



**Mesolithic burials –
Rites, symbols and social
organisation of early postglacial
communities**

***Mesolithische Bestattungen –
Riten, Symbole und soziale
Organisation früher postglazialer
Gemeinschaften***

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Oral Presentations

- Early Mesolithic skeletal remains from Bohuslän, Western Sweden** 1
Torbjörn AHLSTRÖM, Karl-Göran SJÖGREN
- Grave goods in the Mesolithic of Southern Europe: an overview** 1
Pablo ARIAS
- A material science perspective on ochre from Mesolithic graves** 2
Christian BENDER KOCH, Erik BRINCH PETERSEN, Esben KANNEGAARD
- The human burials of Rīņukalna, Latvia – New investigations to clarify an old research dispute** 3
Valdis BĒRZIŅŠ, Ute BRINKER, Harald LÜBKE, John MEADOWS, Ilga ZAGORSKA
- Human burials in the Mesolithic of Muge and the origins of social differentiation: the case of Cabeço da Amoreira, Portugal** 4
Nuno BICHO, Cláudia UMBELINO, Célia GONÇALVES, Olívia FIGUEIREDO, Telmo PEREIRA, João CASCALHEIRA, João MARREIROS, Douglas PRICE
- New information on the multiple burial site of Groß Fredenwalde, Brandenburg** 5
Ruth BOLLONGINO, Jan HEINEMEIER, Bettina JUNGKLAUS, Andreas KOTULA, Thomas TERBERGER
- Icoana revisited** 5
Adina BORONEANȚ, Clive BONSALL
- Afterlife in the Mesolithic – From Inhumation, Cremation and Exhumation to Discard into Oblivion** 6
Erik BRINCH PETERSEN
- How many steps to heaven? Loose human bones and secondary burials at Dudka and Szczepanki, Masuria (NE-Poland)** 7
Karolina BUGAJSKA, Witold GUMIŃSKI
- New data on the Donkalnis and Spiginas (West Lithuania) Mesolithic cemeteries** 8
Adomas BUTRIMAS, Marius IRŠĖNAS
- The Mesolithic burial of *Campu Stefanu* (Corsica, France)** 9
Patrice COURTAUD, Hans C. PETERSEN, Aurélie ZEMOUR, Franck LEANDRI, Joseph CESARI

Late Mesolithic social organisation from Téviec (Morbihan, France) burial grounds	10
Éva DAVID	
Florida's Window on the Past – bog burials	11
Glen H. DORAN	
Grave matters in Southern Scandinavia. Mortuary practice and ritual behaviour of the Maglemose people	11
Berit Valentin ERIKSEN	
Mortuary variability at Moita do Sebastião & Cabeço da Amoreira (Muge, central Portugal)	12
Olívia FIGUEIREDO, Cláudia UMBELINO, Nuno BICHO	
The Castelnovian burial of Mondeval de Sora (San Vito di Cadore, BL, Italy): Evidence for changes in the social organisation of Late Mesolithic hunter-gatherers in Northern-Eastern Italy?	13
Federica FONTANA, Antonio GUERRESCHI, Stefano BERTOLA, François BRIOIS, Cristina CILLI, Emanuela CRISTIANI, Valentina GAZZONI, Giacomo GIACOBINI, Gwenaëlle GOUDE, Estelle HERRSCHER, Sara ZIGGIOTTI	
The Mesolithic cemetery of El Collado (Oliva, Valencia): state of the art and future directions	14
Juan F. GIBAJA, Javier FERNÁNDEZ, Maria Eulàlia SUBIRÀ, Eva FERNÁNDEZ, Xavier TERRADAS, Cristina GAMBA, José APARICIO	
The Mesolithic burials of northeastern Germany – synopsis and new aspects	15
Bernhard GRAMSCH	
'Loose' human bone in the Mesolithic – isolated or integrated?	16
Amy GRAY JONES	
Remains of the mortuary rituals of upright seated individuals in Central Germany	17
Judith M. GRÜNBERG	
Exception as a rule. Diversified burial rite at Dudka and Szczepanki (Masuria, NE-Poland)	18
Witold GUMIŃSKI, Karolina BUGAJSKA	
Skulls on stakes and skulls in water. Mesolithic mortuary rituals at Kanaljorden, Motala, Sweden 7000 BP	19
Fredrik HALLGREN, Elin FORNANDER	

Analyses of the placement of disarticulated human remains in stone age shell middens in Europe	19
Emily HELLEWELL, Nicky MILNER	
A burial at the edge of the Oderbruch (state of Brandenburg) – description and discussion of a possible Mesolithic grave –	20
Maha ISMAIL-WEBER	
Muge Mesolithic burials, a synthesis on mortuary archaeology	20
Mary JACKES, David LUBELL	
Capsian mortuary practices at Site 12 (Aïn Berriche), Aïn Beïda region, eastern Algeria	21
Mary JACKES, David LUBELL	
Skeletal markers of activities and social status in Lithuanian and Latvian Mesolithic-Neolithic population	21
Rimantas JANKAUSKAS, Žydrūnė MILIAUSKIENĖ	
Social and spatial differences at Port au Choix: the mortuary analysis of a Maritime Archaic Indian cemetery at Newfoundland, Canada	23
Johan JELSMA	
The early Ertebölle ochre graves from the location Nederst in eastern Jutland, Denmark: ochre rituals and traditions in personal adornment	24
Esben KANNEGAARD	
Perspectives on the Skateholm burial grounds	25
Lars LARSSON	
Inhumations and cremations from the Late Mesolithic site of Nivå 10, Eastern Denmark	25
Ole LASS JENSEN	
Human bones amidst refuse in the Late Mesolithic – the Hardinxveld case, the Netherlands	26
Leendert P. LOUWE KOOIJMANS	
Interpretation of meanings of animals in prehistoric hunter-gatherer burials in the North – multiple lines of evidence approach	27
Kristiina MANNERMAA	

A chrono-geographic look at Mesolithic burials: an initial study	27
Christopher MEIKLEJOHN, Jeff BABB	
How to settle the dead – burials on the Mesolithic settlement Motala, Sweden	28
Fredrik MOLIN, Sara GUMMESSON	
Mesolithic burials at S’Omu e S’Orku (SOMK) on the south-western coast of Sardinia	29
Margherita MUSSI, Rita T. MELIS, Roberto MACCHIARELLI	
Testing the tribal hypothesis. An attempt to use anthropological theory to reconstruct Mesolithic cosmology and social organization from treatment of the dead	30
Liv NILSSON STUTZ	
Bodies bits and pieces II: the Late Palaeolithic and early Mesolithic evidence	30
Jörg ORSCHIEDT	
Roots of Death: funerary rituals and the shell middens of SW Atlantic Europe (Tagus and Sado valleys, Portugal)	31
Rita PEYROTEO STJERNA	
Ethnological records on the treatment of corpses preceding disposal of Australia’s sub-recent indigenes	31
Birgit SCHEPS-BRETSCHNEIDER, Ruth STRUWE	
Holes in the world: the use of caves for burial in the Mesolithic	32
Rick SCHULTING	
Loose human bones from late Mesolithic sites in Denmark	33
Søren A. SØRENSEN	
The Mesolithic burials of the middle Elbe-Saale region	34
Marcus STECHER, Judith M. GRÜNBERG, Kurt W. ALT	
New data concerning Mesolithic burials from Polish territory	34
Zofia SULGOSTOWSKA	
Body as evidence: tracing hunter-gatherer (ca. 5200–3000 cal.BC) burial practices in present-day Estonia	35
Mari TÕRV	

Papooes in the Mesolithic? – a reinterpretation of tooth and snail shell pendants from Bøgebakken, burial 8 and other Mesolithic burials 36

Peter VANG PETERSEN

Mesolithic burial traditions in Latvia, Eastern Baltic 36

Ilga ZAGORSKA

Some aspects of Mesolithic population of Latvia 37

Gunita ZARINA, Kathleen FACCIA

Poster Presentations

Vantaa Jönsas – A Mesolithic burial ground? 38

Marja AHOLA, Kristiina MANNERMAA

Typology, chronology & distribution of Mesolithic burials in Denmark 38

Erik BRINCH PETERSEN et al.

Mesolithic heritage in Neolithic burials 39

Birgit GEHLEN

A child's grave from the rock shelter Fuchskirche I near Allendorf (Thuringia, Germany) 39

Mario KÜSSNER

Mesolithic human remains from Southern Germany 40

Jörg ORSCHIEDT, Claus-Joachim KIND

Mesolithic cemeteries in the North of Eastern Europe 40

Svetlana V. OSHIBKINA

Mesolithic cremation burial and camp in Coswig, Wittenberg district, Central Germany 41

Torsten SCHUNKE, Mario KÜSSNER

Public lecture

Hunters 10.000 years ago – Excavations near Friesack in the Marchia of Brandenburg 42
Jäger vor 10.000 Jahren – Ausgrabungen bei Friesack in der Mark Brandenburg

Bernhard GRAMSCH

Oral Presentations

Early Mesolithic skeletal remains from Bohuslän, Western Sweden

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Here we discuss human skeletal finds from shell banks in Bohuslän, western Sweden. We describe the early Mesolithic skeleton from Österöd, Bro parish, in central Bohuslän. The skeleton was originally found in 1903 by diggers in a shell bank, but was only recovered in 1933 by Johan Alin. In 2007, ^{14}C analysis of a tooth produced the date 9025 ± 65 BP uncalibrated, making the skeleton one of the oldest known from Scandinavia. Osteological determinations show that the bones are from a woman of old age, at least 60 and probably 84–88 years old. Her stature can be estimated to about 170 cm. Although the bones are fragmented, all body parts are represented, and the body was most likely intact when interred. We interpret the find as a grave, possibly in a sitting position. Interestingly, the $\delta^{13}\text{C}$ value of -18.0 ‰ indicates only a moderate intake of marine protein, in spite of the location of the site in a highly marine environment. We also discuss other finds from Bohuslän, including Skebbevall.

Grave goods in the Mesolithic of Southern Europe: an overview

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Grave goods have traditionally been among the key issues in the interpretation of past funerary behaviour. They have also played a fundamental role in most reconstructions of social organisation based on burial practices, albeit frequently in quite a simplistic fashion. Yet the study of funerary offerings is one of the most complex aspects in the research of the funerary realm. In many cases, even the determination of which archaeological items among those recovered inside the funerary contexts (or just near the skeletons, when the limits of the graves are not clearly defined!) is far from being a simple and straightforward matter. In this paper, the criteria for the recognition of the grave goods are discussed, and an attempt is made to apply those criteria to the study of the Mesolithic funerary contexts of southern Europe. Some hypotheses on their symbolic meaning are also discussed.

A material science perspective on ocher from Mesolithic graves

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We have collected ocher-containing samples from Mesolithic burials sites in Djursland (Koed and Fannerup) and Sjælland (Dragsholm and a number from Vedbæk) in Denmark, and investigated them by material science methodologies. The objective of the studies have been to identify the colour bearing minerals, attempt to clarify their origin, and provide a basis for comparing ocher from different localities.

The general sandy texture of the grave fills and surrounding sediments indicates that the fine grained iron-containing ocher material was added to the grave fill. To increase analytical sensitivity many samples were subjected to particle size fractionation prior to analyses. The analytical program included various microscopy techniques, infrared spectroscopy, powder x-ray diffraction, and Fe-Mössbauer spectroscopy. In particular the latter provides new and detailed characterization of the ocher.

In most graves hematite ($\alpha\text{-Fe}_2\text{O}_3$) is the only iron oxide detected, but also a mixture of hematite and maghemite ($\gamma\text{-Fe}_2\text{O}_3$) is found in one grave. The morphology of the iron oxide particles in the ocher is consistent with preparation of the ocher by thermal treatment of locally collected oxihydroxide. Detailed analyses by Mössbauer spectroscopy reveal that the hematite in each ocher sample has unique properties probably reflecting minor variations in source of oxihydroxide and thermal treatment conditions. Major changes in composition of the ocher is consistent with major changes in the thermal treatment conditions.

The human burials of Riņņukalns, Latvia – New investigations to clarify an old research dispute

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The Riņņukalns shell midden, in northern Latvia, was first investigated by Count Sievers in the 1870s. Of special importance were at least four human burials, with some bone and stone grave goods, which were found under alleged intact layers of the shell midden, which could be dated to the Neolithic by pottery sherds. Consequently Sievers considered these human remains, in contrast to other early modern burials found in the topsoil, as the first Stone Age graves found in the Eastern Baltic. However, this interpretation was contradicted by then leading Baltic prehistorians and the age of the presumed Stone Age graves remained in dispute.

All human remains excavated by Sievers at Riņņukalns were given by him to the famous German researcher Rudolf Virchow for his anthropological collection in Berlin, and survived the chequered history of the 20th century until today. Therefore it was possible to start new osteological, stable isotope and radiocarbon investigations on these remains in 2011 and to resolve the old research dispute. It is proven now that at least two burials were of Prehistoric age. They belong according to the East European Terminology to the Eastern Baltic Middle Neolithic. Nevertheless, the values of stable isotopes ^{13}C and ^{15}N show that these people were still fishermen, hunters and gatherers and not farmers.

Human burials in the Mesolithic of Muge and the origins of social differentiation: the case of Cabeço da Amoreira, Portugal

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The Muge shellmiddens were found 150 years ago in 1863 by Carlos Ribeiro. Since then, several projects in the area excavated the various sites at the archaeological complex of the Mesolithic Muge shellmiddens. The result was the recovery of more than 300 human skeletons. However, most of those burials have insoluble problems of associated materials, provenience, stratigraphy and chronology.

In 2011 and 2012 we excavated a series of new burials in one of the mounds, Cabeço da Amoreira, with modern techniques and recovered new types of data that allow a more complete reconstruction of some of the burials. Here, we will present the paleobiological analysis of the skeletons recovered in 2011–12 (the one infant and one young female, an adult male individual) and carbon and nitrogen stable isotope analyses for paleodietary reconstruction will also be reported.

Finally, based on new data as well as on previous published elements we will discuss aspects of social patterns and the origins of social differentiation in Atlantic Portugal during the late Mesolithic.

New information on the multiple burial site of Groß Fredenwalde, Brandenburg

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The multiple burial site of Groß Fredenwalde ranks among the most important Mesolithic graves of Central Europe. Several individuals together with grave goods had been found on a prominent hill in the early 1960s. Unfortunately no detailed documentation was possible during rescue excavation. The grave was published by B. Gramsch and U. Schoknecht (2003). Since 2012 a new interdisciplinary approach has started to reinvestigate the site with financial support of Deutsche Forschungsgemeinschaft. The skeletal remains were studied in detail and re-excavation of the original site was conducted during 2012/2013. At the same time samples for AMS-dating, N^{15} / C^{13} -isotope analyses and palaeogenetic studies were taken. The lecture will present first summarizing results of these new investigations.

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Veröffentlichungen zur brandenburgischen Landesarchäologie 34 (2000),
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Icoana revisited

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This paper summarizes the archaeological evidence from the Mesolithic/Early Neolithic site of Icoana in the Iron Gates of the Danube, excavated by Vasile Boroneanț in 1967–9. It presents information on architectural and burial remains, based on original field notes and site plans, and attempts to place this evidence in a chronological framework constructed around a new series of AMS radiocarbon dates for animal and human bones.

Afterlife in the Mesolithic – From Inhumation, Cremation and Exhumation to Discard into Oblivion

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Some deceased individuals might be buried and a few might even be exhumed, but most never saw a formal burial place. Some might be scalped, killed, executed, decapitated or dismembered; some might be cremated, but most were buried as inhumations. Some might be buried alone, some with one or two followers, and some in mass-burials. Some remained in their original grave and some swapped graves, while other dynamic corpses could be exhumed.

The teeth of some individuals could become part of an adornment, and so could the smoked hand or foot, while other dead individuals could live on as ancestral bones. Decapitated heads could be exposed, while cannibalized bones might end up in a midden together with the garbage. A few dead individuals could even be left at the mercy of the scavenging dogs.

This is the fate of a number of Mesolithic individuals, whether buried or not, and whether exposed or put into oblivion, but the question remains as to how we can tell the difference between a friendly or a hostile act in order to fully appreciate the different scenarios for these Loose Human Bones?

How many steps to heaven? Loose human bones and secondary burials at Dudka and Szczepanki, Masuria (NE-Poland)

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At Dudka and Szczepanki hunter-gatherer sites apart of evident graves there are plenty of loose human bones, i.e. remains found beyond grave context. At Szczepanki it is about 40 loose human bones, and at Dudka it is more than 1000 bone fragments found in different island zones. Secondary burials, both inhumation and cremation, dominate at Dudka cemetery. Most of them are represented by more or less incomplete skeletons. Some individuals could be represented even by single bone (mandible, skull or a long bone). Secondary burials were always interred in collective graves. In few cases secondary burials were laid into grave together with individual in sitting position. Three sitting primary burials were partially disturbed in the Stone Age in aim to pick up particular bones of deceased.

Only little part of loose human bones could be interpreted as a result of destroyed graves by natural factors or later human activity. It refers also to the loose human bones from the main cemetery area. Apart of graves there were many pits with unknown purpose. Some human bone fragments were found in such pits or directly above them, often together with animal teeth, ochre lumps or fossils, which are typical for graves at Dudka. So than, such pits seems to be previous graves, from which the skeleton was taken out and only small bone fragments were lost inside.

Domination of secondary burials at the main cemetery and the large number of loose human bones indicate that local hunter-gatherer population practiced multi-step burial rites.

The first step was a temporal burial until decomposition of soft tissue. After that, bones were taken to the destination grave. The final effect of that is a secondary burial with disarticulated bones. Loose human bones could be interpreted as intentionally left at place of temporal burial or as lost during taking out and currying remains to the destination grave.

The place of temporal burial could be located directly at the cemetery zone or even at another camp site, such as Szczepanki. Disturbed graves and partition of skeletons indicate complexity of funeral rites and various meaning of secondary burial and loose human bones.

Each secondary burial and loose human bone could be an example of particular step on the way to the eternal rest.

New data on the Donkalis and Spiginas (West Lithuania) Mesolithic cemeteries

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Two archaeological complexes were discovered and examined at two sites by Lake Biržulis, namely the mesolithic camp sites on the promontories of the lake peninsula (Spigino Ragas and Kalniškiai) and cemeteries and funeral feast and sacrifice pits on lake islands next to the camps (Donkalis and Spiginas). Mesolithic remains were found by accident during land improvement works near the small Rešketa River in 1930–34.

The calibrated grave dates are as follows:

Spiginas Grave 1. A severely disturbed grave, 4050–3500 BC (dated by finds to 5500 BC);

Spiginas Grave 2. 6660–6500 BC;

Spiginas Grave 3. 6400–6240 BC;

Donkalis Grave 2. 6377–6221 BC;

Donkalis Grave 3. 4706–4554 BC (dated later because of bone-strengthening material);

Donkalis Grave 4. 5980–5790 BC.

Anthropological research have shown that the average female height for the early mesolithic group (Donkalis, Rešketa, Spiginas) was 155.2 cm, the average male height was 167.1 cm.

The hypermorphic, mesobrachycranial, broad-faced people buried in the cemeteries at Donkalis and Spiginas belonged to the large round-headed Europid type. Morphograms show that the mesolithic series from Lithuania is closest to those in Skateholm (Sweden) and Ofnet (Germany), according to radio-carbon-dated graves.

The roentgenograms of the long bones of almost all the mesolithic and neolithic people we found show transverse growth arrest lines (Harris Lines).

Two main diseases dogged those living on the shores of lake Biržulis and those buried in other European mesolithic cemeteries, viz. caries and arthritis. Research has shown specific cases of bone pathology near Biržulis during the mesolithic period, namely a possible scalping practice (Donkalis 4). On the top of the head of the man buried in this grave we noticed an area marked with quite clear signs of osteoperiostitis measuring 9 cm wide and no less than 11 cm long. This may have been caused by infection arising after a head injury. Certain scholars regard such physical changes as signs of scalping.

The main grave goods at Donkalis and Spiginas during the mesolithic period comprised the front and fangs teeth of wild animals hunted most commonly at the time (elk, aurochs, deer, wild boar, and less commonly roe-deer, bear and fox). 193 mammal tooth pendants were analysed from four graves at Spiginas and Donkalis. Although research into the diet of the people buried here shows that freshwater fish dominated their intake of food, their grave goods (wild animal teeth) show that hunting was still an important economic activity

Genetic research also shows that U4 and U5 genes are typical of Mesolithic graves from Biržulis but they are no longer typical of late Neolithic inhabitants. The move to agriculture in Central Europe and Western Lithuania alike was accompanied by influx of genes from other regions.

The Mesolithic burial of *Campu Stefanu* (Corsica, France)

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The site of *Campu Stefanu*, located in the Taravo valley (Corse-du-Sud), has been excavated from 2005 to 2011. It delivered remains of different occupations from the Mesolithic to the Iron Age. A Mesolithic burial has been installed inside a little rock-shelter. The preservation of the bone material in this granitic environment is extraordinary.

The first level of burials delivered the incomplete remains of several individuals in different degrees of preservation, both for the bone material as such and for the articular relations between bones. According to the number of skulls, three subjects were represented. The human bones were not accompanied by any archaeological remains which could inform on a chronological and/or cultural attribution. However, a radiometric dating realized on the human mineral carbon attributes the grave to the Mesolithic (7028–6658 BC).

Actually, this grave includes the remains of eight subjects with a perinatal infant, two adolescents and five adults. The functioning of the grave seems complex, with sets of bones in primary position, covered with some dislocated bones. One can imagine various manipulations going from the deposition of the deceased to the covering of the grave, and this in a relatively long time, at least enough for the skeletonization. At the bottom level, an additional individual represented by a skeleton in anatomical connection was discovered. The partial preservation of the upper part of the body would presumably be the result of a particular funeral treatment consisting in the deliberate removal of the missing elements. A new dating could move back the age of the burial about a millennium. This discovery is exceptional in many aspects. It is one of the earliest testimony of evidence for the peopling of the island and provides substantial information about Mesolithic funerary practices. This burial is clearly different from the two others Mesolithic graves (*Araguina-Sennola* at Bonifacio and *Torre d'Aquila* at Pietra Corbara) of Corsica and shows an original burial process in the West Mediterranean Basin.

Late Mesolithic social organisation from Tévéc (Morbihan, France) burial grounds

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For what concerns the Tévéc graves (Morbihan, France), the reconstruction of the burial process is not available yet by means of recent methodology. However, the tooth, bone and antler industry yielded by Tévéc burial grounds may serve as a reliable material for reconstructing Late Mesolithic social organisation. Indeed, 19 pieces have recently been recognized as belonging surely to the bone industry yielded by the Mesolithic burials solely. These burials have been used during ca. 400 years long (Meiklejohn et al. 2010).

Amongst the tools and objects made of tooth, bone and antler, the long bone points represent the most common tool-type. Its distribution shows that each point can be associated with a single body and that, contrary to what Péquart published, all the points, at least from what has been seen from the Carnac Museum, where engraved (11 versus only 3 for Péquart 1929 & 1937). Study of them leads us to reconsider the original component of the grave when the body was buried: pin bone point buried attached to the body versus other deposited artefacts (David, forthcoming).

Moreover, the pairing of elements yielded by the revisiting of the »King children grave« allows us to emphasize the special status of some of the youth. Taking into account the other objects found into the graves concerned here, together with the chronology of the burials and the long lasting of the burials into a (expected) single tradition, these new data enable reconstructing Late Mesolithic social organisation from the Tévéc material.

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Florida's Window on the Past – bog burials

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The earliest occupations in the New World are often dogged by questions about authenticity and dating accuracy. What is not at issue is the scarcity of extremely early sites. An even greater limiting factor is the tiny inventory of early skeletal series in the New World. Most 'Paleoindian/Paleoamerican' samples are represented by fragmentary, incomplete poorly preserved individuals usually limited to one or two individuals in a single burial context. In a few cases, exceptional circumstances of burial and preservation in saturated sediments provide almost unique opportunities for analysis. While not from the earliest time intervals of human experience in the New World, the Early Archaic burials from the Windover site in Florida (7,200 years BP uncorrected) do represent the largest pre-7,000 year old skeletal sample in North America with an MNI of 168 individuals. Coupled with a more poorly preserved sample, some of which are of nearly equivalent antiquity (Buckeye Knoll in Texas) with an abundant lithic inventory compared to the organic inventory from Windover, our work of the last several decades has focused on these early samples. Early populations are different from later populations and reflect several trends both in terms of burial inventories and morphological features.

Grave matters in Southern Scandinavia. Mortuary practice and ritual behaviour of the Maglemose people

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During the rescue excavation of an Iron Age village at Hammelev in Southern Jutland, Danish archaeologists unexpectedly uncovered a well-preserved ochre grave and contemporary settlement remains from the Early Mesolithic. The ochre grave contained the cremated remains of an adult individual accompanied by unburned grave goods belonging to the Maglemose culture. Radiocarbon analysis confirms an age of approximately 8000 cal BC. From this period human remains, with or without a burial context, are very rare, and cremation graves even more so. Previously, the scarcity of Maglemose burials was thought to be a simple reflection of the fact that these people were highly mobile hunter-gatherers with little or no need for complex funeral rites. Accordingly, this is a truly unique find with far-reaching interpretational implications concerning both the living and the dead in the Early Mesolithic of Northern Europe.

Mortuary Variability at Moita do Sebastião & Cabeço da Amoreira (Muge, central Portugal)

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Discovered in 1863, the Muge shellmiddens are an important Mesolithic complex for the study of Mesolithic societies, mostly due to the complexity of the Muge sites, diversity of artefacts and burials. Although more than 30 skeletons were recovered from Cabeço da Amoreira, little is known about the symbolic value of these mortuary practices since any systematic study has been done so far. On the other hand, it is known that Moita do Sebastião reveals a pattern that might result from an intra-site social organization. The aim of this paper is to discuss and compare the mortuary variations archaeologically visible in these middens as a result of a social hierarchy and division, representing complex hunter-gatherers with fairly complex and differentiated burials practices.

The Castelnovian burial of Mondeval de Sora (San Vito di Cadore, BL, Italy): Evidence for Changes in the social organization of Late Mesolithic hunter-gatherers in North-Eastern Italy?

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The Mesolithic burial of Mondeval de Sora was discovered in 1987 within an archaeological sequence located under a large erratic boulder, in the Belluno Dolomites (Southern Alps, North-Eastern Italy), at an altitude of around 2.150 m above sea level.

The burial belongs to a 40-year-old male who was buried supine with outstretched limbs and his lower part covered in stones. More than 60 objects made out of different materials (flint, stone, deer bone and antler and two agglomerates composed of propolis and resins respectively) accompanied the well-preserved skeleton. A human bone sample from the skeleton (OxA-7468) has been dated to 7.425 ± 55 BP i.e. 8.377–8.067 cal BP confirming the attribution of the burial to the Castelnovian phase of the Mesolithic as also suggested by the typology of the grave goods.

In this paper we present new data from the analyses of the skeleton and some elements composing the grave goods. Particularly results of carbon and nitrogen stable isotope analysis ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$) performed on a bone sample from the Castelnovian human individual and five faunal remains from the Mesolithic deposits will be reported. Detailed typological, technological and use-wear analyses of flint and osseous materials will also be presented. Our results indicate aspects of discontinuity with the Late Palaeolithic and Early Mesolithic record of the Italian peninsula, in terms of ritual practice and daily lifestyles. This discontinuity involves both the palaeo-nutritional evidence and the technology entailed in the manufacture of flint and osseous tools. Functional studies also indicate some innovative features while data on raw material provisioning systems reflect the establishment of peculiar mobility and/or exchange patterns. Important changes in the ritual, technological, economical and territorial organization, which could also reflect an increasing social complexity of these Late Mesolithic groups, are suggested on the basis of these new data.

The Mesolithic cemetery of El Collado (Oliva, Valencia): state of the art and future directions

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The archaeological site of El Collado (Oliva, Valencia), excavated between 1987 and 1988, is known as one of the most outstanding mesolithic cemeteries for defining burial practices, physical anthropological traits and paleo-dietary patterns in the Western Mediterranean. The funerary record is composed by 14 individual burials scattered into a reduced area. The radiocarbon chronology, based on conventional C¹⁴ dates, place the funerary activity of this site between 8690–7660 BP (9885–8345 cal BP).

The human osteological, zooarchaeological and lithic assemblages are being subject of analysis by a new research team. In addition, new radiocarbon determinations, mtDNA, dental use wear and Sr. Stable isotope analyses are currently in progress. The reexcavation of the site is planned for the coming years.

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The Mesolithic burials of northeastern Germany – synopsis and new aspects

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In northeastern Germany – Mecklenburg-Vorpommern, Brandenburg and the eastern part of Saxony – up to now are known 13 localities with altogether 22 burials of Mesolithic age: In Mecklenburg-Vorpommern Plau (1 burial), Nehringen (3), Steinhagen (1), and Rothenklempenow (1); in Brandenburg Liepe (1), Berlin-Schmöckwitz (4), Kolberg (1), Criewen (2), Groß Fredenwalde (1), and Rathsdorf (1); in eastern Saxony Niederkaina (1), Schöpsdorf 14 (1) and Schöpsdorf 2 (4). All these graves are from Atlantic times, from Groß Fredenwalde (7660 ± 80 BP) to Plau (5290 ± 90 BP).

The grave type is generally the simple earth grave. The funerary rites are differing. Mainly we have the „seated burial» (Plau, Liepe, Nehringen, Kolberg, Rothenklempenow, Rathsdorf). Some burials contained only parts of the skeletons of the dead (Berlin-Schmöckwitz). More others seem to have been extended supine burials (Groß Fredenwalde, Schöpsdorf 14, Schöpsdorf 2). The grave goods include wild boar tusks, animal teeth with and without hollows, a stag antler axe, bone daggers and awls, and flint artifacts and tools. Only in few cases ochre was used for colouring the corpses of the dead.

In contrast to the 13 localities with 22 Mesolithic graves and 26 buried individuals, in northeastern Germany, comprising about 50 000 square kilometers, are known more than 2000 Mesolithic settlement sites resp. places with Mesolithic flint artifacts, representing one site for about 25 square kilometer. In comparing the number of known buried 26 individuals in northeastern Germany compared with estimated around 200 000 living individuals of the about 150 human generations existing in the 3000 years of the Atlantic times from around 7000 calBC to around 4000 calBC, the number of the 26 buried individuals is clearly extremely low. All this we have to take into account in statements on the anthropological, genetical, health, diet etc. statuses of Mesolithic man, derived from the poor basis of the few existing human skeletons/bones as the source materials. This provokes also the question, which percentage of the dead men was buried in the earth and which other manners of treatment of deceased individuals existed, c.o. the treatment methods of the Australian aboriginals.

‘Loose’ human bone in the Mesolithic – isolated or integrated?

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This paper seeks to situate the well-documented phenomena of ‘loose’ human bones within a wider understanding of Mesolithic mortuary practices in north-west Europe. Whilst originally interpreted as the remains of disturbed burials, these assemblages have begun to be accepted as evidence for alternative mortuary practices, though their specific nature has so far received little critical attention. Recent doctoral research, based on detailed osteological analysis, has identified the specific processes and practices that were undertaken at a number of sites across north-west Europe. This material is then considered against the background of evidence for Mesolithic mortuary practice which displays enormous variation in the treatment of the body after death. Whilst ‘loose’ human bones may seem isolated to us, I argue that the practices and processes through which these bones were made apparent, and their deposition in the landscape, involved them in relationships with other objects, places and (living) people, revealing Mesolithic attitudes to persons, bodies and death.

Remains of the mortuary rituals of upright seated individuals in Central Germany

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Five Mesolithic burial sites are known in Central Germany: three in Saxony-Anhalt (Bad Dürrenberg, Coswig, Unseburg) and two in Thuringia (Allendorf-Abri Fuchskirche I; Bottendorf). The remains of eight individuals were found in inhumation burials. A further individual discovered near Coswig is the first Mesolithic cremation that has been found in Germany.

My presentation will focus on two sites, Bad Dürrenberg and Bottendorf, in which individuals buried in upright seated position were found in intensively red coloured graves in the 1930's. Unfortunately, in both cases the excavations were hurried affairs involving salvaging the contents of the graves and only a few field notes were taken. In both cases, the burials were located on prominent elevations. At Bottendorf, two discrete burials of a man and a child as well as a double burial of a further adult and a child were interred about 15 m apart from each other. Only the male deceased in the first burial (B I) was associated with two obliquely retouched flint blades. New radiocarbon dates for this burial date it to 6628 ± 38 BP (OxA-27244, 5625–5490 calBC). In contrast to the lack of grave goods in Bottendorf, the double burial of a woman and an infant excavated at the salt works at Bad Dürrenberg was associated with a remarkably large number of objects which can be related to both the male and female spheres. In total, more than 40 tools made of stone, antler and bone, 26 animal tooth pendants and several unmodified animal bones and teeth as well as two complete roe deer antler which were still attached to the skull-caps, were recorded. Two long bones of a crane seem to be incised possibly with figurative and other motifs. The animal remains originate from at least 12 different mammal-, reptile-, bird- and mollusk species. Up to this day, no other Mesolithic burial with a comparable number of grave goods has been found in Germany. The bone of the female individual was dated to 7930 ± 90 BP (OxA-3136, 7061–6607 calBC) making it to the oldest known burial in Central Germany. My presentation will summarize new research results on both sites, focusing especially on the grave goods and composition of the inventory. An attempt will also be made to reconstruct the mortuary ritual.

Exception as a rule. Diversified burial rite at Dudka and Szczepanki (Masuria, NE-Poland)

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Szczepanki and Dudka are hunter-gatherer sites located on two islands of the same former Lake Staświn (now peat-bog). The main cemetery at Dudka contain 18 evident graves with at least 79 human individuals and at least 5 dogs. At Szczepanki there are two graves of infants and one dog burial.

At Szczepanki both burials of infants are individual and primary, however one was laid in supine position and the second on its left side.

At Dudka cemetery there are 12 primary burials, 28 secondary inhumations and 39 cremations. Among primary burials only 3 were in individual graves and each of them was laid in different position: one on the right side (female), second on the back with astride legs (female?) and third on the back with legs pulled up on the chest (child). The rest nine primary burials are represented by individuals in sitting-squatting position. All of them were laid in six collective graves together with secondary inhumation and/or cremation burials. Half of graves (9) at Dudka contain only secondary burials, inhumated as well as cremated.

Most of grave goods are inconspicuous except of one antler whole-less axe, two bone awls and one bone point. Instead of them there are animal remains such as hedgehog jaws, bird bones, turtle carapaces and unworked animal teeth. Different kinds of fossils are also quite frequent. All such goods could have symbolic meaning and could be personal adornment, amulet, or possibly even toy?

It is worth to point out that dogs seems to follow the same rules in burial rite as humans do. At Dudka dog remains were found in 5 graves. In two of them were laid complete dog skeletons, however both were secondary burials. One of these dogs had the richest set of grave goods against the rest of graves at the cemetery. Another three graves contain one or several dog bones (including cremated), what was common practice towards human. At Szczepanki one dog skeleton was found in shore zone and its bones were partly washed-away.

Every grave at Dudka and Szczepanki is different. Each one is an unique combination concerning kind of burial-primary, secondary inhumation and cremation, different number of individuals, including dogs, and diversified set of goods. Such extreme diversity among graves could appear if every grave symbolically reflected unique life history of particular individual and his family connections.

Skulls on stakes and skulls in water. Mesolithic mortuary rituals at Kanaljorden, Motala, Sweden 7000 BP

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Excavations at Kanaljorden, Motala in the province of Östergötland in Sweden 2009–2013 has unearthed a rare context from the Mesolithic. A small lake has been the locus for complex ritual activities that included the construction of a stone packing at the bottom of the lake. Select human bones – mostly skulls – from a dozen individuals have then been deposited on the stone-packing. Two of the skulls were mounted on wooden stakes still embedded in the cranium. Damage on other skulls indicate that more may have been similarly mounted. Beside human bones, the finds also include artefacts of bone, antler, stone and wood, as well as animal bones and botanical remains. The context is ¹⁴C-dated to c. 5800 cal. BC. Ongoing laboratory analysis (aDNA, isotopes etc.) give insight into the relationship of the interred individuals.

Analyses of the placement of disarticulated human remains in stone age shell middens in Europe

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Fragmentary and disarticulated human remains have often been overlooked in studies of Mesolithic burial, particularly when they are found within shell midden contexts. Traditional studies of middens have interpreted the loose bones as the result of disturbed inhumation burials, discarded waste or even the remnants of cannibalism. Recently a small number of studies have recognised the significance that these remains may have, notably the study of the Oronsay middens (Meiklejohn et al. 2005), which demonstrated that, with careful analysis, fragmentary human remains can provide a lot of information about funerary treatments during the Mesolithic. This paper presents PhD research, funded by the Arts and Humanities Research Council (AHRC), which is investigating the nature of fragmentary human remains in shell middens during the stone age. The methodology being applied in this research has been specifically designed to question whether disarticulated bones were intentionally incorporated into the middens as part of funerary practices or if the fragmentation of the body occurred as a non-intentional result of natural taphonomic factors affecting the body after burial. The results show that thorough systematic evaluation of even the most unpromising bones can yield results which enlighten our understanding of funerary archaeology during the Mesolithic.

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A burial at the edge of the Oderbruch (state of Brandenburg) – description and discussion of a possible Mesolithic grave –

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Among the more than 5.000 archaeological burial sites in Brandenburg, stone age graves are very rare. Therefore the discovery of a entombing in 2008 between the villages Rathsdorf and Neugaul (Lkr. Märkisch-Oderland), which could be related to the mesolithic, was unexpected. The burial was detected during the archaeological investigation for the OPAL gas pipeline and situated at the north slope of a sand island on the lowland edge of the Oderbruch. Due to time shortage and the bad preservation of the bone material, the feature was excavated in one block. Since then the skeleton and grave goods were exposed, documented for museum presentation and released for scientific analyses. In the context of the conference first results shall be introduced and the temporal and cultural classification discussed.

Muge Mesolithic burials, a synthesis on mortuary archaeology

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Three famous late Mesolithic sites are found along terraces above a small tributary of the Tagus River in central Portugal. Collectively, they are known as the Muge sites. They cover a relatively short time span, and many burials known from these sites probably come from the early period soon after estuarine resources became available in the area. The early burials date from 7900–7800 calBP, but some individuals were still buried in the area when estuarine conditions were retreating towards the mouth of the Tagus a thousand years later.

The sites, Moita do Sebastião, Cabeço da Arruda and Cabeço da Amoreira, have been known and excavated since the early 1860s. Their long and complicated excavation history, agricultural activities, together with erosion caused by flooding of the Muge River, make it difficult to study Muge mortuary practices and palaeodemography. We will summarize our three decades of work on the human skeletons, focussing on the last ten years during which we have attempted to »reconstruct« the sites from meagre documentary sources and to link these to our knowledge of the museum collections of bones. The complex and varied postures at burial and the relationship of the burials to each other and to the actual sites will show how far we have come from our initial idea that the dead were simply a randomly placed part of the detritus of daily life.

We suggest memorial feasting and special structures, and visualize mound-covered burials laid out around hearths and pits associated with post holes. At the same time, there is evidence for differences in the details of mortuary practices within and among the three sites.

Capsian mortuary practices at Site 12 (Aïn Berriche), Aïn Beïda region, eastern Algeria

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Site 12, a Capsian escargotièrre in eastern Algeria, was excavated in 1930 by a joint expedition from the Logan Museum of Beloit College led by Alonzo W. Pond and the University of Minnesota led by Albert E. Jenks, assisted by a number of undergraduate and graduate students. Among the finds recovered were a large number of human skeletons, some of which undoubtedly date to the Capsian use of the site in the early and middle Holocene. Several of these display unusual mortuary practices and there is evidence for removal of bones, some of which were then modified for either utilitarian or ritual/symbolic purposes.

Skeletal markers of activities and social status in Lithuanian and Latvian Mesolithic-Neolithic population

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Stone Age in the Eastern Baltics, embracing Mesolithic (c. 10,000–6,500/6,300 BP) and Neolithic (c. 6,500/6,300–3,500 BP), differs from traditional models. The Mesolithic saw a gradual increase in population size, more settled communities, development of a more complex social structure and ideology, and emergence of local cultures, based on hunting, gathering and fresh water fishing on inland settlements. In the Neolithic in this heavily forested area rich with fishing resources, notwithstanding some »external« elements of Neolithisation, the economic system of Baltic foragers to a certain degree at least had to be based on »delayed-return« causing a considerable degree of social complexity, that is reflected in complex burial customs. This in turn would suggest possible differences in health profile and trauma patterns that may be social status related.

To determine possible indices of social status that may be reflected on skeleton, all available skeletons from Lithuania (26) and Latvian Zvejnieki site (223) with well documented archaeological context were investigated macroscopically and under low magnification. Cases of healed circumscribed inflammatory lesions on skull vaults of five males could be a reflection of a complex social hierarchy related rituals in those communities.

Zvejnieki grave 63, Late Mesolithic. Male, 50–55 years. Broad area of irregularities with several deeper pits with hardly definable margins. Both parietal bones (above temporal line) and part of frontal are involved. Grave contained no inventory.

Donkalis grave 4, Late Mesolithic (6995 ± 65 BP, OxA-5924). Male, 50–55 years. Area of irregularities (signs of healed inflammation) with clear margins on skull vault, embracing occipital squama and both parietals is notable. Grave contained 83 animal tooth pendants.

Zvejnieki grave 300, Early Neolithic (5690 ± 45 BP, Ua-3642). Male, 30–35 years. Circumscribed elongated oval-shaped area of pitting, slightly elevated above intact bone surface, with identifiable margins, embracing part of

frontal bone and both parietals along the sagittal suture. Burial contained numerous grave goods (tooth pendants, bone arrowheads, harpoon and knife).

Zvejnieki grave 289, »Stone Age«. Male, over 50 years. Very similar elongated diamond-oval shaped elevated area of pitting in the same location. However, burial contained no grave goods.

Zvejnieki grave 297, »Stone Age«. Male, 40–45 years. Elongated oval-shaped area of pitting and irregularities (shallow longitudinal grooves). No grave goods in excavated part of the grave.

In all cases, morphology of changes is suggestive of healed inflammation due to infection on the scalp area. Scalping rituals were widely spread over Eurasia since ancient times, and are related to the archetype of faith in hair's magical properties. However, as periosteal layer is removed during scalping, subsequent granulation of necrotic area produces slightly depressed area, some kind of »milder« traumatic event causing infection of scalp (cauterization? tattooing?) must be involved. In any way, these cases could be suggestive of complex rituals related to social structure: all five individuals are mature or even senile males, two of them had severe pathologies of shoulder joints and forearms, one – specific dental attrition indicating teeth use as a tool, two had graves exceptionally rich in inventory.

Social and spatial differences at Port au Choix: the mortuary analysis of a Maritime Archaic Indian cemetery at Newfoundland, Canada

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Cemeteries are our most important source of information on the life ways of prehistoric people. Differences in mortuary practices can, to some extent, reflect social differences in a prehistoric society, and the study of human skeletal remains can provide information on the sex, age, trauma, genetic relationships, and diet. This research is focussed on the 4500-year-old Native American cemetery of Port au Choix-3 locus II. This site, which was excavated in 1967/68, was attributed to the Maritime Archaic Indian culture (Tuck 1976). At Port au Choix-3 locus II, 93 well preserved human skeletons were discovered, which were buried in three spatially separate clusters. The burials contained many tools, ornaments and other grave goods made of, stone, bone and antler. Almost all individuals were lavishly covered with red ochre. The objective of the research was to formulate a diagnostic reconstruction of the social structure of the Maritime Archaic society of Port au Choix-3 locus II. This investigation was conducted by means of an analysis of the archaeological and physical anthropological data retrieved by Tuck (1970, 1971, 1976), Tuck et al. (n. d.) and Anderson (1976, n. d.), in combination with the results of our studies on non-metric as well as metric skeletal and dental traits, stable isotopes, radiocarbon, and DNA. One of the research questions was whether the three spatial burial clusters reflect different genetic and/or chronological groups, or whether they represent different social status groups. The excellent preservation of the skeletons offered the opportunity to conduct DNA analysis on this material. Permission was granted for sampling 64 individuals. In 26 of those DNA was found and analysed. This part of the research was conducted in cooperation with researchers of the University of Oxford. By means of DNA analysis we were able to establish the sex of a number of individuals (which in some cases led to sex-determinations that were different from those established by means of the traditional morphological method).

DNA analysis, in combination with physical anthropological techniques, showed that the three burial clusters were not genetically separate populations. The skeletons of 29 adults were analysed for their carbon and nitrogen stable isotope ratios. With these analyses the average diets in the three burial clusters could be reconstructed. In combination with the studies mentioned above, an analysis of the archaeological mortuary attributes was conducted. These attributes can be classified into four mortuary domains; placement in the cemetery (1), grave construction (2), body treatment and position (3) and grave goods (4). We investigated whether or not the mortuary attributes are associated with sex, age and burial cluster. Subsequently all the relations between all the archaeological, physical anthropological, DNA and stable isotope variables were investigated statistically. One of the results of the analyses was the detection of significant differences in diet between two of the three burial clusters. Also significant differences in the amounts of energy invested in the burials were found. In addition to that, in one of the three burial clusters more male skeletons were discovered than one would expect on the basis of a biological 50/50 distribution. This suggests that females and males did not have the same access to these burial clusters.

The observed patterning in mortuary practices was compared to ethnographic data. The ethnographic analogies used originate from Algonquian societies which are thought to be comparable to Port au Choix-3. It was concluded that the three clusters are the burial grounds of three different social status groups in the Port au Choix-3

locus II society. It is likely that in one of the clusters (B) young and relatively inexperienced hunters were buried. Their diet was heavily based on marine mammals, probably seals, which were easy to catch. In the second burial cluster © we find the most skilled hunters. The greatest variability in diet was found in this group. These hunters were able to hunt all species successfully, and had the higher status. The greatest energy investment was found in the burials of this cluster. The third cluster (A) consisted of, probably, older and/or less capable hunters. Also the sex ratio in this cluster is more equal than that of the other two burial clusters. The subsistence of these people was mainly based on fish. These fish were probably caught in the vicinity of the settlement. In addition to information on subsistence and social structure, some religious aspects of this prehistoric Native American society could be reconstructed.

Full thesis and literature available at <http://irs.ub.rug.nl/ppn/297346792> (free download)

The early Ertebölle ochre graves from the location Nederst in eastern Jutland, Denmark: ochre rituals and traditions in personal adornment

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In Jutland Early Ertebölle ochre graves have so far only been discovered in Djursland, eastern Jutland. Within a distance of 15 km three other grave locations are known. In 1988–92 an excavation was carried out at the shell-midden location Nederst. Six graves were found at the site, and the two best preserved graves contained a richly equipped male and a five year old boy. Both graves contained a massive amount of red ochre and had an astonishing similarity in personal adornment.

Perspectives on the Skateholm burial grounds

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The view of Mesolithic mortuary practice has mostly been restricted to considering the buried body and the artefacts that are perceived as grave goods. But mortuary practice comprises the whole process from the point where the person was perceived to be dying until the memory of the deceased had totally vanished. Parts of this process can be considered in the study of finds and factors associated with the grave pit. Such observations concern, for example, how, where and when the grave was dug, how long it stood open, and what structures can be linked to the grave. In Skateholm there are indications that structures were burnt and objects were deposited in locations, which makes it hard to interpret them as grave goods. Another factor of special importance is how the grave was filled in, as finds and the composition of the filling suggest that there were considerable variations. The spatial relationship between the graves and the evidence of graves cutting across each other can also contribute knowledge about the memory of the buried person.

Inhumations and cremations from the Late Mesolithic site of Nivå 10, Eastern Denmark

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Excavations at the Late Mesolithic site of Nivå 10 yielded both dwellings and graves. So far the site comprises four dwellings and 12 graves containing 15 individuals. The burials include inhumations, of which three were double burials, as well as three cremations.

The site was situated on a small island in the mouth of an inlet and was inhabited several times during the Late Mesolithic. There were scattered traces of an early occupation in the Kongemose Culture, between c. 6200 and 5850 calBC, and to this phase belong a well preserved double burial and a cremation. During the Late Kongemose Culture, c. 5700–5400 calBC, two sunken dwellings and several inhumations were established side by side. Subsequently the island was temporarily flooded by the Littorina Sea, and a new settlement was not established until a couple of hundred years later in the Early Ertebølle Culture. This final occupation on the island comprises two sunken dwellings, several inhumations and one or two cremations.

Some of the inhumations show signs of rearrangement of the dead bodies. As for two of the double burials, it seems as if one body was placed first and later pushed aside, creating room for the second one. This may indicate that these burials originally were meant for one person only. In one of the other graves, parts of the skeleton were at some point after the burial dug up and placed inside a dwelling.

In several cases, symbolic or ritual items are known from both graves and dwellings. Thus we have an opportunity to look into ritual behaviour crossing between dwellings and graves – rites that somehow connected the world of the living and the world of the dead, so to speak.

Human bones amidst refuse in the Late Mesolithic – the Hardinxveld case, the Netherlands

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In 1997–1998 two Late Mesolithic sites, lying close together were excavated near Hardinxveld, preceding the construction of new railway. The sites are situated in the Rhine delta area, on the tops of rather small Late Glacial dunes, at a depth of 5 to 10 m below mean sea level and covered by later peat and clay deposits. Due to these conditions very rich refuse layers were preserved in the former wetland margins of both sites. They altogether give an unprecedented view on Late Mesolithic society in the Netherlands and its wide surroundings. At each site a trench measuring 16 x 24 m could be excavated, producing a representative sample, covering c. 20%. In the presentation I will restrict myself to the human remains, especially from the rich phase 1 of the site 'Polderweg', dated to 5500–5300 cal BC.

At both sites some formal human burials were found. Two of these extended, one in sitting position and one non-articulated, most probable by postdepositional disturbance. There are three dog inhumations, one fully articulated, two only preserved as boner scatters. This all links up well with North European tradition. Less showy but more intriguing are the in total 80 human bones found all over the excavated area, representing a MNI of 7 for phase. Both male as female and two juvenile (2–6 and 10–15 y) are present. Most prominent are some incomplete skulls and parts of long bones, found in the wetland margin up till 8 m from the dry settlement area. A clavicle with clear cut marks shows active involvement of the inhabitants in their manipulation. This material cannot be explained as remains of disturbed graves and to be arrived at these points by natural processes. It is considered to be discarded like the animal bones and the damaged bone and antler implements from the same deposit.

The bones reflect a treatment of human bodies that may have been much more common than formal burial, but hardly can be specified more than 'a process resulting in discarded bones'. The find situation suggests that bones were kept in the settlement for some time and discarded at a given moment, within the perhaps two centuries the site was in use. It may be that the bodies were left to the elements and (some of) the left bones collected and kept for some time. There is an interesting and unique case of a 'scaffold burial' from the Late Neolithic site of Hekelingen in the same region, c. 3000 cal BC, a document we owe to the same preservation conditions: a six post structure associated with bones of an adult male individual. The case may be considered of relevance in view of the deep Mesolithic roots of the delta-bound culture involved.

That this tradition extended into the Neolithic is illustrated by observations at the Middle Neolithic (3600 cal BC) site of Schipluiden, at the North Sea coast, excavated 2003. In addition to six formal burials, 36 isolated bones were found in the refuse zone around the site, to be attributed to a MNI of 8 individuals. In some case remains of possibly one individual seem to cluster in a restricted area, suggesting one discard action, or a disturbed grave. Some dogs at this site seem to have been killed, partly dismembered and dumped in the same refuse zone as well.

The favourite wetland conditions seem to open a window to a practice of dealing with bodies and their remains which may have been the or a more common practice, than formal burial. It demonstrates interest in and value attributed to these remains, at least for some time.

Interpretation of meanings of animals in prehistoric hunter-gatherer burials in the North – multiple lines of evidence approach

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Contextual, osteological and isotope analyses of animal remains can reveal qualitative, quantitative and chronological information about the ways animals were treated and used in burial practices of hunter-gatherers. In order to study the meanings behind these practices, a different research approach is appropriate. Belief systems are among the most elusive dimensions of ancient life and are best approached with multiple lines of evidence. In this paper I present an ongoing research on the materials from Mesolithic cemetery Yuzhniy Oleniy Ostrov in Western Russia. The material will be used in making interpretation on animals' roles in burial practices and Mesolithic ideology. I will study burial materials and their distribution, animal ecology, ethnohistory, and the knowledge of subsistence and material culture from non-burial contexts from the same period and geographical area. The present research uses methodological and theoretical frameworks of archaeology, natural sciences, social zooarchaeology, anthropology and ethnography.

A chrono-geographic look at Mesolithic burials: an initial study

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Our work over the past decade has focused on two interrelated topics within the general area of Mesolithic burial studies. The first is the relationship between burial number and burial date; the second is the basic chronology of Mesolithic sites with burials. One aspect of this has been construction of a database of metric variability and chronology for the period, a complete and up-to-date list of known burials, and a full listing of their geographic coordinates.

In previous papers we showed that, contrary to expectations, multiple burials or cemeteries (however defined) are a feature not restricted to the late Mesolithic, but one that occurs throughout the sequence, possibly with Upper Palaeolithic roots. Our earlier analyses were primarily concerned with only the number of burials in a site and their absolute date. The geographic aspect, most obviously seen in latitude and longitude was only explored in passing, as shown by the demonstration that patterns were largely similar for the whole of Europe and for the more circumscribed area of Northwestern Europe. This paper will use geostatistical approaches together with other statistical procedures to provide an initial exploration of whether other patterns are hidden within the data. This may assist in answering questions such as whether the overall pattern of burial during the Mesolithic is random or patterned.

How to settle the dead – burials on the Mesolithic settlement Motala, Sweden

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At Strandvägen in Motala a settlement was established c. 6000 cal. BC and continued on for almost 1500 years. The site is located adjacent to the first series of falls in the river Motala Ström, centered on a low sandy moraine hill overlooking the bay of Lake Vättern. On the settlement six Mesolithic burials have been unearthed and along the shoreline depositions of ornamented artefacts and loose human bones have been found. Across the river a unique ritual deposition of human crania has been investigated at the site Kanaljorden.

Several Mesolithic cemeteries in connection to contemporary settlement sites have previously been excavated and studies have dealt with questions regarding social stratification and population demographics within Mesolithic groups. However, we believe that these studies not fully answer the question of whom these people were and why they were buried there. Do the burials represent the living inhabitants of the settlement? The graves were presumably arranged to be both known and visible. Were they important to later groups of people who inhabited the site? Perhaps their presence reinforced social relations, both in life and beyond in death. We need to consider the mirroring effect of these burials as they become a part of the living landscape of the inhabitants of Motala.

Mesolithic burials at S'Orku e S'Orku (SOMK) on the south-western coast of Sardinia

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The Mesolithic site of S'Orku e S'Orku (SOMK) is located near Arbus, on the south-western coast of Sardinia, in an area characterized by Quaternary dunes and Paleozoic reliefs rising up to 300 m. A now collapsed rockshelter opens in the eolianites just on the sea shore, while in the early Holocene the sea-level was lower and the coast-line was at a distance of a few km. Archaeological investigations started in 2008, after human remains were found by amateurs. This notably included the skeleton of an adult-mature individual (SOMK 1), covered with ochre, and associated with a *Charonia lampas* shell, with the first coils cut in order to use it as a wind instrument. During excavations the partial remains of a second adult skeleton (SOMK 2) were discovered, which were too disturbed to allow assessing the presence of any grave goods. More recently, a third partial skeleton (SOMK 3) was found associated with another *Charonia lampas* shell, with large *Cypraea* shells, and with many specimens of *Columbella rustica*. The three burials were discovered within a complex lithostratigraphic sequence, affected by gravitational phenomena and wind-caused processes. The C₁₄ dates, both on human bones and on charcoal, as well as sedimentological analysis, suggest that the deposit accumulated rather quickly around c. 8,500 cal BP. Ochre pencils, ochre-stained shells and a few lithic implements were also discovered, but overall there is scarce evidence of the use of the shelter for non-funerary purposes. The fauna, which includes exclusively endemic species that are typical of Sardinia during the Upper Pleistocene and early Holocene, is dominated by *Prolagus sardus*, an extinct ochotonid which possibly denned in the shelter. Preliminary results of stable isotopes and dental microwear analyses suggest a human diet based on significant amounts of plant foods.

Testing the tribal hypothesis. An attempt to use anthropological theory to reconstruct Mesolithic cosmology and social organization from treatment of the dead

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The Mesolithic burials around the Baltic contain not only human, but also animal remains. Their presence raises interesting questions about symbolic representation and inter-species relationships. In this paper I will use them, and builds on the work of several colleagues, as a departure to test the ideas about a Mesolithic cosmology, and concepts such as animism and totemism. This work relies on a more interpretative way into the understanding of the lived experience in the past. I will be testing how these interpretative ideas can be purposefully articulated with a perspective on mortuary ritual as practice. Special attention will be focused on the role of bones - both those inside the graves and those removed from the graves (and sometimes extracted purposefully through cremation or other treatment of the dead body), sometimes to be circulated or manipulated by the living, and sometimes to be deposited to accompany the dead.

Bodies bits and pieces II: the Late Palaeolithic and early Mesolithic evidence

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Burials of the Late Palaeolithic (12.000–9600 BC) are in continuity with the Magdalenian. Several sites indicate the burial of single individuals and double burials. Like in the Magdalenian the burials of more than two individuals in the same grave pit seems to be unusual. The deposition of isolated and disarticulated human remains with or without cut marks seem to belong in the Magdalenian context as well. In the final Palaeolithic phase (11.000–9600 BC) there seems to be evidence for cemetery like structures which are in contrast to the Magdalenian evidence, but shows some similarities to the Mesolithic. The early Mesolithic burials (9600–8100 BC) are a very rare phenomenon. Here the evidence includes single inhumations, cemetery like structures and a number of isolated human remains, especially in the preboreal phase of the early Mesolithic. Caves and rockshelters are the most common places for inhumations in the final Palaeolithic and the early Mesolithic.

Roots of Death: funerary rituals and the shell middens of SW Atlantic Europe (Tagus and Sado valleys, Portugal)

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In the context of postglacial environmental changes, the new form of settlement known for the Late Mesolithic seems to be followed by a different approach to Death.

In the archaeological record, this is well observed in the shell midden sites known for both Tagus and Sado valleys in Portugal, where new born babies, children, young adults, men and women were carefully buried in a systematic manner.

Here I present a review on the archaeological data for the mortuary practices of the postglacial communities in the SW Atlantic Europe that precede the shell midden cemeteries known for the Late Mesolithic in the region. This paper is part of my current PhD research »Death in the Mesolithic: mortuary practices of the last hunter gatherers in the extreme SW of Atlantic Europe«.

Ethnological records on the treatment of corpses preceding disposal of Australia's sub-recent indigenes

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Studying death and the treatment of the dead by the sub-recent Australian indigenes can provide models or analogies for other regions of the earth and also explain archaeological grave finds within Australia. The continent was colonised relatively late. At first, the ancient culture of the first settlers was hardly of any interest at all to the colonisers; only from the 2nd half of the 19th century were valuable reports and documentations made – including on burials. At that time theories on the evolution of mankind characterized by euro-centrism were widespread: Indigenes were supposed to have remained in an early developmental stage, »modern representatives of ancient hunters« (W.J. Sollas 1911) – this triggered off research interests; many skeletons were collected for scientific reasons, thereby destroying graves and sacred places.

Aborigines believe in incarnation and rebirth and in the existence of spirit/s or soul/s in the living which leave the body at death and which can do harm to the living. This fear drives the living to do what is custom and follow their rituals for the dead. Only small babies and the very old die a natural death; all other deaths are believed to be caused by sorcery and evil magic. The rank of a person in life is supposed to determine the persisting influence of her/his spirit which needs to be calmed by the ritual. The treatment and disposal of the body is part of an extensive ritual that is meant to follow the appropriate rules for such occasions.

By investigating all available written sources on Australian Aborigines, B. Meehan (1971) makes the point that the disposal of a dead person can be simple (in one phase) or compound (in several phases). According to her there are nine types of simple disposal; compound disposals can combine several procedures such as drying the

corpse, eating parts of the body, elevating it on a platform or tree, disposing of it in hollow receptacles, burial, cremation and retention of the body or parts of it. A compound burial can take months or even years.

For the purpose of this paper we restrict ourselves to the topic of treatment of corpses preceding the final disposal. An ethno-archaeological approach gives insight into rituals that can hardly be traced by archaeological methods alone and can in our opinion also broaden the horizon of researchers of the European Mesolithic.

The Australian records for simple disposals give examples for different ways of wrapping, tying and dismembering corpses. Before cremation or burial the body was prepared or treated in various manners. In compound disposals the first procedure was carried out in the same fashion and the treatment of the remains continued in manifold ways. An overview is presented and examples are given.

Holes in the world: the use of caves for burial in the Mesolithic

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Caves are often seen as special places, both physically and perceptually. They are often termed 'liminal' and this seems to have made them appropriate places for the dead in many different times and places. In parts of Europe, most of the evidence we have for Mesolithic human remains comes largely from caves. In some cases these are clearly primary burials, while in others they represent secondary deposits. In still other cases we have only isolated fragments that are difficult to interpret, yet can still provide important information concerning Mesolithic lifeways. Some examples present evidence of particularly striking practices, such as the famous 'skull nests' of Ofnet. However, their use is not only sporadic across space (subject to the obvious requirement of caves being present) but also does not necessarily persist over time, even in areas with abundant caves. Aveline's Hole in southwest England is Britain's clearest example of a Mesolithic cemetery. Probably originally containing the remains of some 50 individuals, AMS radiocarbon dating of those that survive indicate a very short span of use of the site over a century or two centring on ca. 8300 cal BC, after which no further burial activity seems to have occurred. This pattern seems to be a widespread one in southwest Britain, in that the use of caves for burial primarily falls within the Early Mesolithic, with very few examples from the last two millennia of the period. This paper presents an overview of the varied use – and non-use – of caves for the deposition of human remains in the Mesolithic.

Loose human bones from late Mesolithic sites in Denmark

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The disposal of dead bodies has been dealt with in various ways in historical time and probably also in prehistoric and Mesolithic times. Therefore in my search for an explanation of the loose human bones found at Mesolithic sites in Denmark I have been studying ethnographical as well as historical sources. Ever since the first excavations on Mesolithic sites, loose human bones have occasionally been found at some of these sites. The question often asked is what these bones represent, maybe because of most western archaeologists Christian upbringing we don't like the idea of human bones being mixed with domestic waste and apparently treated without the respect we normally expects for human residue.

One of the first explanations for loose human bones was proposed by the Danish King and amateur archaeologist Frederik VII. as early as 1857. In a letter to J.J.A. Worsaae, the director of the National Museum in Copenhagen, he presented his idea of cannibalism in the Ertebølle Culture. An idea based on his own experiences from a small excavation carried out at a kitchen midden near Jægerspris, Zealand, where he had found »the skulls of tree humans together with a pile of human bones, all split and fractured for marrow extraction«. Somewhat later, in 1942, the idea of cannibalism was reinforced after the finds of human bones with cutting marks at the Dyrholmen site.

Since the appearance of regular Mesolithic graves at a greater number, beginning with the graves from Vedbæk Bøgebakken, a new explanation began to emerge, namely that the loose bones simply were the result of destroyed graves, secondarily spread over the settlement site.

Today more than 90 sites with more than 414 loose human bones are known and the time had come to look at the material once again and see if it is possible to get closer to an explanation or interpretations of these bones. To do so I would start looking for possible patterns in the distribution of sites with loose human bones and look for contextual information as well.

The starting point of my investigation has been my own excavations of two late Mesolithic sites – Blak II and Lollikhuse – with loose human bones and no traces of proper burials at all.

Without excluding the old explanations of cannibalism and destroyed graves I will introduce new possible explanations for the loose bones, for example the possible existence of archaeological almost invisible kinds of burials, the so called »sky burials« and burials in trees or on wooden platforms, secondly I will look for a possible ritual use of human bones resulting in human bones in secondary contexts.

Loose human bones in settlement context might be a complex matter with no single and simple explanation; they may be the result of one or more of the above mentioned events.

The Mesolithic burials of the middle Elbe-Saale region

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The rare Mesolithic burials from the Middle Elbe-Saale region based solely on old excavations. A re-examination of anthropology and an application of modern methods was therefore urgently needed. The paper presented here included osteological and multi-isotope (carbon, nitrogen, strontium, oxygen) analyses of all well preserved individuals. Additionally, new AMS-dates of the five individuals from Bottendorf finally clarify the long disputed age and sequence of the burials.

New data concerning Mesolithic burials from Polish territory

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Mesolithic burial places are more numerous (14) than Palaeolithic ones (5) on Polish territory and their number increases slowly due to the systematic and rescue excavations or the reconsideration of the earlier finds. The new places were recently discovered in the central part of Poland – in Masovia region and in the southern part – Silesia and Little Poland. Their chronology has been established by ¹⁴C measurements or by typology of the accompanied lithic artifacts from the Boreal to the Atlantic period.

Among the new sites there is an unique burial of the child discovered in a cave but human remains were mostly recorded on the area of the open habitation sites, that are extensive and rich in lithic artifacts. The position of the human bones within the sites was different. They were deposited in one of several features or were dispersed in one of the cuts, in a close vicinity of the features. The human bones were preserved in small fragments but only few of them revealed the traces of a contact with a fire. The minimal number of individuals recorded on such sites were established as from one to eight. The buried person represented both sexes and are diversified by the age from Infans I to Maturus.

The burials analyzed and published earlier also provided a few new data. Such new finds enriches data sources to consider social and symbolic culture of Mesolithic communities which represented different taxonomical units (archaeological cultures) on Polish territory.

Body as evidence: tracing hunter-gatherer (ca. 5200–3000 cal.BC) burial practices in present-day Estonia

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The beginning of the research of Stone Age burials (inhumations) in present-day Estonia reaches back to the last decades of 19th century. Although, burials have been studied more than a century their interpretations have always been middling compared to other elements of material culture. The focus of Stone Age research has been on economical and settlement archaeology. The study of burials has been positivistic in its essence and therefore, quantitative methods have been applied. The focus of the studies has been on descriptions, artefact typologies, ethnicity, and religion. Thus, mortuary practices as such have not been studied thoroughly yet.

In my PhD-research I aim to fill this gap by tracing single events/acts that have taken place during mortuary rites in hunter-gatherer societies. In the present paper I will focus on multiple burials of hunter-gatherers and stress the importance of time in analysing them. When more than one individual is placed into the same grave the first questions raised is whether they all were deposited simultaneously or separately over a longer time period. I argue that this is an important question and thus makes time the key-feature in the understanding of practices behind the material remains of multiple burials. Before presenting case studies from present-day Estonia I would like to discuss the notion »multiple burial« in the context of European Stone Age.

By (re)analysing hunter-gatherer burials – both inhumations and »loose« bones from settlement sites – the distinction between simultaneous and succeeding burial acts at one grave is brought forward. Detailed archaeo-anatomical analysis of several cases – namely, Kivisaare, Tamula, Kõnnu, and Veibri – are used to illustrate the point and to mount the theory with practice.

Papooes in the Mesolithic? - a reinterpretation of tooth and snail shell pendants from Bøgebakken, burial 8 and other Mesolithic burials

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In all hunter/gatherer cultures women's mobility and active work plays a vital role, and although the care of infants occupy a lot of time, the mothers are able to perform their daily tasks in amazing large extent due to the use of baby carriers. Ethnographic reports on the use of baby bags for transporting the children are known from most hunter/gatherer and primitive agricultural cultures around the world, and a common feature of these papooes (as native American calls them) is their rich decoration with ornaments of various kinds in addition to attached amulet objects for magical protection of the vulnerable infants.

Backpack baby carriers have been documented from the Late Glacial time in Europe (Gönnersdorf), and this paper argues that the many pendants of animal teeth and snail shells from certain Mesolithic burials such as Bøgebakken, burial 8, has functioned as protective amulet decorations on papooes and similar child care equipment.

Mesolithic burial traditions in Latvia, Eastern Baltic

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The characteristic feature of the Stone Age cemeteries in north-eastern Europe, including the Eastern Baltic, is the long duration of their use. The Zvejnieki burial ground in northern Latvia exemplifies this kind of prehistoric site. Zvejnieki is a flat inhumation cemetery spanning a period of five millennia (7500–2600 cal. BC).

In order to single out the Mesolithic burials, chronological division of the graves was important. The chronology is based on archaeological typology, radiocarbon datings and changing burial practices.

In terms of Mesolithic burial tradition, three main groups of graves have been distinguished:

- 1) a group of burials dated to the Middle Mesolithic (Boreal);
- 2) a group consisting of Late Mesolithic graves (first half of the Atlantic);
- 3) a group of Early Neolithic (in the East-European sense) graves, relating to the second half of the Atlantic.

The Mesolithic burial traditions are manifested in the dominance of individual graves, the use of ochre, stone settings, the grave goods, especially animal tooth pendants, etc. Of course, burial practices did change slightly over time and new customs appeared, but the influence of the hunter-gatherer way of life, and their social and symbolic behaviour remained strong and is observed until the end of use of the Zvejnieki burial ground.

Some aspects of Mesolithic population of Latvia

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The Mesolithic population of Latvia can be studied using the material of the Zvejnieki Stone Age complex in northern Latvia. The site includes a Mesolithic and Forest Neolithic graveyard and two settlement sites.

So far, about 60 burials have been dated by radiocarbon, showing that the graveyard was used from 8150 to 4200 BP. In this report, Mesolithic and Forest Neolithic foragers from the Zvejnieki were compared for patterns of mobility and upper body loading by means of cross-sectional geometry. Only adults (total $n=40$, femur $n=29$, humerus $n=29$) of known age-at-death, sex, and temporal affiliation were used. Femoral variables included the ratio of anterior-posterior to medial-lateral diameter, minimum and maximum bending strength, and robusticity. Humeral variables included total area, maximum and minimum bending strength, torsional strength, and robusticity. Few significant ($p<0.05$) differences were present between temporal periods and between the sexes; however, patterns of difference and change were apparent. Femoral robusticity slightly increased in males and slightly decreased in females through time, although femoral shape was relatively circular. A circular shape is often associated with sedentism; however, this shape, in combination with high robusticity values, suggests that Zvejnieki foragers were still very active, but perhaps traversing less complex terrain and/or engaging in mobility behaviours that were multi-directional. Humeral robusticity values indicated little directional asymmetry, but, through time, there was a shift to greater values in the right humerus of Forest Neolithic females, whereas male values remained greater in the left element. Bending strength was greatest for the left side in both sexes, as was compressive strength in females. However, compressive strength in males, and torsional strength in both sexes, shifted from right- to left-side dominant from the Mesolithic to Forest Neolithic. The amount of upper body loading relative to lower body loading also changed. Forest Neolithic female left humeri were loaded to a greater degree, and right humeri to a lesser degree, than in the Mesolithic. This resulted in relatively equal bilateral loading of the upper body. In males, loading decreased in both humeri relative to the lower limbs, with greater loading shifting from the right to left side of the upper body. In summary, robusticity values indicate that Zvejnieki females and males were involved in relatively high levels of skeletal loading in both temporal periods, and different patterns of strength indices between the sexes suggest that a degree of sexual division of labour was present. The results also indicate the presence of some change in habitual activity patterns from the Mesolithic through the Forest Neolithic. In general, these results coincide with previous research supporting differences in diet and activity patterns in Mesolithic and Forest Neolithic Zvejnieki foragers.

Poster Presentations

Vantaa Jönsas – A Mesolithic burial ground?

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There are about 60 known Stone Age burial sites in Finland. The burials are known as red ochre graves because of the characteristic use of red coloured ochre. Because unburnt bone material – the main indicator of an inhumation – is generally not preserved in Finland's acidic soil, poist the red ochre features have been interpreted as graves because of their size, shape and the artefacts found which are consistent with grave goods. Also, as organic material is not usually preserved, dating the burials is a challenge. Dating is usually inferred by the typology of the artefacts found. When the burial structure lacks artefacts altogether, the dating of the burial ground has been made according to the nearby settlement site.

Vantaa Jönsas site in Southern Finland is often mentioned as a good example of a Mesolithic burial ground in Finland. The multiperiodic settlement site has find material dating it to the Mesolithic period, Early Neolithic Period, Late Neolithic Period of the Corded Ware culture and to the Early Metal Period. There are 23 red ochre burials found from Jönsas. In addition to the red ochre burials, five graves belonging to the Corded Ware culture were also excavated.

Although the Vantaa Jönsas site is usually referred as a Mesolithic burial ground, the burials might not actually date to the Mesolithic. Since the find material from the burials was not suitable for radiocarbon dating during the 1970's, the problem of the dating remained unsolved. It is now considered also possible that the important, old settlement site of Jönsas was ritually re-used as burial ground in some later prehistoric period because connection to ancestors is regarded as important part of prehistoric burial rites.

Typology, chronology & distribution of Mesolithic burials in Denmark

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Mesolithic heritage in Neolithic burials

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Social-economic processes during the neolithization phase are diverse in their character, duration, and consequences in different regions of Europe. Burial mode and offerings in neolithic graveyards show the mesolithic cultural heritage of the dead. These facts stand partly in contrast to the results of paleogenetic examinations. Is genetic relationship much less important for the cultural orientation, the economy, and the collective identity as it is assumed? This question will be discussed by different examples.

A child's grave from the rock shelter Fuchskirche I near Allendorf (Thuringia, Germany)

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In the 1960s R. Feustel excavated the small abri or rock shelter Fuchskirche I near Allendorf in the foothills of the Thuringian Mountains (Feustel; Musil 1977; Benecke; Bollongino; Küßner; Weber 2006; Küßner; Birkenbeil 2011). It has generally been accepted that the remains of an infant found in this rock shelter could be dated vaguely between the post glacial and later prehistoric periods (Feustel; Musil 1977, 105; Walter 1985, 11; Grote 1994, FN 52: Mesolithikum [?]). On the basis of evidence that these might be the remains of a Mesolithic burial, the bones and their context were re-examined. The human skeletal remains, as well as a pendant fashioned from a red deer's upper eye-tooth which may have accompanied them, were found in a dark layer with lime precipitation and charcoal particles as well as charred bone splinters. This layer 2 also contained 64 flint artefacts, which included a triangle, a point with convex retouched base and two small points, bones of at least two wild boars, two badgers, a roe deer, a red deer, a horse and a partridge as well as charcoal (oak, pine, elm, lime and hazel) from a fireplace. A new anthropological investigation of the human remains carried out by Sabine Birkenbeil (Weimar) revealed that the skeletal elements were very well-preserved in their osseous substance. The age estimates within the skeleton and the gracile structure of the bones make it likely that the skeleton belonged to a 6 – to 16 months old infant. The proximal part of the right thigh bone shaft was selected for radiocarbon dating and has been dated in the ¹⁴C-lab of the University of Erlangen-Nuremberg (Erl-11929) to 7688 ± 57 BP ($\delta^{13}\text{C}$: -16,9 ‰). This early Atlantic Period date places the human remains in the younger Mesolithic. This is a clear confirmation for the archaeological classification of the accompanying finds from the Allendorf shelter.

Based on the evidence at hand, above all the well-preserved fragile bones and the possible grave good a red deer upper eye-tooth pendant, this skeleton can be regarded as a primary burial in a shallow pit protected by the rock shelter which was disturbed by bioturbation. Funerals in protected places, such as caves and rock shelters, are a characteristic form of burial in Central Germany during the Mesolithic and was practiced if suitable locations were available.

Mesolithic human remains from Southern Germany

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The evidence of Mesolithic human remains in Southern Germany is dominated by the famous head burials from the Ofnet cave (Große Ofnet) in Bavaria and the Hohlenstein-Stadel (Baden-Wuerttemberg). Both sites reveal a similar mode of deposition. Heads were separated from the trunk and deposited in pits with ornaments and the use of red ochre. Both sites are dated to the Late Mesolithic between 6700 and 6200 years calBC. Several individuals revealed unhealed skull trauma, indicating violent interaction between or within groups. The deposition of a single head without skull trauma at the Kaufertsberg rockshelter remains undated. Various human bones from the skull and the postcranial were found at the Falkenstein cave near the entrance area. Probably the remains of a disturbed burial dated around 7200 years calBC. At the Jägerhaus cave and the Inzighofen rockshelter several teeth were found within Late Mesolithic layers. A supposed early Mesolithic burial was destroyed during construction works at the Höhlesbuckel at Blaubeuren-Altental. The cranium was dated around 8900 years calBC. A neonatus from the Bockstein cave at the Lonetal was rediscovered at the Ulm Museum after the excavation in 1883. The burial was found in a crouched position close to feet of the burial of an adult female whose remains are still lost. Although it was supposed the both burials were recent, the neonatus was dated to the Late Mesolithic, between 6300 and 6200 years calBC.

Mesolithic cemeteries in the North of Eastern Europe

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In early Holocene mobile groups of hunters-gatherers were colonizing northern territories of Eastern Europe avoiding glaciers and glacier lakes. In most suitable ecological niches they stayed for long periods of time establishing frames of settlements and temporary sites. A sample of that is the Veretye culture in the Eastern Lake Onega Area. The investigated sites show that the people did not only live in small camp sites but also in larger settlements with nearby cemeteries. The archaeological material confirms the unity of settlements and cemeteries of the Veretye culture and allows us to turn our attention to the emergence of a number of ethnocultural structures in the Mesolithic as well as dealing with the general problem of the colonization of the northern territory. The anthropological material leads us to conclusions about the origin of the hunter-gatherer populations who inhabited the north of Eastern Europe as the first.

Mesolithic cremation burial and camp in Coswig, Wittenberg district, Central Germany

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In 2000–2002 extensive excavations were carried out on the Buroer Feld near Coswig, Wittenberg county, Saxony-Anhalt with the aim of rescuing a large late prehistoric cemetery complex from destruction due to industrial development. Besides the late prehistoric features we were also able to document several Mesolithic pits as well as a cremation. The site lies north of the Elbe on a river terrace just 500 meters from the edge of the high bank of the rivers floodplain. The natural subsoil is made up of sands and gravels.

An inconspicuous truncated feature - a circular pit 0.35 to 0.40 m in diameter with a shallow trough shaped section – was found dug into the discoloured natural sand of the gentle terrace slope. It was filled with black burnt soil (Schunke 2004). Within its carbonized fill a scatter of cremated remains were discovered that have been both macroscopically and microscopically identified as being of human origin by Dr. B. Heußner, Berlin, and Dr. R. Schafberg, Halle. Diagnostic pieces aging or sexing the skeleton have not yet been found which is hardly surprising as the greater part of the feature and of course its inventory have been eroded by ploughing. A C¹⁴ date was taken from the cremation in order to determine its date and its place within the structure of the cemetery on the »Buroer Feld«. The dated sample (GrA-22365: 7900 ± 50 BP) yielded a calibrated age of 7029–6644 BC and was thus Mesolithic. This initially incredulous result was checked by another lab (OxA-13472) which confirmed the early date with a result of 7920 ± 45 BP. Thus, the first Mesolithic cremation grave ever found in Germany was recovered in Coswig closing the gap in the distribution of these cremations in Northern Europe between the Netherlands in the west, Denmark in the North and Poland in the east (see Grünberg, 2000, Figure 45A). Mesolithic cremations are extremely rare in Europe, only ten examples have been published to date (Grünberg, 2000, 51–54, 170, 171). Moreover with a date in the first third of the 7th Millennium the Coswig grave is also one of the few early mesolithic cremations known to us. About 70 m northwest of the tomb a series of flint artefacts, bronze age sherds cremated bone and charcoal were found in a layer of badly disturbed ploughed humus. No piece was encountered in situ. Three pits recovered under this layer which had a different colour than the late prehistoric features in their vicinity contained exclusively Mesolithic artefacts. Their preserved diameters were 1.1–1.25 m and like the grave they also had trough-shaped profiles. Their fill contained less flint than the ploughed horizon and little charcoal. A total of about 2000 flint artefacts were found in this complex most of which was debitage. There were however some cores for flake production and reduction in this assemblage as well as modified flakes, mainly short scrapers including all over and end retouched examples. Craquelated single burnt flint and bone fragments complete the picture of what was presumably a small (early) Mesolithic campsite. A particularly relevant feature for dating the site was a pit in which a thumb-nail scraper were accompanied by charred hazelnut shells. A larger number of such finds had already been encountered in the turbated ploughed layer. The hazelnut shells from the pit and a counter-dating of material from the ploughed layer yielded consistent data (ERL-4907, 4908) that point to a date ranging from 8300 to 8000 BCE, ie during the early Boreal making it about a thousand years earlier than the cremation.

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Public lecture

Hunters 10.000 years ago – Excavations near Friesack in the Marchia of Brandenburg Jäger vor 10.000 Jahren – Ausgrabungen bei Friesack in der Mark Brandenburg

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After the last glaciation in Europe, warmer climatic conditions began again together with appropriate changes of flora and fauna. In these times invaded new hunter populations into the Brandenburgian lands adopted to the new natural conditions. They maintained their living existence by hunting – mainly on red deer, roe deer, wild pig, and beaver – , by fishing and by collecting edible plants, fruits and small game. These »Wildbeuters« lived in their camps, for weeks up to few months, mainly situated at lakes, rivers and brooks which in these times were also the main traffic »roots«.

The seasonally and locally changing food resources forced the Mesolithic populations to change their repeatedly their camp sites within a year.

In the county of Brandenburg there are known nearly 1000 places with Mesolithic relics, mostly with tools and waste of silex. A special »Glücksfall« for the research into the stone age of hunter-gatherers is the bog site Friesack, in the Lower Rhinluch, about 60km northwest of Berlin, where for more than 3500 years – except a break of 600 years – again and again settled and lived Mesolithic groups. On account of the very good conditions of preservation in the wet milieu of the site had been excavated and recovered very many weapons, tools, ornaments and ornamented pieces of bone and stag antler, also of animal and human hollowed teeth, more on artefacts made of wood, bark and wooden bast. The objects made of bast include strings, ropes and nets. The lecture will report the results of this excavation and on the many archaeological objects now exhibited in the Brandenburgian Archaeological Museum in the town Brandenburg.

Als sich nach dem Ende der letzten Eiszeit vor fast 12 000 Jahren in Europa wieder warmzeitliche Klimaverhältnisse einstellten sowie Flora und Fauna entsprechend änderten, kamen den neuen Naturverhältnissen angepasste Jägergruppen ins Brandenburger Land. Sie lebten von der Jagd – vor allem auf Hirsch, Reh, Wildschwein und Biber, vom Fischfang sowie vom Einsammeln essbarer Pflanzen, Früchte und Kleingetier. Diese »Wildbeuter« schlugen ihre Lager jeweils für Wochen bis einige Monate bevorzugt an Gewässern auf, die zugleich ihre Hauptverkehrs»wege« waren. Jahreszeitlich und regional/lokal wechselnde Nahrungsressourcen zwangen sie, jährlich mehrfach den Wohnplatz zu wechseln. Im Land Brandenburg sind fast tausend Fundstellen mit Kulturhinterlassenschaften der nacheiszeitlichen Jäger bekannt, vor allem mit Gerätschaften und Werkabfall aus Feuerstein. Ein besonderer Glücksfall für die Erforschung der Jägersteinzeit ist der Moorfundplatz Friesack im Unteren Rhinluch (ca. 60 km nordwestlich Berlins), an dem über 3500 Jahre lang – mit einer ca. 600 Jahre währenden Unterbrechung – immer wieder Jägergruppen lagerten. Aufgrund der günstigen Erhaltungsbedingungen im Feuchtmilieu konnten zahlreiche Waffen, Geräte, Schmucksachen und ornamentierte Objekte aus Knochen- und Geweihmaterial sowie aus Tierzähnen, ferner seltene, zum Teil einmalige Gebrauchsgegenstände aus Holz, Rinde und Baumbast geborgen werden. Über die Grabungsergebnisse und die jetzt im Archäologischen Landesmuseum Brandenburg ausgestellten Fundsachen wird in dem Vortrag berichtet.