

CRAFTING BONE – SKELETAL TECHNOLOGIES THROUGH TIME AND SPACE

Proceedings of the 2nd meeting of the (ICAZ) Worked Bone Research Group

Editors

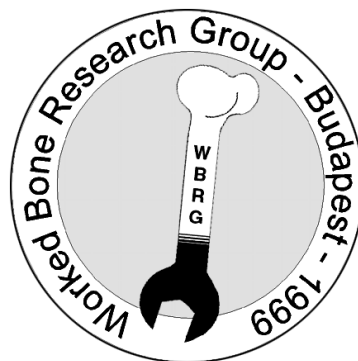
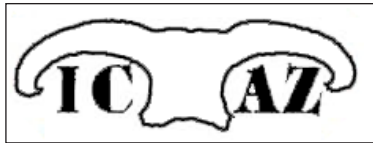
Alice M. Choyke & László Bartosiewicz

Technical editors

Krisztián Kolozsvári
Mrs. Katalin Kővágó - Szentirmai

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Participants in the WBRG 1999 Budapest conference (left to right): Ülle Tamla, Elisabeth Brynja, Tina Tuohy, Liina Maldre, Karlheinz Steppan, Heidi Luik, Gitte Jensen, John Chapman, Alice Choyke, Janet Griffiths, Andreas Northe, Noëlle Provenzano, Jörg Schibler, Nerissa Russell, Colleen Batey, Lyuba Smirnova, László Daróczy-Szabó, Daniella Ciugudean, Mária Bíró, Kordula Gostenčnik, Eszter Kovács, Christopher Morris, Sabine Deschler-Erb, Ans Nieuwenberg-Bron, Katalin Simán, Isabelle Sidéra, Mickle Zhilin

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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 sur 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 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.

VIKING AND LATE NORSE COMBS IN SCOTLAND: AN UPDATE

Colleen E. Batey

Abstract: This paper provides an update as to the available evidence on combs for the period in Scotland, encompassing new excavation material – from Freswick Links in Caithness, Birsay in Orkney, Whithorn in Southwest Scotland and Dunbar in Southeast Scotland – as well as long-published pieces. Suggestions for sources of manufacture and mechanisms of exchange will be presented, as well as a consideration of controversial claims for the identification of antler types in use in the period.

Keywords: Scotland, Viking and Late Norse, combs, manufacture, exchange, antler types

Résumé: Cet article fournit une vue d'ensemble des données disponibles sur les peignes de la période en Ecosse, incluant le mobilier de fouilles récentes - Freswick dans le Caithness, Birsay dans l'Orkney, Whithorn dans le Sud-Ouest de l'Ecosse et Dunbar dans le Sud-Est de l'Ecosse – ainsi que les séries déjà publiées. Nous présenterons des hypothèses sur la fabrication et les mécanismes d'échanges, et considérerons les affirmations controversées concernant l'identification des types de bois de cervidés au cours de la période.

Mots-clés : Ecosse, Viking et Norse final, peignes, fabrication, échange, types de bois de cervidés

Zusammenfassung: Dieser Beitrag liefert einen Überblick zu den bisher für Schottland erfaßten Kämmen aus den genannten Jahrhunderten, inklusive neuerer Funde aus Freswick Links in Caithness, aus Birsay auf den Orkney Inseln, aus Whithorn im Südwesten und Dunbar im Südosten Schottlands sowie altbekannter und bereits publizierter Stücke. Es wird der Versuch unternommen, die Quellen der Verarbeitung und die Mechanismen des Tausches aufzudecken sowie die widersprüchlichen Ansätze zur Festlegung von bestimmten Geweihtypen, die in dieser Periode Verwendung fanden, zu erhellen.

Schlüsselworte: Schottland, Wikingerzeit und Spätnorwegische Periode, Kämmen, Herstellung, Tausch, Geweihtypen

In a forthcoming publication edited by Ian Riddler, *Combs and Comb-Making*, I provided a summary of the information available at the time of writing (1996) on the subject of the evidence for antler combs from Scotland. I outlined the evidence for those of the Viking period which have been mostly recovered from pagan graves; the Late Norse combs from various settlement sites, and the limited evidence for the manufacture of combs in Scandinavian Scotland. At that stage, a number of major excavation monographs had not reached full publication, such as Skaill in Orkney which has a wide range of comb material, and the detailed publication of Whithorn, in South West Scotland, although it was already clear in 1996 that comb making debris had been identified at that site. In the year 2000, the sources and use of raw materials for the combs remains somewhat contentious, but recent excavations in the Western Isles of Scotland, complement the evidence from Whithorn, of a local comb manufacturing industry. This brief paper serves to provide an update on the 1996 contribution to the subject.

Evidence from the Settlements

The multi-period site of Skaill, Deerness in Orkney has achieved full publication in the period since the previous survey, 48 combs and comb fragments were recorded spanning the pre-Norse and Norse levels and of these 34 were examined as part of the research project previously discussed

by Weber (1993). Of the types identified in the Skaill assemblage, both single-sided and double-sided composite types have been distinguished. Of the 11 single-sided Norse composite examples, the finest is that illustrated in the Riddler volume (Batey forthcoming; SF 1001; Porter 1997: fig 8.2), although the simple types distinguished by Ambrosiani (1981) as Types A and B, dating from the 9th-11th centuries have also been found there. The rest of the comb assemblage comprises pre-Norse long-handled types and a double-sided Medieval example (Porter 1997: 99). Thirty-four combs were examined by Lie, and of these 16 have been identified as reindeer antler. Since pre-Norse examples were included in this sample, and there is no record of reindeer being native to Scotland in this period, this identification remains somewhat contentious and discussion in the Skaill report (Buteux 1997: 263) underlines this authors reservations on the identifications pending the full publication of the scientific parameters.

The Evidence for Manufacturing

Returning here to the evidence from Whithorn, published in 1997 (Hill 1997), 2,050 fragments of antler were recovered and most of those had signs of working. In Nicholson's review of the evidence, he notes the organisation into different workshops, with a comb-maker's quarter spanning the phases dating to the "third quarter of the ninth century, and

enduring until... perhaps c. 1200 AD" (Nicholson 1997: 474). A sizeable quantity of shavings related to antler working with a quantity distinguished as being related to the production of composite combs. The material has been identified as predominantly red deer. Perhaps the inexperience of the Whithorn comb makers may be indicated by the large amount of waste generated in the production of the comb elements, although this could equally suggest the ready availability of raw material.

Nicholson has noted that there are close morphological and decorative similarities with the Irish assemblages (1997: 484), although the use of bone in comb manufacture which appears to be a peculiarly Irish feature is lacking. Combined with the rest of both the building forms and other object types, this underlines the Irish connection, where comb making can be seen to be a function of the urban and quasi-urban (monastic town) contexts. Indeed it is not inconceivable that the comb-making tradition at Whithorn is more of an offshoot of the Irish situation, which is not necessarily Viking at all, than it is of the Viking situation in this part of Scotland.

Excavations at the Iron Age and Norse settlement at Bornish (Bornais) have been undertaken by Niall Sharples of Cardiff University, as part of a series of related joint field projects with Sheffield University in South Uist, Western Isles (eg Sharples and Parker-Pearson 1999). Following detailed survey work on the Machair plain along the west coast of South Uist, settlement evidence spanning the mid first millennium BC to 14th century AD has been recorded. Excavation of large settlement mounds has revealed substantial Norse stone structures with, in one case a well-preserved structure some 18-19 m long and 5.8 m wide with two phases of occupation and modification and with an "intact floor level which is extremely rich in artefactual material" (Sharples 2000: 17). In an adjacent mound, 2A a rather fragmentary building has been distinguished overlying at least one earlier building, and an incomplete floor deposit. The significance of this floor level in the context of this paper lies in the recovery of comb manufacturing debris – "shavings, antler from which plates have been removed, relatively unaltered antler off-cuts and antler carefully shaped for the creation of tooth plates and side plates" (Sharples 2000: 18). Before detailed consideration of this material is undertaken, in relation to the particular comb forms represented, it is not possible to make further comment, although double sided combs were clearly being made (Sharples pers comm). It is however, of considerable significance that this debris has been identified under controlled excavation circumstances, and within a building, which although fragmentary, differs little from the other dwellings and indicates localised domestic production with presumed local raw material usage. In stratigraphic terms it would appear that the debris is from activity dating within the Late Norse period, 12th-13th century (Sharples pers comm). It is however clear that combs of imported types are also in use, with for example, one of the distinctive double-sided convex terminal comb type with copper alloy rivets (cf Freswick Links, Batey 1987: 209) dating to the 13th century was recovered from elsewhere on the site.

In conclusion, the current situation would appear to be rather different than that outlined in 1996, with fuller publication of the Whithorn evidence indicating that large-scale comb manufacture was a feature of several phases of activity and zones on the site, and apparently complemented by new material yet to be studied from the site of Bornish in the Western Isles. Manufacturing in rural contexts is of considerable interest, perhaps an expedient in the Islands, but clearly not so at Whithorn. It is indeed possible that the comb manufacturing at Whithorn is barely part of the "Norse package" of activities at all, and this will certainly be worth bearing in mind in the study of the Bornish pieces as well. There are precedents in other material for local copying, for example in the ringed pins which were copied by the Vikings from Irish prototypes in some cases, or as in fact been suggested for elements of the material recovered from Buckquoy in Orkney (Ritchie 1977). The on-going discussions concerning the identification of the antler in use on the Scottish sites is as yet no nearer resolution.

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