

# CRAFTING BONE – SKELETAL TECHNOLOGIES THROUGH TIME AND SPACE

Proceedings of the 2<sup>nd</sup> meeting of the (ICAZ) Worked Bone Research Group

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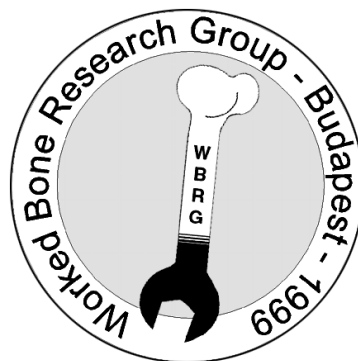
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Participants in the WBRG 1999 Budapest conference (left to right): Ülle Tamla, Elisabeth Brynja, Tina Tuohy, Liina Maldre, Karlheinz Steppan, Heidi Luik, Gitte Jensen, John Chapman, Alice Choyke, Janet Griffiths, Andreas Northe, Noëlle Provenzano, 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, Mickie 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.



## **ALTERED STATES OF CONSCIOUSNESS AND THE AFTERLIFE: A REAPPRAISAL OF A DECORATED BONE PIECE FROM RYEMARKSGAARD, CENTRAL ZEALAND, DENMARK**

George Nash

**Abstract:** The Mesolithic of north-western Europe (in particular southern Scandinavia) offers a small but significant assemblage that includes decorated bone and antler pieces. Many of these have been found in Denmark and southern Sweden and their functional and symbolic nature has been widely discussed. Of the three-hundred and fifty or so decorated pieces found in southern Scandinavia, approximately 7% possess anthropomorphic figures (in one form or another), including the single decorated piece of aurochs bone from a bog near Ryemarksgaard, central Zealand discussed here. In the case of this particular piece, I wish to argue that it represents a transition between life and death or between states of consciousness and unconsciousness. One can safely assume that bone and antler pieces displaying this form of imagery were not mere idle graffiti. As part of this discussion, I will compare and contrast this axe with other Mesolithic portable art and suggest that the design form on the Ryemarksgaard axe is both meaningful and intrinsically powerful.

**Keywords:** Mesolithic, Denmark, decorated aurochs bone, symbolic content

**Resumé:** Le Mésolithique de l'Europe du Nord-Ouest (en particulier la Scandinavie méridionale) offre un ensemble, petit mais significatif, qui comporte des os et des bois de cervidés décorés. Nombres de ces derniers ont été trouvés au Danemark et en Suède méridionale et leur nature fonctionnelle et symbolique a été largement discutée. Sur environ deux cent cinquante pièces décorées retrouvées en Scandinavie méridionale, approximativement 7% présentent des figures anthropomorphes (sous une forme ou l'autre), dont l'objet décoré en os d'aurochs qui provient d'un marais de Zélande centrale près de Ryemarksgaard et dont nous parlons ici. Dans le cas de cette pièce particulière, je voudrais argumenter le fait qu'il représente une transition entre la vie et la mort. On peut sans risque supposer que les pièces en os et bois de cervidés affichant ce type de représentation ne sont pas de simples graffiti de désœuvrement. Pour appuyer cette discussion, je comparerai et opposerai cette hache à d'autres arts portatifs du Mésolithique et suggérerai que les dessins de la hache de Ryemarksgaard sont empreints d'un pouvoir significatif et intrinsèque.

**Mots-clés:** Mésolithique, Danemark, os d'aurochs décoré, contenu symbolique

**Zusammenfassung:** Das Mesolithikum Nordwesteuropas (insbesondere Südschandinaviens) bietet eine kleine, aber bedeutsame Sammlung, die verzierte Knochen- und Geweihstücke einschliesst. Viele davon wurden in Dänemark und Südschweden gefunden und ihre funktionelle und symbolische Beschaffenheit wurden weit diskutiert. Von den ungefaehr 250 verzierten Stücken, die in Südschandinavien gefunden wurden, weisen ca. 7% anthropomorphe Figuren (in der einen oder anderen Form) auf, einschliesslich das einzige verzierte Stück Aurochsknochen aus einem Sumpf bei Ryemarksgaard, Zentral Seeland, das hier diskutiert wird. Im Falle dieses besonderen Stückes vertrete ich die Ansicht, dass es den Übergang von Leben und Tod darstellt. Man darf mit Sicherheit annehmen, dass Knochen- und Geweihstücke, die eine derartige Metaphorik aufweisen, kaum bedeutungslose Graffiti waren. Als Teil dieser Diskussion werde ich diese Axt mit anderen Beispielen mesolithischer Gebrauchskunst vergleichen und in Kontrast setzen und darlegen, dass die Gestaltung der Ryemarksgaard-Axt sowohl bedeutungsreich also auch immanent kraftvoll ist.

**Schlüsselworte:** Mesolithikum, Dänemark, verzierter Aurochsknochen, Symbolgehalt

### **Introduction**

The Mesolithic of north-western Europe has been considered a rather functional period within prehistory, its assemblages defined on the basis of lithic industries, subsistence living and environmental considerations (Fischer 1995; Price 1985; Price & Brown 1985; Rowley-Conwy 1981; Rowley-Conwy et al. eds. 1987; Zvelebil 1986a, 1986b and Zvelebil & Rowley-Conwy 1986). The southern Scandinavian Mesolithic is divided into three sub-periods: the Maglemose (10 000-5500 BC); the Kongemose (5500-4500 BC) and the Ertebølle (4500-3200 BC).

However, this period offers a small but significant assemblage that includes decorated bone and antler pieces, also referred to as mobile or mobiliary art (Andersen 1971, 1980; Clark 1936, 1975; Liversage 1966; Müller 1896, 1918; Nash 1998, 2000, 2001; Stjerna 1911 and Vebæk 1939). Brinch Petersen (1973: 100) estimates at least 400 such finds, including amber.

It is almost impossible to make any valid interpretation from a limited assemblage such as this, anywhere in prehistory. Special artefacts such as objects of personal adornment are usually found in isolation and any direct association with

more common and mundane items can further corrupt the authenticity of anything considered unique. Further complications occur when the distribution of such items appears to be more-or-less random; the researcher is thus left with more questions than answers.

Similarly to much of the art from this period, decorated and polished bone and antler have been assigned to archaeological miscellanea. The majority of bone and antler has mainly elaborate geometric decoration. Also present are a limited number of anthropomorphic and zoomorphic designs (Appendix 1). Many of the human figures though are sexually ambiguous (Tilley 1996: 45). Notable exceptions include a male figure on an antler axe from Vesko møse and four stylised female figures on a spatular knife from Funen. Both pieces have been dated to the Maglemose period. Nearly all such anthropomorphic and zoomorphic designs have been found in Denmark and span the entire Mesolithic (map 1).

Decorated pieces such as the Ryemarksgaard axe have, according to Graham Clark, similar design characteristics with (Upper Palaeolithic) Magdalenian art from France and (Post-Glacial) Russia (Clark 1936: 178-9). Interestingly, there appears to be a chronological and geographical shift in bone and antler design (Nash 1998). During the Maglemose period, the majority of decorated pieces possess zoomorphic and anthropomorphic designs and are found largely on Zealand. However, during the Kongemose and Ertebølle periods, designs become more geometric. Especially from the late Ertebølle period, decoration disappears altogether and is replaced with scraping and polishing only (Andersen 1980). These pieces are found mainly in Jutland (Andersen 1980; Nash 1998). Within this assemblage, the vast majority of bone and antler pieces are drilled; either to be used as probable pendants or axe tools (Nash 2000: 24).

It should also be noted that these axe tools may represent something other than functional items. Any severe use of such hafted axes would result in immediate destruction. I have previously stated that their use has a more symbolic function and may form a "signature" for an elaborate contact/exchange system (Nash 1998). Bone and antler, together with amber, clay, flint, and wood form part of a limited assemblage that is present in Mesolithic Denmark and southern Sweden (Andersen 1985, 1986; Fischer 1974; Jensen 1982; Nash 1998; Tilley 1996). There is also a small but significant mobile art assemblage consisting of animal teeth, cowrie shells, bone, and antler from Britain which, although considered personal adornment, probably dates to the Upper Palaeolithic (Smith 1992).

Sieveking (1987) has collated a limited inventory of Upper Palaeolithic British and French mobile clay, bone and antler art. Some of the items listed may suggest Maglemose influences and therefore date to the early Mesolithic (see also the more recent discussion by Sieveking, 1991).

## Placing mobile art into a socio-economic context

Concerning early settlement, the literature tends to place early Mesolithic inland activity as a seasonal phenomenon whereby people move between temporary coastal and inland settlements (Brønsted 1957; Clark 1975; Jensen 1982). However, the rich environmental information on flora and fauna, as well as extensive lithic floors, suggest settlement was possibly more than just temporary (Broholm 1931; Mathiassen 1937; c. f. Fischer 1995). During the later Kongemose (c. 5500 BC), the area around large inland sites such as Aamosen and Svaardborg in central Zealand had become densely populated and marks a change in inland habitation (Mathiassen 1943). Nonetheless, large open sites are rare and the general assumption is that settlement was semi-sedentary with small hunter/gatherer/fisher groups moving around the landscape.

The earliest bone and antler pieces have been found in inland bogs which are usually close to Maglemose occupation sites (Mathiassen 1937; 1943). A similar deposition is recognised in Jutland during the Ertebølle period for shaped amber animal pieces (Nash 2000: 25). More abstract and unclear designs from the Maglemose appear to contrast with representational designs on amber from the same period.

Ornamentation techniques include scratching, drilling and pricking, usually in the form of fine or bold lines (carved using flint). Later techniques involving drilling and pricking, referred to as "cuneiform dots" or ornamentation pointille, were probably the result of using a bow-drill (Clark 1936). Scratching (or carving) would have been made by flint (Clark 1975: 152; Müller 1918). These techniques were also used on other mobile artefacts. The majority of the decorated Maglemose bone and antler were made using the scratching technique. Concerning anthropomorphic and zoomorphic designs, heavy scratched lines was usually the preferred technique and the Ryemarksgaard axe is no exception to this rule (Nash 1998: 147).

## Previous thoughts

One of the most spectacular of all the decorated artefacts is housed in the National Museum of Denmark in Copenhagen. This early Maglemose period artefact is a stray find from a bog near Ryemarksgaard, central Zealand. The ornamentation is located on the metapodium of an aurochs. The percentage of mobile art carved onto aurochs bone throughout the south Scandinavian Mesolithic accounts for roughly 5% (this figure is taken from a sample involving 66 pieces; Nash 1998: 139). The bone under discussion here shows five scratched human figures which run horizontally along the shaft (fig. 1). To the right of the fifth figure is a series of three vertical zig-zag lines. The two outside figures are standing "face-on" and appear to "escort" the three central figures. These central figures are seen walking towards the zig-zag lines.

All human figures have been subject to a number of interpretations. Concerning the Ryemarksgaard axe, Clark (1975: 152) has suggested that all five human figures depict moods of “happiness and sadness”. The external figure on the left has its arms and legs extended outwards, possibly indicating happiness? The three central characters have no arms and are “walking” towards the zig-zag lines. These, Clark argues, represent sadness. The fifth figure, also without arms, but oriented to a face-on position is also regarded as depicting sadness. All head-shapes are inverted triangles; the faces are flat, without form and “lifeless”. Concerning the multiple zig-zag lines, no interpretation has been made. More recently, Rying’s popular account suggests the five figures represent a family scene (Rying 1981: 23). The two outside figures are considered to be male whilst the three central figures may be pregnant women (hence large protruding abdomens). Rying also suggests the two outside figures are both dressed in sleeveless cloaks (seams are open at the front along the line which dissects a series of inverted chevrons). Again, nothing is said about what the zig-zag lines may represent.

There appear to be a number of problems with both Clark’s and Rying’s arguments. Firstly, Clark’s interpretation of the figures possessing happy and sad faces seems rather dubious in that all the heads are identical. Furthermore, there is no difference in shape or form between the “happy” external figure and the other four “sombre” figures. More importantly, the facial features show no emotion. Both Clark and Rying ignore the important zig-zag design and, therefore, only half the narrative has been attempted. More recently, Anders Fischer from the National Forest and Nature Agency in Denmark used the figures from the Ryemarksgaard axe as symbols for the International Symposium “*Man and Sea in the Mesolithic*” held at Kalundborg, Denmark in 1993. In the proceedings of the symposium, Fischer refers to the figures as “humans and waves on water” (Fischer 1995: 11). Here, the waves are represented by the three vertically carved zig-zag lines. However, the Ryemarksgaard axe was found within an inland bog. Furthermore, during the Early Mesolithic Maglemose Period the approximate land/sea boundary extended many kilometres to the east, north and west of the present-day coastline of Zealand, suggesting that the Ryemarksgaard find is more an inland than coastal phenomenon (Nash 1998). Contrary to this could be that selected Maglemose mobile art, in particular anthropomorphic and zoomorphic pieces, may have formed part of a complex exchange system and that decorated bone, antler and amber may have moved around a wider landscape. This mechanism included coastal and inland group contact. Therefore, the Ryemarksgaard axe may have been originally carved on the coast, especially if the zig-zag lines do represent waves.

### **Reappraisal and deconstruction**

In order to make any valid attempt to interpret this or any other Mesolithic piece, one needs to deconstruct in detail the art. The French social anthropologist Claude Lévi-Strauss has postulated that within society are a set of universal underlying

structures (Lévi-Strauss 1962, 1963). Although the basic theories of Lévi-Strauss have been superseded by post-structuralist ideology, his methods by which art can be interpreted remain valid.

Previous empiricist approaches have tended to formalise and control the understanding of art; i. e. a human figure is . . . a human figure, a zig-zag line is . . . a zig-zag line. Prehistoric art had literally become “art for art’s sake”, placing the image, the symbol, as nothing short of a dying impression hanging on a literary wall. Art, as well as being aesthetically pleasing, is in many ways structured and deliberate. Art portrays meaningful messages and throughout prehistory is similar to the structural constraints enforced on contemporary ritual and mythological symbolism, by which “art” may be manipulated and controlled and thus may be read (Lévi-Strauss 1963).

In 1993, whilst researching south Scandinavian mobile art, I encountered the Ryemarksgaard axe in one of the numerous display cabinets at the National Museum of Denmark. This piece formed part of an analysis which involved the structural deconstruction of one hundred bone and antler pieces using the approaches by Hodder (1982, 1986), Frankel (1978), Mezec (1989) and Tilley (1996), to name but a few.

In particular, Frankel (1978: 148-60) used individual design sequencing on Bronze Age Cypriot ceramics in order to construct a link involving decoration with social bonding between individuals and neighbouring communities. Bonding establishes communal identity and arguably social and political stability. One might therefore assume that Mesolithic society in south Scandinavia was based on strong economic and social interaction between communities. One of the mechanisms of social interaction, be it semiotic in form, would have been art. It would appear that the more complex the art, the more that certain designs are visually expressed, which may indicate stronger social-political and symbolic use (Nash 1998: 37). It is therefore clear that the Ryemarksgaard axe conveys an important message which would have been transmitted between individuals or groups. More importantly, it conveys messages that were meaningful at the time the art was commissioned and later used.

Initially using Clark’s (1975: 158) more recent motif classification (originally adapted from his less complex 1936 table of designs), and a more comprehensive scheme by Nash (1998: 45), the figures on the Ryemarksgaard axe contain at least three different design variants (DV). These include multiple vertical zig-zag lines (DV40), multiple chevrons arranged vertically (DV46) and encased meshing (DV61 - Fig 2). Clark’s classification for this axe includes meshing (c); multiple zig-zag lines (r) and chevrons (s).

Level 1 draws together the basic shapes. For example, DV40 and DV46 are generically classified as zig-zag lines (v) and DV61 is classified as mesh (viii; Nash 1998: 44-46). These design variants, organised, construct each of the six figures (fig 3; Nash 1998: 45). Reading along the bone shaft from left



to right, and using Frankel's ceramic design sequencing, the human figures and zig-zag lines can read symmetrically. Thus the Ryemarksgaard axe reads:

A :: B :: B :: B :: A :: C

In transforming this group of letters from a basic system (what I refer to as Level 1) into a more complex motif classification (Level 2), an identical symmetrical arrangement is still present (see fig. 3 and footnote 9):

5 :: 8 :: 8 :: 8 :: 5 :: 5

From an analysis of 100 Mesolithic specimens from south Scandinavia, the Ryemarksgaard axe, along with 36 other Mesolithic decorated pieces of bone and antler (displaying 45 design fields) comply with a strict set of rules (Nash 1998: 95). Firstly, each piece is unique. The figures on the Ryemarksgaard axe are not repeated elsewhere, although, there is one figure that does have similar internal diagonal meshing as figures on the Ryemarksgaard axe. That piece, an antler axe, shows two human figures (one with a clearly erect phallus), and was found at the nearby Vesko møse [bog] (fig. 4). Secondly, human figures on bone and antler appear to be dominant in the Maglemose period and in Zealand, accounting for 54% of a total assemblage containing anthropomorphic figures: Nash 1998: 94-5). During the Kongemose and Ertebølle periods and in Jutland, human figures account for only 22% of a sample assemblage. The dominant narrative appears to consist of geometric forms (solid lines, broken lines, barbed lines and banding (Nash 1998: 44-54). Although the Ryemarksgaard axe has never been scientifically dated, the figures and design sequencing display an early Mesolithic character.

### Interpretation and narrative

Contrary to previous dissuasions, I would suggest that the five figures and the zig-zag lines represent something "special", ritualistic, and magical. The zig-zag lines possibly symbolise either death (and the afterlife) or a human (or humans, possibly the three that are being escorted) in a transition between a state of conscious and unconscious (state of trance). The three zig-zag lines may in fact represent the three central figures whilst the two escorting figures may possess rank or control over the three central figures. It is clear that all the figures except for, maybe the far left one, are walking towards the zig-zag lines.

Similar to other forms of early prehistoric art, the design field on this axe may be arranged into a multiple-phased narrative that is spatially organised. Assuming that one would read the designs from left to right, then a two-phase narrative is in operation. Firstly, the three central figures along with their escorts are being either physically or metaphorically moved towards the zig-zag lines. The zig-zag lines are carved in such a way as to represent feet, legs, torso and head (fig. 5). Therefore what one is possibly witnessing is either a scene

involving life (displayed on the left) and death (zig-zag lines) or a journey from a state of consciousness to unconsciousness. The probable anthropological and ethnographic examples to describe the movement between life and death and various states of unconsciousness through entoptic trance has been widely discussed. One particular example which (conveniently) displays similar qualities to what may be present on the Ryemarksgaard is presented by Andreas Lommel (1967: 84). He has commented on the role of shamanism among the Salish Indians of the north-west coast of America. Here, the shaman travels across an imaginary sea (or the "River of the Dead") to retrieve the lost or stolen soul of a sick man. The voyage divides the living from the dead and involves a crew of ten other shamans. The steersman (or helm) is regarded as the spirit of the officiating shaman. The ten shamans are presented both as mortals and as spiritual oarsmen. Standing in two rows, each shaman has a paddle and imitates the movements of a boat's crew. This "act" is visible to the audience, but the spiritual knowledge (the shamans' voyage) is hidden within the minds of the participants. Nevertheless, the theatre of movement and the use of props enlighten the audience. Similar voyages or journeys are evident throughout the anthropological literature. In many cases, supernatural voyages are expressed on rock art and usually involve human figures being physically transformed. From the Altai region (China) the shaman's ascent to heaven is not straightforward. The shaman or kam has to undergo a series of journeys across the physical world in order to enter heaven (fig. 6; Lommel 1967: 97-98). Similarly, the Ryemarksgaard axe portrays a comparable movement involving people and the passing from a physical world to a supernatural world. These people could well be initiates that not are only moving through altered states of consciousness but moving through their own life cycle: juvenile to manhood or womanhood.

### Conclusions

There have been a number of valid interpretations made on this very special bone piece. However, all previous discussions have overlooked various elements of what is portrayed and what the art is carved on. Of the limited number of bone and antler pieces possessing anthropomorphic figures, including the Ryemarksgaard axe, five appear to originate from bogs and these, according to Tilley (1996: 44), may be deliberate depositions, termed votive deposits. The majority, however, originate from settlement floors or unknown provenance. Whilst I accept there is a symbolic importance for such items, the overwhelming evidence is that elaborately decorated bone, antler, and amber pieces form part of a special exchange package. This is clearly seen with the drilling and re-drilling of hafted- and thread-holes from all three groups of mobile art. It is therefore probable that the Ryemarksgaard axe was a unique exchange item which possessed special powers; maybe as a symbolic item used to transport people from a mortal world to a supernatural world.

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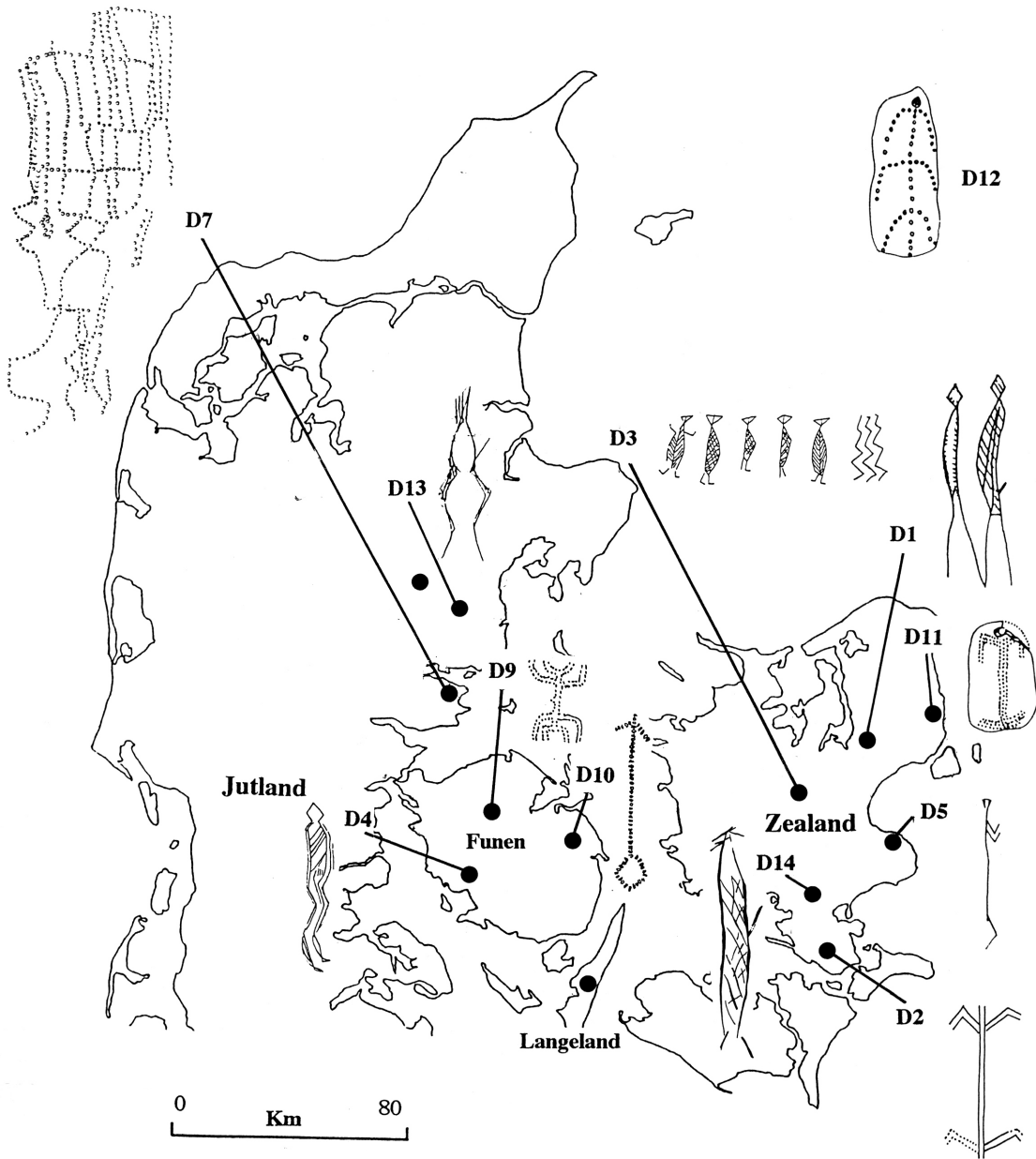
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Map 1 Distribution of bone and antler pieces with anthropomorphic figures (after Nash 1998 and 2001)  
 Note: D12 is of unknown provenance

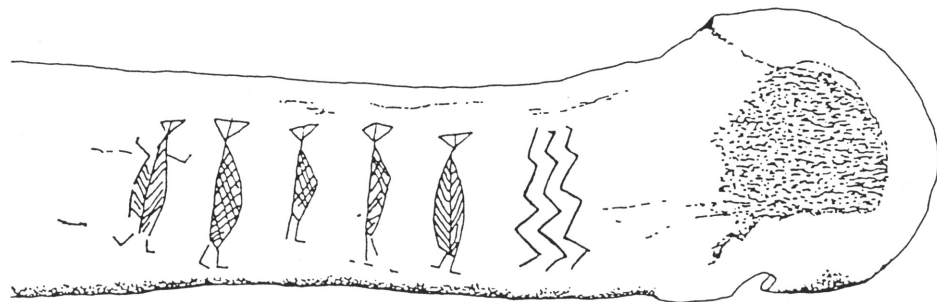


Fig. 1 The Ryemarksgaard axe, Central Zealand (Sources: Clark 1975; Nash 1998)



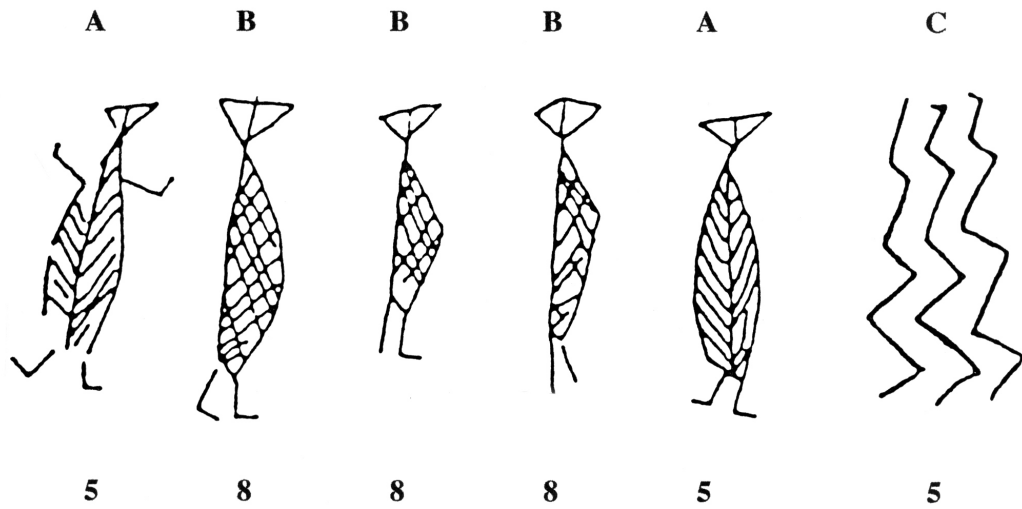


Fig. 2 Design variants that construct the figures on the Ryemarksgaard axe

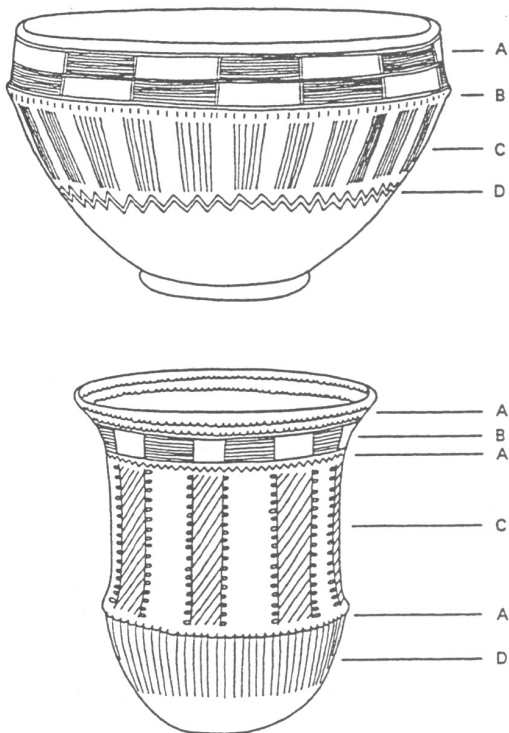


Fig. 3 Design structure on Neolithic pots and the Ryemarksgaard axe (Sources: Hodder 1982 and Nash 1998)

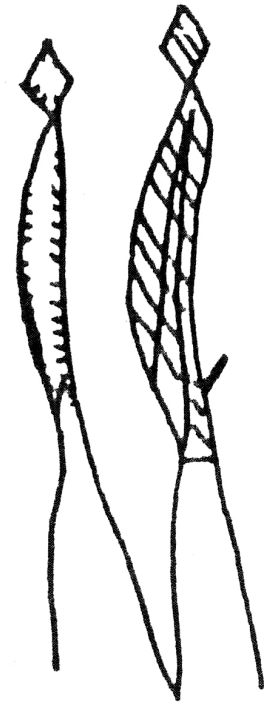


Fig. 4 Two human figures with internal mesh designs on the Vesko møse antler axe (Source: Vebaek 1939)



## Appendix 1. Anthropomorphic designs on Mesolithic bone, antler, amber and flint

Artifact Number <sup>1</sup>	Location	Provenance	Tool type	Human Figure(s)	Drilled/undrilled	Period
<b>Bone and Antler</b>						
D1-Zealand	Vesko møse	bog	A	anthropomorphs (2)	1	Maglemose/Kongemose
D2-Zealand	Stensby	unknown	BK	anthropomorph	0	Maglemose
D3-Zealand	Ryemarksgaard	stray find	BO	anthropomorphs (5)	0	Maglemose
D4-Zealand	Jordlose møse	bog	AM	anthropomorph	1	Maglemose
D5-Zealand	Koge Sonakke	unknown	BK	anthropomorph	0	Maglemose
D6-Jutland	Silkeborg Sø	lake/bog	PA	anthropomorph	0	Maglemose
D7-Jutland	Hjarno	settlement	AS	anthropomorph	0	Ertebølle
D8-Langeland	Langeland	unknown	BP	anthr./therio.	0	Maglemose
D9-Funen	Funen	unknown	SK	anthropomorphs (6)	1	Maglemose
D10-Funen	Reisvindinge	unknown	BH	anthropomorph	0	Maglemose
<b>Amber</b>						
D11-(Zealand)	Zealand	unknown	pendant	anthropomorph	1	Maglemose
D12-(Denmark)	unknown	unknown	pendant	anthropomorph	1	Maglemose?
D13-(Jutland)	Ringkloster	unknown	pendant	anthro./frog?	2	Ertebølle
<b>Flint</b>						
D14-(Zealand)	Holmgaard V	bog	flint	anthropomorph	0	Maglemose

Tool Types: A = axe, AA = antler axe, AM = antler mattock, BK = bone knife, BH = bone harpoon, BP = bone point, PA = pendant axe, SK = spatula knife

Sources: Andersen 1980; Clark 1936, 1975; Fischer 1974; Nash 1998 and Vebaek 1939