CRAFTING BONE – SKELETAL TECHNOLOGIES THROUGH TIME AND SPACE
Proceedings of the 2\textsuperscript{nd} meeting of the (ICAZ) Worked Bone Research Group

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# Table of Contents

## Introduction

Genevieve LeMoine – *Skeletal Technology in Context: An Optimistic Overview* ........................................ 1

## Raw Material Exploitation

Lyuba Smirnova – *Utilization of Rare Bone Materials in Medieval Novgorod* ........................................ 9

Liina Maldre – *Bone and Antler Artefacts from Otepää Hill-fort* ..................................................... 19

Sabine Deschler-Erb – *Do-it-yourself Manufacturing of Bone and Antler in Two Villas in Roman Switzerland* . 31

Rosalia Christidou – *Study of Bone Tools at Three Late/Final Neolithic Sites from Northern Greece* .......... 41

## Manufacturing Technology

Jörg Schibler – *Experimental Production of Neolithic Bone and Antler Tools* ................................. 49

Daniella Ciugudean – *Workshops and Manufacturing Techniques at Apulum (AD 2nd-3rd Century)* ......... 61

Kitty F. Emery – *The Economics of Bone Artifact Production in the Ancient Maya Lowlands* ................. 73

Karlheinz Steppan – *Worked Shoulder Blades: Technotypological Analysis of Neolithic Bone Tools From Southwest Germany* ................................................................. 85

Noëlle Provenzano – *Worked Bone Assemblages from Northern Italian Terrares: A Technological Approach* . 93

Aline Averbouh – *Methodological Specifics of the Techno-Economic Analysis of Worked Bone and Antler: Mental Refitting and Methods of Application* ........................................ 111

## Function

Mária Biró – *A Round Bone Box Lid with a Mythological Representation* ........................................... 123

Cornelia Becker – *Bone Points - No Longer a Mystery? Evidence from the Slavic Urban Fortification of Berlin-Spandau* ................................................................. 129

Mickle G. Zhilin – *Technology of the Manufacture of Mesolithic Bone and Antler Daggers on Upper Volga* . 149

Tina Tuohy – *Bone and Antler Working on the Iron Age Sites of Glastonbury and Meare in Britain* ........ 157

Gitte Jensen – *Macro Wear Patterns on Danish Late Mesolithic Antler Axes* ......................................... 165

Yekeaterina Antipina – *Bone Tools and Wares from the Site of Gorny (1690 - 1410 BC) in the Kargaly Mining Complex in the South Ural Part of the East European Steppe* ........................................ 171

Andreas Northe – *Notched Implements made of Scapulae - Still a Problem* ........................................ 179

Janet Griffits – *Bone Tools from Los Pozos* ......................................................................................... 185

Sandra L. Olsen – *The Importance of Thong-Smoothers at Botai, Kazakhstan* ..................................... 197


## Social Context

Isabelle Sidéra – *Domestic and Funerary Bone, Antler and Tooth Objects in the Neolithic of Western Europe: a Comparison* ................................................................. 221

George Nash – *Altered States of Consciousness and the Afterlife: A Reappraisal on a Decorated Bone Piece from Ryemarksgaard, Central Zealand, Denmark* ................................................................. 231

Nerissa Russell – *The Social Life of Bone: A Preliminary Assessment of Bone Tool Manufacture and Discard at Çatalhöyük* ................................................................. 241

Alice M. Choyke – *Late Neolithic Red Deer Canine Beads and Their Imitations* ................................... 251

Colleen Batey – *Viking and Late Norse Combs in Scotland: An Update* ............................................. 267

Nerissa Russell – *Neolithic Relations of Production: Insights from the Bone Tool Industry* .................... 271
Special Assemblages

Péter Gróf and Dániel Gróh – The Remains of Medieval Bone Carvings from Visegrád ........................................... 281
László Bartosiewicz – Roman Period Equid Ilium Implement from Pannonia Superior (NW Hungary) ..................... 287
E.E. Bulten and Anneke Clason – The antler, bone and tooth tools of Swifterbant, The Netherlands (c. 5500 – 4000 cal. BC) compared with those from other Neolithic sites in the western Netherlands ....................... 297
Heidi Luik – Bone Combs from Medieval Tallinn, from the Excavations in Sauna Street .............................................. 321
Steven R. James – Prehistoric Hohocam Bone Artifacts from Southern Arizona: Craft Specialization, Status and Gender ........................................................................................................................................... 331
Ernestine Elster – Middle Neolithic to Early Bronze Age Bone Tools from Sitagroi, Greece ........................................ 355
Ülle Tamla and Liina Maldre – Artefacts of Bone, Antler and Canine Teeth among the Archaeological Finds from the Hill-Fort of Varbola ......................................................................................................................... 371
Kordula Gostenčnik – Pre- and Early Roman Bone and Antler Manufacturing in Kärten, Austria .............................. 383

Index of Authors .......................................................................................................................................................... 399
Introduction

CRAFTING BONE - SKELETAL TECHNOLOGIES THROUGH TIME AND SPACE

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Introduction

Archaeologists and Archeozoologists, both study worked osseous materials (bone, antler and tooth, including ivory, in short all referred to as “bone”). Such reports, however, are often buried at the very back of faunal analyses appended to site reports. Furthermore, the two groups of specialists have had little chance to interact, even within Europe since they tend to attend different conferences and write for different fora.

At the root of this problem lay the arbitrary, largely institutional division between pre- and proto-historians, often imposed on bone manufacturing experts by nothing but formalism in research tradition. The most exemplary series of studies in this field is entitled: “Industrie de l’os neolithique et de l’age de metaux” (Bone industry from the Neolithic and Metal Ages). Another classic, a book, is sub-titled “The Technology of Skeletal Materials since the Roman Period”. In very early prehistoric assemblages, attention is often focused on the question of whether a particular piece of bone was worked or not. In later assemblages, it is the intensity of manufacturing that often renders objects zoologically non-identifiable, so that important aspects of raw material procurement, including long distance trade, remain intangible.

The history of raw material use, however, is continuous and many of the constraints and possibilities inherent in skeletal materials are the same whether one is dealing with Paleolithic or Medieval artifacts. Indubitably, the organization of manufacture, the function and value of bone artifacts (as well as some technological innovations such as the regular use of metal tools or lathes), differ substantially between simple and complex societies through time. On the other hand, fundamental questions of tensile characteristics, procurement strategies, style and certain technological requirements are not only similar diachronically, but also open up new vistas when apparently unrelated periods are compared. The function of these objects as social markers, for example, remains remarkably constant through time, even if details vary. The papers in this volume reflect these conceptual similarities and differences as did the papers delivered at the conference itself.

The first meeting of what was to become the Worked Bone Research Group (WBRG) was organized by Dr. Ian Riddler in the British Museum, London, in January 1997. The commitment and enthusiasm of that first workshop has greatly inspired subsequent efforts in recruiting a wide range of bone specialists, capable of contributing to discussions concerning bone manufacturing.

In keeping with the aims of the Worked Bone Research Group, since 2000 an official working group of the International Council for Archaeozoology (ICAZ), an effort was made to present these papers on the basis of what connects them rather than segregating them by archaeological period or region. Contributions mostly include articles based on papers delivered in September 1999 at the second Worked Bone Research Group meeting in Budapest, organized by the editors with the unfailing support of the Aquincum Museum (Budapest) and its staff. Several people who were unable to be present at this conference were also asked to contribute papers. Finally, five of the studies in this volume, originally delivered at a symposium on bone tools organized by Dr. Kitty Emery and Dr. Tom Wake, entitled “Technology of Skeletal Materials: Considerations of Production, Method and Scale”, at the 64th Annual Meeting of the Society for American Archaeology (Chicago 1999), were added thereby expanding the academic spectrum both in terms of research tradition and geographic scope.

There are a total of 36 papers in this volume. Research was carried out on materials from Central and North America to various regions of Europe and Southwest Asia. The authors represent scientific traditions from Estonia, Hungary, Romania, and Russia, European countries in which, until recently, ideas developed in relative isolation. Other European countries represented include Austria, Denmark, France, Germany, Great Britain, Greece, and Switzerland. Last but not least, the North American scholarly approach is also represented here.

Schools of thought may be said to be exemplified by what used to be Soviet research, well known for pioneering works on taphonomy, experimentation and traceology. Bone manufacturing was first brought to the attention of Western scholars by the publication in 1964 of the translation of S. A. Semenov’s Prehistoric Technology, published originally in 1957. Scholars in France have also carried out decades of co-ordinated work on operational chains in the manufacturing process from the selection
of raw materials to finished products, with special emphasis on prehistoric modified bone. An entire working group, “Unspecialized Bone Industries/Bone Modification”, is directed by Marylene Patou-Mathis. This working group itself is part of a larger research program on bone industry “La Commission de Nomenclature sure l’Industrie de l’Os Préhistorique” headed by Mme. H. Camps-Fabrer. Several specialists such as Jörg Schibler in Switzerland, have created laboratories where ground laying work has been carried out for years on worked osseous materials, especially from Swiss Neolithic Lake Dwellings and Roman Period sites. Language barriers have often prevented these important bodies of work from being as widely disseminated as they deserve. Arthur MacGregor in England, writing in English, has had a decisive influence on specialists working on more recent Roman and Medieval worked bone assemblages in Europe.

The work of all of these groups as well as certain individual scholars is well known within limited circles. Otherwise, however, the overwhelming experience of most researchers on worked bone have been feelings of isolation and alienation from most archaeological or archaeozoological work related, most importantly, to the absence of an international forum where their often specialized work can be presented and problems discussed.

In spite of the fact that there have been many practical obstacles to information flow between specialists in this field, there are really remarkable similarities of approach which should ultimately lead to the development of more compatible paradigms in research. Agreement on methodologies will have a positive feedback on communications, helping the field to grow and develop properly.

It seems that, at last, archaeologists and archaeozoologists and other specialists are talking to each other and sharing methodological points of view. One striking example of this can be seen in the emphasis on raw materials studied in parallel to types found in the majority of papers in this volume. Previously studies often concentrated on typo-chronological questions, ignoring the questions of raw material morphology and availability. The series published by the Centre National de la Recherche Scientifique, edited by Mme. Henriette Camps-Fabrer in France is largely to be credited for beginning this new trend. It contains many papers concentrating on understanding manufacturing sequences and, indeed, from Europe to North America there are papers which explicitly deal with manufacturing sequences in individual assemblages.

There is also a consistent emphasis on experiment and manufacturing techniques present in much of the work in this volume. The related but fraught question of function continues to tantalize and frustrate most specialists. A number of articles attempt to apply techniques of hard science, such as scanning electron microscopy or light microscopy, together with experiment to get objective, “processual” answers to this important group of questions. Other researchers rely deductively on analogy, archaeological context, gross morphology, and textual sources as they try understanding how these objects were used.

When editing the volume, we tried to concentrate on the underlying main concepts represented by each paper rather than grouping them diachronically or by geographical region. As a result, contributions follow a line from the theoretical through the problems of raw material selection, manufacturing techniques, experimental work, technical function and socio-cultural interpretations. Obviously many of these papers deal with several of these aspects simultaneously. Finally, analyses of assemblages are grouped to show the current state of general application of these principles as illustrated in papers in the rest of the volume. Reports on bone tool types will ultimately benefit from more unified typologies and also provide researchers with comparative databases from regions beyond their own.

Finally, a word on the organization of papers in this volume. Although the editors have tried to group these papers by what they see as the main theoretical and methodological thrust of the authors it should be understood that most papers, to a greater or lesser extent, overlap between these artificial sub-titles. Happily, almost all these works include considerations of raw material exploitation, manufacturing and functional analyses and all make some attempt to consider the social context from which these artifacts emerged. It is exactly this cross-cutting of boundaries which allows us to hope that the study of worked osseous materials is well on the way to developing into a discipline in its own right.

In addition to the generous support given by our sponsors and technical editors for this volume, organizing the conference would not have been possible without the active help of numerous colleagues. Special thanks are due to Paula Zsidy, Director of the Aquincum Museum, Katalin Simán, archaeologist and two students from the Institute of Archaeological Sciences (ELTE, Budapest): László Daróczi-Szabó and András Markó. The Hotel Wien, Budapest and its efficient manager provided a comfortable setting for our discussions at a reasonable price. Last but not least, help with abstract translations by Cornelia Becker, Noelle Provenzano as well as Marjan Mashkour and Turit Wilroy should also be acknowledged here.
In 1998–1999, archaeological excavations were carried out at the site Sauna Street 10 in the SE part of medieval Tallinn by Tael Ltd., under the leadership of Vladimir Sokolovski (fig. 1). The size of the investigated area reached 580 m². These excavations revealed bases of wooden dwellings with keristoves. The buildings were blockhouses. The site was lined with a ditch and a raddled fence. Among the finds (Institute of History: AI 6332) medieval pottery was most numerous, but thanks to the high level of subsoil water, organic matter – leather and wooden artefacts – was also well preserved. Various bone objects and bone refuse were also found, seventeen combs and comb fragments among them. Fifteen of these were double composite combs and two were long-toothed combs. They all belong to types that were distributed across Northern Europe, including Estonia in the Middle Ages.

Five of the combs represented types with rectangular end plates. The connecting plates of one of them are decorated with oblique crosses of double lines (fig. 2). This comb is 8.8 cm long and 4.1 cm wide. Previously, two such combs have been found in Estonia, one of them from Tallinn and the other from Tartu. A fragment of a comb was also found in Tartu with connecting plates decorated with a similar ornamental motif although its end plates were missing (Luik 1998, 73 ff,
The combs with rectangular end plates and decoration with oblique crosses are also known in Sweden, where they are dated to the period from the 13th century to the beginning of the 15th century, more accurately the datable ones belonging to the 14th century (Broberg & Hasselmo 1981, 72 ff, Fig. 49: 2, 61: 2, 3, 63: 6; Blomqvist 1943, 154, Fig. 55, 59). The connecting plates of the other comb of this type are decorated with grooves at the edges and a row of circle and dots (fig. 3). The comb is 7.9 cm long and 3.6 cm wide. The third comb is decorated with double concentric circles and dots on the ends of the connecting plates (fig. 4). This comb measures 7.7 cm long and 4.4 cm wide. Both combs are well preserved, with only some broken teeth. Previously such combs have been found from Tallinn and Tartu. They have been dated to the 13th–14th centuries (Luik 1998, 75, Fig. 56, 57, Pl. III: 2). The fourth comb has only one rectangular end plate while the other end is convex (fig. 5). The connecting plates of the comb are not decorated. This comb measures 7.3 cm in length and 3.5 cm in width. Both the straight-ended and convex-ended combs were produced mainly in the 13th–14th centuries (Luik 1998, 79, 107, Fig. 58, 59). The fifth comb with rectangular end plates has connecting plates with a longitudinal groove in the middle, fastened with two rows of rivets (fig. 6). One of the end plates is broken and all the dense teeth are missing. The preserved length of the comb is 10.3 cm and it is 4.1 cm wide. Similar combs have been found in many medieval towns in Northern Europe (for example Broberg & Hasselmo 1981, 76, Fig. 53: 11, 55: 2, 56: 2; Ulbricht 1984, Pl. 75: 7; Carlsson 1991, 114 f, Fig. 39). Some combs of this type have also been previously found in Estonia, four of them in Tallinn. Such combs came into use in the 12th century and were produced until the early 15th century, spreading mostly widely in the 13th–14th centuries (Luik 1998, 79 ff, Fig. 60–64).

Five combs have concave end plates, three of them with one pair and the others with two pairs of connecting plates. One comb with concave end plates and one pair of connecting plates is preserved only fragmentarily (fig. 7). Most of the widely-spaced teeth are missing, the connecting plates are broken and partly preserved; one end plate is also broken, the other has one corner missing. The connecting plates are decorated with longitudinal grooves and a circle and dot at both ends. The corners of end plates are also decorated with a circle and dot, and there is a circular hole in one of the end plates. The comb is 7.0 cm long and 3.8 cm wide. The other comb has connecting plates decorated with a row of circles and dots, all the dense teeth of the comb are missing (fig. 8). Unlike most of the combs of this type found in Estonia, the end plates of this comb are without ornament. The comb measures 7.1 cm in length and is 4.0 cm wide. Combs of this type are most numerous in Estonia – about 20 combs and fragments of them (17 combs definitely belong to this type, four fragments that evidently belong to the same type are preserved without end plates, see Luik 1998, 91 ff, 118 f, Fig. 74–80, 105–108, Pl. III: 6–8, IV: 1). In Estonia such combs have been found in medieval towns (Tallinn, Tartu, Pärnu, Viljandi and, Haapsalu), market towns (Lihula), hill-forts (Otepää) and rural settlements (Kuusalu and Mustivere). Such combs are also known from Lund, Sweden, where the more accurately datable ones come from the first half of the 14th century (Blomqvist 1943, 155, Fig. 60; Persson 1976, 331, Fig. 295: 56D). Combs with concave end plates and ornamented with circles and dots have been found also in Friesland (Roes 1963, 15, Pl. XVI: 6) and Latvia (Caune 1983, 118, Fig. 39: 13). In Estonia such combs were mainly used in the 13th–14th centuries, although the type may have already been introduced in the 12th century. Of the third comb of this type, only one end is preserved and the connecting plates are missing (fig. 9). The length of the fragment is 3.5 cm and the width of the comb was 3.8 cm. The preserved end plate does not resemble other concave end plates from Estonia: its teeth shorten diagonally towards the end and it is decorated with a row of circles and dots along the edge of the end plate. Other concave-ended combs from Estonia have equal teeth while teeth diagonally shortening towards the ends occur together with B-shaped end plates (Luik 1998, 108 ff, Fig. 95–96). The concave-ended combs with diagonally shortening teeth are spread widely around the Baltic, where they are mostly dated to the 13th and 14th centuries (Broberg & Hasselmo 1981, 77 ff, Fig. 53; 8, 59; 3; Ulbricht 1984, 53, Pl. 32: 8, 75: 4, 77: 3, 4; Hilczerówna 1961, 122 f, Fig. 26, 55). Two combs with concave end plates and two pairs of connecting plates are also decorated with dots and circles. One of these combs has pierced holes in the central part (fig. 10), this comb measures 8.5 x 4.5 cm. The other comb is not pierced (fig. 11) and measures 7.3 cm in length and 4.7 cm in width. Only five such combs have been previously found in Estonia: two from Otepää, two from Tartu and, one from Rakvere. Likewise on the combs from Sauna Street, the connecting plates of these combs are also decorated with circles and dots. Three of these previously studied combs are pierced in the central part. The tooth plates of one of the combs from Otepää are not preserved and one of the combs from Tartu is not pierced (Luik 1998, 97 ff, Fig. 81–83, Pl. IV: 2, 3; Piirits 1995, 107, Fig. 2: 11, 12, Pl. 36: 2). In Sweden, combs with concave end plates and two pairs of connecting plates have been found, e.g. from Uppsala and Nyköping. They are dated to the 14th century, especially to its second half (Broberg & Hasselmo 1981, 74 ff, Fig. 49: 9, 58: 1, 2; Carlsson 1991, Fig. 40). The combs with two pairs of connecting plates from Lund also date to the 14th century (Blomqvist 1943, 158, Fig. 72–74).

Three of the combs from Sauna Street have profiled end plates. One of them, with one pair of connecting plates is decorated with two parallel grooves and a dense row of circles and dots (fig. 12). The comb is 7.2 cm long and 4.2 cm wide. In Sweden, combs with profiled end plates appear in the mid-13th century and spread mostly in the 14th–15th centuries (Broberg & Hasselmo 1981, 72 ff, Fig. 47, 50, 51: 2, 86). In Poland combs with profiled end plates are dated to the period from the second half of the 13th century up to the beginning of the 15th century (Chmielowska 1971, 76 f, Fig. 28; Hilczerówna 1961, 130, Fig. 61). Another comb with
Bone Combs from Medieval Tallinn, from the Excavations in Sauna Street

The holes are not always located in the central part of the tooth plates; they are found in Estonia, but they are familiar in North Europe. The connecting plates are decorated with circles and dots. However, this comb is longer than the Sauna Street comb, with more pierced holes and end plates without circles and dots. The comb from Roosikrauts Street evidently dates to the first half of the 14th century (Luik 1998, 116, 142 f, Fig. 102, Pl. VIII: 4). In Sweden, combs with profiled end plates and two pairs of connecting plates are dated to the 14th century (Broberg & Hasselmo 1981, 122 ff, Fig. 51: 3, 58: 4, 63: 8; Blomqvist 1943, 158, Fig. 72–74). The third double composite comb with profiled wavy edged end plates and a comb case is unique in Estonia (fig. 14–16). Only one end plate, decorated with circles and dots, a couple of tooth plates and some fragments of the two pairs of very narrow connecting plates decorated with longitudinal grooves, are preserved. The central parts of the tooth plates are not pierced. The case belonging to this comb is of special interest. Its details, though not connected to each other, are wholly preserved. The case consists of four wider connecting plates, decorated with flat grooves and a row of circles and dots, and two narrow end plates with wavy edges and also with a decoration of circles and dots. One of the corners of the case has been firmly fixed with two rivets; the other corners have one rivet each, which made it possible to open the case by turning the plates (fig. 15). The hole cut in the edge of one of the end plates acted as a hasp fastening the end plate to the rivet joining the connecting plates. Both the comb and the case are made of elk antler. The comb is 3.9 cm wide and its length was probably 6.5–6.7 cm. The comb case measures 8.5 x 4.2 cm. Neither the comb nor the case has any analogues in Estonia. In Central and Western Europe double combs with cases are known from the Roman Iron Age, Migration Period and Early Middle Ages (Ambrosiani 1981, 18, Fig. 5: 2; Theune-Großkopf 1994, 86 ff, Fig. 4, 9).

A fragment of a comb, 6 cm wide, also has two pairs of connecting plates, but both its end plates are missing (fig. 17). The connecting plates are decorated with circles and dots while the central part of the tooth plate has cross-shaped pierced holes. Combs with such holes have not been previously found in Estonia, but they are familiar in North Europe. The holes are not always located in the central part of the comb but sometimes on end plates or connecting plates (e.g. Ulbricht 1984, Pl. 31: 4, 76: 4; Chmielowska 1972, Fig. 23; Andersen 1968, Fig. 19, 25, 26; Blomqvist 1943, Fig. 54, 64, 65). The combs with two pairs of connecting plates are mostly dated to the 14th century, irrespective of the shape of their end plates (Blomqvist 1943, p. 158; Broberg & Hasselmo 1981, 74 ff). Besides the better preserved combs, a fragment of a tooth plate (AI 6332:1486) was found belonging to none of the combs found. Its dense teeth are all broken and it measures 3.2 cm in length and 2.2 cm in width.

One of the two long-toothed combs is decorated with an oblique cross of double lines, and three horizontal lines on either side of the cross (fig. 18). The length of the comb is 14.7 cm and it is 2.0–3.4 cm wide. The comb has nine teeth with two of the points broken. Of the long-toothed combs hitherto known from Estonia, the comb from Lihula is decorated with an oblique cross and the comb from Niguliste Street, Tallinn, is decorated with three oblique crosses between horizontal lines (Luik 1998, 127 ff, Fig. 127). The other long-toothed comb is decorated with four carelessly cut horizontal lines on both sides (fig. 19). Only four teeth are preserved. The flat upper part of the comb has no hole. The comb is 13.8 cm long and 2.4–3.0 cm wide. One comb with a similar decoration has been previously found in Tartu (Luik 1998, 129, Fig. 121). Long-toothed combs have been found in many medieval towns around the Baltic (e.g. Ulbricht 1984, Pl. 19, 20, 58, 59; Lampe 1981, Fig. 7: f, 9: c, 11: h; Persson 1976, Fig. 289, 291–293, 295; Caune 1983, Fig. 1: 10, 8: 14, 15). In Estonia these combs are dated to the 13th–14th centuries (Luik 1998, 123 ff).

All the combs found until now can be dated to the period from the 13th century to the beginning of the 15th century, or more likely, from the end of the 13th century to the 14th century. The long-toothed combs, like most of the combs of this type previously found in Estonia, are made from a metatarsal bone of cattle. Fourteen of the double combs are also made of bone. The double comb with the case is exceptionally made of elk antler. Eleven of the combs are decorated with circles and dots. Comparing the size and shape (width of lines, size of dots) of the circles and dots, we may assert that four of the combs were apparently decorated with the same tool: these are the comb with rectangular end plates (fig. 3), the comb with concave end plates and one pair of connecting plates (fig. 8) and two combs with concave end plates and two pairs of connecting plates (fig. 10, 11). Two combs – one with profiled end plates (fig. 12) and one with cross-shaped pierced holes and two pairs of connecting plates (fig. 17) – seem to have been decorated with another tool. The remaining combs have circles and dots of different sizes.

Besides combs, other bone objects and scrap bone were also found in the excavations on Sauna Street. Mention should be made of three spinning whorls. Two hemispherical spinning-whorls, one of them unfinished, are made of caput femoris of cattle. There is also a disk-shaped and decorated whorl made from elk antler. The plain hemispherical spinning-whorls cannot be dated precisely: they were already known in Estonia in the 2nd half of the 1 millennium, but are also found in medieval towns and settlements. The ornamented disc-shaped spinning-whorl (fig. 20) dates most likely to the 14th century (Vedru 1999, 106). The oblong bone plaque, decorated with
double concentric circles and dots, has four rivet holes with fragments of bone rivets (fig. 21). Most likely it is a decorative plaque, as bone rivets are probably not strong enough to use on a tool or on a comb handle. Such decorative plaques were used to decorate e.g. wooden boxes (Ulbricht 1984, 55 ff, Pl. 36–37, 83–84; Theune-Großkopf & Röbel 1994, Fig. 8a, b, 10). The openwork plaque is not finished, one end of it is broken (fig. 22). Some bone handles and their fragments were also found. Two small drop-shaped plaques with a hole in the middle are made of antler. Seemingly they are details of knife handles (Kostygina 1996, 183, Fig. 2: 4, 3: 16–19). Two bone needles were found, one of them has flat eye and sharpens toward the tip while the eye of the other is broken. Other bone objects include a toggle made of a pig’s metacarpal bone, two styles decorated with horizontal lines (fig. 23) and a couple of pendants from swine tusk. Toggles made from swine bone are often found on settlement sites both prehistoric and medieval. In Estonia they are especially numerous among the finds from Otepää hill-fort, where at least a part of them may be related to the medieval fortress. Styles decorated with groups of horizontal lines and dated to the 14th–16th centuries, like those from Sauna Street, have been also found from Tartu, Pärnu and Haapsalu (e.g. Aun 1995, 439 f, Pl. XVII: 4; Vunk 1994, 65, Pl. XX: 4, 5; Pärn 1990, 444, Pl. XXX: 8). Both pendants are made of the mandibular canines of boar – one from the left side and the other from the right mandible. A fragment of a barrel-shaped bone object, decorated with horizontal lines, may belong to a gaming piece (fig. 24). A curved point made from antler has a conical cavity in its wider end, with a round hole in its side and may be a tool used in net making. A small bone tube with a round-cornered quadrangular cross-section, all sides of which are decorated with transverse and diagonal lines and hollows, may be a needle-case (fig. 25). Some scrap bones from tool production were also found including: some fragments of elk antler, the compact part of which has been removed, a couple of bovine horns and some fragments of bovine metatarsal bones. Finds from the excavations in Sauna Street show that the bones of domestic animals – cattle and pigs – were used more often, the use of elk antler was infrequent.

More than 50 combs and comb fragments have been found in Tallinn. Most of them may be classified as medieval types although some later combs have also been found. No earlier single combs have come to light in Tallinn. Forty-one double composite combs and their fragments (26 excluding the finds from Sauna Street) have been found, the majority of which belong to 13th–14th centuries types. Those types which spread only in the 12th–13th centuries have hitherto not been found in Tallinn (Luik 1998, 73 ff, Fig. 55, 57, 60–62, etc.). Nine long-toothed combs are known. Besides the combs from Sauna Street only one of them is ornamented – with 3 oblique crosses and horizontal lines (Luik 1998, 127 f, Fig. 115–119, Pl. VI: 1–2). Long-toothed combs spread in Estonia in the 13th–14th centuries. The seven double simple combs found in Tallinn are mostly late types. Three flat thin combs with tooth rows of varying density and dating to the 14th–16th centuries, are known (Luik 1998, 58 ff, Fig. 40–42). Three fragments of very thin combs with two rows of dense teeth, dating from the 17th–18th centuries, have also been found (Luik 1998, 61, Fig. 45–47). Most likely the earliest double simple comb, which may date to the 13th–14th centuries, is the comb with concave ends, found on Town Hall Square (Luik 1998, 43, Fig. 22).

In conclusion it can be said that data on the manufacturing of bone combs and other bone and antler objects in Tallinn is rather poor. Bones with the traces of processing have already been found in archaeological excavations in Tallinn in previous years (Luik 1998, Pl. VIII: 1). The bone objects and finds connected with bone manufacturing were quite numerous, mostly dating from the 13th–15th centuries in the 1996 summer excavations in Roosikrantsi Street (Shevel'yov 1997, 14 f, Pl. 46–55; the finds are in the Institute of History: Al 6109). Among other finds there were fragments of four bone combs: one of them a double simple comb and three double composite combs (Luik 1998, 142 f, Pl. VIII: 2–5). According to the head of the excavations Vladimir Sokolovski, this part of the Tallinn suburbs was destroyed by a fire in the mid-14th century. Thereafter this area, in the neighbourhood of which St. Barbara cemetery was established, lay uninhabited for some time. The later settlement of this area emerged most likely in the second half of the 17th century (Sokolovski 1997, 150 ff). So the bone manufacturing in this area can be connected with the end of the 13th century and the first half of the 14th century. The 14th-century Tallinn comb-makers and bone-manufacturers are not mentioned among the craftsmen (Kaplinski 1980). According to Kristina Ambrosiani, the same is also valid in Sweden and Denmark – in Swedish written sources comb-makers are not mentioned until the end of the 17th century. Neither are they mentioned in the medieval merchants’ and craftsmen’s guilds of Denmark, though traces of their activities are numerous in the archaeological material (Ambrosiani 1981, 162).

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References


324
Bone Combs from Medieval Tallinn, from the Excavations in Sauna Street


Fig. 1 Medieval Tallinn: X – the site Sauna Street 10 (drawing by K. Siitan)

Fig. 2 Al 6332: 215

Fig. 3 Al 6332: 1109

Scale of figures 2-25 3:4
Bone Combs from Medieval Tallinn, from the Excavations in Sauna Street
Fig. 10 AI 6332: 1051/1105

Fig. 11 AI 6332: 184

Fig. 12 AI 6332: 612

Fig. 13 AI 6332: 377

Fig. 14 Comb AI 6332: 627

Fig. 15 Comb case AI 6332: 627

Fig. 16 The comb together with the comb case (reconstruction)
Fig. 20 Spinning whorl AI 6332: 588

Fig. 21 Oblong bone plaque AI 6332: 948

Fig. 22 Unfinished openwork plaque AI 6332: 163

Fig. 23 Stylus AI 6332: 240

Fig. 24 Probable fragment of the gaming piece AI 6332: 1013

Fig. 25 Needle-case AI 6332: 1274.