TABLE OF CONTENTS

Page	Topic
1	Excavations at Ferriter's Cove, Ireland
5	Radiocarbon dates from Brecht-Moordenaarsven, Belgium
7	An Ephemeral Mesolithic Camp in the Duvensee Peatbog
11	National Research Hypotheses, Mesolithic in Portugal: A Report on Recent Research
16	Review of *Les Peintures Rupestres du Levant Espagñol*
18	Review Review
19	Anouncements: First Iberian Quaternary Meetings
20	Recent Publications
26	Off the Wall

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SUBSCRIPTION INFORMATION

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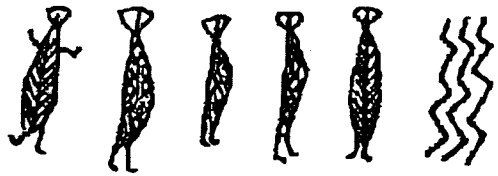

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RESEARCH REPORTS

EXCAVATIONS AT FERRITER'S COVE, IRELAND
A Preliminary Report

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The traditional view of the prehistory of southwest Ireland is one of very late colonization. Certain parts, in particular the peninsulas of Kerry and West Cork, are presumed to be empty until the beginnings of the Bronze Age. This is most certainly due to the absence of monuments which can be ascribed to the Neolithic Age (approximately 3500-2000 BC). In one instance, at Cashelkeelty on the Beara Peninsula, Lynch (1981) found evidence for cereal cultivation which was dated to 5845±100. While this did appear to be associated with forest clearance, there was only one cereal pollen grain (Triticum). At a higher level, before 5000 BP, there were two cereal grains (one Triticum and one Hordeum).

Other than a leaf-shaped arrowhead, which could belong to a significantly later re-occupation of the Cashelkeelty site, there appeared to be no other tangible evidence for early settlement in the Southwest peninsulas. This problem was compounded by the assumption that there was such a major change in relative sea level during the postglacial period that early coastal settlement would be buried beneath the sea. Similarly, excavations at Cashelkeelty and elsewhere had produced such tiny pieces of worked flint that it was presumed that there were only limited quantities of usable raw materials available for the manufacture of stone tools.

However, evidence of early occupation has been accumulating over the last years. A flint plano-convex knife, discovered at Ferriter's Cove (Vernon 1976), came to the attention of the Dingle Archaeological Survey who noted that several small middens survived beneath the sand dunes along the shore at Ferriter's Cove. This site was drawn to the attention of the Department of Archaeology, University College Cork. Due to the fact that the plano-convex knife could be neolithic in date, and as coastal erosion was a serious problem in this area, it was decided to carry out small-scale rescue excavations during the Easter vacations of 1983 and 1984.

The locations chosen were from numerous sites spread along over one hundred meters of shoreline. The primary factor in the choice of sites was danger of destruction. Three locations were chosen where shell middens, rarely more than 1 m across, occurred on the cliff face. Excavations have so far been limited both due to time and the fact that within several meters of the actual shore, many of the sites were buried under several meters of dune sand. All the sites lie on top of a wave-cut platform whose date is not yet determined.

These trial excavations have revealed that Co. Kerry may well have a larger, more complex prehistory than has been though possible. All the sites excavated have produced extensive evidence of stone-tool manufacture. Instead of being confined to small flint beach pebbles, a series of nearby volcanic rocks were exploited. In the main these were a series of greenish-blue rhyolites and volcanic ashes. Some of the rocks would appear to have been removed from very large boulders or the bedrock rather than having been struck from beach-rolled nodules. The rhyolites do not occur within the immediate vicinity of the site.

The basic industrial tradition found here would seem to be the production of very large blades, some of which are in excess of 10 cm in length. These blades are made from the better qu[illegible] rhyolite. Flint and volcanic [illegible] produce poorer quality flake industries. Unfortunately, the sites have produced very few diagnostic chronological indicators - the best being the stray find of the plano-convex knife. Similarly the distinctive blade tradition could be in part due to the use of local raw materials. However, there was some resemblance between the blade industries of the Later Mesolithic Age and the industrial traditions found at Ferriter's Cove. Ultimately, only independent dating could establish the age of these sites. Radiocarbon determinations were made by the British Museum.

Site I. Shallow pit containing charcoal and shells, and loosely associated with the plano-convex knife. This area would seem to be rather more eroded than the other sites. Besides a scatter of artifacts, there [illegible] a series of shallow pits contai[illegible] shells and lenses of charcoal.

BM 2227 5230±200 BP
BM 2227A 5190±110 BP

Site II. Area of charcoal mixed with shells found in initial test excavation (Sample 7). Adjacent to the area of Sample 7 was a lens of stones, many of which were burnt. These obviously related to a hearth area where the underlying platform was burnt red. Within this area was a scatter of burnt shells. This area gave the impression of being deliberately leveled. Scatters of animal bones, shellfish, and artifacts were removed from around the hearth area. One pit on the edge of the excavation was filled with whelks.

BM 2228 5580±110 BP
BM 2228A 5620± 80 BP

Site III. This was a small area which was in particular danger, about 50 m from the other two trenches. Due to the depth of the sand only a 3x3 m area was excavated. A small fire had been lit on top of a lens of shells. This midden was surrounded by a scatter of stone tools and a series of elongated pebbles.

BM 2229 5310±130 BP
BM 2229A 5270± 90 BP

Sites I and II are quite close together and it is possible that much of the activity represented may belong to one particularly extensive settlement. Only full excavation will determine exactly how the 14C dates relate to the main phases of activity. It is of interest that the most recent 14C dates come from the area [illegible]ere the plano-convex knife was found. While it would be tempting to regard the dates from Site I as later and intrusive, it is of course possible that the dates from Site III are slightly biased due to the use of old drift wood - always a potential hazard in dating coastal sites. Therefore, one can only note that these sites would seem to straddle the Mesolithic/Neolithic change on the western periphery of Europe. Sites which are Mesolithic such as Newferry (Woodman 1977) and Bay Farm, Co. Antrim, and Rockmarshall (Mitchell 1971), Co. Louth, come down to 5400 BP while those which could be described as Mesolithic survival, such as Sutton (Mitchell 1972), can be as late as 5200 BP. On the other hand, Lynch's work at Cashelkeelty could indicate the spread of farming to the western peripheries of southern Ireland by the period when the Ferriter's Cove site was occupied.

The archaeological evidence recovered so far would suggest however, that the settlement is essentially Mesolithic. Not only does most of the artifactual evidence resemble the Later Mesolithic Larnian technique (Woodman 1978) (though quite naturally without some of the attributes associated with working large flint nodules), but there is also no evidence of pottery or domesticated animals. Besides pig and deer bones, fish bones and scales have been recovered. In a coastal location, it is hardly surprising that shellfish were collected in quantity. These would seem to be collected in an organized fashion as pits are often filled with one specific type, whelks, periwinkles, or limpets. These, of course, are typical of a rocky shoreline. In only one instance is there a group associated with a sandy shore, i.e. that associated with sample 7 in Site III. Whether this reflects a change in environment or is a result of human preference must await further research.

These preliminary investigations suggest a more significant, perhaps well-adapted group of hunter-gatherers whose occupation site at

Ferriter's Cove could be rather more substantial than had first been thought. With the discovery of even earlier Mesolithic material in Co. Cork, i.e., a microlithic site on the Blackwater River - dated to before 6000 BC by typological comparison - we can assume that there probably was an extensive Mesolithic community in southwest Ireland.

The major problem now is that we can no longer presume that farming spread to southwest Ireland through the movement of Neolithic colonists into an area which was uninhabited. It may be, therefore, that as with the Danish Ertebølle, well-adapted Mesolithic communities inhibited the spread of farming in this area or they may have adapted agriculture or certain aspects of the Neolithic material culture, thus precluding the need for any population movement at all.

(Reprinted from the *Journal of the Kerry Archaeological and Historical Society* 17: 5-9)

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RADIOCARBON DATES FROM BRECHT-MOORDENAARSVEN, BELGIUM

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Excavations recently were completed the Mesolithic site of Brecht-Moordenaarsven, Prov. Antwerpen, Belgium. Three concentrations were located on Lateglacial dunes near a small fen, locally known as het Moordenaarsven (the murderer's bog). Two concentrations, designated as BM-1 and BM-2, were excavated by the Laboratory of Prehistory, Katholieke Universiteit te Leuven. BM-2 is an oval concentration of lithic artifacts measuring about 12 x 7.5 m in size. Over 20,000 chipped stone artifacts were recovered, including points with surface retouch, broad trapezes, and a variety of other microlith types. In addition, a series of four hearths or pits and five charcoal concentrations, mainly located near the margin of the concentration, were recorded.

The archaeological materials occur within the lower A2-horizon and upper B-horizon of a humic-iron podzol. About 90% of the artifacts are concentrated in a vertical interval of 15 cm, between 30 and 45 cm below surface. Their vertical distribution is unimodal and artifact refits link the upper and lowermost portions of the archaeological stratum. The features generally occur in one of two positions: within the A2-horizon or within the B2ir-horizon. Feature fill consists of wood charcoal in a sandy matrix with occasional burned lithics. The pits (hearths?) are small (25 to 65 cm in diameter) and shallow (10-15 cm).

A series of six 14C dates have been obtained from this site (Table 1, Figure 1). Four samples date from the Atlantic period and two from the Boreal. At least two, and possibly more, occupations are suggested by the 14C evidence.

Table 1. Radiocarbon dates from Brecht-Moordenaarsven 2.

14C years b.p.	Feature	Soil Horizon	Lab Number
6,070±120	VIII	A2	GrN-12989
6,270±120	I	A2	Lv-1294D
6,320±120	Dispersed	A2	Lv-1295D
6,530± 60	VI	B2ir	GrN-12988
7,990±110	III	B2ir	Lv-1335
8,650± 45	IV	B2ir	GrN-12987

Artifact density at BM-2 is rather high (mean density per square meter = 131.0) and retouched tools are numerous (n=850). Nevertheless, the concentration is fairly well-defined both vertically and horizontally. Only the 14C dates indicate the presence of multiple occupation. These results suggest some of the difficulties in establishing the integrity of Mesolithic from sandy sites. Many of the apparent ambiguities in radiocarbon age determinations from Late Paleolithic and Mesolithic assemblages may result from multiple site occupation. "Anomalous" dates already are know to occur where Late Paleolithic and Mesolithic sites are common in the same region. Thus, suggestions for a survival of the Federmesser culture in northern Belgium and the southern Netherlands, for example, should be viewed critically.

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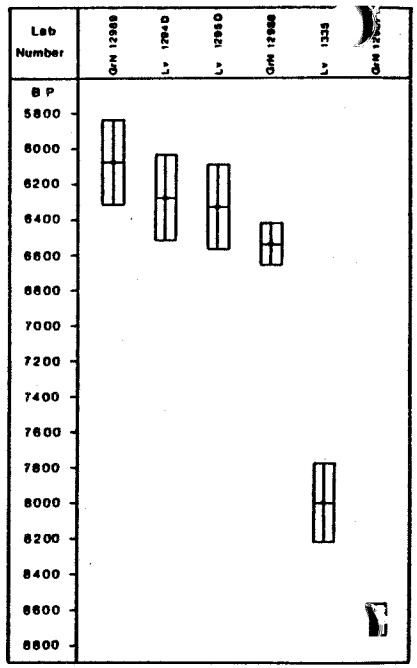
Figure 1. Radiocarbon dates from Brecht-Moordenaarsven 2 showing 2-sigma limits.



A REST UNDER THE TREES:

An Ephemeral Mesolithic Camp in the Duvensee Peatbog

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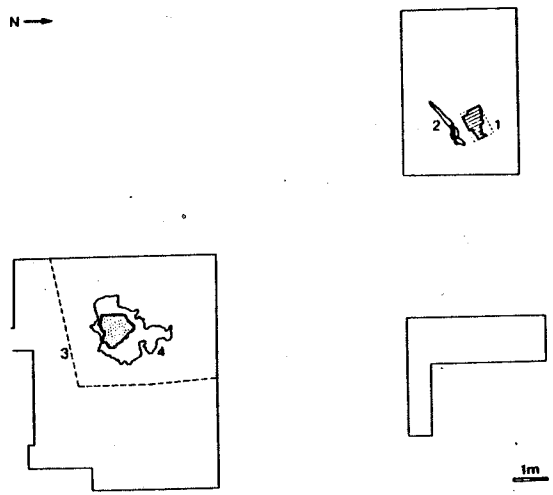
Discoveries of archaeological settlement remains are often due to large accumulations of rubbish, the amount of which corresponds closely to intense activities in a limited area. Excavations tend to be focused on such concentrations of prehistoric activity, which are often the result of multiple occupations and disturbance. However, the discovery of a short-term, limited activity, single-person living floor throws a different light on the settlement activity of Mesolithic people - behavior which is certainly conditioned by the season of the year.

Thanks to favorable conditions of preservation in peat, such a site (designated as *Wohnplatz* 13) has been recovered in northern Germany. Located near the Boreal lakeshore of the former Duvensee, this small site was excavated over the last few years. Pollen-analysis and radiocarbon dating indicate that *Wohnplatz* 13 may be slightly younger than *Wohnplatz* 6, which is dated to ca. 9000 b.p. (Bokelmann 1980).

Figure 1. Plan of the excavations with one-person mat (1), small fireplace (2), and hypothetical communal hearth area (4).



DUVENSEE
Wohnplatz 13
Grabung 1982-1984

1 Birkenrindenboden
2 Hölzer der Feuerstelle
3 Uferlinie
4 Feuerstellenbereich mit rundlicher Ausräumungszone

In spite of the small size and limited nature of the site, the following activities could be recognized:

(a) A mat of birch bark which had been cut in a single strip from a tree the diameter of which must have been at least 0.28 m. The mat itself measured 1.30 m in length and 0.88 m in width.

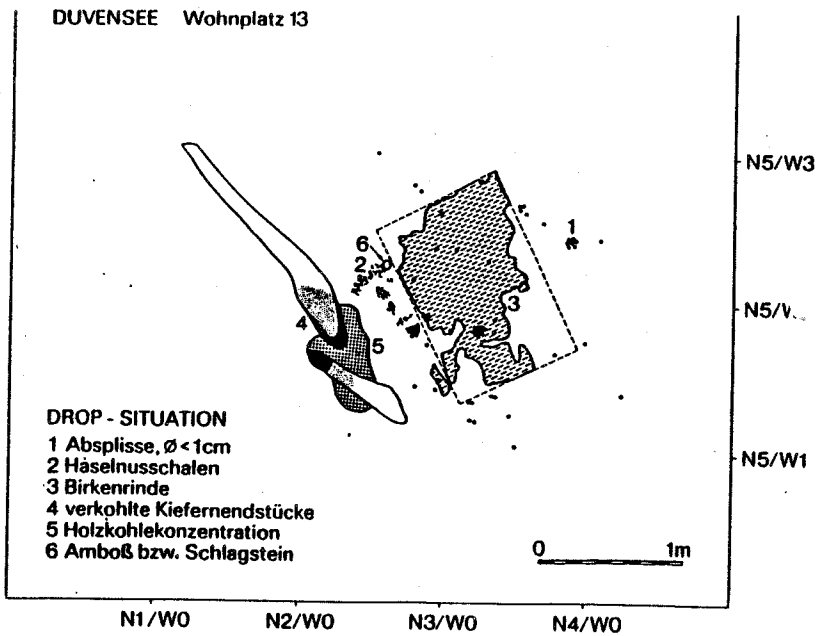
(b) In front of the mat was a small fireplace consisting of two pine trunks placed opposite one another in a position typical of recent hunter-gatherer hearths.

(c) Uncharred shells of hazelnuts - just a snack - lay between the mat and the fireplace. There seems to be a functional connection with an anvil, presumably a former hammerstone used for the preparation of flint nodules.

(d) Some unretouched flint artifacts lay on and beside the birch bark mat. The flakes on the mat are very s indicating the location of manufacture.

(e) Several stumps of pine and birch trees were present, some undoubtedly the remains of contemporary trees.

Figure 2. Birchbark mat with the small fireplace, flint chips, hazelnut shells, and anvil.



If the mat was used as a sleeping place, it is argued on the basis of the size of the mat that a flexed position - also seen in some Mesolithic graves - is the normal outdoor sleeping posture, serving as a means to reduce the loss of body heat.

For the moment, it does not seem possible that the ephemeral resting place at Duvensee can be related to a large, short-term hearth located nearer the shoreline some 17 m away. In this respect, an important question concerns whether there were more single-person sleeping mats in the area. This seems likely and thus the larger hearth near the lakeshore may represent a communal area of activity.

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Figure 3. The hypothetical communal hearth with distribution of microburins. There is a close association between the concentration of microburins and a mat of pine bark. The heavy line indicates the center of the hearth; the thin line indicates the spread of material from the hearth. The outer thin line indicates the shoreline which was not strictly synchronous with the hearth. It is, however, clear that the human activities were carried out between the shoreline and the limit of scattered trees.

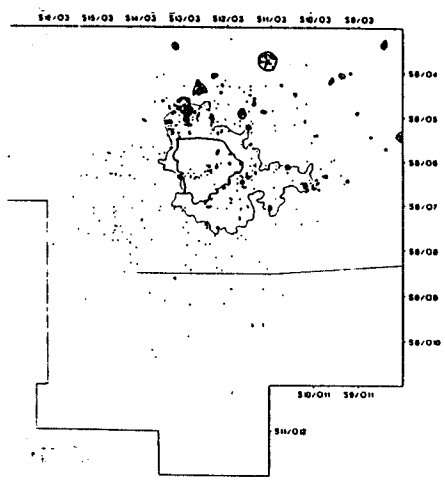
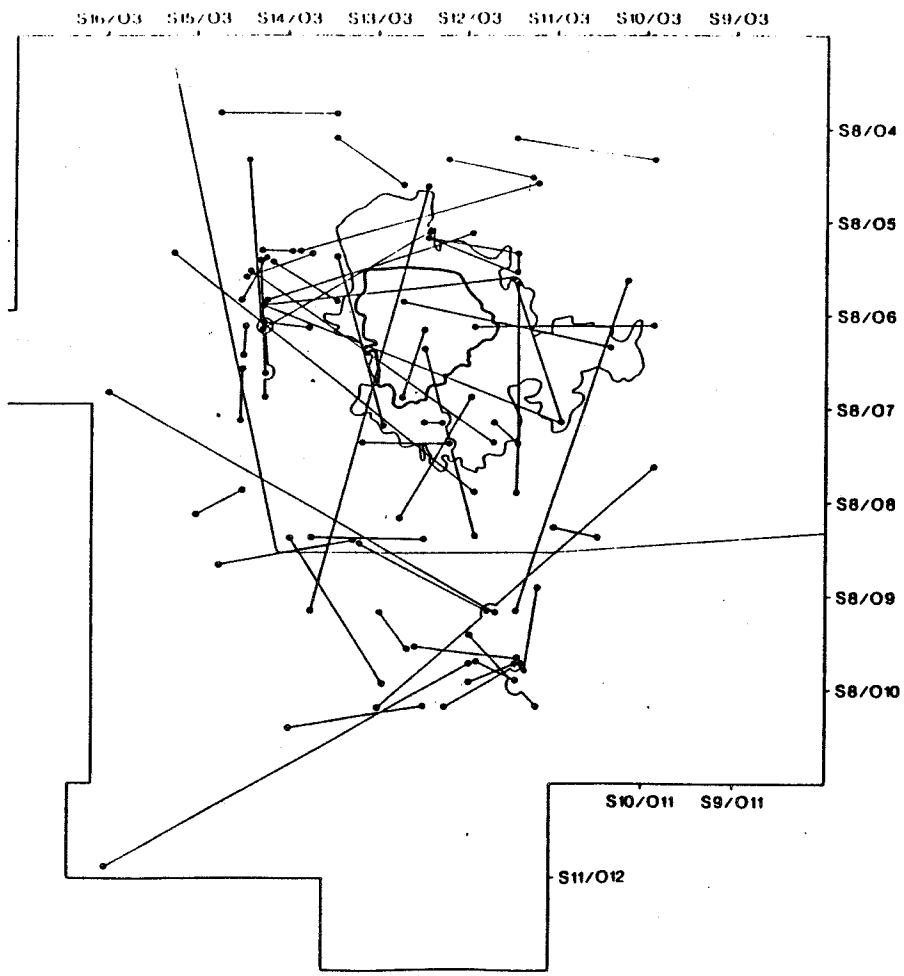


Figure 4. The hypothetical communal hearth and the distribution of refitted, deliberately broken blades.



NATIONAL RESEARCH SYNOPSES

MESOLITHIC IN PORTUGAL:

A Report on Recent Research

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The Mesolithic period in Portugal has been known mainly as a result of more than one century of excavations on the famous Muge shell middens. These projects have been carried out by several scholars since 1865, and more recently, during the 1950's and 1960's, by Jean Roche who has produced a vast bibliography on the subject, including an excellent synthesis of his own and previous work (Roche 1972).

However, another important cluster of Mesolithic shell middens is located about 100 km south of Muge in the Sado Valley. These were largely excavated in the 1950's and 1960's by the staff of the National Archaeological and Ethnological Museum (Lisbon). As a result of these excavations more than 200,000 artifacts and faunal remains and approximately 100 more or less complete human skeletons were removed to the museum where they have remained unpublished. Because of the extreme importance of these sites, a long-term research program was initiated in 1981/82 by the present author with the collaboration of several experts in relevant fields - most of these individuals are connected with the Universities of Lisbon and Cambridge - with the objective of systematically studying the vast amount of material already in the National Museum and of re-locating and re-excavating some of the shell middens in order to obtain reliable chronological, stratigraphic, sedimentological, paleoecological, and paleoeconomic data. The full realization of this vast task will take a few more years, but it has already been possible to achieve a better understanding of this important assemblage of sites and to assess their potential contribution to the study of postglacial "adaptations" of fisher-hunter-gatherers in this part of Europe.

A first general report on the Sado shell middens was recently presented to the III Mesolithic Symposium in Edinburgh (Arnaud. in press) and only a brief summary of that report can be presented here.

At the time of writing, eleven shell middens have been identified in the area but of these only six have been excavated on any appreciable

scale: Cabeço do Pez, Vale de Romeiras, Amoreiras, Poças de S. Bento, Cabeço do Rebolador, and Arapouco. Two of these, Cabeço do Pez and Poças de S. Bento, are substantially larger that the others (>4000 and 3500 m2 respectively), which have areas of about 1000 m2, with the exception of Vale de Romeiras which is just about 60 m2.

All these shell middens except Cabeço do Rebolador have provided an appreciable number of human skeletons. These have been found underneath the main shell layers which, in contrast with the Muge sites, never exceed 1.5 m in depth. Other differences from the Muge sites lie in the composition of the shell middens, the burial rites, and the lithic industries. In fact, at Muge there is a clear predominance of Scrobicularia plana with only a few shells of Cerastoderma edule, while on the Sado sites shells of this latter species form about two-thirds of the midden, and the former only about one-third. At Muge most of the burials were in supine position with legs semi-flexed, while at Sado there is a clear predominance of the foetal or "hocker" posture. However, as at Muge, a large number of shell beads, mostly of Neritina fluviatilis, have been found in association with many of the burials. As far as lithic artifacts are concerned, a large quantity of knapping debris has been found at all sites, but finished tools are scarce, made of low quality siliceous stone, and show little stylistic or typological variability, in contrast with what was observed at Muge. Apart from the basic types of geometric microliths, only a few retouched bladelets have been found. Tools made of other materials are very rare and include only a few bone spatulas and worked antler tips.

Besides the estuarine mollusc shells, common to all these middens, a variable amount of fish, crustacean, and mammal remains have been recovered from most of these sites. However, the sites with abundant fish

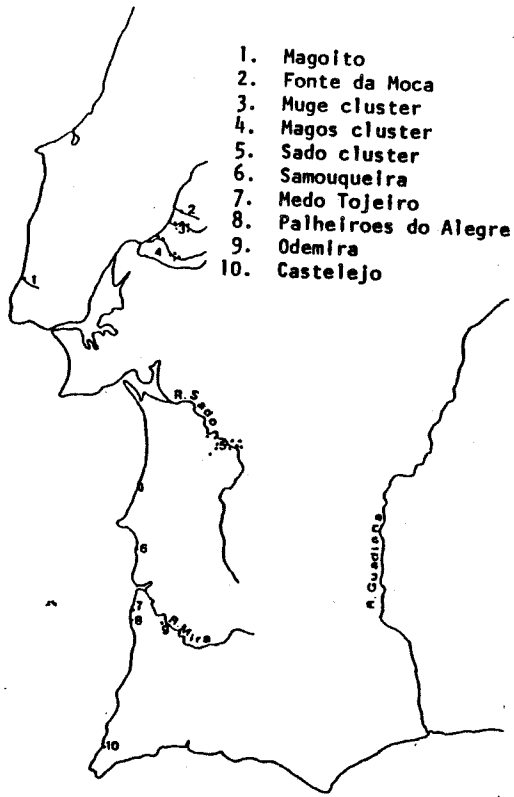

Figure 1: Schematic Map with the location of Mesolithic Sites Currently Under Study

and crustaceans contained few or no mammal bones and vice versa. Mammal bones are especially abundant at C. do Pez, with a marked predominance of red deer (about two-thirds of the total), followed by wild boar (less than one-third). A small number of bones of other mammals have also been recovered here, namely aurochs, roe deer, horse, rabbit, hare, fox, wild cat, pardel lynx, otter, and hedgehog. A few bones of Canidae have also been found but so far only one of these could definitely be attributed to a domesticated animal.

The radiocarbon dates already obtained show that this cluster of sites, like their better known counterparts at Muge in the Tagus Valley, had been occupied over a period of at least 1000 years, between the mid-sixth and the mid-fifth millennium b.c., corresponding to the early Atlantic phase. The considerable inter-site variability, in faunal remains and site size, in contrast with the apparent uniformity in the material culture and the burial rites, suggests that all of them belonged to the same settlement system. This pattern probably involved two base-camps, occupied respectively during the autumn/winter, with a greater emphasis on hunting activities, and the spring/summer, with a greater emphasis on fishing activities. Several smaller sites, associated with specialized economic activities, likely were occupied by only a relatively small portion of the co-resident unit. Mollusc gathering was apparently a year-round activity, although it is not yet possible to quantify their proportion in the diet. Plants certainly made only a small contribution to subsistence. Acorns are today an abundant and important source of calories but no archaeological evidence for their presence or consumption has been found.

Soon after the beginning of the Sado project, another research program was initiated on the Mesolithic of southern Portugal, under the leadership of David Lubell. A summary of this work appeared in Mesolithic Miscellany in1984.

Very close to one of the sites investigated by Lubell and his team in 1984 - Medo Tojero, on the coast of Alentejo - but about 10 km further inland in the Mira Valley, only 2 km from Odemira, another shell midden has been indentified by the present author. Excavations planned here for 1986 will certainly provide an important contribution to the study of this coastal niche in southern Portugal. In fact, the material already collected at the site includes, apart from a vast amount of shells of both marine and estuarine molluscs, a considerable abundance of fish remains and mammal bones. The latter apparently include only bones of non-domestic species, namely red deer, wild boar, and aurochs. The artifacts include both rough quartzite flakes and scrapers, and also flint bladelets.

Another important site, Palheirões do Alegre, only about 3 km to the south of Medo Tojero, and in a very similar setting, has recently been studied by Luis Raposo and Carlos Penalva. This is a large knapping site

with an area of at least 1 ha, located on a raised beach, about 30 m a.s.l. The surface was literally paved with an extensive layer of knapping debris, large stone anvils, and tools in various stages of manufacture, all apparently in situ. It will thus be possible, for the first time in this area, to study with adequate methods a site of this type. In fact, many similar sites have been identified north and south of the mouth of the River Mira, but in most cases the archaeologists could not resist the temptation to remove the "best" tools from their context without an adequate recording. After having been used for relatively short periods, these knapping sites were sealed by massive dune deposits and are only now being exposed by erosion.

This recent revival of Mesolithic research in Portugal has also been extended to the Peninsula of Lisbon and the Tagus Valley where a few sites have been newly identified or re-studied. The most important of these is certainly the tiny occupation layer found at Magoito (Sintra) in the bottom of a 20 m high consolidated dune. This dune had been traditionally considered at late Würmian (Breuil and Zbyszewski 1945: 209-211, pl. F) but recently a radiocarbon date of 9580±100 b.p. (GrN-11,229) was obtained from charcoal collected in a layer with many shells of Helix sp., Mytilus galloprovincialis, Tapes decussata, Cerastoderma edule, Scrobicularia plana, Patella coerulea, Littorina littorea, and Balanus, associated with burnt lumps of clay and "atypical flints" (Pereira 1983). This is so far the earliest date for a mesolithic context in Portugal and suggests that many other sites corresponding in time to the Boreal phase of northern Europe, may still exist along the coast of Portugal, covered by dunes or the sea.

In the area of Muge the remains of a shell midden have been recently investigated by M. Farinha d Santos. Unfortunately, this site Fonte de Moça (Benfica do Ribatejo, Almeirim) - was almost completely destroyed. However, it is still possible to see that is was formed primarily of shells of the same species as the Muge sites, with a clear predominance of Scrobicularia plana over Cerastoderma edule. Its importance derives from the location, about 6 km to the north of Muge, thus extending the limit of the penetration of the tide during the Atlantic phase to at least 85 km inland from the mouth of the Tagus.

A few kilometers to the south of Muge, in the county of Salvaterra de Magos, an important group of shell middens was identified in the past century by Carlos Ribeiro (1880), one of the pioneers of prehistoric research in Portugal, but unfortunately these were almost completely destroyed before any serious excavation could be undertaken. In fact, it would be very interesting to search for any meaningful differences between the faunal remains of the Magos, the Muge, and Benfica-do-Ribatejo areas, comparable to those detected in the Sado sites and likely related to patterns of seasonal utilization.

In conclusion, after more than one decade of complete stagnation, Mesolithic research is now being carried out by several teams in several areas of the country. In spite of the considerable differences in their respective approaches, these projects will certainly contribute to a better understanding of postglacial adaptations in this part of Europe, located at the interface between the Atlantic and the Mediterranean.

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BOOK REVIEWS

Les Peintures Rupestres du Levant Espagñol . 1984. Lya Dams. Paris, Picard. 334 pp., 232 figs., 49 pls. FF 550.

Reviewed by:

Paul G. Bahn
School of Archaeology and Oriental Studies
The University of Liverpool

This remarkable book, the fruit of 17 years of research, constitutes the first real synthesis of the fascinating art of the Spanish Levant. The study is far more complete than the format of the recent book by A. Beltran allowed, and covers 133 sites, comprising 235 rockshelters containing 7618 paintings. Each shelter is dealt with in turn, with drawings located by the relevant text for ease of reference. This catalog is followed by valuable chapters in which the contents of the art are considered by subject. Finally, the thorny problem of dating this mass of data is dealt with in depth.

One should begin by acknowledging the courage and physical toughness required for the work: many of these shelters are now almost impossible to reach. Rope ladders sometimes provide the only means of access, and the narrow ledges afford highly dangerous conditions for studying the art. Secondly, one must recognize the debt that Prehistory owes to Cabré, Breuil, and others for copying so much of the art in the early part of this century: time after time Dams states that figures have now disappeared — vandalized, deliberately removed, or simply rubbed away through repeated use of water and "cleansing agents" by generations of visitors. In addition, the smoke from shepherds' fires, the modern graffitti, and the effects of natural weathering have taken their toll. New sites continue to be found, but as soon as they are published, attempts to destroy or remove their art begin very quickly.

Levantine art is very different from the the classical Franco-Cantabrian paleolithic art: it exhibits very few engravings, rare use of natural rock shape, and, above all, it is a "human art" — over 40% of the figures are human, a far higher percentage than in the paleolithic, whereas the percentage of "signs" is far lower (9.5%). This art provides the earliest clear evidence for clothing, headgear and hairstyles in Western Europe; even items like baskets and quivers are depicted, and of course there are the famous scenes of hunting, fighting, "dancing", and honey-gathering.

Of the 3115 human figures, only 137 (4.4%) are clearly female: none are pregnant, and there is only one example of a child, with its mother. Somewhat surprisingly, Dams classes all other humans as male, even the many with neither phallus nor beard. It might have been better to have a third category of neutral or unsexed humans.

The animals are of particular interest, for whereas the red deer (the most common species) is very ubiquitous, other species such as caprids and horses are more common in certain areas. Wild pigs are surprisingly rare, and thus very localized. Very few birds and fish are depicted although, like the pig, they must have been of importance in the diet. It would also have been useful to provide detailed topographic maps showing the general location and distribution of the figures of the various herbivores, and indeed of the art as a whole. Most decorated shelters are located between 50 and 100 km from the east coast of Spain, and the majority are at an altitude of either 400-500 m or over 1000 m (29%). Almost 60% of the shelters face more or less southwards. One similarity with cave art is that some shelters — often of poor quality or difficult of access — were decorated over and over again, while good ones nearby were left untouched: exactly the same is true of panels in some caves.

The big headache of course is dating. No habitation sites or burials can be associated with the art. Dams provides a synthesis of all the (largely undiagnostic) lithic and ceramic material found in, or more often near, the shelters but actual association with the art is completely unclear. The author has also made a detailed study of superimposition in the art, thus producing a relative chronology — a development over 7 millennia, in her view, from large animal figures at the end of the paleolithic to the schematic art of the Neolithic and Bronze Age. Like most authors she believes the bulk of the Levantine art to be Mesolithic in date. Dams was able to include in her book the first discoveries of Levantine art in Huesca province, in the central Pyrenees; more have since been found there, and thus the very designation of the art is under threat: it is merely predominantly — not exclusively — Levantine. And since her book went to press, there have been reports of sites in the Valencia and Alicante regions where "schematic" art underlies typical Levantine figures. If validated, this observation would throw Dams' entire chronological scheme into disarray and pose fundamental questions about the age of the art.

Meanwhile, however, we should be grateful for this corpus. Had more funds been available, the figures might have been reproduced in black and red (rather than black and grey) for greater clarity and authenticity; but at least we have the fine color photographs. All in all, the book is a great achievement and should be consulted by anyone working on prehistoric art or the Mesolithic period.

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Review Review

Øle Grøn
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H. P Blankholm, (Mesolithic Miscellany Vol. 6, No. 1) has recently reviewed my paper, "Social Behaviour and Settlement Structure. Preliminary Results of a Distribution Analysis on Sites of the Maglemose Culture. " (Journal of Danish Archaeology 2:32-42, 1983).

As the word preliminary indicates, the published results are from a project not (yet) finished and not yet finally published. My reasons for publishing a preliminary report of some of the results that I found interesting and clearly supported by tendencies within the rest of the material, were that I thought it might be of interest for other archaeologists working in the same field to get information about these new possibilities as fast as possible.

As it appears from Blankholm's review, we have some old disagreements about how distribution analysis should be conducted. As the discussion may be of a broader interest, I shall use the opportunity to answer the different points.

1). With regard to the use of equidistant contour lines (e.g. niveaus: 4,8,12,16 . .), they are used to give a graphic "picture" of the distributions, and not to give a hidden "a priori" interpretation as contour lines drawn with intervals based upon an exponential scale (e.g. niveaus 4, 6, 7, 7.5 . . .) tend to do.

What is essential is to get a good graphic representation. The number of equidistant contour lines is by experiment chosen from this point of view, and will normally be in the order of size of 10 lines. The experiments have shown that the configuration of the picture is changed so very little by changed interval sizes, that it must be regarded as unimportant.

To me, the use of differing sizes of intervals seems to be a bit like using varying square units during excavation, a phase of research where objective registration and interpretation should be relevant.

2). According to experiments, the smallest items are the ones least often removed when exposed to the traffic on and cleaning of a living floor. Therefore the microliths were chosen as a natural key-factor. The flint waste and some other types also show patterning related to the microlith distributions, and apparently so do the fireplaces.

That the orientation of the entrance had been towards the lake is - as mentioned in my paper from 1983 - indicated by "tongues" of material emerging from the main constructions. Furthermore, what apparently are entrance constructions, oriented against the lake can be seem at both of the Ulkestrup huts.

As is the practice of hunter-gatherers using tents and light construction huts, very often the sides are rolled up or removed when the weather is nice, and thus making it possible for the material to spread in a way not related to the form and size of the dwelling, a direct study of the "construction evidence" by means of distribution analysis is dangerous, especially with the light dwellings from spring, summer, and autumn that are clearly and strongly represented in the material.

As apparently all hunter-gatherers have culture-specific patterns for where a person with a certain status, age and sex had to be seated within a dwelling, this seems to me a more productive basis for distribution analysis.

3). I have consciously avoided a more thorough statistical analysis of the data published. This has been done after discussion with Anders H. Andersen, Institute of Statistics, Århus University. We both found it best to represent the tendencies in the material by means of simple graphic representations, and that the material was not suited for a more thorough statistical analysis. What is important is the differing tendencies. These can be seen from the illustrations. If in a large number of cases such differences exist, this supports the interpretation (that is based on anthropological observations) that different persons were producing/using the same tool types at different positions within the dwelling. If no differing tendencies were observed, this would be against what should be expected from the interpretation.

I think this should finally have clarified my points of view in my discussion with Blankholm, at least with regard to the aspects of it that can be of general interest.

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Announcements

First Iberian Quaternary Meetings

These meetings were held at the University of Lisbon from 2 to 6 September, sponsored jointly by the Grupo de Trabalho Portgues Para o Estudo do Quaternário and the Grupo Español de Trabajo del Cuaternario . Presented papers were grouped under the following topics: glaciation, continental margins, prehistory, palynology, pedology, geomorphology, and anthropology. Almost all of the papers were published prior to the meetings and are available in two volumes from the General Secretary, Dr. Miguel Ramos, Centro de Prehistoria e Arqueologia, Travessa Conde da Ribeira 9, 1300 Lisboa, Portugal. The cost of the volume is 4600 escudos. A third, post-conference volume is in preparation. The next meetings will be held in Santander in 1989.

RECENT PUBLICATIONS

Bahn, Paul G., and C. Couraud. 1984. Azilian pebbles - an unsolved mystery. **Endeavor** 8(4): 156-158.

Bjerck, Hein Bjartmann. 1983. **Kronologisk og geografisk fordeling av mesolitiske element i Vest- og Midt-Norge.** Bergen: Universitetet. Pp. 137; 64 figs. (Chronological and geographic distribution of mesolithic elements in western and central Norway.)

Mesolithic elements are not distributed uniformly in west and central Norway. Early Mesolithic flint axes are scarce in west Norway due to the effects of transgression and a lack of research activity. The predominance of late Mesolithic ground stone axes in west Norway reflects the location of the two major centers of production. Hence, variations in artifact density cannot be interpreted as differences in population density. Analysis of 16 sites (ca. 9500-6000 bp) indicates a gradual change in blade technology which is synchronous for west and central Norway. Three phases in this development are described: (1) "Flintplass"-tradition (Fosna), older than 9500 bp, (2) Early Microblade tradition, 9000-7000 bp, and (3) Late Microblade tradition (Nøstvet), 7000-5200 bp. The Early Microblade tradition coincides with a major transgression and is poorly represented. The two distinct lithic traditions — Fosna and Nøstvet — are the result of a lack of information about the intervening period. (NAA)

Cyrek, K. 1983. Uzyskiwanie i uzytkowanie surowców krzemiennych w mesolicie dorzeczy Wisly i gornej Warty (The obtaining and use of flint in the Mesolithic of the Vistula and Upper Warta basins.) **Prace i Materialy Muzeum Archeologicznego i ethnograficznego w Lodzi. Serie Archeologiczna** 28: 5-108.

The object of this study is to reconstruct the flint economy in the Early Holocene. The materials used here have come from 259 Mesolithic inventories from the basins of the Vistula and Upper Warta. Raw materials used in the production of all artifacts have been identified. This, combined with the detailed technico-typological analysis of compact assemblages and with the use of statistical methods, has allowed the formulation of a number of conclusions of which the most important are:

(1) The flint used in the Mesolithic included the Baltic and the chocolate-colored varieties. Other varieties used locally were: the Jurassic, Swieciechow, cretaceous northeastern, Pomeranian and Mielnik flint. Radiolarite and obsidian were occasionally imported from the trans-Carpathian region.

(2) The distance from the deposits of "better" quality flint and the local basis of raw material played a decisive role in the structure of the material used on a particular site.
(3) Apart from the ubiquitous Baltic flint, the geographical extent of the chocolate flint was wider than that of any other variety. It was particularly preferred by the communities of the Janislawice culture.
(4) The communities of the Kormornica culture were obviously attached to local materials, irrespective of their quality.
(5) Ten provinces of raw material, i.e. areas differing in the set of flint used, have been distinguished.
(6) Cultural tradition was a decisive factor in shaping the morphology of the inventories; it was, however, modified (with respect to the size of the artifacts) by the properties of the flint used.
(7) Some elements of the technique of flint working depended closely on the properties of the flint used.
(8) In the Mesolithic a complicated system of distribution of certain desirable varieties of flint operated; connected with this was the existence of workshop sites.
(9) High elasticity of Mesolithic flint working technique was due to the use of local materials with different technical properties.
(10) In the time span from the Early to Late Mesolithic, two tendencies can be detected: (a) the growing differentiation in the range of materials used and of the techniques of working, and (b) the increase in the intensity of use of the Swieciechów flint.
(11) Assuming the existence of local social groups in the Mesolithic, the following models of obtaining and distributing raw materials (esp. chocolate flint) can be reconstructed: (a) the organization of long distance expeditions in order to accumulate stocks of necessary raw material in the area of its occurrences (model characteristics of the Janislawice culture), and (b) the obtaining of flint by means of direct or indirect barter in the course of inter-group contacts.

Dolitsky, Alexander B. 1985. A critical review of "The Mesolithic" in relation to Siberian Archaeology. **Arctic** 38: 178-187.

This paper explores the potential of the economic-ecological method based on the exploitation of fish resources for Mesolithic site identification, as compared to the recently popular yet indecisive technological-typological method, to predict the existence of "Mesolithic-like" subsistence activities in Siberia during the Sartan-Holocene "transition" period. The article is an attempt to establish, or at least propose, new criteria that can lead to a higher level of understanding of Mesolithic economies in subarctic and arctic regions. Also, decision-making processes that operate to achieve behavioral goals based on efficiency of human beings area suggested. The model, designed with respect to geographical regions identified as interbiotic zones, has the advantage of offering specific alternative

hypotheses enabling the definition of both environmental properties and predicted human behavior.

Escalon de Fonton, Max, & Arlette Lecouatis-DucGoninaz. 1984. Les habitats épipaléolithiques du Mourre-Poussiou à Fos-sur-Mer (Bouches-du-Rhone). **Gallia Prehistoire** 27: 67-95.

Fischer, Anders. 1985. På jagt med stenaldervåben. Lejre, Denmark. Forsøg me fortiden 3. 32 pp. (Hunting with Stone Age Weapons).

A popular description in Danish on a series of experiments dealing with the production and use of flint-tipped arrows and spears. The title of the chapters are as follows: Introduction: Prey and Weapons of the Danish Stone Age. Brommian points - can they actually function as tips on arrows? Use wear of arrow and spear points. The efficiency of flint-tipped arrows. Arms race in the Stone Age. Hunting tales of the Stone Age. Epilogue - return to bow hunting. References. Notes.

Richly illustrated with line drawings and photos - several in color. The publication is distributed from Historical-archaeological Research Center, Slangeallé 2, DK-4320 Lejre, at a price of 29 Danish kroner (ca. $3.00) + mailing costs.

Gob, André, and Marie-Claire Jacques. 1985. A Late Mesolithic dwelling structure at Remouchamps, Belgium. **Journal of Field Archaeology** 12: 163-175.

The settlement of Station LeDuc is located in the eastern part of Belgium in a hilly region on the bank of the Amblève River. The excavations conducted between 1980 and 1983 have revealed the remains of a curvilinear dwelling structure built with river cobbles. The distribution of artifacts and burned macrobotanical remains is not random; rather it is organized with respect to the position of two fireplaces in the dwelling structure. Flint artifacts recovered at the site permit the occupation to be correlated with a late phase of the local Mesolithic.

Hahn, Joachim, & Anne Scheer. 1983. Das Helga-Abri am Hohlenfelsen bei Schelklingen: eine mesolithische und jungpaläolitsche Schichtenfolge. **Archäologisches Korrespondensblatt** 13:19-28.

Günther, K. 1985. Eine Probegrabung auf dem mittelsteinzeitlichen Fundplatz Hoher Kamp bei Bad Lippspringe, Kreis Paderborn. **Ausgrabungen und Funde in Westfalen-Lippe** 2.

Kinnes, Ian. 1984. Microliths and megaliths: monumental origins on the Atlantic fringe. In **The Archaeology of Carrowmore**, by G. Burrenholt, pp. 367-370. Theses and Papers in North-European Archaeology 14. Stockholm.

Larsson, Lars. 1984. Gräberfeld und Siedlungen des Spätmesolithikums bei Skateholm, Südschonen, Schweden. **Archäologisches Korrespondenzblatt** 14: 123-130.

wthwaite, James. 1985. From precocity to involution: the neolithic of Corsica in its West Mediterranean and French contexts. **Oxford Journal of Archaeology** 4: 47-68.

The cultural and economic development of neolithic Corsica falls into two periods. Until the early fourth millennium bc the rate of innovation is rapid and the range of contacts extensive but thereafter involution sets in. This paradox cannot be explained in terms of static geographic factors. The author suggests a possible solution: the island acted as a transmitter of cultural and economic innovations which were in the long run better adapted to other regions of the Mediterranean. The postglacial paucity of terrestrial resources would have stimulated maritime activity and the selective adoption of the pastoral sector at the inception of the Neolithic but the typically late neolithic pattern of mixed-farming villages failed to become established: the exploitation of the mature deciduous forest of the climatic optimum appears to have been more important.

Lubell, D., and M. Jackes. 1985. Mesolithic-Neolithic continuity: evidence from chronology and human biology. **Actas I Reunião do Quaternario Iberico** 2: 113-133.

Noe-Nygaard, Nanna. 1983. The importance of aquatic resources to Mesolithic man at inland sites in Denmark. In **Animals and Archaeology 2**, edited by J. Clutton-Brock & C. Grigson, pp. 124-141. Cambridge, British Archaeological Reports, International Series 183..

The importance of different types of food in the economy of Mesolithic man in the context of habitation patterns and migration systems is a subject which should receive more attention. Understanding the exploitation potential of mammals, fish, birds, and mussels may throw light on the necessity for yearly migration of Mesolithic man in contrast to the possibility of remaining essentially stationary within a certain territory. The feeding habits of Mesolithic man living at inland sites are analyzed with special reference to the aquatic resources. (NAA)

Piperno, M. 1985. Some ^{14}C dates for the palaeoeconomic evidence from the Holocene levels of Uzzo Cave, Sicily. In **Papers in Italian Archaeology IV**, edited by C. Malone and S. Stoddart, pp. 83-86. Oxford: British Archaeological Reports.

Rähle, Wolfgang. 1983. Die Molusken der Grabung Helga-Abri bei Schelklingen mit einer Anmerkung zum Fund einiger mesolithischer Schmuckschnecken. **Archäologisches Korrespondensblatt** 13:29-36.

Società per la Preistoria e Protostoria della Regione Friuli-Venezia Giulia. 1984. **Il Mesolitico sul Carso Triestino**. Quaderno n. 5. Trieste, Italo Svevo.

Table of Contents

A.M. Radmilli. Presentazione
D. Cannarella. Ricordo del prof. Silvio Rutteri
D. Cannarella. La storia delle richerche del mesolitico sul Carson Triestino
G. Cremonesi, C. Meluzzi, C. Pitti, B. Wilkins. Grotta Azzurra: Scavi 1982 (nota preliminare)
G. Cremonesi. I livelli mesolitico della grotta della Tartaruga.
C. Meluzzi, C. Pitti, A.M. Radmilli, B. Wilkins. Il mesolitico nella grotta Lonza
D. Cannarella, C. Pitti. Grotta Caterina: l'orizzonte mesolitico
G. Boschian, C. Pitti. I livelli mesolitici della grotta dell'Edera
E. Montagnari. La grotta VG 4245 di Trebiciano (Trieste)
G. Cremonesi, C. Pitti, A.M. Radmilli. Considerazioni sul mesolitico del Carso Triestino

Straus, L.G. 1985. Stone age prehistory of northern Spain. **Science** 230: 501-507.

Tarli, S.B., and E. Repetto. 1985. Diet, dental features and oral pathology in the Mesolithic samples from Uzzo and Molara Caves (Sicily). In **Papers in Italian Archaeology IV**, edited by C. Malone and S. Stoddart, pp. 87-100. Oxford: British Archaeological Reports.

Tusa, S. 1985. The beginning of farming communities in Sicily: the evidence of Uzzo Cave. In **Papers in Italian Archaeology IV**, edited by C. Malone and S. Stoddart, pp. 61-82. Oxford: British Archaeological Reports.

Vigne, J.D. 1984. Premières données sur le début de l'élevage du mouton, de la chèvre et du porc dans le Sud de la Corse (France). In **Animals in Archaeology**, Vol. 3, edited by C. Grigson and J. Clutton-Brock, pp. 47-65. International Series 202. Oxford: British Archaeological Reports.

Wigforss, Johan, Johannes Lepiksaar, Ingrid U. Olsson, & Tore Påsse. 1983. Bua Västergård — en 8000 år gammal kustboplats. **Arkeologi I Västsverige** 1. Pp. 221, 58 figs. (Bua Västergård — an 8000 year-old coastal dwelling site.)

The Stone Age dwelling site of Bua Västergård, situated some 10 km SSW of the center of Gothenburg, was investigated during 1970 and 1971, prior to land development. The test excavations in 1970 made it clear that the site was unique, both in its stratigraphy and finds. It was one of a group of dwelling sites submerged by the postglacial transgression. In contrast to other such sites, the find layers were covered by postglacial clay. This made it possible to distinguish the layers which contained the submerged finds without admixture of later materials. The postglacial clays also contributed to the preservation of a comparatively large number of animal bones from the site. Major excavations were conducted in 1971.

Artifacts include core axes, lancet microliths, and barbed points. Some burins, knives and scrapers were also found. Cores occur in large quantities and of different types, including a number of micro-blade cores. No handle cores were recovered. For the date of the site, geology and ^{14}C and geology provide the most definitive evidence. Changes in the elevation of the ground surface, sea level, and radiometric dates place the occupation between 7500 and 8100 B.P.

The site was located on an island of approximately 155 hectares which lay in the outer archipelago on the west coast of Sweden. This milieu was abundant in both flora and fauna. Fishing, especially for cod and ling at sea, was important. In addition, fishing in shallower waters was also undertaken. Fishing likely was more important than is indicated in the faunal assemblage. Many different kinds of hunting were carried on,.including seal, sea-birds, various animals common to the shore zone, as well as large forest animals. The latter were surely of importance for both meat and hides. Antler and bone from the deer family were probably valuable as raw materials for various tools, although none were found. [The volume contains very nice drawings for Postglacial mammals, birds, and fish.]

On the basis of the tools, bone finds, the site itself and its location, the assumption has been that this was a base camp for some 25 individuals made up of 4 to 5 families. These individuals lived by hunting, fishing, and gathering, and probably the island where they lived formed their hunting territory. Gathering activities have left no trace except for one hazelnut shell. There is no evidence for shellfish collecting. Seasonal indicators are few and unclear. Given the abundance of the environment, the wide range of food resources available, and the protected nature of the site it is possible that it was inhabited for several seasons in succession and perhaps for the entire year.

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OFF THE WALL

"The Site Hierarchy"

Volunteers	Leap tall buildings in single bounds Are more powerful than locomotives Are faster than speeding bullets Walk on water, give policy to God
Site Assistants	Leap short buildings in a single bound Are more powerful than shunting engines Are just as fast as speeding bullets Walk on water if sea is calm Talk with God
The Finds Assistant	Leaps short buildings with a running start and a favorable wind Is almost as powerful as a shunting engine Is slightly slower than a speeding bullet Walks on water in an indoor swimming pool Talks with God is special request is approved
Palaeobotanists	Barely clear prefabricated buildings Lose tugs of war with locomotives Can fire a speeding bullet Swim well Are occasionally addressed by God
Supervisors	Make high marks on the wall when trying to clear tall buildings Are run over by locomotives Dog paddle Talk to animals
The Director	Runs into buildings Recognizes locomotives two out of three times Is not issued ammunition Can stay afloat with a life jacket Talks to walls
Visiting Specialists	Fall over doorsteps when trying to enter buildings Say "look at the choo choo" Wet themselves with water pistols Play in mud puddles Mumble to themselves
The Cook	Lifts buildings and walks under them Kicks locomotives off the tracks Catches speeding bullets in teeth and eats them Freezes water with a single glance Is God

Posted at the Seamer Carr Project, Yorkshire, England

Sites Mentioned in the Text

1 Ferriter's Cove (Ireland)
2 Brecht-Moordenaarsven (Belgium)
3 Duvensee (West Germany)
4 Bua Västergård (Sweden)
5 Sado Valley (Portugal)

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