

MESOLITHIC MISCELLANY

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IMPORTANT ANNOUNCEMENT:

III INTERNATIONAL MESOLITHIC CONGRESS

Due to unforeseen circumstances, the next International Mesolithic Congress cannot meet in Copenhagen this year. Because of the major importance of these meetings for the dissemination of information on recent investigations and for the collaboration among individuals working on the prehistory of Postglacial hunter-gatherers, a third congress on the Mesolithic is essential.

THIS ANNOUNCEMENT THEN IS A REQUEST FOR SOMEONE TO VOLUNTEER TO ORGANIZE AND HOLD THE III INTERNATIONAL MESOLITHIC CONGRESS. The date for this congress is open but the sooner the better. One suggested date is September 1984, but the congress can meet in 1985 if necessary. This is a most critical request and it is hoped that one or more individuals will be able to organize the third congress. Would anyone interested in undertaking the organizational duties please write to Dr. Stefan Kozłowski, Institut Archeologii, ul. Miodok 10, 00-023 Warsaw, Poland. Hopefully, the location and date of the III International Congress can be announced in the November issue of Mesolithic Miscellany.

ANNOUNCEMENTS

An international round table dealing with Alpine Settlements of the Mesolithic Age, VIII - V Millennium B.C., will be held in Trent, 26-29 July 1983. This meeting is being held by the Museo Tridentino di Scienze Naturali, Palazeo Sardaña, C.P. 393, 38100 Trento, Italy. Information on the round table may be obtained from the above address.

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An international colloquium will be held at the Université des Sciences et Techniques du Languedoc at Montpellier, 26-29 April 1983, on the theme, "Premières Communautés Paysannes en Méditerranée Occidentale" under the auspices of the CNRS and the UISPP Commission "Civilisations Néolithiques de l'Ancien Monde" (Mexico 1981).

The principal organizers are Drs. J. Guilaine, J. Courtin, J.L. Roudil and J.L. Vernet.

The communications which have been accepted deal with the following topics:

1. Chronology (1 paper)
2. Geology and sea-level reconstructions (4 papers)
3. Environmental changes 8000 - 4000 b.c. (palynology, anthroecology) - (8 papers)
4. Complementary palaeoecological disciplines (malacology, microfauna, avifauna, sedimentology) - (5 papers)
5. The beginnings of animal husbandry (7 papers)
6. The beginnings of agricultures (7 papers)
7. Complementary resources (fishing, etc.) - (2 papers)
8. Material circulation (petrography, etc.) - (2 papers)
9. Social factors (1 paper)
10. Technical approaches (ceramology) - (3 papers)
11. Material culture
 - the Adriatic, Greece and the Balkans (9)
 - Sicily, Peninsular Italy, Sardinia, Corsica (6)
 - N. Italy and the Alpine Region (6)
 - Mediterranean France (11)
 - Mediterranean Spain (10)
 - Portugal, Aquitaine, Atlantic France (5)

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From the Editor

I would like to thank all those individuals who have responded to the request for more contributions that appeared in the last newsletter. Although we can still use more material in each issue, it is encouraging to know that there remains sufficient interest in the newsletter to maintain the size and quality of the contents. Please send additional contributions including research reports, book reviews, statements for debate, summaries of meetings, new publications and the like in time for the November issue. The deadling for materials for volume 4, number 2 is 1 November 1983.

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Newsletter of African Archaeology

NYAME AKUMA, a newsletter of African archaeology, is the official publication of the Society of Africanist Archaeologists in America. It has been issued twice a year, in May and November, since 1972. The founding editor was Prof. Peter Shinnie (University of Calgary) and the present editor is Dr. David Lubell (University of Alberta). NYAME AKUMA publishes short reports on current research in almost all periods of African archaeology (in both French and English) with the exception of the classical period in North Africa and the Pharaonic periods in Egypt.

Subscriptions are \$10 per year, payable to NYAME AKUMA. They can be paid in Canadian dollars drawn on Canadian banks to the Editor, NYAME AKUMA, Department of Anthropology, University of Alberta, Edmonton, Alberta, Canada, T6G 2H4. It is also possible to pay in U.S. funds by sending a check to Dr. Sheryl Miller, Department of Anthropology, Pitzer College, Claremont, CA 91711, USA; or in sterling by sending 4.50 pounds to Dr. Stephen Green, National Museum of Wales, Cardiff CF1 3NP, United Kingdom.

Some back numbers are still available at \$5.00 each and a complete set of numbers 1-17 on microfiche can be purchased for \$50.00. Enquiries should be sent to the Editor. Number 21 was published at the end of December 1982.

David Lubell
Editor, NYAME AKUMA

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RESEARCH REPORTS

The Skateholm Project: More graves and a newly-discovered cemetery

Altogether 18 graves had come to light in the 1980-81 season's excavation at the Late Mesolithic site at Skateholm in southernmost Sweden. In order to obtain an idea of the gravefield's extent, large areas of topsoil were removed on all sides in the spring of 1982. New graves were immediately forthcoming as a result and indicated that the gravefield was of vastly greater dimensions than had been supposed. The final tally at the end of the 1982 season's excavation has more than doubled the earlier figure to 39 graves to date.

The new graves

Grave 19, located in the gravefield's easternmost section, contained a poorly preserved remains of an animal the size of a dog. Grave 23, close by, however, contained a far better-preserved dog. Dog graves not account for seven of all graves.

Grave 20 consisted of burned human bones. Whereas cremation is generally associated with the Bronze and Iron Ages, this grave could date from one of these. But proof of an earlier cremation grave - grave 11 - carbon-dated to the Late Mesolithic, supports the assumption that grave 20 also belongs to this period.

The location of graves 21, 26 and 37, all female, on the cleared area's northern perimeter was a clear indication that the gravefield stretched higher up the slope than expected. Grave 21, in supine position, had had some kind of a headdress which included teeth of red deer, while some perforated wild boar teeth, both over and under the pelvic region, formed a waist decoration. Grave 26 was placed in such a drawn-up hocker position, that she had in all probability been bound. Grave 37, in a supine position, aged 40 - 50, showed dental abrasion similar to that of Eskimo women who soften hides by chewing. A collection of fish bones was found in a dark-colored area near her head.

Grave 39, in the same section, had been disturbed but a sitting position is indicated. Grave goods were absent in the latter three graves, but red ochre is present in the head and pelvic regions in all. This situation is reflected in graves 24 and 25, also females, located in the cemetery's central section. The former was laid in a hocker position, while the latter was seated.

Grave 22, on the eastern perimeter, contained a male aged about 60 in a supine position. The lower body had been destroyed by later digging. An ornamented antler axe with shaft hole was found close to the left forearm.

Graves 27 and 28, both males in supine position, were located on the eastern area's southern perimeter. The interred in grave 27 was about 180 cm long, a body length which exceeds the male average by some 15 cm. No grave goods were found. The left forearm and thigh bones of the man in grave 28, aged 50 - 60, were missing and the possibility that these were deliberately removed cannot be ruled out. Three antler spikes, in all probability used as percussion sticks in flint working, were laid close by the head.

Grave 29, in the central area's lower section, and graves 31 and 32 in its upper section, were all extremely badly preserved. Grave 31 held a 15 year-old boy. Only insignificant fragments of the pelvis and lower extremities remained of the individual in grave 32. The upper body had lain at a higher level and fallen victim to the plow. A flint knife was found by the pelvis.

Grave 33 was very deep. The fill included animal bones in large numbers, with the skull of a dog. The interred was a 50 year old male in an outstretched position but remarkably enough on his stomach. Grave goods included arrowheads between the thighs and feet.

Grave 34, probably a male, lay in a supine position. A 22 cm long bone point was found in conjunction with the left side of the rib cage. It is not possible to say whether the point had originally pierced the breast, or whether the ribs came to press down on the point at a later date. An arrowhead by the feet and a worked bone of unknown function are clearly gifts.

The digging of grave 35, containing a female in a hocker position, caused some damage to grave 34, adjacent to it.

Grave 36 lay adjacent to grave 33 but much nearer to the surface and thus suffered greatly as a result of plowing. The pelvis and thighs were covered by an unusually compact layer of red ochre.

Grave 38, on the north-eastern perimeter, held a male in hocker position. Red ochre was concentrated at the head and hips, like some other graves, and, like these held no grave goods.

A newly discovered cemetery

Skateholm II is located on a slight rise in the terrain, some 200 m southeast of Skateholm I. A trial excavation in 1981 had already confirmed occupation of the site. In the spring of 1982 fragments of human bones were observed in a few mole hills and an immediate search-and-located operation was carried out. This, with a protracted excavation in the summer, resulted in four graves being full examined preliminarily.

Grave I contained a 10 year-old child in a supine position. Four arrowheads, found in a spot of ochre beside the left thigh, suggest that the interred was a boy.

Grave II held a male aged 35-45 in a sitting position, with the legs slightly bent. The left hand rested on the thigh, while the right, with clenched fist, lay at an angle away from the body. Grave goods included a flat stone-axe by the left wrist, two arrowheads by the right foot and a small, incised bone pendant on the forehead.

Grave III containing a female in supine position, lay immediately below the plow zone, luckily this site has not been cultivated since the 1940s.

Grave IV was surrounded by a dark-colored band, chemically analyzed as wood. This coffin (?) held a male aged 35 - 45 in a supine position and a collection of grave goods which make it the richest grave at Skateholm. These goods included a 24 cm long antler harpoon, behind which lay a round stone axe close to the left upper arm. A dense patch of red ochre on a level with the head contained a flat stone-axe, two stone slabs - one of which was a grindstone - four flint blades, a small round stone and a long, very thin bone needle.

The graves are all located on the crown of the rise, while the lower section to the south contains an occupation layer with a well-preserved bone material. During the Late Mesolithic, this rise formed an island in the ancient lagoon, due to its lesser optimum height a.s.l. an increase in sea level probably forced its abandonment contemporaneously with the oldest occupation at Skateholm I. This is supported by the fact that the arrowheads from the occupation layer generally and from Grave I specifically, are of a type older than the majority found at Skateholm I.

Settlement cum gravefield, unique or just general?

Two cemeteries associated with settlements are now known at Skateholm. A third probably existed, only 200 m southwest of Skateholm I. Skeletons in "odd positions" are reliably reported to have been found in the 1930s in the quarrying of gravel in this area. Combined with the mention of red ochre, contemporaneity with an adjacent Late Mesolithic settlement is strongly suggested. The press has called Skateholm "unique" but is it?

At Vedbaek in Denmark, the location of graves vis a vis occupation area mirrors that at Skateholm. Three graves at Kams on Gotland reflect the same topography. The seated position of two of these, both males, is reminiscent of Skateholm,

despite the much greater age of Kams (8050 B.P.). Previously, higher-lying sections of settlement areas, where organic material tends to be less well-preserved, have not been investigated. The indications now are that it is here that the presence of graves is to be sought.

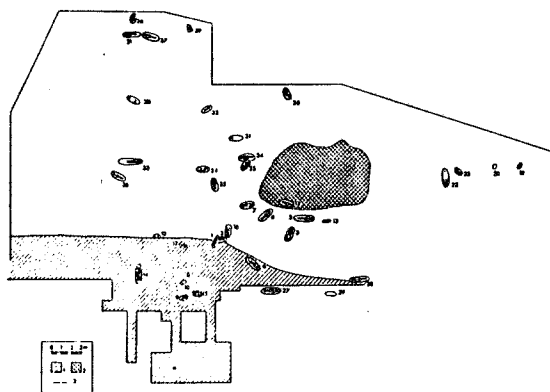
Pelicans and pollen

Pelican is one of the more exotic species to have been identified in the continuing osteological analyses. Others are gannet, guillemot and ermine, so that by now some 74 species of fowl, fish and mammals are represented in the material which, moreover, contains seasonal indications suggesting year-round occupation. Less happily, the quaternary-biological analysis has proved negative due to massive destruction of pollen deposits. Oceanic transgressions at the close of the epoch have evidently swept away vast amounts of organic material. The process of renewal began only in the Bronze or Iron Ages, when sea level dropped, turning the low-lying areas into swampland.

Various kinds of cross-scientific cooperation have been initiated or are planned. Odontological analysis of teeth, for example will tell us more about causes of abrasion, general health and diet content. Insect remains are being sought in occupation-layer samples and a micro-wear analysis of flint artifacts is planned. These are just a few facets of the spectrum of learned endeavor employed in the Skateholm project.

Lars Larsson, Institute of Archaeology
University of Lund

Larsson, L. 1982. "Skateholmsprojektet. Nya gravar och ett nytt gravfält från jaagarstenaaldern". *Limhamniana* 1982: 11-41.



Plan of Skateholm I. 1. Cultural layer. 2. hut floor and 3. boundary of the excavated area. Numbered oval areas indicate the graves.

The Archaeological Stratigraphy of the Inland Dunes as seen from the Masovia

Since the early twenties, prehistorians have believed that the inland dunes of the North European Plain contain Paleolithic settlements of Final Pleistocene age. Although most of the work in those years was concentrated on more or less systematic surface collections, some limited excavations were made at the sites of Swidry Wielkie and Swidry Małe, near Warsaw, located on the youngest Pleistocene terrace of the Vistula, as well as at other sites. These excavations appeared to have indicated that an older Sviderian (Masovian) industry, the so-called Sviderian I of Sawicki, occurred at the base of a low dune at Swidry Wielkie II - 'Gorki'. A seemingly younger unit, the so-called Sviderian II, was at the top of the same dune, in the B horizon of the oldest Holocene soil. An analysis of the files published by Sawicki, on the other hand, favors a hypothesis that, in both of these 'industries' (today placed in the same time section) were embedded within the B horizon of the same soil and had occurred after the formation of the dune.

Extensive, interdisciplinary research at two key sites of the Polish Final Paleolithic, at Witow and Całowanie, have yielded important data concerning the chronology, stratigraphy and environment of this time period. At Witow the oldest archaeological horizon - Witow 'chaty' - lies just on top of a fossil soil formed during the Allerød, and below the Younger Dryas dune. A charcoal samples from this horizon gave a radiocarbon date of 10,815±160 B.P. (GrN-828). Two other Final Paleolithic horizons occur above the oldest one, both within the Younger Dryas dune. The middle one (Concentrations IV-VII) is at the base of the dune, and the upper one (Concentrations II & III) is at the top of the dune. The dune is dated to the Younger Dryas by palynology at the adjacent peat bog. The two lower horizons belong to the technocomplex with Arched Backed Pieces, while the upper one is clearly within a group combining the elements of the latter and the technocomplex with pedunculated points.

At Całowanie, near Warsaw, during seven field seasons, 13 areally extensive cuts, 22 trenches and 9 peat trenches were excavated. The macro-scale geology was studied by Z. Sarnacka, the palynology by M.J. Dabrowski, mechanical analyses were done by U. Urbaniak and K. Konecka-Betley, the paleopedology was studied by K. Konecka-Betley, while all of the ¹⁴C dates were measured under the supervision of J.C. Vogel, then at Groningen.

The site of Całowanie is located in the central section of an elongated, slightly arched channel of the Vistula abandoned during upper Allerød and today filled by thick beds of peat. The channel is situated near the contact of the Otwock Praga terraces while several sandy islands are seen spread along the axis of channel. One of these is the site of Całowanie.

The island of Całowanie is made up of two major series of sediments. The lower is a fossil alluvial bar of the Vistula, which overlaps a thin floodplain series. Three cultural levels (I to III) occur within the alluvial sands. A charcoal sample from the uppermost one of these gave a date of 11,380±95 B.P. (GrN-5967).

The alluvial series is covered by a fossil, initially developed, soil, grading into the peat at the island border zone. The charcoal from the base of the peat gave a radiocarbon date of 11,190±65 years B.P. (GrN-5410). According to the pollen analysis, the formation of this peat began at the beginning of a short cold oscillation of the Allerød and continued to a very early phase of the Younger Dryas. Several archaeological units occur within the fossil soil, in Level IV of the site.

The top of the soil is covered at places by a thin layer of charcoal and, at the border zone, by a very thin bed of silty gyttja. Two samples of charcoal from this silty gyttja gave the following dates: 10,820±90 years B.P. (GrN-5253) and 10,660±100 years B.P. (GrN-4966). According to the pollen analysis, this layer is placed in the early Younger Dryas. Level V of the prehistoric settlements occurs on the top of the Allerød soil, within the charcoal lens and in the silty gyttja.

Level I at Całowanie contains a new, previously unreported, industry; Level II is very poor; while Levels III & IV, except for Cut III, are associated with the Arch Backed Piece complex. In Cut III, the concentration associated with Level IV and possibly occurring within the beginning of a cold oscillation of the Allerød, contains pedunculated points, Level V and VI are within the Masovian sensu largo and Level VII and VIII are Early Mesolithic (Narvian cycle) in age. A summary of the stratigraphy of the major Polish dune sites is given below.

[illegible]

Rys. 7. Synteza stratygrafii późnopleistoceny i wczesnego plejstocenu Polski związanych z wydmiami śródlądowymi, według Schilda a [22]

1 — sinonlebieskie mulki; 2 — gytia piaszczysta oscylacji poprzedzającej najstarszy dryas (Raunis?); 3 — płaski ze zwiartami najstarszego dryasu; 4 — torfiszyste z domieszką gytii Bellungu i początku starszego dryasu; 5 — wydma starszego dryasu; 6 — zwiry podścielające odsyp; 7 — torfiszyste z domieszką gytii Bellungu i początku starszego dryasu; 8 — torfiszyste z domieszką gytii Bellungu i początku starszego dryasu; 9 — torfiszyste z domieszką gytii Bellungu i początku starszego dryasu; 10 — poziomy kulturowe i warstwy węgla drzewnych 2 fazy przewymowej młodszego dryasu; 11 — mady płaskizny i płaski wydmy fazy wydymowej młodszego dryasu; 12 — faza postwymowa mineralne strzyżby brzożnej w Ciałowie i Witowie tu nie uwidoczne; 13 — faza postwymowa mineralne strzyżby brzożnej w Ciałowie i Witowie tu nie uwidoczne; 14 — C. B. bez odchyleń standardowego

Final Paleolithic stratigraphy of the Polish inland dunes, according to Schild [22]

1 — gray blue silt; 2 — sandy gyttja of the pre-Oldest Dryas werner oscillation (Raunis?); 3 — sands and gravels of the Oldest Dryas (Raunis?); 4 — peat bogs with gyttja from flooding of the Oldest Dryas; 5 — Oldest Dryas dune; 6 — channels and gravel underneath the dune; 7 — sand and silt; 8 — peat bogs of the upper series of the bar; 9 — peat bogs of the upper series of the bar; 10 — cultural levels and charcoal beds from the pre-dune phase of Younger Dryas; 11 — the Praga Terrace (pre-dune phase); 12 — dunes of the Younger Dryas; 13 — organic and mineral sediments of the border zones at Witów and Ciałowie (not shown); Dates in radiocarbon years: 10000 ± 1000 (10); 11000 ± 1000 (11); 12000 ± 1000 (12); 13000 ± 1000 (13); 14000 ± 1000 (14); 15000 ± 1000 (15); 16000 ± 1000 (16); 17000 ± 1000 (17); 18000 ± 1000 (18); 19000 ± 1000 (19); 20000 ± 1000 (20); 21000 ± 1000 (21); 22000 ± 1000 (22); 23000 ± 1000 (23); 24000 ± 1000 (24); 25000 ± 1000 (25); 26000 ± 1000 (26); 27000 ± 1000 (27); 28000 ± 1000 (28); 29000 ± 1000 (29); 30000 ± 1000 (30); 31000 ± 1000 (31); 32000 ± 1000 (32); 33000 ± 1000 (33); 34000 ± 1000 (34); 35000 ± 1000 (35); 36000 ± 1000 (36); 37000 ± 1000 (37); 38000 ± 1000 (38); 39000 ± 1000 (39); 40000 ± 1000 (40); 41000 ± 1000 (41); 42000 ± 1000 (42); 43000 ± 1000 (43); 44000 ± 1000 (44); 45000 ± 1000 (45); 46000 ± 1000 (46); 47000 ± 1000 (47); 48000 ± 1000 (48); 49000 ± 1000 (49); 50000 ± 1000 (50); 51000 ± 1000 (51); 52000 ± 1000 (52); 53000 ± 1000 (53); 54000 ± 1000 (54); 55000 ± 1000 (55); 56000 ± 1000 (56); 57000 ± 1000 (57); 58000 ± 1000 (58); 59000 ± 1000 (59); 60000 ± 1000 (60); 61000 ± 1000 (61); 62000 ± 1000 (62); 63000 ± 1000 (63); 64000 ± 1000 (64); 65000 ± 1000 (65); 66000 ± 1000 (66); 67000 ± 1000 (67); 68000 ± 1000 (68); 69000 ± 1000 (69); 70000 ± 1000 (70); 71000 ± 1000 (71); 72000 ± 1000 (72); 73000 ± 1000 (73); 74000 ± 1000 (74); 75000 ± 1000 (75); 76000 ± 1000 (76); 77000 ± 1000 (77); 78000 ± 1000 (78); 79000 ± 1000 (79); 80000 ± 1000 (80); 81000 ± 1000 (81); 82000 ± 1000 (82); 83000 ± 1000 (83); 84000 ± 1000 (84); 85000 ± 1000 (85); 86000 ± 1000 (86); 87000 ± 1000 (87); 88000 ± 1000 (88); 89000 ± 1000 (89); 90000 ± 1000 (90); 91000 ± 1000 (91); 92000 ± 1000 (92); 93000 ± 1000 (93); 94000 ± 1000 (94); 95000 ± 1000 (95); 96000 ± 1000 (96); 97000 ± 1000 (97); 98000 ± 1000 (98); 99000 ± 1000 (99); 100000 ± 1000 (100); 101000 ± 1000 (101); 102000 ± 1000 (102); 103000 ± 1000 (103); 104000 ± 1000 (104); 105000 ± 1000 (105); 106000 ± 1000 (106); 107000 ± 1000 (107); 108000 ± 1000 (108); 109000 ± 1000 (109); 110000 ± 1000 (110); 111000 ± 1000 (111); 112000 ± 1000 (112); 113000 ± 1000 (113); 114000 ± 1000 (114); 115000 ± 1000 (115); 116000 ± 1000 (116); 117000 ± 1000 (117); 118000 ± 1000 (118); 119000 ± 1000 (119); 120000 ± 1000 (120); 121000 ± 1000 (121); 122000 ± 1000 (122); 123000 ± 1000 (123); 124000 ± 1000 (124); 125000 ± 1000 (125); 126000 ± 1000 (126); 127000 ± 1000 (127); 128000 ± 1000 (128); 129000 ± 1000 (129); 130000 ± 1000 (130); 131000 ± 1000 (131); 132000 ± 1000 (132); 133000 ± 1000 (133); 134000 ± 1000 (134); 135000 ± 1000 (135); 136000 ± 1000 (136); 137000 ± 1000 (137); 138000 ± 1000 (138); 139000 ± 1000 (139); 140000 ± 1000 (140); 141000 ± 1000 (141); 142000 ± 1000 (142); 143000 ± 1000 (143); 144000 ± 1000 (144); 145000 ± 1000 (145); 146000 ± 1000 (146); 147000 ± 1000 (147); 148000 ± 1000 (148); 149000 ± 1000 (149); 150000 ± 1000 (150); 151000 ± 1000 (151); 152000 ± 1000 (152); 153000 ± 1000 (153); 154000 ± 1000 (154); 155000 ± 1000 (155); 156000 ± 1000 (156); 157000 ± 1000 (157); 158000 ± 1000 (158); 159000 ± 1000 (159); 160000 ± 1000 (160); 161000 ± 1000 (161); 162000 ± 1000 (162); 163000 ± 1000 (163); 164000 ± 1000 (164); 165000 ± 1000 (165); 166000 ± 1000 (166); 167000 ± 1000 (167); 168000 ± 1000 (168); 169000 ± 1000 (169); 170000 ± 1000 (170); 171000 ± 1000 (171); 172000 ± 1000 (172); 173000 ± 1000 (173); 174000 ± 1000 (174); 175000 ± 1000 (175); 176000 ± 1000 (176); 177000 ± 1000 (177); 178000 ± 1000 (178); 179000 ± 1000 (179); 180000 ± 1000 (180); 181000 ± 1000 (181); 182000 ± 1000 (182); 183000 ± 1000 (183); 184000 ± 1000 (184); 185000 ± 1000 (185); 186000 ± 1000 (186); 187000 ± 1000 (187); 188000 ± 1000 (188); 189000 ± 1000 (189); 190000 ± 1000 (190); 191000 ± 1000 (191); 192000 ± 1000 (192); 193000 ± 1000 (193); 194000 ± 1000 (194); 195000 ± 1000 (195); 196000 ± 1000 (196); 197000 ± 1000 (197); 198000 ± 1000 (198); 199000 ± 1000 (199); 200000 ± 1000 (200); 201000 ± 1000 (201); 202000 ± 1000 (202); 203000 ± 1000 (203); 204000 ± 1000 (204); 205000 ± 1000 (205); 206000 ± 1000 (206); 207000 ± 1000 (207); 208000 ± 1000 (208); 209000 ± 1000 (209); 210000 ± 1000 (210); 211000 ± 1000 (211); 212000 ± 1000 (212); 213000 ± 1000 (213

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Man-Made Forest Fires in the Mesolithic

The number of sites interpreted according to the above idea is growing to both the acquisition of new data and the reinterpretation of old data. An example of the latter comes from the pollen data from the site of Dalkarlstorp, Central Sweden (Welinder 1974, 1981), the reinterpretation of which is presented in Welinder 1983. The new interpretation is that the pollen diagrams from the bog outside the settlement site (see figure below) indicate that three forest fires took place during a time span of approximately 200 years around 6500 B.P.

The number of sites is small and most of the sites are controversial with regard to interpretation. A few questions, however, seem worth asking:

- (1) Are forest fires primarily associated with the Late Mesolithic and, thus, with an intensification of resource exploitation (cf., Price 1981).
- (2) Are forest fires primarily associated with open forest types and, thus, to be found early in South Scandinavia and (also) late in Middle (and North) Scandinavia?

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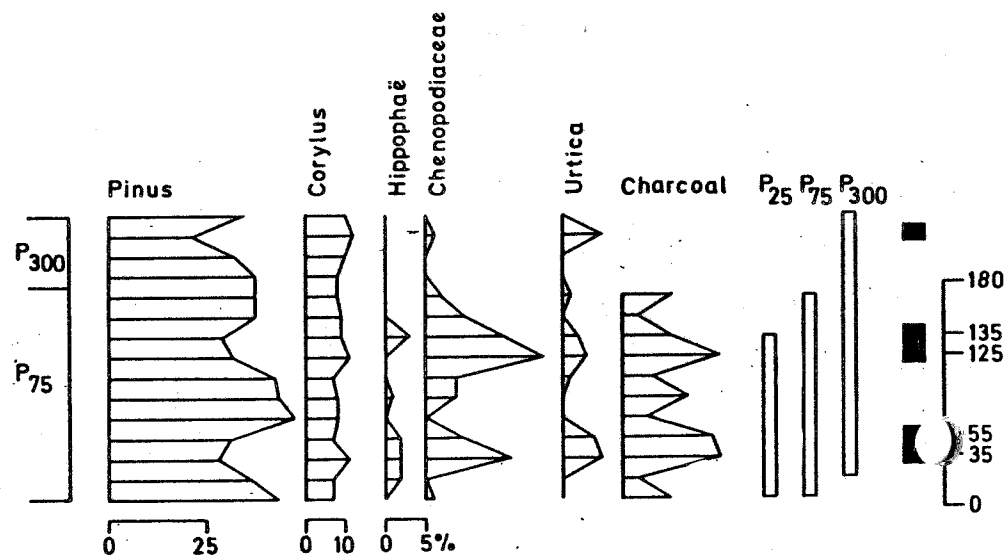
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Redrawn pollen diagram from Dalkarkstorp, Central Sweden. The diagram is a summary of three diagrams (P_n). The time scale is an internal scale based on radiocarbon dating. The forest fires are indicated by maxima of charcoal dust, Urtica, Chenopodiaceae and Corylus pollen grains. For further details, see Welinder 1983.

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NATIONAL RESEARCH SYNOPSSES

DENMARK 1981

by

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Northern Jutland

1. Ertebølle (Excavation since 1979)

In 1979 a new excavation campaign started at the large kitchen-midden (locus classicus) in northern Jutland. While the old investigations in the 1890's exclusively took place in the midden proper, the new excavations were concentrated as well on the area around and to the rear of the midden to see if any traces of the habitation area per se, i.e. postholes, fireplaces, graves, etc. could be found.

The new excavations demonstrated that the midden has been transgressed by one or several rises in the littorina sea level, which must have eroded parts of the shell midden. The present estimate of the prehistoric size of this kitchen midden must be treated with caution for this reason. The new excavation points to the fact that the site must originally have been twice as large as it is today.

To the rear of the midden, an oval area, 6 x 10 m of scattered flint waste and artifacts, was discovered in 1980. This new area - just to the rear of the central part of the kitchen-midden is contemporary with the main occupation phase of the midden and is most probably a part of the habitation area proper. A fireplace, some small pits, and a very big boulder were also found. Around this large stone - which was placed in the center of the area - a very thick layer of flint waste was found, probably indicative of a working area for flintknapping.

Excavator: Søren H. Andersen. Forhistorisk arkæologisk institut, Aarhus Universitet, 8270 Højbjerg.

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Madsen, A.P., et alii. 1900. Affaldsdynger fra Stenalderen i Danmark. København.

Central Jutland

2. Gjesing Mose

In 1981, a late Glacial settlement near Gjesing Moor was excavated. The settlement represents a concentration measuring 8 x 8 m and comprises approximately 500 pieces of flint of which 23 are tanged points of Bromme type, 18 scrapers, 7 burins, 2 borers, 38 short blades and 11 cores. No organic remains or structures were found. The scatter of heat-altered flint, however, indicates a fireplace at the site.

The site represents traces of a short occupation, which took only minor advantage of the very sparse local "natural-flint". The preliminary analysis demonstrates that all types of tools must have been produced in other areas and later brought to the settlement. Many tools have been modified and reused for other than the primary intention; for instance, tanged points have been modified into scrapers or burins. Analysis of tool types, traces of wear and the topographic situation indicate that the site must represent a short-term hunting base.

The settlement can be dated to the Allerød period (pollen zone II).

Excavator: Bo Madsen, Kulturhistorisk Museum, 8900 Randers.

3. Ringkloster (Excavation since 1969)

The excavations at the large inland Ertebølle site of Ringkloster continued in 1981.

In contrast to the work in the first years - which all took place in the bog with good conditions of preservation for organic materials (Andersen 1975) - the excavations in the last four seasons have been carried out on the habitation area on dry land.

In spite of the fact that this area has been plowed, it has been possible to locate large areas of undisturbed cultural layers, which consist of sandy sediment with abundant charcoal and charred stones. In contrast to the waste area in the lake sediments, only flint and pottery are preserved on the dry land area.

In addition to the artifacts, a number of structures including pits of different shapes and sizes, fireplaces (with and without stones) and postholes were found.

During the 1981 campaign, a large pit of rectangular shape was found, measuring 8 x 6 m and depressed 20 cm into the underground. This structure was filled with charcoal and burned stones and in the center a stone-lined fireplace was discovered.

The finds date this structure as contemporary with the waste disposal area in the bog, which is C-14 dated to the late Ertebølle culture.

Excavator: Søren H. Andersen

References:

S.H. Andersen. 1975. "Ringkloster, an inland Ertebølle settlement in Jutland." Kuml 1973-74.

Southern Jutland

4. Jels

At a trial excavation in August 1981, it was possible to locate the first settlement from the Hamburg culture found in Denmark. The site measuring 20 x 15 m was discovered on a terrace bordering a stretch of boggy area (presumably a prehistoric, i.e. late glacial, lake). The finds are to be attributed to the Hamburg culture and include "Dobbeltsinken", "zinken" and a scraper with lateral retouch.

Excavator: Fl. Rieck, Haderslev Amtsmuseum, 6100 Haderslev.

Funen

5. Tybrind Vig (Excavation since 1979)

The excavation of the submerged Ertebølle settlement in Tybrind Vig (Andersen 1980) continued in 1981 with the investigation of a larger area of the prehistoric seashore and waste disposal area. The site, with the first and largest underwater excavation in Denmark, displays extraordinarily good preservation conditions for organic materials, particularly wood.

A series of new finds were made in 1981: in addition to several bows, paddles, leister prongs, and stakes, etc., fragments of a fish wier, a wooden hammer, and an arrow with a pear-shaped point were found.

Excavator: S.H. Andersen

References:

S.H. Andersen. 1980. "Tybrind Vig - a preliminary report on a submerged Ertebølle settlement on the Little Belt." Antik-variske Studier 4. København.

S.H. Andersen. 1981. Mesolithic Miscellany 2, 1.

6. AERØ

On the sea bed northwest of AERØ a rather eroded gyttja-layer was discovered with finds from the Ertebølle culture. Bones of aurochs, red deer, seal, cod and man were found. The number of artifacts is very small: a low number of flake and core axes, a borer, some water-rolled trimming flakes, a simple bone point, a large rim sherd of the typical Ertebølle pots and an almost complete and well-preserved lower part of a leister. The implement as made of hazel wood and the lateral branches were fastened with strips of whitethorn.

Excavator: J. Skaarup, Langelands Museum, 5900 Rudkøbing.

7. Dejre

On the east side of Dejre a submerged Ertebølle settlement was found about 2 m under present sea level. Part of a kitchen-midden as well as a series of thick gyttja layers seem to be well preserved. The preliminary investigations have revealed a large number of flint tools, cores, trimming flakes, some pottery, and a few bones, including a fragment of a human upper arm bone.

Excavator: J. Skaarup, Langelands Museum, 5900 Rudkøbing.

Zealand

8. Trollesgave (Excavation since 1973)

In 1981, a total excavation of the late glacial settlement Trollesgave II was undertaken. The site represents an oval flint concentration 6 - 8 m in diameter; some pits were found in the periphery which might indicate a small house/structure. Only flint tools were found, cores and flint-waste as well as scrapers, burins and tanged points. These tools are very similar to the tools known from another excavated flint concentration at the same location, Trollesgave I, which can be dated to approximately 9100 b.c. (uncalibrated C-14 years), in the late Allerød period.

Excavator: Anders Fischer. Fredningsstyrelsen. Amaliegade 13. 1256 København K.

References:

A. Fischer & B.N. Mortensen. 1977. "Trollesgave-bopladsen. Et eksempel på anvendelse af EDB inden for arkæologien." Nationalmuseets Arbejdsmark. København.

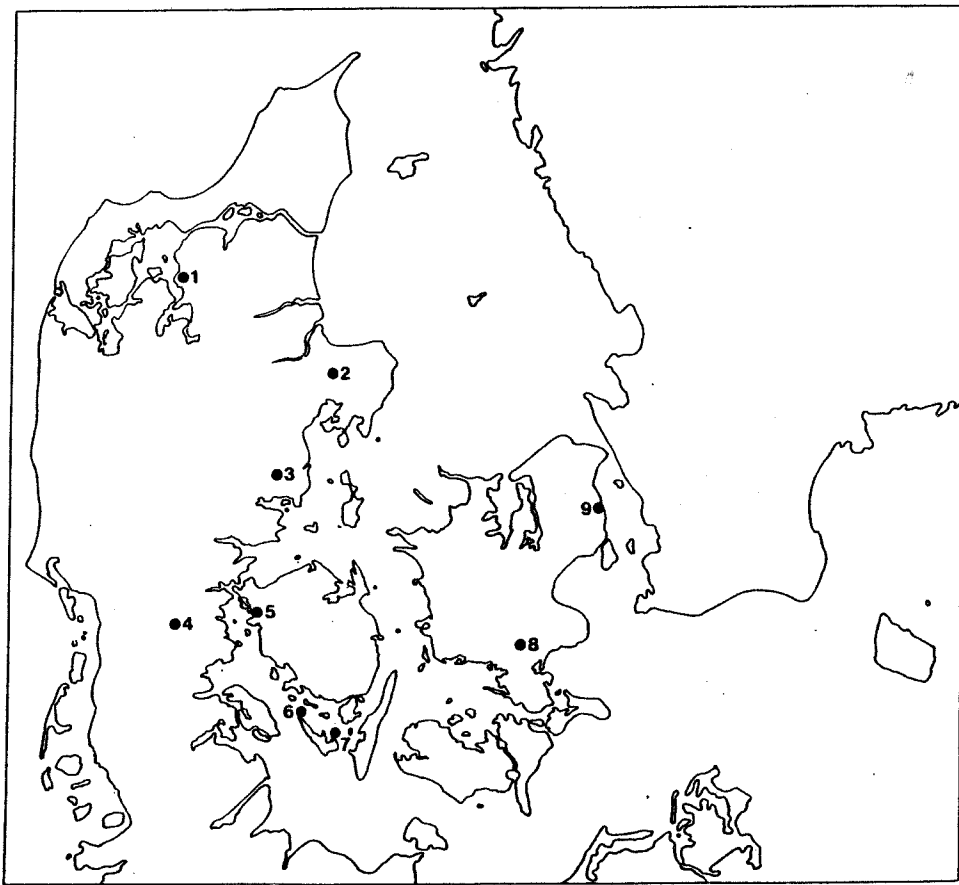
A. Fischer & B.N. Mortensen. 1978. "Report on the use of computers for description and analyses of Paleolithic and Mesolithic occupation areas." In New Directions in Scandinavian Archaeology, K. Kristiansen & C. Paludan-Müller (eds.), København.

9. Vedbaek (Excavation since 1975)

In connection with the "Vedbaek Project", excavations have been undertaken of Ertebølle settlements on the shoreline of the earlier Vedbaek fjord. As the settlements have been shifted, in connection with changes in the shoreline, they provide a horizontal "stratigraphic" separation of the Late Mesolithic and Early Neolithic cultural phases. An important find is the settlement layer from the latest Ertebølle phase in N.E. Zealand (the Aalekistebro phase) on the highest shoreline, deposited under the maximum level of the Littorina Sea in the late Atlantic period (about 3500 - 3300 b.c.).

Excavator: E. Brinch Petersen. Forhistorisk arkæologisk Institut. København.
References: E. Brinch Petersen, m. fl. 1977. "Vedbaekprojektet. I marken og i museerne." Søllerødbogen.
E. Brinch Petersen, m. ff. 1979. "Vedbaekprojektet. Ny og gammel forskning." Søllerødbogen.

The numbered locations on the map below refer to the sites mentioned in the text above.



BOOK REVIEWS

Le Néolithiques Ancien Méditerranéen: Actes du Colloque International de Préhistoire 1981. Archéologie en Languedoc 1982. No. Spécial. Sète: Fédération Archéologique de l'Hérault. ISSN 0221 4792. FF 180.

Despite the best efforts of the organizers, particularly the FAH 1981 President, Raymond Montjardin, the opportunity to debate major issues of theoretical significance was largely lost, not least as a consequence of a boycott due to local professional rivalries and intrigues which deprived the gathering of many leading scholars. The reader will welcome the numerous regional syntheses of material culture and the presentation of a number of sites otherwise doomed to obscurity in local journals, but sadly should not expect to emerge much enlightened about processes involved in the formation of a major cultural complex or in the adoption of cereal cultivation and animal husbandry.

A few papers obtrude from the coarse conglomerate of flints, sherds, and cave sections revealing that the focus of theoretical interest remains the polarized debate between autochthonists and diffusionists. Paradoxically, this is rarely couched in terms of economic activity. The familiar claims for the local domestication of indigenous wild herds of sheep by mesolithic populations are singularly absent. I. Rubio de Miguel dismisses such claims for pre- or peri-neolithic domestication as inherent to the mainstream development, concluding that there is nothing seriously wrong (in Iberia) with the traditional model of an exogenous cereal-ovicaprid system correlated with the appearance of impressed ceramics. This paper is also welcome in referring, albeit briefly, to an area of considerable theoretical interest, the Balearic archipelago, and especially to the "puzzle" of the experimentation with the endemic *Myotragus balearicus*. In contrast, a scholar familiar to readers of these pages, Paul Bahn, rejects the conventional Mesolithic/Neolithic dichotomy as largely irrelevant to an understanding of the economic prehistory of the western and central Pyrenees.

The polarized debate has therefore reverted to purely material culture evidence. The polemics is at its fiercest in the Valencian region of Eastern Spain. J. Aparicio Perez proposes a model of indigenous development from the mesolithic substrate, but only within the context of continuous active contacts between circum-Mediterranean pre-neolithic populations, while B. Martf Oliver restates the case for the introduction of a new and fully-formed way of life from without. Aparicio's paper is of particular interest to this readership as he attempts to clarify and revise the complex cultural classification of the Levantine Epipaleolithic and Mesolithic.

Many authors of the autochthonist persuasion postulate the existence of a plain ceramic facies prior to or parallel with the classic Cardial-decorated wares of the coasts and islands in the mountainous hinterlands which extends in an arc from the headwaters of the Segura to the gorges of the Causses. Although much resultant ambiguity is the consequence of small sample size and poor problem definition, there are far too many cases of "anomalous" ¹⁴C dates for comfort. In any case, the debate about relative antiquity can only be resolved in the littoral zone, despite the severe handicaps imposed by the mid-Holocene transgression and the subsequent coastal sedimentation. Raymond Montjardin and A. Freises offer a magisterial survey of the extant evidence from the coast of the Midi, paying particular attention to the role of the Mesolithic substrate, the effects of the eustatic rise of sea level, the relative importance of bovines and ovicaprids in the faunal sector and the implications from fishing techniques and the maritime traffic in obsidian for an understanding of the development of

navigation, besides the usual questions regarding material culture classification.

The only attempt to test rival hypotheses - local development versus migration - and probably the best single essay in the entire volume relates to a coastal context and a peripheral zone (Portugal) within which classic Cardial ware is notoriously scarce. J. Morais Arnaud models in detail alternative four-stage processes of cultural and economic change, integrating the evidence from "Mesolithic" shell middens, "Early Neolithic" open and cave sites, and "Megalithic" tombs. While necessarily inconclusive given the paucity of data, the paper may introduce a conservative continental scholastic circle to concepts and techniques long taken for granted in anglophone and NW European archaeology. Site catchment analysis, for instance, is used in only one other essay, that on the Cova Fosca in the Maestrazgo by C. Oleria de Gusí, J. Estevez Escalera and E. Yll.

In comparison the reviewer's ambitious attempts at putting the Early Neolit' of the Western Mediterranean into some sort of general perspective, by draw parallels with areas of similar environments or in which similar phenomena occurred in prehistory (California, Cape zone of South Africa, Oceania) looks as out of place as a pork chop at a Bar Mitzvah.

In conclusion, this volume is valuable more as an insight into current attitudes to the problems of the topic in question, rather than an answer to the problems as such. Partly as a result of the absence of scholars from the Balears, Corsica, Sicily and S. Italy, there is an excessive concern with the secondary terrestrial processes of development within or beyond the classic cardial-ceramic sphere either denying or taking for granted the existence of the primary phenomenon, some sort of maritime interaction network, which clearly held together the whole complex. Occasional "puzzles" offer a glimpse of the scale and nature of marine activity: curious similarities between the Sardinian assemblages discussed by G. Tanda and those of the Spanish Levant, the singularity of a site near the Orb Estuary on the coast of the Hérault (Piero Signado), described by J. Grimal as culturally unrelated to the hinterland, but finds strong parallels in the Tyrrhenian sea province from Nice to S. Italy and Sicily. More fundamental still are the methodological problems constantly raised by the polarized debate between proponents of the autochthonism or diffusion/migrationism, i.e., the need for agreed criteria to provide some order to a debate which has tended to replace one "problem" with another as soon as a solution is found, in this context typified by the substitution of the "plain ware facies" for the "mesolithic sheep" as a visible symbol of indigeneous experimentation. Indeed, R. Montjardin in a valuable introductory essay points to the lack of a formal definition and classification of a culture complex which is clearly far less homogeneous than that envisaged in Bernabò Brea's classic essay of 1950. With these limitations, this volume is a valuable addition to the limited literature on subject. Production is to a very high standard, with refreshingly few misprints, the book being an excellent value at its price.

James Lewthwaite
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RECENT PUBLICATIONS

Gramsch, B. 1981. "Der mesolithische-neolithische Moorfundplatz bei Friesack, Kr. Nauen." *Ausgrabungen und Funde* 26(2):65-72.

Price, T.D., S. Chappell and D. Ives. 1982. "Thermal alteration in mesolithic assemblages." *Proceedings of the Prehistoric Society* 48: 467-486.

Experimental, analytical and archaeological evidence is presented to describe the characteristics of thermal alteration in mesolithic assemblages from the northern Netherlands. Experiments, both in the field and in the laboratory, have established the sequence of changes that occur when flint is subjected to heat. Analytical techniques involving the scanning electron microscope and thermoluminescence analysis are used in an attempt to recognize thermal pretreatment and to define the stages in manufacturing in which it was used. The proportions and spatial distributions of thermally-altered artefacts are employed to compare archaeological assemblages and to locate heat sources on occupation floors. In spite of high incidence of heat alteration in the assemblages, there is no conclusive evidence for intentional thermal pretreatment.

Olausson, D.S., and L. Larsson. 1982. "Testing for the presence of thermal pretreatment of flint in the Mesolithic and Neolithic of Sweden." *Journal of Archaeological Science* 9: 275-285.

Through ethnographic accounts, the method of heat treatment of silica materials to improve the flaking qualities is shown to have been known almost worldwide. Some mesolithic and neolithic flint artifacts from southern Sweden were examined in order to determine if they too were heat treated. From several methods proving or indicating thermal alteration of flint, analysis using scanning electron microscopy was chosen. Two samples were taken from each artifact, one being examined unaltered, the other being heat treated. No two samples from the same artifact had the same kind of surface appearance. Thus, these samples prove that the artifacts examined had not been heat treated.

Lewthwaite, J.G. 1982. "Cardial disorder: ethnographic and archaeological comparisons for problems in the early prehistory of the West Mediterranean." *Le Néolithique Ancien Méditerranéen (Archéologie en Languedoc)*, special number, 1982: 311-318. *Fédération Archéologique de l'Hérault. Sète.*

Many of the problems in the early prehistory of the West Mediterranean consist of general theoretical issues clothed in particular detail, just as many of the proposed answers are of a general kind (environmental change, the expansion of a successful adaptation to the limits of its tolerances) which ought logically to be correct in a number of situations. By looking at these latter we can better understand the particular issues in the West Mediterranean. Examples chosen are:

--The analogy with the Californian Indian subsistence base of gathered forest produce (acorns, pine nuts) which is an example of ethnographic comparison justified by similarities in environment (Mediterranean climate and vegetation type).

--The example of the diffusion of the sheep across Southern Africa, which occurs in the context of archaeologically similar events (appearance of pottery, intensified marine gathering activity revealed by shell middens) as does the dispersion of sheep in the West Mediterranean. Most explanatory schemes in the latter area are simple, yet the southern African situation reveals great complexity when non-archaeological

material (recent ethnic, linguistic, physical anthropological distributions) is incorporated into the frame of enquiry.

--Finally, the case of the expansion of settlement, domestic animals and the manufacture of ceramics of a distinct type by maritime diffusion through Oceania is considered. Migration on a scale which many archaeologists refuse to accept in Europe took place repeatedly during the expansion of Austronesian speakers from the Asian mainland with a neolithic level of technology.

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Clark, G.A. 1983. The Asturian of Cantabria: Early Holocene Hunter-gatherers in Northern Spain. Anthropology Papers of the University of Arizona 41. Tucson: University of Arizona Press.

Gonzalez Morales, M.R. 1982. El Asturiense y Otras Culturas Locales. La explotación de las áreas litorales de la región cantábrica en los tiempos epipaleolíticos. Centro de Investigación y Museo de Altamira, Monografías 7. Santander.

Richter, J. 1982. "Adult and juvenile Aurochs, Bos primigenius Boj, from the Maglemosian site of Ulkestrup Lyng Ost, Denmark." Journal of Archaeological Science 9: 247-260.

Bones of adult and juvenile aurochs (Bos primigenius Boj.) from the refuse of a Mesolithic settlement, Ulkestrup Lyng Ost (c. 6090 B.C.), are examined. The problem of estimating the ontogenetic age of the younger animals is dealt with in order to establish the time of the year at which they were killed and thereby the possible season of hunting.

The age-determination is mainly based on tooth-wear, which is discussed in its relationship to physiological changes in the stomach, that are correlated with the dietary changes from milk to solid food. The subfossil mandibles are compared with modern material from domestic calves and with other Danish subfossil calves' mandibles.

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