulstraße
Find number: Standlinie +6.10/West 2.60/T +3.90.
Description: mount.
Decoration: irregular row of at least eight double-lined dot-circle’s (Ø 11.2 mm).
Raw material: cattle rib.
Manufacture: smoothened thin plate of bone (thickness 2.3 mm).
Period: second half 13th century.

Number: 52
Excavation: Große Straße Ecke unter der Straßenoberfläche.
Find number: (Haarnagel nr. 25).
Description: composite game piece (Ø 4.1 cm, thickness 11.2 mm).
Decoration: on one side three sets of five radiating lines and one set of four radiating lines forming a cross, on the back three sets of six radiating lines and one set of eight radiating lines forming a cross.
Raw material: cattle mandibula.
Manufacture: three round plates of bone were nailed together with three copper alloy rivets, then a hole was drilled in the middle (Ø 7.7 mm). Decoration sawn with a 0.7 mm saw blade. Glossy through use.
Period: ? (found outside regular excavations).

Number: 53
Excavation: Schulstraße
Find number: Standlinie +0.20/Ost 1.30/T +2.70.
Description: composite game piece (Ø 3.3 cm, thickness 10.6 mm).
Decoration: none
Raw material: cattle mandibula.
Manufacture: three round plates of bone were nailed together with two fully corroded iron rivets, then a hole was drilled in the middle (Ø 8.2 mm), glossy through use.
Period: first half 13th century.

Number: 54
Excavation: Schulstraße
Find number: Standlinie +9.40/Ost 0.80/T +2.70.
Description: game piece (Ø 2.8 cm, thickness 11.7 mm).
Decoration: none
Raw material: cattle mandibula.
Manufacture: a more or less round plate of bone sawn out of a mandibula, an irregular hole was cut out in the middle (Ø 7.1 mm), glossy through use.
Period: 1st half 13th century.

Number: 55
Excavation: Rosenstraße
Find number: Standlinie –3.70/Süd 1.10/T +2.80.
Description: possible game piece.
Raw material: red deer antler.
Manufacture: smoothened thin disc of antler (Ø 16.5 mm; thickness 7.0 mm), glossy.
Period: first half 13th century.
Plate VII and VIII: Skates and sledge runners

Number: 56
Excavation: Kirchstraße
Find number: EMDK 1629
Description: skate, length: 24.4 cm.
Raw material: right cattle metatarsus.
Manufacture: proximal and distal ends axe marks on the lateral, medial and dorsal side to get the rough form of a skate, distal end dorsal upswept, drilled transverse hole distal for binding skate to the foot, dorsal side strongly flattened and highly polished by use (ice), planar side highly polished by use (foot/shoe).
Period: 13th century.

Number: 57
Excavation: Rosenstraße
Find number: Standlinie –4.00-6.00/Süd 0.10-1.10/T +1.10?.
Description: skate, length: 19.4 cm.
Raw material: right cattle metacarpus.
Manufacture: proximal and distal end dorsal upswept, drilled transverse hole distal (Ø 5.8 mm), three drilled axial holes (Ø 5.4 mm, 5.7 mm and 4.8 mm) in the proximal articulation surface for binding skate to the foot, dorsal side slightly flattened and highly polished.
Period: 10th century.

Number: 58
Excavation: Große Kirche
Find number: Standlinie –7.80/Ost 0.60/T –0.20.
Description: skate, length: 24.0 cm.
Raw material: right horse metatarsus.
Manufacture: cut marks on dorsal side, distal end dorsal upswept, highly flattened and polished, glossy on the plantar side.
Period: Disturbed layers due to the many graves.

Number: 59
Excavation: Rosenstraße
Find number: Standlinie -7.90/Süd 0.40/T +1.90.
Description: skate, length: 22.2 cm.
Raw material: right horse metacarpus.
Manufacture: proximal and distal ends axe marks on the lateral, medial, dorsal and volar side to get the rough form of a skate, distal end dorsal upswept, upper half of the dorsal side of the bone removed and medullar cavity exposed.
Period: 11th century.

Number: 60
Excavation: Schulstraße
Find number: Standlinie 0-1.20/Ost 0-2.00/T 1.80.
Description: skate, length: 22.5 cm.
Raw material: cattle metacarpus.
Manufacture: distal end dorsal upswept, distal end drilled hole (Ø 8.4 mm) dorsal-volar, upper half of the dorsal side of the bone removed and medullar cavity exposed.
Period: 11th century.
Number: 61a & 61b
Excavation: Pelzerstraße
Find number: E59 J 3.0/5.0.
Description: skate, length: 22.3 cm.
Raw material: right horse metacarpus.
Manufacture: distal axe marks on the lateral, medial and dorsal sides to get the rough pointed form of a skate, distal end shaped to a pointed tip, drilled transverse hole (Ø 4.5 mm) in the proximal articulation surface for binding skate to the foot (glossy), dorsal site strongly flattened and highly polished.
Period: late 10th-early 11th century.

Number: 62
Excavation: Schulstraße
Find number: Standlinie +4.50/West 5.00/T +3.60.
Description: skate (fragment), length: 24.3 cm.
Raw material: left horse metacarpus.
Manufacture: proximal end flattened on the dorsal side, chopping of lateral sides distal, metacarpi II and IV cut-off, drilled axial hole (Ø 12.9 mm) in the proximal articulation surface for binding skate to the foot, dorsal side strongly flattened and highly polished.
Period: second half 13th century.

Number: 63
Excavation: Schulstraße
Find number: °EII H 50/14-164.
Description: skate, length: 24.3 cm.
Raw material: left horse metacarpus.
Manufacture: distal end dorsal upswept, drilled transverse hole (Ø 8.8 mm) for binding skate to the foot, drilled axial hole (Ø 10.7 mm and 34.0 mm deep) in the proximal articulation surface, dorsal side slightly flattened, metacarpi II and IV partly removed.
Period: second half 13th century.

Number: 64
Excavation: Schulstraße
Find number: Standlinie +9.00/West 0.60/T +3.30.
Description: sledge runner, length: 34.0 cm.
Raw material: right horse radius.
Manufacture: distal end axe marks on the lateral and medial side, a drilled hole in the volar-proximal end (Ø 22.4 mm and 22.5 mm deep) some cut marks around the hole to flatten the surface and a drilled hole in the volar-distal end (Ø 21.6 mm and 19.0 mm deep), dorsal side strongly flattened, highly polished and partly worn through, ulna partly removed.
Period: second half 13th century.

Number: 65
Excavation: Schulstraße
Find number: °EII K 2/2-185.
Description: skate (partly calcined fragment), length: 9.8 cm.
Raw material: cattle metatarsus.
Manufacture: drilled transverse hole (Ø 6.5 mm) distal for binding skate to the foot, dorsal side strongly flattened.
Period: first half 13th century.
Number: 66
Excavation: Rosenstraße
Find number: "EN 12/5.
Description: skate (fragment), length: 15.1 cm.
Raw material: cattle metacarpus.
Manufacture: distal end shaped to a pointed tip, chopping of lateral sides distal, drilled transverse hole (Ø 6.0 mm, glossy) for binding skate to the foot, dorsal side strongly flattened and highly polished.
Period: 12th century.

Number: 67
Excavation: Schulstraße
Find number: EII R 3/2-256.
Description: skate (fragment), length: 18.6 cm.
Raw material: right horse radius.
Manufacture: distal end shaped to a pointed tip, chopping of lateral sides distal, dorsal side strongly flattened and highly polished.
Period: mid 9th-early 10th century.

Number: 68a & 68b
Excavation: Pelzerstraße
Find number: E59 M 7/3.9.
Description: sledge runner, length: 17.1 cm.
Raw material: left cattle metacarpus.
Manufacture: axe marks on the lateral, medial and dorsal sides of the proximal and distal ends to get the rough form of a runner, dorsal-volar drilled hole in the distal end (Ø 5.9 mm) and two drilling holes (Ø 5.2 mm and 4.4 mm) proximally for binding the runner to the sledge, dorsal site strongly flattened and highly polished.
Period: Not related to an occupation layer.

Number: 69
Excavation: Rosenstraße
Find number: "ER 13/6.
Description: skate (fragment), length: 10.9 cm.
Raw material: Right horse radius.
Manufacture: cut marks on volar/plantar side, highly flattened and polished on dorsal side.
Period: 10th century.

Plate IX: Pointed objects

Number: 70
Excavation: Kirchstraße
Find number: EMDK 2106-4
Description: awl or “spleusteker”, length: 16.0 cm.
Raw material: left cattle metatarsus.
Manufacture: proximal cut marks/gnawing traces and rough hole in the joint surface, distal roughly pointed and highly polished through use.
Period: 12th century.
Number: 71
Excavation: Schulstraße
Find number: EII S2/1-266.
Description: awl, length: 12.3 cm.
Raw material: right pig tibia.
Manufacture: distal end roughly pointed (gnawing traces).
Period: mid 9th-early 10th century.

Number: 72
Excavation: Rosenstraße
Find number: “EL 10/4.
Description: awl or “spleusteker”, length: 12.5 cm.
Raw material: left cattle tibia.
Manufacture: proximal end cut marks (gnawing traces), distal roughly pointed and highly polished through use.
Period: first half 13th century.

Number: 73
Excavation: Schulstraße
Find number: Standlinie +8.20/West 1.80/T +1.20.
Description: awl or “spleusteker1”, length: 13.0 cm.
Raw material: right cattle metacarpus.
Manufacture: proximal cut marks and rough more-or-less round hole (Ø 1.8 cm) in the joint surface, distal roughly pointed and highly polished through use.
Period: 10th century.

Plate X: Worked ribs

Number: 74a & 74b
Excavation: Schulstraße
Find number: EII M 12/5-221.
Description: possible handle.
Raw material: left cattle rib.
Manufacture: at the ends two rough more or less round holes (Ø approx. 5.0x5.3 mm) were carved in a piece of rib that was chopped at the ends during slaughter, no gloss.
Period: 12th century.

Number: 75
Excavation: Rosenstraße
Find number: "EN 4/1.
Description: possible smoother.
Raw material: cattle rib.
Manufacture: high gloss on the outer side (lateral).
Period: 12th century.

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1 Pole-tip used in skating on bones skates. This interpretation is doubted by KÜCHELMANN & ZIDAROV (2005, 15) as the point would be too blunt to give a good grip on the ice.
Number: 76
Excavation: Schulstraße
Find number: EII J 22/15-182.
Description: unknown object.
Raw material: right cattle rib.
Manufacture: drilled round hole (⌀ 7.7 mm and 4.8 mm deep) at the distal end (medial).
Period: second half 13th century.

Number: 77
Excavation: Kirchstraße
Find number: EMDK 2234-29
Description: smoother, length: 15.1 cm.
Raw material: left cattle rib.
Manufacture: proximal and distal ends sawn-off, lateral highly polished through use.
Period: second half 10th-11th/12th century.

Number: 78
Excavation: Schulstraße
Find number: EII Q 7/5-254.
Description: possible smoother.
Raw material: left cattle rib.
Manufacture: high gloss on the outer side (lateral).
Period: 10th century.

Plate XI: Bearings

- A bearing is a device to permit constrained relative motion between two parts, typically rotation or linear movement. It is believed that these bearings were used in machines which crafted wood or bone. However, the marks on the below described bearings suggest friction with a harder material (see below).

Number: 79a & 79b
Excavation: Schulstraße
Find number: Standlinie 5.50/West 0.20/T 3.50.
Description: bearing, length: 19.0 cm, width: 3.5 cm.
Raw material: left cattle metacarpus.
Manufacture: proximal and distal ends are cut from all sides into a rectangular shape. A hole (⌀ 18.5mm) was driven so deeply into the middle of the dorsal side that it left a round mark (⌀ 15.1mm) on the inside of the palmar side. This hole-mark is slightly oval (from left to right) with a bony pin remaining in the middle. The object which was obviously stuck into this hole broke out at least twice. After the first time, it was reused as some of the irregular edges are smooth. The whole dorsal side of the bone is covered with concentric circles from use around the hole. Function: a round device was stuck into the hole and could turn freely 360° as the concentric circle marks show. The device must have looked like a round rod with a pin with a hole in the middle of the head, which left the bony pin on the inside of the bone. The device must have been made from some harder material than bone, otherwise the circle marks would not have been so deeply driven in. In use, the bone was not able to move as no marks were found on the palmar side of the bone. It probably lay on the palmar side as this side was flattened at the ends. The later would have been unnecessary if the bone was used upright and held in something. Maybe it was used as a holder for the shaft of a potter’s wheel and pieces of clay, stuck between the wheel and the bone, left the concentric circle marks.
Period: second half 13th century.
Number: 80
Excavation: Rosenstraße
Find number: stray find
Description: bearing, length: 10.9 cm, width: 2.9 cm.
Raw material: left cattle metacarpus.

Manufacture: proximal end was cut from all sides into a rectangular shape. A hole (Ø 18.5mm) was driven into the middle of the dorsal side (Ø ?mm). The thing stuck into this hole broke out. The whole dorsal side of the bone is covered with concentric circles around the hole from use.
Function: see number 79.
Period: Stray find.

Number: 81a & 81b
Excavation: Schulstraße
Find number: Standlinie 1.20/Ost 1.30/T 3.00.
Description: bearing, length: 18.4 cm, width: 3.8 cm.
Raw material: right cattle metacarpus.

Manufacture: proximal and distal joint are cut from all sides into a rectangular shape. A hole (Ø21.5mm) was driven so deeply into the middle of the dorsal side that it left a round mark (Ø 15.1mm, hole is slightly oval from left to right), with in the middle a bony pin, on the inside of the palmar side. The thing stuck into this hole broke out at least twice. After the first time, the object was reused as some of the irregular edges are smooth. The whole dorsal side of the bone is covered with concentric circles round the hole from use.
Function: see number 79.
Period: first half 13th century.

Number: 82
Excavation: Schulstraße
Description: unfinished bearing, length: 16.4 cm, width: 3.8 cm.
Raw material: right cattle metacarpus.

Manufacture: proximal and distal joint were cut from all sides into a rectangular shape.
Period: second half 13th century.

Plate XII: Miscellaneous objects

Number: 83
Excavation: Kirchstraße
Find number: EMDK 1605-1
Description: handle (fragment), length: 9.9 cm, Ø 2.7 cm.
Decoration: 18 sets of three lines encircling the handle.
Raw material: cattle metacarpus/tarsus.
Manufacture: highly polished surface through use, dog gnawing traces.
Period: 13th century.
Number: 84
Excavation: Schulstraße
Find number: E11 P 2/1-244.
Description: possibly handle, length: 10.6 cm.
Decoration: none.
Raw material: right sheep metatarsus.
Manufacture: distal end carefully cut-off, glossy.
Period: late 10th-early 11th century.

Number: 85
Excavation: Schulstraße
Find number: Standlinie +7.70/Ost 3.00/T +2.40.
Description: handle with iron core, length: 11.3 cm.
Decoration: none.
Raw material: red deer antler, iron.
Manufacture: antler tine carefully smoothened and facetted (profile: octagonal), broader in the middle than at the ends, iron rod runs inside hollow centre of the tine, at one end the rod has a square cross section, at the other side a square tag on the rod prevented the iron implement on the other side from moving when force was applied on the object. Remark: large cracks due to corrosion of the iron rod, very glossy through use, surface weathered.
Period: 12th century.

Number: 86
Excavation: Schulstraße
Find number: Standlinie +0.10/Ost +1.60/T +1.50.
Description: handle with iron core, length: 6.3 cm.
Decoration: two sets of double lines enclose four sets of double V-shaped lines at the proximal end \( \varnothing 14.8 \text{ mm} \), one simple line at the distal end (\( \varnothing 10.3 \text{ mm} \)).
Raw material: red deer antler.
Manufacture: smoothened tine, high polish through use.
Period: late 10th-early 11th century.

Number: 87
Excavation: Schulstraße
Find number: Standlinie +3.20/West 0.10/Tiefe 0.60.
Description: spindle whorl.
Decoration: none.
Raw material: red deer antler.
Manufacture: cut out to form a hemisphere and perforated through the centre (\( \varnothing 9.6 \text{ mm} \)), top circular marks around perforation, bottom slightly convex.
Period: mid 9th-early 10th century.

Number: 88
Excavation: Kirchstraße
Find number: EMDK 1477-12
Description: piece of bone with dot-circle decoration (fragment), length: 10.3 cm.
Decoration: three dot-circle in two different sizes.
Raw material: cattle metacarpus/tarsus.
Manufacture: smoothened piece of bone, proximal with dot-circle decoration and cut marks, distal traces of exposure to fire.
Period: 13th-19th century.
Number: 89
Excavation: Kirchstraße
Find number: EMDK 1553-1
Description: needle, length: 9.0 cm, width at the top: 0.5 cm.
Raw material: long bone cattle/horse.
Manufacture: needle with eye (Ø 1.8 mm) cut-out from both sides, polished through use.
Period: 14\textsuperscript{th} -early 17\textsuperscript{th} century.

Number: 90
Excavation: Schulstraße
Find number: Standlinie +8.20/West 1.80/T +1.20.
Description: double-pointed device (fish hook?), length: 9.9 cm, width: 10.2 mm.
Raw material: red deer antler?
Manufacture: antler tine pointed at both sides, cross section in the middle: flattened oval, the ends point slightly upwards, very glossy.
Period: 10\textsuperscript{th} century.

Number: 91
Excavation: Rosenstraße
Description: worked bone, length: 5.9 cm.
Raw material: distal part of left sheep metatarsus.
Manufacture: plantar-dorsal hole (Ø 6.0 mm), dorsal cut marks around the hole to flatten surface.
Period: late 10\textsuperscript{th} -early 11\textsuperscript{th} century.

Plate XIII: Relic shrine

Number: 92
Excavation: Rosenstraße
Find number: none.
Description: remains of a relic shrine made of linden wood covered by strips of decorated bone.
Decoration: patterns consisting of dot-circles, circles, zig-zag lines and rows of thumb nail-like incisions.
Raw material: cattle and/or horse ribs, linden wood and brass.
Manufacture: thin plates of rib highly polished on the decorated side, spongiosa is visible on the back of most plates, some rib plates were cut-off straight others under an angle so the plates could be fitted together, some plates had rivet holes to attach them to the wood of the box, other plates had sawn-out patterns which were underlaid by thin pieces of brass.
Period: 11\textsuperscript{th} century.
Remark: see also Chapter 2.

Plate XIV-XVI: Raw material, bone worker’s waste and possible meat curing
- numbers 93-107 shown from volar/plantar side

Number: 93
Excavation: Kirchstraße
Find number: EMDK 1703-2
Description: waste
Raw material: left cattle metatarsus.
Manufacture: sawn-off/broken-off distal part, sawn from plantar to dorsal.
Period: 13\textsuperscript{th} century.
Number: 94
Excavation: Schulstraße
Find number: ºEII H 32/9-159.
Description: waste, height: 6.7 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 95
Excavation: Schulstraße
Find number: ºEII H 32/9-159.
Description: waste, height: 5.0 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part.
Period: second half 13th century.

Number: 96
Excavation: Schulstraße
Find number: ºEII H 31/9-159.
Description: waste, height: 6.1 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 97
Excavation: Schulstraße
Find number: ºEII H 39/11-161.
Description: waste, height: 5.8 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 98
Excavation: Schulstraße
Find number: ºEII H 33/10-160.
Description: waste, height: 4.7 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 99
Excavation: Schulstraße
Find number: ºEII H 39/11-161.
Description: waste, height: 5.4 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.
Number: 100
Excavation: Rosenstraße
Find number: "EM 6/2.
Description: waste, height: 4.9 cm.
Raw material: cattle metacarpus.
Manufacture: medial-lateral sawn-off distal part.
Period: 12th century.

Number: 101
Excavation: Schulstraße
Find number: "EI H 31/9-159.
Description: waste, height: 5.1 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 102
Excavation: Rosenstraße
Find number: "EQ 15/5.
Description: waste, height: 6.3 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, largest part broken-off, cut marks on dorsal side.
Period: late 10th-early 11th century.

Number: 103
Excavation: Kirchstraße
Find number: EMDK 1815-6
Description: waste
Raw material: left cattle metacarpus.
Manufacture: sawn-off distal joint, sawn from plantar to dorsal.
Period: 13th century.

Number: 104
Excavation: Kirchstraße
Find number: EMDK 1916-40
Description: waste
Raw material: right cattle metatarsus.
Manufacture: sawn-off distal joint, sawn from plantar to dorsal.
Period: 12th century.

Number: 105
Excavation: Schulstraße
Find number: "EI N 7/5-231.
Description: waste, height: 6.3 cm.
Raw material: cattle metatarsus.
Manufacture: plantar-dorsal sawn-off distal part.
Period: 11th century.
Number: 106
Excavation: Rosenstraße
Find number: "EO 3/2.
Description: waste, height: 4.8 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part.
Period: 11th century.

Number: 107
Excavation: Schulstraße
Find number: "EII H 31/9-159.
Description: waste, height: 4.9 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.
Period: second half 13th century.

Number: 108
Excavation: Kirchstraße
Find number: EMDK 852-5
Description: worked piece of bone, length: 6.9 cm.
Raw material: cattle metacarpus/tarsus.
Manufacture: saw traces all over and cut mark.
Period: 14th-early 17th century.

Number: 109
Excavation: Schulstraße
Find number: "EII N 2/1-228.
Description: waste, length: 12.5 cm.
Raw material: left cattle mandibula.
Manufacture: sawn-off proximal pars incisivum.
Period: 11th century.

Number: 110
Excavation: Schulstraße
Find number: "EII M 15/6-222.
Description: raw material, height: 2.5 cm.
Raw material: antler.
Manufacture: sawn-off on both sides.
Period: 12th century.

Number: 111
Excavation: Schulstraße
Find number: "EII Q 6/4-253.
Description: raw material, length: 5.5 cm.
Raw material: red deer antler.
Manufacture: proximal-distal sawn-off part of a tine.
Period: 10th century.
Number: 112
Excavation: Rosenstraße
Find number: °EE 30/7.
Description: raw material, length: 10.5 cm.
Raw material: red deer antler.
Manufacture: cut-off proximal part of tine, many facets from cutting of surface towards the tip.
Period: 14th century.

Number: 113
Excavation: Schulstraße
Find number: °EI L 4/2-101.
Description: waste, height: 3.9 cm.
Raw material: right cattle metatarsus.
Manufacture: plantar-dorsal sawn-off proximal part, largest part broken-off.
Period: first half 13th century.

Number: 114
Excavation: Rosenstraße
Find number: °EN 21/7.
Description: waste or unfinished long comb, height: 10.4 cm.
Raw material: left cattle metatarsus.
Manufacture: plantar-dorsal sawn-off proximal part, largest part broken-off.
Period: 12th century.

Number: 115
Excavation: Rosenstraße
Find number: °ES 3/1.
Description: waste, height: 12.9 cm.
Raw material: cattle metacarpus.
Manufacture: volar-dorsal sawn-off distal part, large part broken-off.
Period: mid 9th-early 10th century.

Number: 116
Excavation: Schulstraße
Find number: °EI H 32/9-159.
Description: waste, height: 3.6 cm.
Raw material: left cattle metatarsus.
Manufacture: plantar-dorsal sawn-off proximal part, largest part broken-off.
Period: second half 13th century.

Number: 117
Excavation: Schulstraße
Find number: °EI N 6/4-230.
Description: waste, height: 5.2 cm.
Raw material: left cattle tibia.
Manufacture: medial-lateral sawn-off proximal part, last bit broken-off.
Period: 11th century.
Number: 118  
Excavation: Schulstraße  
Find number: "EII K 10/10-193.  
Description: waste from manufacturing comb tooth plates, height: 14.3 cm.  
Raw material: right cattle mandibula.  
Manufacture: aboral-oral sawn and broken-off mandibula hinge.  
Period: first half 13th century.

Number: 119  
Excavation: Schulstraße  
Find number: "EII N 12/9-235.  
Description: raw material, length: 10.5 cm.  
Raw material: left cattle scapula (foetus).  
Manufacture: spina scapulae and proximal part cut-off.  
Period: 11th century.

Number: 120  
Excavation: Schulstraße  
Find number: "EII O 10/5-242.  
Description: waste, height: 8.1 cm.  
Raw material: left cattle radius.  
Manufacture: volar-dorsal sawn-off distal part, last bit broken-off.  
Period: 11th century.

Number: 121  
Excavation: Schulstraße  
Find number: "EII K 15/13-196.  
Description: raw material, length: 11.5 cm.  
Raw material: cattle metacarpus.  
Manufacture: proximal and distal parts sawn-off volar-dorsal, bone split longitudinally by sawing from both sides in two turns.  
Period: first half 13th century.

Number: 122  
Excavation: Kirchstraße  
Find number: EMDK 644-1  
Description: worked piece of bone, length: 18.5 cm.  
Raw material: cattle metatarsus.  
Manufacture: axe marks proximal and distal to give the bone a rounded off appearance.  
Period: 13th-19th century.

Number: 123  
Excavation: Schulstraße  
Find number: EII N 7/5-231.  
Description: raw material, length: 12.6 cm.  
Raw material: cattle metatarsus.  
Manufacture: proximal and distal part sawn-off, bone split longitudinally by sawing from both sides in two turns, at one end two parallel saw marks made by a 0.8 mm saw blade.  
Period: 11th century.
Number: 124
Excavation: Rosenstraße
Find number: "EK 25/10.
Description: worked bone, length: 12.4 cm.
Raw material: right sheep scapula.
Manufacture: round hole (Ø 4.2 mm) medial-lateral.
Period: first half 13th century.

Number: 125
Excavation: Rosenstraße
Find number: "EN 1/1.
Description: worked bone, length: 10.7 cm.
Raw material: right sheep scapula.
Manufacture: rectangular hole (7.3 x 6.9 mm) lateral-medial.
Period: 12th century.

Number: 126
Excavation: Rosenstraße
Find number: "EJ 21/11.
Description: worked bone, length: 8.2 cm.
Raw material: left sheep scapula.
Manufacture: round hole (Ø 3.1 mm) lateral-medial.
Period: second half 13th century.

Number: 127
Excavation: Schulstraße
Find number: "EII N 8/5-231.
Description: raw material, length: 9.0 cm.
Raw material: cattle tibia?
Manufacture: proximal part, medial, lateral and distal sides sawn-off, more or less rectangular bone plate with cut marks to flatten the surface.
Period: 11th century.

Number: 128
Excavation: Schulstraße
Find number: "EII N 10/7-233.
Description: raw material, length: 15.1 cm.
Raw material: cattle tibia.
Manufacture: cut marks to flatten the medial, lateral and plantar surfaces.
Period: 11th century.

Number: 129
Excavation: Schulstraße
Find number: "EII N 7/5-231.
Description: raw material, length: 9.5 cm.
Raw material: cattle metacarpus/tarsus.
Manufacture: sawn/broken-off piece of bone, split longitudinal, flattened on all sides (facets, profile semi-octagonal with irregular sides).
Period: 11th century.
Number: 130
Excavation: Kirchstraße
Find number: EMDK 1027-42
Description: worked piece of bone, length: 7.0 cm.
Raw material: sheep/goat metacarpus.
Manufacture: surface highly perished, cut-out oval hole in the distal end, maybe part of a flute or whistle.
Period: 14th-16th century.
Remark: not illustrated.

Number: 131
Excavation: Pelzerstraße
Find number: E 59 C 8,5/6,5.
Description: worked bone, length: 3.8 cm.
Raw material: cattle metacarpus/tarsus.
Manufacture: more-or-less rectangular piece of bone, flattened and highly polished on one side, two parallel saw marks on polished side.
Period: 12th century.
Remark: not illustrated.

Number: 132
Excavation: Schulstraße
Find number: ™EII R 4/3-257.
Description: raw material, length: 13.1 cm.
Raw material: left cattle metatarsus.
Manufacture: more or less rectangular hole in proximal articulation surface (22.3 x 20.4 mm), cut marks all over the surface, distally broken-off.
Period: mid 9th-early 10th century.
Remark: not illustrated.