

## Notes and News

### Pliocene footprints at Laetolil, Northern Tanzania

PLATE IXb

Since 1975, field work has been carried out for three months each year at Laetolil, a site 43 km south of Olduvai Gorge, in Northern Tanzania.

Fossils from Laetolil have been known for many years, but their age remained uncertain until 1976 when Dr Garniss Curtis of the University of California, Berkeley, dated the fossil-bearing deposits by potassium-argon to the period between 3.75 and 3.59 m.y. They are thus older by 1½ million years than the lowest beds at Olduvai Gorge.

A wide variety of mammalian fauna has been found at Laetolil as well as hominid mandibles and teeth representing 20 individuals. Only one lineage is present and this appears to be extremely primitive, but with affinities to the hominid material from the Hadar in northern Ethiopia.

No stone tools with evidence of utilization have been found, in spite of intensive searching.

During 1976, numbers of fossil footprints were discovered in the bed of a seasonal river, where they had become exposed by natural erosion. They are imprinted on the surface of a fine-grained volcanic ash, approximately 15 cm thick, laid down in thin layers during a series of eruptions from a volcano to the east of the site. This level is 5 m below the volcanic tuff dated 3.59 m.y.

Among the mammalian tracks there is a trail of five prints which appear to be hominid. They are bipedal, short and very broad. The stride is also short, no more than 31 cm, measured from heel to

heel. Two of the prints have been cleared of overlying deposit by natural erosion, but the remaining three are still filled with matrix. The two exposed prints are 15 cm long and so broad that the width is 72 per cent of the length. The right and left feet can be distinguished by the imprint of the big toe (PL. IXb shows the left foot on the left side, followed by the right foot).

The tracks indicate a rolling and probably slow-moving gait, with the hips swivelling at each step, as opposed to the free-striding gait of modern man.

Since it is estimated that the length of the foot represents approximately 15 per cent of body height, this individual would have been no more than 1.20 m or 4 ft tall.

Tracks of elephant, birds, black and white rhinoceros, three species of giraffe, a sabre-tooth cat, hyaena, many small carnivores and a wide variety of antelopes occur at the same site. There is also a trail of six prints which appear to have been made by a fairly large knuckle-walking primate. No remains of such an animal are known in the fossil record, although bones and teeth of all other mammals whose footprints are preserved are present among the fossils.

Although the geological study of the area is still incomplete, it seems likely that the footprints were made by animals travelling to water holes across freshly fallen volcanic ash, and were rapidly covered by succeeding falls, before they were obliterated by wind or rain. MARY LEAKEY

### Medieval pottery research group

The large-scale excavations of recent years, especially those in urban situations, have resulted in a greatly increased corpus of Saxon and medieval pottery. The problem of how to process and then how to present large quantities of stratified pottery in an archaeological report was the subject of a three-day conference held at Knuston

Hall, Northamptonshire in February 1975 and attended by delegates drawn from museums, universities, units, the Department of the Environment as well as individuals from Belgium, Eire, France, Holland, Scotland and Ulster.

The difficulties of interpreting pottery reports because of inadequately defined criteria and an

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absence of quantitative information was highlighted, along with the views of scientists and others currently working on Roman and medieval ceramics. The meeting agreed that the need to reassess traditional handling and publication techniques is now urgent. As a result a working party was set up under the auspices of the Department of the Environment to produce guidelines for pottery researchers involved with post-Roman pottery.

Most of the necessary work has now been completed and drafts discussed at open meetings held at Fortress House in November 1975 and over three days at Horncastle, Lincolnshire in March 1976. Entitled *Medieval pottery, processing and publication*, the guidelines will include chapters on Principles and Practice, Scientific Aids, Data Processing and Publication as well as a Glossary of shapes and terms. The guidelines will be issued by

the Department of the Environment as a volume in the Occasional Papers series of the Directorate of Ancient Monuments and Historic Buildings.

The gatherings held at Knuston Hall and Horncastle were the first two annual conferences of the Medieval Pottery Research Group. At the last meeting delegates also discussed current problems of the archaeology and pottery of the late Saxon period in Eastern England with contributions from Lincoln, Northampton, Norwich and Stamford as well as others dealing with rural sites.

All those who are interested in the Group (annual subscription £1.50) and the annual Bulletin should write to Miss M. Wood (Hon. Treasurer), 69 Devonshire Road, Palmers Green, London N13 4QU, enclosing a stamped addressed envelope.

MICHAEL R. MCCARTHY

## The entrance stones at Knowth, Ireland

PLATES XVI–XVII

The large mound at Knowth (Site 1) is delimited by kerb-stones most of which are decorated and it covers two passage tombs. When the first of these tombs, the Western Tomb, was discovered in 1967 it was noted that the art on the kerb-stone before the entrance differed from that occurring on any of the other exposed kerb-stones (Eogan, 1967). Basically the art consists of a series of lines parallel to each other on the outer face. The four outer members are in the shape of an inverted U. The fifth member in from the edges continues along on the fourth side, the bottom, and almost joins up with the other vertical end. Within this there are two inverted L-shaped members and a straight horizontal line. On the flattish top there are short lines longitudinally placed. But the unusual feature of the decoration is a vertical line down the centre of the stone. This cuts across the main design. The art was formed by pocking but at some points over the unpocked areas there are broad impressions that appear to have been executed by a chisel. The stone is a green grit, it is 3.20 m long, 0.70 m in maximum width and 1.12 m in height (PL. XVIIa).

When the entrance to the second passage tomb in Site 1 was discovered in 1968 the kerb-stone before the entrance was missing (Eogan, 1969). Subsequent work established that this area was a place of intensive Early Christian settlement while underlying it was a ditch that was possibly dug during the earlier part of the 1st millennium AD.

Due to the complex nature of this area it was only at the end of the 1976 season that the basal fill of the ditch was removed. When this was done the missing entrance stone was found lying in the bottom. It very likely fell in shortly after the digging of the ditch. When the stone was removed from the ditch it was found that both the outer face and the top were decorated and of particular interest was the fact that a vertical line was present. This stone is also a green grit. Some flakes were knocked off the back but otherwise the surfaces are natural. The outer surface is uneven and there are natural pits in it and also on the top. The stone is 2.95 m long, 0.81 m in maximum width and 1.16 m in height. The art was formed by pocking (PL. XVIIb, XVII).

Unlike the Western entrance stone the vertical line extends over the top, furthermore it does not cut across a design but forms a dividing line between designs. This stone is, therefore, the more elaborately decorated of the two entrance stones but despite this the art of both is fairly similar. On the outer face of the portion to the left of the line (as one views the stone) there is a circle in the middle. This is surrounded by a more angular gapped member and in turn this is enclosed within an 'irregular' square. Out from this there are five inverted U-shaped designs as well as a shorter member that extends down the side and across part of the bottom. There is also some pocking towards the left-hand corner. To the right of the line there are four inverted U-shaped members, part of

another and also a short horizontal line. This portion of the stone is rough around the centre, this seems to be a natural feature and not due to subsequent damage.

On top, to the left of the line the decoration consists of an incomplete U-shaped design, a concentric circle or spiral, a short line and two small areas of pocking. To the right there are four U-shaped designs.

The presence of a vertical line on both stones may indicate that they served as markers for the entrances. In this connexion it is interesting to note that two of the kerb-stones at Newgrange also have a vertical line (O'Kelly, 1973, Pls. 33, 34). One is the entrance stone before the tomb (No. 1); the other is a kerb-stone directly opposite it on the other side of the mound (No. 52). A few years ago Professor M. J. O'Kelly investigated an area behind No. 52 but no evidence for an entrance to

a tomb came to light. It should also be recalled that one of the kerb-stones of the large Dowth passage tomb also has a vertical line (Leask, 1933, 163, No. 1, Fig. 2). This is on the eastern side, the side opposite the entrances to the opened chambers. It is not known if there is a tomb here. It may also be recalled that one of the kerb-stones (No. 30) of the multiple cist cairn at Lyles Hill, Co. Antrim has a medial band of decoration (Evans, 1953, Fig. 10).  
GEORGE EOGAN

EOGAN, G. 1967. The Knowth (Co. Meath) excavations, *Antiquity*, xli, 302-4.

1969. Excavations at Knowth, Co. Meath, 1968, *Antiquity*, xliii, 8-14.

EVANS, E. E. 1953. *Lyles Hill* (Belfast).

LEASK, H. G. 1933. Inscribed stones recently discovered at Dowth Tumulus, Co. Meath, *Proc. Roy. Ir. Acad.*, 41c, 162-7.

O'KELLY, C. 1973. Passage-grave art in the Boyne valley, *Proc. Prehist. Soc.*, xxxix, 354-82.

## Towards an absolute chronology of certain Saharan rock art PLATE xvB

If truly archaic rock carvings have long been sought in Air, Niger, a recent find of two elephants of 'naturaliste' style, near Touaret (20° 03'N 07° 09'E), still brings us no nearer to determining their date of execution. Set on the same vertical rock wall and unsheltered in any way, it is in such places, as Mori (1974, 87) has stated, that there is little hope of finding a connexion between graffiti belonging to the phase of the Great Wild Animals and datable layers suitable for typological examination or chemico-physical research.

Meanwhile a welter of conflicting theory prevails, due in part, it is felt, to the widely differing experiences of researchers in and around the Air massif. If Lhote (1976) inclines towards a date of 500-600 BC supported by Clark (1973) to the extent that the latter considers increasing desiccation in the Tenere (Tafassasset) after 2000 BC to have caused some of the population to settle in the better-watered highlands (of Air), others favour greater antiquity. Grébénart (1975) particularly mentions some of his own material as being probably far older than the Horse Period. Roset (1971) shows a like tendency, while cautioning against too-hasty interpretation of seemingly ancient portrayals, notably of the giraffe, in itself a puzzle of which the writer is well aware.

Whether or not most Saharan researchers operate according to the criteria of Anati (1976) or Striedter (1976) will clearly affect deductions as to relative

chronology. Yet only avant-garde scientific techniques or reasoning, capable of equating such art with some untried palaeo-ecological facet, may resolve the ultimate conundrum.

Now, in a broader context than that of Air, Gabriel (1976) sets the pace in relation to what should eventually provide results of supreme importance. His so-called 'stone sites' of East Central Sahara—mere flattish piles 0.5 m to 4 m in diameter, up to 0.3 m high and containing charcoal or ash—seem likely to relate to nomadic pastoralists. Numerous rock paintings indicate that the stone sites are probably fireplaces used by these Saharan neolithic cattle-breeders. The author suggests convincingly that further study should yield new possibilities for determining their origin and chronology, as well as those of the Bovidian Period rock art itself.

Their *floruit*, in so far as indicated by 19 radio-carbon dates, seems to have been between 5730 and 5430 BP, the most useful results coming from the NW and SE parts of the total distribution zones, these being around El Golea (30° 43'N 02° 52'E) and Wau en Namus (25° 10'N 17° 35'E) respectively. Around 5400 BP the start of desiccation of the Central Saharan plains (cf. Sutton, 1977) will have caused the inhabitants to retire into marginal or mountain regions.

If it be still impossible to date the Touaret elephants—the most southerly carvings of this

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style yet known (P. Huard, pers. comm.)—the writer feels bound to call attention to one further area. In NW Sahara cases have occurred of a single engraved menhir, in the centre of a line of lesser standing stones, placed to E or SE of a tumulus containing human remains (Azcarate, 1943). While all excavations of such monuments are believed to have taken place before the advent of radiocarbon techniques, surely it is now time to seek out further examples. Or even to re-excavate.

- ANATI, E. 1976. *Metodi di Rilevamento e di Analisi dell'Arte rupestre* (Capo di Ponte).
- AZCÁRATE RISTORI, T. DE. 1943. Nomadizando (Apuntes sobre cuestiones arqueológicas), *Revista africana*, xv, 28–30.
- CLARK, J. D. 1973. The Tenerian Neolithic, *Quaternaria*, xviii, 282–97.
- GABRIEL, B. 1973. Steinplätze: Feuerstellen neolithischer Nomaden in der Sahara, *Libyca*, xxi, 151–68.
1976. Neolithische Steinplätze und Palaeoökologie in den Ebenen der Ostlichen Zentral-Sahara, in (ed.), E. M. Van Zinderen Bakker, *Palaeoecology of Africa, the surrounding islands and Antarctica*, ix, 25–40.
- GRÉBÉNART, D. 1975. Compte rendu Mission de Recherches Préhistoriques dans l'Aïr—Niger, Janvier/Février, Université de Provence—Centre d'Aix, MSS 1–16.

When a recumbent pillar-like stone bears rock art, this is likely to be positioned apparently at random: and certainly not the right way up, should the pillar be later erected as a menhir. It follows that one or more carvings on a menhir erected beside a tumulus have probably been executed as part of the funerary embellishment and should be contemporary with the tumulus and its contents.

MARK MILBURN

- HUARD, P. and M. MILBURN. (Forthcoming). Nouvelles stations rupestres des confins Nigero-Algériens (*Bull. de d'Ifan, Dakar*).
- LHOTE, H. 1976. *Vers d'autres Tassilis* (Paris).
- MORI, F. 1974. The earliest Saharan rock-engravings, *Antiquity*, XLVIII, 87–92.
- ROSET, J.-P. 1971. Art rupestre en Aïr, *Archéologia*, XXXIX, 24–31.
- STRIEDTER, K. H. 1976. Zeichentheoretische Aspekte der Felsbilder Nordafrikas, *Paideuma*, xxii, 11–52.
- SUTTON, J. E. G. 1977. The African aqualithic, *Antiquity*, LI, 25–34.

## Paleonematology: some recent evidence from neolithic Bulgaria

PLATE XIX

*The purpose of this note, by D. Webley, Ministry of Agriculture Research Station, Bangor, and R. W. Dennell, Department of Prehistory and Archaeology, University of Sheffield, is to bring to the attention of archaeologists the value of nematode remains as a source of evidence for assessing ancient crop agriculture.*

Nematodes belong to the family *Heteroderidae*, and are parasites which spend part of their life cycle within the roots of plants. They initially hatch as larvae from eggs which are found within small (less than 1 mm in diameter), brown, round or lemon-shaped cysts in the soil. The larvae move from the soil and invade plant roots, feed on plant nutrients and mature into worm-like creatures. When adult, the female protrudes from the root it inhabits, swells into the cyst form, and is fertilized by the male. The eggs develop within the female whose skin thickens and turns brown. On the death of the female it drops into the soil, with the fully developed eggs still retained in the skin—i.e., the cyst. The larvae hatch from the eggs, escape from the cyst (the dead female) and repeat the cycle by invading other plant roots.

Nematodes are of interest to the archaeologist for three reasons. First, many species are parasitic upon specific crops, and so it is not difficult in most cases to identify the crop which was their host. Secondly, as nematode populations can reach very high levels (figures of 1–2 cysts per gram of soil are common) if a crop is grown too often on the same land, they can cause crop yields to decline or even fail. Consequently, the abundance of nematodes in an archaeological context can provide an approximate indication of the intensity of the prevailing crop cultivation. Thirdly, like pollen, nematode cysts can survive in a recognizable form for a long time.

Remains of nematode cysts were commonly found in the organic debris recovered by froth flotation (Jarman, Legge and Charles, 1972) from the neolithic settlement of Chevdar in West Bulgaria. The site is a small tell which was occupied in the late sixth and early fifth millennium bc. Emmer, six-row barley and vetch were each grown as separate crops (Dennell, 1976); flax was also present but not deliberately cultivated (Dennell, 1974). The main animal resources were

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sheep, goat, cattle, pig and red deer; dog and cat were also present (Dennell, 1977).

The nematodes were identified as either *Heterodera hordealis* and/or *Heterodera avenae* (strain 3): both parasitize wheat and barley and can cause crop failures. Although nematode cysts have been previously recorded in Anglo-Saxon (Webley, 1974), Roman (Webley, unpublished), and iron age (Davidson and Curtis, 1973) contexts, these specimens are by far the oldest yet found, and demonstrate that cysts can survive in a recognizable form for 7–8,000 years. Microphotographs show that the vaginal slit (9 $\mu$  long) crossing the bridge separating the two fenestra of the female reproductive organ is still clear and intact. Since cysts are normally found in the soil of infested fields, the inhabitants probably brought these specimens onto the settlement by accident in infested soil which was either used for building purposes, or, more likely, attached to footwear or agricultural implements such as digging sticks. Even today, nematode-free land is most commonly infected by chance contamination from farm machinery.

The type and abundance of these specimens suggest that the main cereal crops had been infested, most probably as a result of over-cropping of the arable land. The suggestion finds some support when the local surroundings and duration of the settlement are considered. The only readily available arable land at Chevdar would have comprised a small semicircular amphitheatre of soil, a few hundred acres in area totally enclosed by a ridge of low hills and the river Toplnica (Dennell and Webley, 1975). Because arable land was so restricted, the inhabitants would have had little opportunity to rest the arable land by extensive fallows, or by taking other areas into cultivation. One of the reasons why the settlement was abandoned after a relatively brief occupation may well have been that crop yields declined to uneconomic levels through parasitic infestations.

It is of interest to note that no nematodes were

found after a thorough search of the organic debris from Kazanluk, 100 km east of Chevdar. Although Kazanluk relied upon the same resources as Chevdar (Dennell, 1977), it developed into a much larger settlement, and was occupied for a longer period, from the Early Neolithic to the end of the Eneolithic. The absence of nematodes at Kazanluk may indicate that the inhabitants, unlike those of Chevdar, were able to prevent parasitic infestations, since the settlement lies in a broad valley where there are greater opportunities for allowing land to rest for longer intervals between crops, by fallowing or exploiting fresh areas of arable land. At present, it is relatively easy to obtain data on the *type* of crop agriculture associated with a prehistoric settlement, but considerably more difficult to gauge the *intensity* of cropping. Nematode remains provide one useful source of information on this topic. In our opinion, their value is best realized when they are considered in relation to other types of evidence—particularly, botanical data on the type of crops, settlement evidence on the duration and continuity of occupation, and local studies on the location and agricultural potential of a settlement's environs.

D. WEBLEY and R. W. DENNELL

- DAVIDSON, J. and C. J. CURTIS. 1973. An Iron Age site on the land of the Plant Breeding Institute, Trumpington, *Proc. Camb. Ant. Soc.*, LXIV, 1–14.
- DENNELL, R. W. 1974. Neolithic flax in Bulgaria, *Antiquity*, XLVIII, 220–2.
1976. The economic importance of plant resources represented on archaeological sites, *J. Arch. Sci.* III, 229–47.
1977. Neolithic and bronze age economies in Bulgaria, Unpubl. Ph.D. dissertation: University of Cambridge.
- DENNELL, R. W. and D. WEBLEY. 1975. Prehistoric settlement and land use in southern Bulgaria, in (ed.), E. S. Higgs, *Palaeoeconomy*, 97–108 (Cambridge).
- JARMAN, H. N., A. J. LEGGE and J. A. CHARLES. 1972. Retrieval of plant remains from archaeological sites by froth flotation, in (ed.), E. S. Higgs, *Papers in economic prehistory*, 39–48 (Cambridge).
- WEBLEY, D. 1974. An early record of *Heterodera humuli* in the United Kingdom, *Nematologica*, xx, 262.

## Aerial reconnaissance: recent results, 45

PLATE XX

The photographs that have prompted this note were taken in a dry spell of weather in August 1970. They show (PL. XX) a group of barrows, remarkable both for the very number that are visible—over 200 may be distinguished within the limits of the plate—and for the fact that each burial

is surrounded by a ditch in the form of a square, instead of the circle so common to barrows in southern Britain.

The existence of square barrows on the Yorkshire Wolds has long been known: a number were explored in the nineteenth century, before the

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advent of scientific excavation: comparatively few are now visible as earthworks. One of the largest groups is that named the Danes' Graves (TA 018632), on Driffild Wold, now largely within Nafferton parish, where not inconsiderable earthworks survived at the time of the first mapping of the district by Ordnance Surveyors, though much less is visible today. The number of graves has been estimated at over 500. However, it is aerial photography more than any other factor that is leading to a better appreciation of the distribution-pattern of square barrows than has been possible hitherto. The main areas of concentration lie in and around the shallow valley of the Gypsy Race, especially in the neighbourhood of Rudston and of Burton Fleming. Thus, there are large groups of such barrows to E of Burton Fleming (c. TA 104720), to N of Rudston (TA 096694), on Grindale Field (TA 154713), while the Danes' Graves already mentioned lie only 9 km to the SW (TA 018632). Other important groups are at Arras (SE 930413) and at Garton-Wetwang (c. SE 953600), known from excavations in 1815-17 and in 1965 and subsequent years respectively, but no traces of these are ordinarily visible from the air. The sites, which are mainly on chalk gravel, having only a thin covering of plough soil, are particularly prone to damage by ploughing. The distribution\* shows a marked preference for land at about 60 m above Ordnance Datum: the higher ground towards the W margin of the Wolds seems to have been largely avoided, and there are only a few not very large groups by the N margin. Dr I. M. Stead, who has been studying these barrows for some years, has shown that the majority fall within the last two centuries BC (Stead, 1965 and 1976): they closely match the square enclosures known to occur in some numbers in Champagne in La Tène contexts. The Yorkshire barrows are commonly linked with the Parisi.

Scattered groups of square barrows have been recognized on the central and southern Wolds, and outside the Wolds, particularly in the Vale of Pickering, where, for example, a group of 32 occurs near Slingsby (SE 707246). At Slingsby, besides the square barrows, there are marks which seem to be closely spaced graves that have never

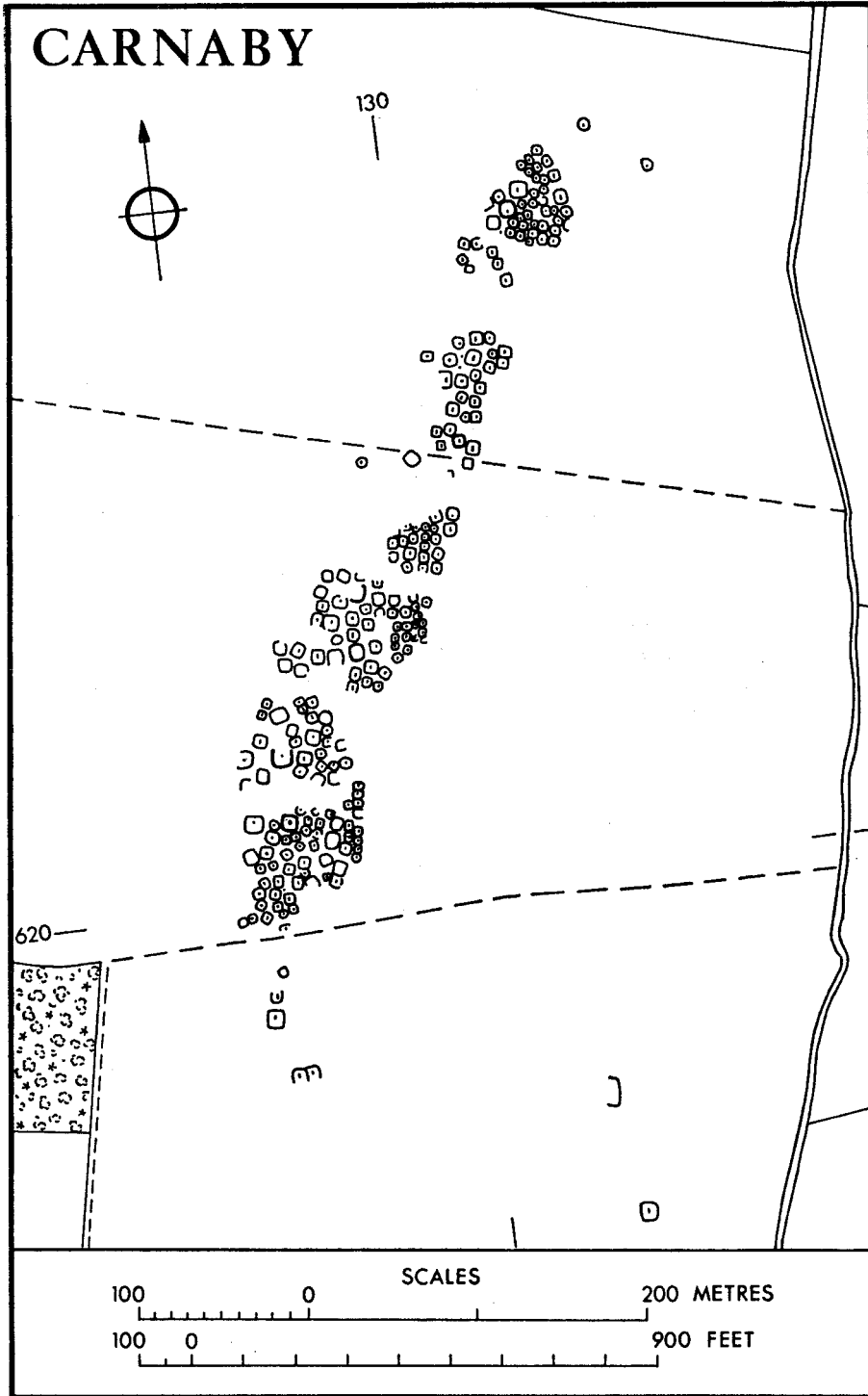
been surrounded by a ditch. Some are aligned E-W, some N-S. About half the barrows here lie between two parallel lines of ditch, extending roughly E-W. These ditches have evidently been recut or realigned, several times. One of them turns into a pit-alignment. Excavation here might reveal an unusually interesting sequence. Square enclosures which seem to be of the same character are found further afield on river gravels of the Trent and Ouse, but until evidence of graves is forthcoming, caution is necessary in identifying such enclosures as barrows: other explanations are possible. In Scotland, closely similar square enclosures have recently been noted near Forteviot, in Perthshire, and in the valley of the Lunan Water (Angus); within some of these, there are marks strongly suggestive of graves.

PL. XX shows a remarkable group of these barrows recorded in the course of reconnaissance in 1970. The group lies just outside the east margin of the Wolds, at the S end of Carnaby parish, and thus some 8 km S of the main concentration. The precise site is a low gravel ridge (centre at TA 130623), about 10 m above Ordnance Datum. The barrows are clustered together (FIG. 1) on the crest of the ridge where the crop is slightly darker in tone than elsewhere in the field. Both ditches and graves are visible since the crop growing over them is lighter coloured than the normal growth on the ridge. Away from the crest, the crop has largely turned colour and no such distinction occurs: how much further the burial-ground may have extended on either side it is thus impossible to say. The visible remains may be only a small part of the burial area, and what is true of one burial-ground may be true of the whole pattern: that Holderness is at present a blank on distribution-maps may reflect lack of knowledge rather than of barrows. The low ground E of the Wolds is largely composed of glacial deposits which overlie and mask the chalk. Any land slightly higher than the rest, like gravel 'islands' surrounded by clay, invites special scrutiny.

Detailed study of the barrows in FIG. 1 shows there to be a few squares appreciably larger than the average. In the neighbourhood of these are clustered a considerable number of small squares of less than half their size. This is seen most clearly in both the southern and the northern groups in the Figure. Elsewhere, along the ridge, there is a preponderance of barrows of middle size. The matter deserves further study, both here and in other large

\* Full details will be given in the forthcoming *Inventory* of the Royal Commission on Historical Monuments (England) on prehistoric and Roman remains in the East Riding.

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*Fig. 1. Sketch-plan of cropmarks showing square barrows near Carnaby, Yorkshire ER*

groups of these barrows. The possibility of determining the general sequence, namely, which parts of the burial-ground were filled first, would be interesting indeed (cf. Stead, 1976, Figs. 2-3). Only occasionally do the cropmarks enable the alignment of the graves to be appreciated, but a number seem to be set N-S. As to the contents of the graves, the degree of preservation can only be determined by excavation: much will depend upon the effect of the ground-water, here probably somewhat acid, in contrast to the alkaline surface water of the chalk. Granted reasonable preservation, excavation may reveal both grave-goods and osteological remains of an entire cemetery.

There are some 220 barrows in FIG. 1. How many more graves the burial-ground comprised cannot be estimated. A number of faint, elongated marks around the edge of the group may be graves, their enclosing ditches having been reduced

by ploughing, or they may be quite incidental disturbances. However, whether only 220 graves, or even twice that number, this cannot represent the burial place of a community of any size over a very long period. At 3 or 4 deaths a year, these burial-grounds will have served for barely a century. Were all adults buried in this fashion? Of what size were the communities? Where are their settlements to be sought? Such questions, vital to an understanding of the structure of iron age communities, make a fitting end to this note.\*

J. K. ST JOSEPH

\* For particulars of some of the sites here mentioned, I am grateful to Mr R. P. Whimster who is preparing a detailed study of the distribution and characteristics of square barrows.

STEAD, I. M. 1965. *La Tène cultures of Eastern Yorkshire*. 1976. *La Tène burials between Burton Fleming and Rudston, North Humberside*, *Antiq. J.*, LVI, 217-26.

## The Cambridge M.Phil. degree in archaeology

A one-year course in archaeology leading to the degree of Master of Philosophy will be established with effect from 1 October 1978. The special regulations will be as follows:

- (a) a thesis, of not more than 10,000 words in length (inclusive) on an approved topic; and
- (b) three written papers as follows:
  - (i) The principles of archaeology
  - (ii) The practice of archaeology
  - (iii) Aspects of Old World archaeology

Paper (iii) will include the following sections, from which every candidate, subject to the approval of the Degree Committee, shall select one, on which he will be required to answer three questions:

- (a) Palaeolithic archaeology
- (b) Origins and early development of agriculture and stock breeding
- (c) Mesopotamian archaeology
- (d) South Asian archaeology

- (e) African archaeology
- (f) Later European prehistory
- (g) The archaeology of early historic Europe

Finally, a practical examination designed to test the candidate's powers of understanding evidence from survey and fieldwork, and of recognizing and describing archaeological material related to the section of paper (iii) selected by him.

The examination shall include, at the discretion of the examiners, an oral examination upon the thesis and written papers.

The syllabus of the course of study is set out in more detailed form in the *Cambridge University Reporter*, Vol. CVIII, No. 8 for 23 November 1977, copies of which are obtainable on application to *The Registry, The Old Schools, University of Cambridge, Cambridge*.

## An early Norwegian lyre from Røldal, Hordaland (Norway) PLATE XVIIIb

The surfaces of four panels of timber from the Norwegian *stavkirke* at Røldal, now preserved and exhibited in the Historical Museum, Bergen, constitute the fragmentary remains of pictorial wall-paintings from the interior of the early medieval church. These painted scenes, which date from approximately AD 1100,\* are of uncertain iconography because of their incomplete con-

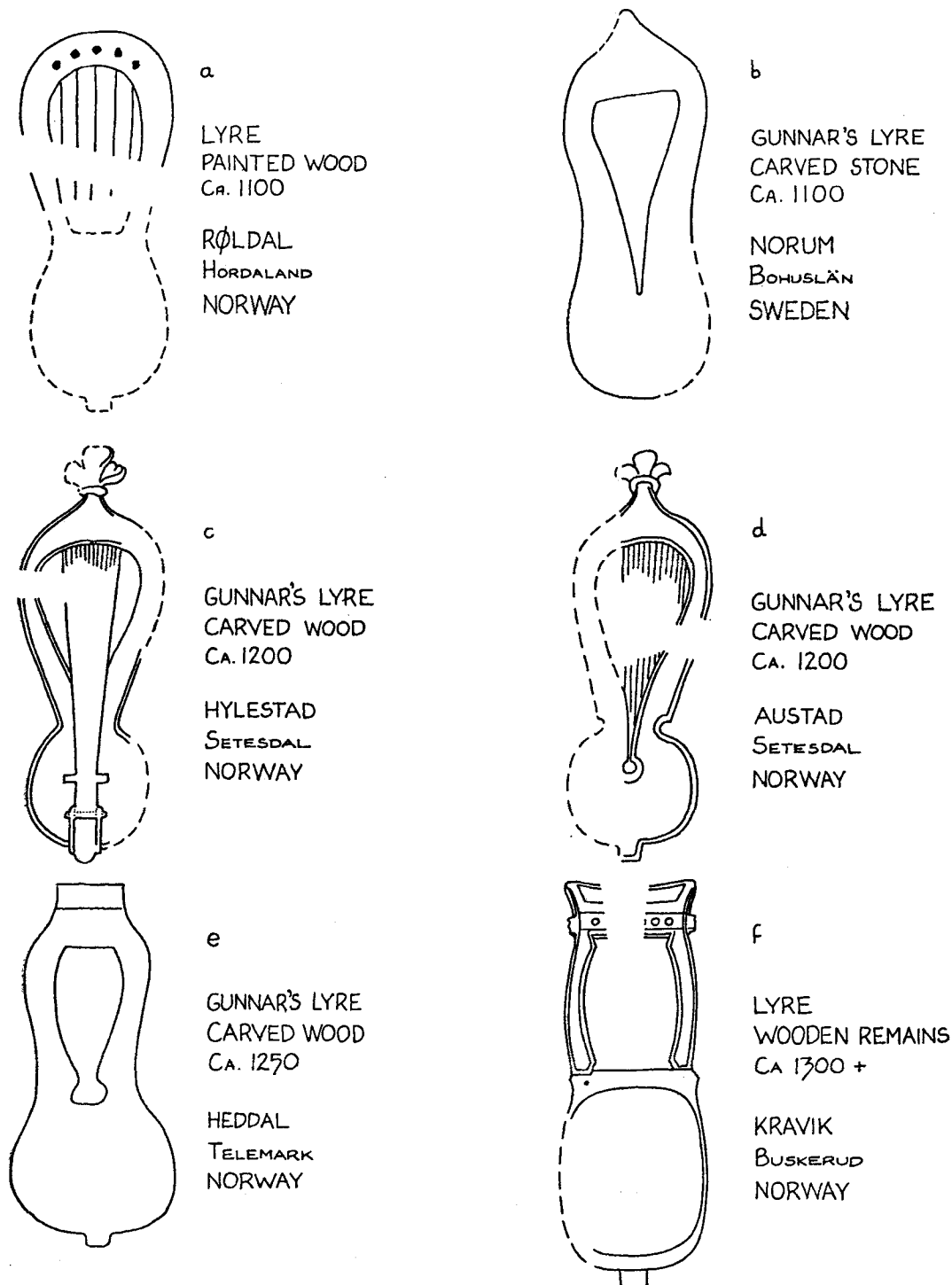
dition, but they clearly depict a number of standing figures. Two of these, although truncated at both knees and waists, seem to represent a musical scene, with the clearer of the two holding a five-stringed *round-lyre* and what may be a bow.

The identity of the performer, who wears a

\* Information kindly supplied by the Historical Museum, the University of Bergen, Norway.

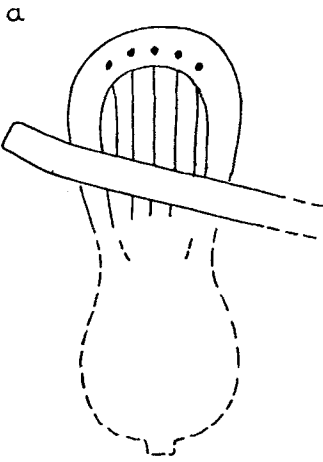


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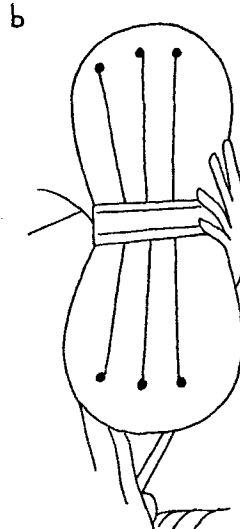


*Fig. 1. Early Scandinavian lyres, from Norway and Western Sweden. (The carved timber portals from Hylestad and Austad, Setesdal, c and d, are preserved in the Universitetet Oldsaksamling, Oslo)*

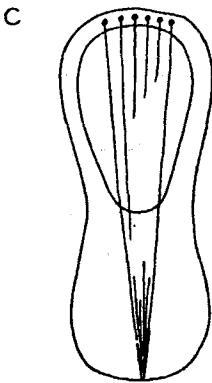
## ANTIQUITY



WALL-PAINTING: CIRCA 1100  
RØLDAL, NORWAY.



WALL-PAINTING: 12<sup>TH</sup> C  
AAL, JUTLAND, DENMARK.



MANUSCRIPT: 11<sup>TH</sup> C  
MUNICH, BAYERISCHE STAATS-  
BIBLIOTHEK MS CLM 7355 f5r



MANUSCRIPT: 11<sup>TH</sup> C  
KLOSTERNEUBURG BEI WIEN,  
STIFTSMUSEUM MS 987 f11r

*Fig. 2. Early European lyres, as shown in the art of the eleventh and twelfth centuries*

plain red knee-length tunic, is not yet known. His instrument has a plain white surface outlined in black, and is held in an inverted position with only the superstructure and none of the resonator surviv-

ing (PL. xviii**b**). This superstructure takes the form of a smoothly rounded arch some 18.5 cm across, tapering inwards towards a 'waist', and bears a row of small black dots representing five tuning-pegs,

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each of which is evidently to be associated with one of the five parallel strings. A light green bar is depicted horizontally across the strings somewhat below the widest point of the arch, and might be identified as the crude representation of a bow, although it is apparently hairless and rather more distant from the bridge than one would normally expect. Apart from this there is in fact little indication, in the absence of any hands (or feet\*) in the appropriate places, that the instrument is in process of being either tuned or played.

The significance of this instrument is readily apparent. First, the form of its superstructure, though of the usual inverted pear-shape, is quite unique in the rounded simplicity of its design (FIG. 1a). The least exotically decorated of known medieval lyre-depictions in northern Scandinavia are otherwise those of the Norum and Heddal instruments of c. AD 1100 and 1250 respectively, † which both, even so, possess some of the peculiar embellishments of the others (FIG. 1b–f). The Røldal scene is, moreover, the first stringed-musical scene unrelated to the tale of Gunnar to have come to light, and it may well be that the mundane form of its instrument is that of the *real* Norwegian lyre, freed from the requirements of specifically illustrating the anomalies in the story of *Gunnar i Ormegården*, Gunnar in the Snake Pit. ‡ The crowned and pointed arches (and other numerous curiosities perhaps) that have until now been frequently taken to be characteristic of early medieval Norwegian and Swedish lyres may now be seen in a somewhat different perspective. §

### A new date for Goat's Hole Cave

*The following note discusses a new date for the earlier Upper Palaeolithic of Goat's Hole Cave, Paviland, Gower Peninsula, Wales. It is written by Miss Theya Molleson of the Sub-Department of Anthropology British Museum (Natural History), London SW7 5BD, and Mr Richard Burleigh, Research Laboratory, The British Museum, London WC1B 3DG.*

Goat's Hole, Paviland, a cave in the limestone cliffs of the Bristol Channel some 10 m above the present high water mark, was first excavated by John Traherne, L. W. Dillwyn and Miss Jane Talbot between December 1822 and January 1823. William Buckland, then Professor of Geology at the University of Oxford, joined them on 18 January and it was he who found part of a human skeleton lying in an extended position beneath a

The implications of this for Scandinavian stringed instrument organology are considerable, particularly with regard to the later Viking and early medieval periods (c. mid-tenth to mid-thirteenth centuries). It means that the common lyre in Norway could indeed have been a fairly conventional European round-lyre, with a small number of strings (five or six), and perhaps bowed, just as elsewhere (FIG. 2a). Since Scandinavia in the post-Roman Iron Age and early Viking period had been in close economic and cultural contact with the rest of Europe, the existence of conformity in the North to such a general European tradition would not be unduly surprising.

GRAEME LAWSON

*Acknowledgement:* My photograph of the Røldal lyre is published by courtesy of the Historical Museum of the University of Bergen, Norway.

\* For the details of Gunnar's story, see Odd Nordland 'Ormegården' in *Viking* 13 (1949).

† The stone font from Norum, Bohuslän, is preserved in the Statens Historiska Museum, Stockholm; the carved wooden bench from Heddal, Telemark, is preserved in the Norsk Folkemuseum, Bygdøy, Oslo.

‡ For a recent discussion of the iconography of Gunnar, see Anne Holtsmark and Martin Blindheim, *Sigurds Saga i middelalderens billedkunst* (Oslo Universitetets Oldsaksamling 1973).

§ The exact archaeological and chronological significance of the Kravik instrument (Fig. 1f) has yet to be determined: its remains are housed in the musical instrument collection of the Norsk Folkemuseum, Bygdøy, Oslo.

shallow covering of 15 cm of earth. The skull, vertebrae and most of the right side of the skeleton were missing but the remaining parts appear to have been undisturbed. The surviving bones were stained superficially a dark brick-red colour with ruddle and associated with them were a number of similarly stained ivory rods and fragments of an ivory armlet ring. The skull of a mammoth was also found in apparent association with the human remains. Buckland inferred from the associated finds and the comparatively slender appearance of the bones that the skeleton was that of a female and so it became known as the 'Red Lady' of Paviland (Buckland, 1823; North, 1942). Buckland's creationist beliefs did not, however, allow him to ascribe any great antiquity to the remains which are now

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recognized as those of a ceremonial Upper Palaeolithic burial, probably of a young male about 25.

In 1912, with the assistance of the Abbé Breuil, W. J. Sollas, also Professor of Geology at Oxford, cut a transverse section across the floor of the cave, 9 m from the entrance and 2.4 m in depth. He found an implement-bearing deposit, a reddish-brown earth crowded with angular and rounded fragments of limestone, which extended down to a depth of from 1.2 m to 1.5 m and had been much disturbed. He noted that the sea, which occasionally dashes into the cave during storms, had destroyed the section left by Buckland, reworking or removing much of the original deposit (Sollas, 1913). Sollas completely excavated the remainder of the cave, finding a few more human bones (not belonging to the skeleton found by Buckland) as well as some 700–800 flint and chert tools which remain today the most important collection of earlier Upper Palaeolithic artifacts known from Britain.

Sollas's excavations, like Buckland's, failed to reveal the existence of any stratification in the deposits so that the extent of the occupation of the cave can only be inferred from an analysis of the tool typology. Mousterian, Early, Middle and Upper Aurignacian, Proto-Solutrean, and much later Creswellian industries are all represented (see Garrod, 1926; Grimes, 1951; Sollas, 1913). McBurney (1965) likened the coarse steep-scrapers, plano-convex spearheads and wide blades from Goat's Hole to the collection from Ilsen Höhle near Leipzig, dated on palaeobotanical evidence to about 30,000 bp. More recently, Mellars (1974) has discussed the continental affinities of British early Upper Palaeolithic industries in similar chronological terms based on direct radiocarbon dating evidence.

The faunal remains that were found in Goat's Hole are characteristic of the later Pleistocene when the climate was cold and dry, producing tundra and steppe conditions and thus encouraging grazing animals such as reindeer and horse. Apart from *Vulpes*, *Meles* and *Sus*, which were probably recent intrusions, there were abundant remains of *Equus caballus* and *Ursus spelaeus* (which is more likely to be *U. arctos*; Kurtén, 1969). *Bos primigenius* was common as were *Coelodonta antiquitatis* and *Rangifer tarandus*. *Megaloceros giganteus* and *Canis lupus* were present but not common while *Mammuthus primigenius* was rare.

The disturbed and unstratified nature of the deposits in the cave meant that it was not possible to decide to which of the Upper Palaeolithic cultures the human skeleton should be attributed. Accordingly, while preparing the *Catalogue of fossil hominids* for publication by the British Museum (Natural History), Kenneth Oakley arranged to have a sample of bone from the Paviland skeleton dated directly by radiocarbon at the British Museum in Bloomsbury. The resulting date of  $18,460 \pm 340$  bp obtained from collagen separated from leg bones (BM-374; Oakley, 1968) pinpoints the burial to about the time of the Last Glacial maximum when according to geological evidence (Bowen, 1970) the glacier ice was only about 6 km north of Paviland. John (1971) has proposed a slightly different position for the ice margin of the South Wales coastal belt as a whole at this time but on either interpretation Goat's Hole would still have remained accessible, at the very least in summer. Indeed, eustatic lowering of the sea-level must have rendered physical access to the cave easier than it is today.

Another date of  $18,000 + 1400 - 1200$  bp (Birm-146) on collagen from a mammoth carpal bone from Ffynnon Beuno cave, Tremeirchion, Clywd, which also contained Aurignacian and Proto-Solutrean artifacts (Rowlands, 1971), would seem to provide further evidence for the supposition that these industries continued in Britain long after they had been superseded in France and elsewhere. Van Nederveelde *et al.* (1973) have warned, however, that the archaeological value of this radiocarbon date is limited since the precise stratigraphic position of the bone is not known; it came from a collection held locally since 1885.

One of us has argued elsewhere (Molleson, 1976) that the date on the skeleton from Paviland does not necessarily date the occupation of the cave. In an attempt to verify this, a humerus of *Bos primigenius* was obtained from the small Sollas Collection held at the National Museum of Wales and submitted to the British Museum Research Laboratory for radiocarbon dating. The result obtained using collagen separated from this bone was  $27,600 \pm 1300$  bp (BM-1367). This date compares closely with the dates for the earlier Upper Palaeolithic from Kent's Cavern discussed by Davidson (1974) and is much easier to reconcile with that part of the stone tool collection from Goat's Hole which appears to be typologically early.

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Site	Sample	Date yr bp ( $t_{\frac{1}{2}} = 5570$ yr)	Lab. no.	Comment
Ffynnon Beuno, Vale of Clwyd	<i>Mammuthus primigenius</i> (carpal)	18,000 + 1400 - 1200	Birm-146.	association with industries questioned
Paviland, Gower	<i>Homo sapiens</i> (lower limb bones)	18,460 ± 340	BM-374.	dates the burial
Ogof-yr-Ychen, Caldey Island	<i>Coelodonta antiquitatis</i> (scapula)	22,350 ± 620	Birm-340.	30 cm below scraper of Creswellian type
Paviland, Gower	<i>Bos primigenius</i> (humerus)	27,600 ± 1300	BM-1367.	provides a date for occupation of the cave
Kent's Cavern, Devon	<i>Coelodonta antiquitatis</i> (tibia)	28,160 ± 435	GrN-6201.	associated with unifacial leaf point (Campbell and Sampson, 1971)
Kent's Cavern, Devon	<i>Ursus arctos</i> (humerus)	28,720 ± 450	GrN-6202.	associated with bifacial leaf point

Table 1

*Selected radiocarbon dates for the Earlier Upper Palaeolithic in Britain*

In summary, the evidence now points to a late use of Goat's Hole as a burial site, probably after it had ceased to be an occupation site (Molleson, 1977). Most of the stone tools would belong to the earlier period of occupation spanning an unknown time before and after about 28,000 bp, perhaps as much as 10,000 radiocarbon years earlier than the burial itself. The evidence for Paviland Man's own culture must rest on the style of the artifacts found with the skeleton and on the nature of the burial with its seemingly accompanying *Mammuthus*

skull. There is just one shred of evidence that Creswellian man already occupied Caldey Island, some 30 km from Paviland, by about 22,000 bp (Birm-340; van Nederveelde *et al.*, 1973).

*Acknowledgements:* We would like to offer grateful thanks to Stephen Green and the National Museum of Wales for allowing part of one of the few remaining animal bones from Paviland to be destroyed for radiocarbon dating. We would also like to thank D. Q. Bowen, B. S. John, K. P. Oakley and C. Turner for discussion and help.

- BOWEN, D. Q. 1970. The palaeoenvironment of the 'Red Lady' of Paviland, *Antiquity*, XLIV, 134-6.
- BUCKLAND, W. 1823. *Reliquiae Diluvianae*, 82-98 (London).
- CAMPBELL, J. B. and C. G. SAMPSON. 1971. A new analysis of Kent's Cavern, Devonshire, England, *University of Oregon Anthropology Paper*, No. III, 1-40.
- DAVIDSON, I. 1974. Radiocarbon dates for the Spanish Solutrean, *Antiquity*, XLVIII, 63-5.
- GARROD, D. A. E. 1926. *The Upper Palaeolithic Age in Britain*, 49-64 (Oxford).
- GRIMES, W. F. 1951. *The prehistory of Wales* 136, 233, Fig. 45 (Cardiff).
- JOHN, B. S. 1971. The 'Red Lady' of Paviland: a comment, *Antiquity*, XLV, 141-4.
- KURTÉN, B. 1969. Cave bears, *Studies in Speleology*, II (1), 13-24.
- MCBURNIE, C. B. M. 1965. The old stone age in Wales, in (eds.), I. Ll. Foster and Glyn Daniel, *Prehistoric and Early Wales*, 17-34 (London).
- MELLARS, P. A. 1974. The palaeolithic and mesolithic, in (ed.), Colin Renfrew, *British Prehistory: a new outline*, 65-70 (London).
- MOLLESON, T. 1976. Remains of pleistocene man in Paviland and Pontnewydd caves, Wales, *Transactions of the British Cave Research Association*, III (2), 112-16.
1977. Skeletal remains of man in the British Quaternary, in (ed.), F. W. Shotton, *British Quaternary Studies: recent advances*, 83-92 (Oxford).
- NEDERVELDE, J. van, M. DAVIES and B. S. JOHN. 1973. Radiocarbon dating from Ogof-yr-Ychen, a new pleistocene site in West Wales, *Nature*, CCXLV, 453-4.
- NORTH, F. J. 1942. Paviland cave, the 'Red Lady', the deluge, and William Buckland, *Annals of Science*, V, 91-128.
- OAKLEY, K. P. 1968. The date of the 'Red Lady' of Paviland, *Antiquity*, XLII, 306-7.
- ROWLANDS, B. M. 1971. Radiocarbon evidence of the age of an Irish Sea glaciation in the Vale of Clywd, *Nature Physical Science*, CCXXX, 9.
- SOLLAS, W. J. 1913. Paviland Cave: an Aurignacian station in Wales, *J. Roy. Anth. Inst.*, XLIII, 325-74.

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### Home-baking in Roman Italy: a footnote

In her recent article on home-baking in Roman Italy, Dr Joan Frayn discussed the baking of bread and cakes on the hearth, under a cover known to Cato and other classical writers as a *testu* or *testum*: 'an earthenware crock which was placed over the food . . . in the manner of the "chicken-brick" sometimes used nowadays' (Frayn 1978, 29–30). There can be no doubt that the vessel was a cover, for Cato (*De Agri Cultura*, chs. 74 and 75) twice used the words *sub testu*. An alternative method of baking on the hearth was to place the loaf on leaves or a broken tile (*tegula quassa* is the phrase used by Ovid, *Fasti* VI, 316). In both cases, the bread was baked by covering it with embers from the fire.

Both methods belong to a long tradition in rural Italy of baking bread and cakes on the hearth. Cato's *testu* or *testum* can hardly be other than a forerunner of the *testi* documented in parts of Liguria and Emilia-Romagna from the thirteenth century to the present day. *Testi* are flat-topped covers with a sloping side and at least one handle (FIG. 1, nos. 1–3). They have a coarse fabric and were formed by hand or turned on a slow wheel. The earliest example from an archaeological context recorded by Professor Tiziano Mannoni, who has made a detailed study of the subject, belongs to the fifteenth century (Mannoni, 1965; 1970, 304; 1975, 34). However, Mannoni also notes that they were mentioned by the thirteenth-century Bolognese writer, Pietro de Crescenzi: '*migliore è quel (pane) che è cotto nel forno, imperocchè tutto egualmente si cuoce; ma quello che è cotto in testi è peggiore*' (bread baked in an oven is better, because it cooks evenly; that baked in *testi* is not so good) (Mannoni 1970, 304n, quoting Crescenzi, *Liber ruralium commodorum*). Thus, the practice in rural communities without access to a professional baker of making bread on the hearth under an earthenware cover was described not only in the Roman period but also in the thirteenth century, and is represented in the archaeological record from the fifteenth century onwards. It seems likely, therefore, that the method was used continuously for at least two millennia.

Ovid's reference to baking on a broken tile recalls an even older tradition: that of baking hearth-cakes on earthenware dishes, known variously as *testelli* (in Liguria) and *piatti* (in northern Apulia). *Testelli* are shallow dishes with a curved or

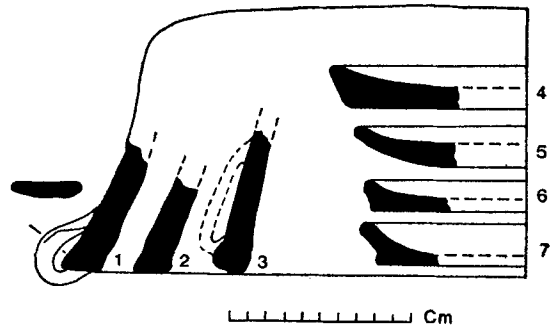


Fig. 1. Fifteenth- to sixteenth-century *testi* (nos. 1–3), and early medieval (no. 4), and twelfth- to fifteenth-century *testelli* (nos. 5–7) from sites in Liguria. Scale 1 : 4. (After Mannoni 1970, Pl. III)

flaring side (FIG. 1, nos. 4–7). They were formed on a pad or slow wheel. The fabric is coarse and most examples are crudely made. In recent times, *testelli* were produced at home and fired in a clamp. They were used mainly for cooking *focaccine* (chestnut flour buns). The bun was placed on the dish and baked in the embers. Mannoni has assembled unequivocal archaeological evidence to show that *testelli* were manufactured in Liguria from the late Roman period to the present day (Mannoni, 1965; 1970, 304; 1975, 25 and 33–4). He notes, too, that similar dishes occur in a late bronze age context at Zignano, near La Spezia (Mannoni, 1975, 34n). In addition to the Ligurian material published by Mannoni, we should note recent finds of *testelli* at the late Roman settlement of Savignone (Fossati *et al.*, 1976, 311) and in thirteenth- to fourteenth-century levels at Anteggi, near Chiavari (Cabona *et al.*, 1976, 300). Elsewhere in north and central Italy, objects resembling *testelli* have been found in an early medieval context at Luni sul Mignone, in Lazio (Whitehouse D. n.d.); in late medieval deposits at Ascianello (Vannini, 1974, 95–6) and at Pistoia (Blake, 1974, 165), in Tuscany; and in fourteenth- and fifteenth-century units at Gubbio (Whitehouse D. 1976, 259) and at Val diponte (Blake, 1974, 165–6), in Umbria. It is significant that, like the recent distribution, the Roman and medieval find-spots are predominantly rural.

The *testelli* of north and central Italy have a family likeness to the *piatti* from late bronze- or iron-age sites in the south (Whitehouse R., 1970

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*Piatti* are shallow dishes with a curving side and four small lugs projecting from the rim. The inside is decorated with a cross and four dots, one in each of the angles at the intersection, made with a finger before the vessel was fired. At Manaccora, in north Apulia, local workmen in 1931–3 recognized iron age examples as *piatti* 'for baking focaccia, a thin disc-shaped bread much favoured by the modern inhabitants of Monte Gargano' (Baumgärtel, 1953, 9). Here, as in Liguria, the custom of using earthenware dishes for baking hearth-cakes seems to have persisted until the twentieth century.

The tradition of baking bread and cakes with *testi*, *testelli* and *piatti* reminds us of another Italian utensil with an extraordinarily long history: the milk-boiler, which appeared in the Bronze Age and was still available in Naples in the 1940s (Whitehouse R., 1970, 55n).

Although these objects were used mainly in the countryside and made at home, in recent times they were also produced in the factory, sometimes for a new function. Mannoni (1970, 317) notes the existence in Liguria from the eighteenth century of *testi* with an internal glaze and of more recent copper vessels of the same form, also called *testi*, which are used for cooking *farinata*, a traditional dish made of ground chick-peas. However, even

these adaptations are obsolete and by the mid-twentieth century home-made earthenware had disappeared from all but the remotest rural communities.

DAVID WHITEHOUSE

- BAUMGÄRTEL, E. J. 1953. The cave of Manaccora, Monte Gargano: part II: the contents of the three archaeological strata, *Papers of the British School at Rome*, XXI, 1–31.
- BLAKE, H. MCK. 1974. The pottery, in T. F. C. Blagg, *et al.*, An Umbrian abbey: San Paolo di Val diponte. Part Two, *Papers of the British School at Rome*, XLII, 98–178.
- CABONA, D. *et al.* 1976. Scavo di una casa rurale medievale ad Anteggi, *Archeologia Medievale*, III, 293–307.
- FOSSATI, S. *et al.* 1976. Campagna di scavo nel villaggio tardoantico di Savignone (Genova), *Archeologia Medievale*, III, 308–25.
- FRAYN, J. M. 1978. Home-baking in Roman Italy, *Antiquity*, LII, 28–33.
- MANNONI, T. 1965. Il 'testo' e la sua diffusione nella Liguria di Levante, *Bollettino Ligustico*, XVII, 49–64.
1970. La ceramica di uso comune in Liguria prima del secolo XIX, *Atti del Convegno Internazionale della Ceramica (Albisola)*, III, 297–319.
1975. *La ceramica medievale a Genova e nella Liguria* (Bordighera and Genova).
- WHITEHOUSE, D. 1976. La Rocca Posteriore di Gubbio: lo scavo archeologico, *Archeologia Medievale*, III, 252–66.
- n.d. Medieval pottery from Luni sul Mignone. (In preparation.)
- WHITEHOUSE, R. 1970. Bread and milk: iron and bronze age economies in south Italy, *Antiquity*, XLIV, 54–6.

## Climate and history: international conference

An international conference on climate and history will take place at the Climatic Research Unit (Director: Professor H. H. Lamb), University of East Anglia, Norwich, UK, from 8–14 July 1979. Potential contributors and participants are requested to notify as soon as possible but, in any case,

not later than 31 December 1978. For further details write to: *The Conference Secretary (Climate and History Conference), Climatic Research Unit, School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ.*

## Biblia a-biblia

I am glad Mr Mytum has written about the publication crisis, though I don't agree with his advocacy of hybrid microfiche (mixed letterpress and microfiche) or full microfiche publication as a solution. May I deal first with his recommendations and then turn to the wider issue of recent official pronouncements on archaeological publication?

Microfiche publication has one outstanding merit and that is the saving of space which it can achieve. Even in the hybrid form, it requires such a reduced allocation of shelf-space that librarians

grappling with problems of overtaxed capacity are bound to feel its attraction. And the hybrid form has the additional attraction of a hard- or soft-back binding which allows titling on the spine for ease of identification. But the suggested financial economy is not borne out by the examples Mr Mytum quotes: Sainty (1975) is listed at £15.00, plus 64 p. VAT, presumably because of the film content; Reid and Ross (1975) is priced at £12.50; while Hassall (1976) attains a dizzy £18.00. However, my reservations extend further, to the

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whole question of utility; whatever the merits of the fiche-book in scientific disciplines, and perhaps even in history for the facsimile reproduction of documents, I would argue that for archaeology there are clear disadvantages. The taxonomic corpus with numerous illustrations of types and variants, e.g. Myres (1977), might seem an obvious candidate for fiche reproduction, except that many archaeologists are attempting to classify a particular example (often in the form of a drawing) by rapid visual comparison. A simple enough process with the conventional book, where one flips backwards and forwards, using fingers as temporary markers, but infinitely more cumbersome if one has to insert microfiche sheets into a reader and look at the equivalent of one page at a time. A similar disadvantage holds for the more usual archaeological report, where one might wish to look, virtually simultaneously, at a fold-out plan, a particular section, the finds from a distinct layer, and the text describing the stratigraphical and chronological conclusions. It would be just possible, I suppose, with several copies of a fiche-book and a battery of readers, but that would be an *expansio ad absurdum*.

Mr Mytum's espousal of the process was prompted by the recommendations of the D.O.E. report *Principles of publication in rescue archaeology* (1975), commonly known as the *Frere Report* after the chairman of the working party which produced it. Levels III and IV have now achieved a place in current archaeological jargon, but the recommendations in the report ('addressed not only to the Department, but also at large to academic and professional colleagues and institutions'—p. ii) have been subjected to very little in the way of critical analysis. There has now appeared a second D.O.E. report, *Excavation records: techniques in use by the Central Excavation Unit* (Jefferies, 1977), which sets out the officially recommended method of achieving a Level III archival record. It is an intimidating document, complete with a small glossary, but is basically concerned, as I see it, with the systematic and uniform recording of excavation data (structures and finds), their conversion to a Level III archive which will give the essential material for a Level IV report, and the mechanics of making the archive available for the specialist worker.

The theory behind Level III and Level IV is the supposed uniqueness of sites, so that excavation is a non-repeatable operation ('replication', in the

present jargon, is impossible) and consequently recording must be in sufficient detail to allow total recall, if some later worker wishes to reconsider the site. But the supporting detail and specialist reports are now so vast and costly to print that the published report can only be a synthesized description with relevant supporting data (Level IV), while the full record will remain as an archive (Level III), to be reproduced by xerox, computer print-out, microfiche, or some such on-demand method. In combination the two Levels would be the equivalent of the traditional 'Pitt-Rivers' report, relic-tables and all, which permits the re-assessment of a site, e.g. Hawkes (1948).

The theory is attractive and intellectually persuasive—but so is Marxism. All I would like to ask is, what is meant by a synthesized report? I always thought that excavation reports *were* intended to be syntheses, with detailed statements of supporting evidence where necessary. I have a nasty suspicion that perhaps *synoptic* reports are meant—brief statements of findings and conclusions, with huge factual tables of layers, structural details, finds, etc. relegated to the archive for consultation by the specialist. But if so, is this what archaeologists really want? And are there specialists in postholes or stratigraphy who are bursting to consult archives? And are archaeological data always so objective that they can be regarded as immutable facts capable of being processed into an archive? Or are they, at least so far as stratigraphy is concerned, sometimes the result of subjective interpretation by the person digging and recording the layers? All sorts of questions like this spring to mind, and I would like to hear what other archaeologists think, before a dogma of uniform recording of unselected trivia is forced upon the unsuspecting young.

F. H. THOMPSON

- COMMITTEE ON RESCUE ARCHAEOLOGY. 1975. *Principles of publication in rescue archaeology* (London).
- HASSALL, W. O. 1976. *Major treasures in the Bodleian Library, no. 2: the Douce Apocalypse (MS Douce 180)* (Oxford).
- HAWKES, C. F. C. 1948. Britons, Romans and Saxons round Salisbury and in Cranborne Chase, *Archaeol. J.*, CIV, 27–81.
- JEFFERIES, J. S. 1977. *Excavation records: techniques in use by the Central Excavation Unit* (London).
- MYRES, J. N. L. 1977. *A corpus of Anglo-Saxon pottery* (Cambridge).
- REID, D. and A. ROSS. 1975. *A catalogue of seals in the University of Glasgow* (Oxford).
- SAINTY, J. 1975. *An analysis of divisions in the House of Lords, 1685 to 1857* (London).



## A unique (?Roman) burial

Nearly 20 years ago, a young Sardinian scholar published, in a section labelled 'tombe romane', a curious multiple burial found at Villasor, some 25 km NW of Cagliari (Diana, 1959, 322). The burial consisted of the skeletons of six adults arranged with heads inward, feet outward, radiating around a central point; a large terracotta vessel (a 'tinozza') covered the skulls of the six individuals (FIG. 1).

Parallels for this method of disposing of the dead are difficult to find. Allcroft (1927, 54-7) gives several apparent examples under the heading of sepulchral rings; but, on close examination, they turn out not to be exact (or even close) parallels. Several Anglo-Saxon burials present a similar arrangement: at Shoeburyness, Essex (*VCH, Essex*, 1, 328; 'doubtful' in Meaney, 1964, 89), and at Newport Pagnell, Bucks (*VCH, Bucks*, 1, 204; not in Meaney), the corpses are arranged in a ring (Shoeburyness) or in two concentric rings (Newport Pagnell), but the feet in both examples point toward the centre. At the latter site, in addition, the feet are not contiguous. At Cuddesdon, Oxon (*VCH, Oxford.*, 1, 352; Meaney, 1964, 207), the bodies were arranged, face down, in a circle, again with the feet pointing inward, and with the additional refinement of having their legs crossed. Allcroft's one example (Driffield, Yorks) of corpses in a ring with their heads placed toward the centre is not a parallel to the Villasor burial as can be seen from a glance at the plan of the Driffield burial in J. R. Mortimer, *Forty years' researches* . . . (London, 1908, 276, Fig. 745a); here, the bodies are more or less randomly situated, with bent knees, nor do all of them have their heads toward the centre. I have been unable to check all of Allcroft's references, but in at least one other case his description does not exactly agree with that given by others, viz., at St John's Point, Co. Down, 'where the burials were arranged in a double concentric circle, the central object being a pillar stone' (Allcroft, 1927, 54). The editor of *An archaeological survey of County Down* (Belfast, 1966, 296), states merely that the church at St John's Point (which is 'unlikely to be earlier than the eighth century') 'is said to have had a cemetery with graves arranged radially'. An earlier description (O'Laverty, 1879-82, 105) has 'the cists arranged in the form of a circle to the centre of which the feet converge'.

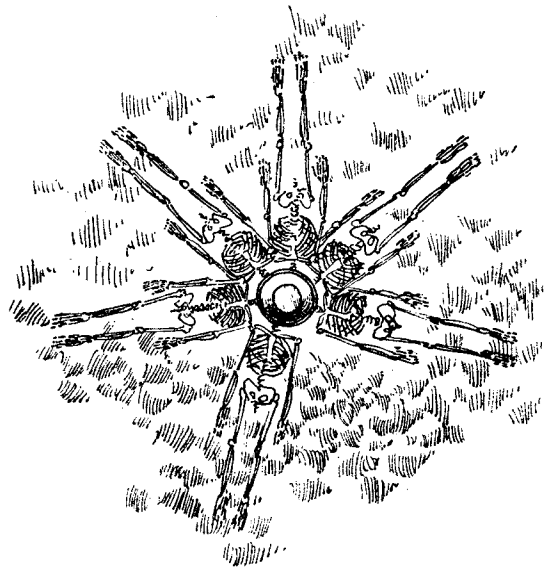


Fig. 1. Reconstruction of the multiple burial of Villasor (drawn by Scamé)

Leaving the British Isles for the continent, we can follow Allcroft to Merovingian France; but, from the fuller discussion of Salin (1952, 198) we can see that, although some Merovingian burials do radiate around a central point, they are not multiple burials, hence not parallels for the Villasor burial. However, we do seem now to be in the proper part of the world to find the object of our quest, although such parallels do not abound in great number. G. Bailloud (1964) several times discusses multiple burials, arranged in a fashion similar to the Villasor burial, mostly, however, with the feet toward the centre.\* To these we can add several others.† Only one of Bailloud's examples shows the heads toward the centre (307f. Mareuil-les-Meaux (Seine-et-Marne)). According to the original publisher of this tomb (Petitot, 1892), the burial consisted of a dozen skeletons inside the tomb arranged in a circle with their heads toward the centre, with another four similarly arranged 'vers l'entrée du caveau'. Thus far, even though the heads are not contiguous and no vessel covers the skulls, these two associated burials are the closest parallels I can find to the Villasor

\* Pp. 176, 246: Sainte-Etienne-du Vauvray (Eure); 233f.: Montigny-l'Engrain (Aisne); 340: Villemanoché (Yonne).

† Galeron, 1835, 155; Bellivet, 1844, 312; Coutil, 1918, 103-10; Lombard-Dumas and Rousset, 1886, 203-15; Daniel, 1960, 57-9.

## ANTIQUITY

burial. What is particularly curious is that the French examples (feet inward or outward) are of the Seine-Oise-Marne (S-O-M) culture (Bailloud, 1964, 139-430; Bailloud and Mieg de Boofzheim, 1955, especially 190-6).

In recent years, scholars have become increasingly aware of the relationships between prehistoric Sardinia and France, including the S-O-M culture. Thus, for example, Baltolu (1972, 68-75) points to the close relationship he sees between an 'allée couverte' at Mala Carruca (Alà dei Sardi) and similar S-O-M monuments; although Baltolu's basic point is correct, he was unfortunate in his choice of a starting-point: the monument at Mala Carruca is a Giants' Tomb, not an allée couverte (*RSP*, 1974, 263). Other similarities are pointed out by Lilliu (1970, 55; 1972, 24, 95), who more frequently refers to Bougon Bougon-Chassey, or Chassey-Bougon (1972, 23, 24, 90, 124, cf. 66, 69, 96; 1966, 38, 52)—but there is S-O-M as well as Chassey material at Bougon (Bailloud and Mieg de Boofzheim, 1955, 110, 198).

What then of the Villazor burial? Is it a reflexion, two millennia or more later, of an S-O-M mode of burial? What of the Anglo-Saxon and Merovingian examples even more removed in time than the Sardinian? Are all of them independent developments? Or, perhaps, the Villazor 'tinozza' is not Roman—but it is highly unlikely that Diana or his mentor, Lilliu, would have called a third-millennium vessel a Roman one.\* For the present, the Villazor burial must remain enigmatic, although it may indicate still one more connexion between early Sardinia and prehistoric France.†

ROBERT J. ROWLAND JR

\* Repeated effort, both in person and *per litteras*, have failed to reveal the present whereabouts of the vessel.

† Another connexion, still unexamined, may be seen in the practice of skull trepanation ('not unusual' in France: Piggott, 1974, 125); a good example from Sardinia may be found in Majno, 1975, 27, Fig. 1, 27.

## North Italian faience buttons

In recent years there has been a revival of interest in the problem of the sources of faience objects from bronze age Europe (Harding, 1971; Newton and Renfrew, 1970; Harding and Warren, 1973). As a contribution to this debate it is worth drawing attention to a group of faience buttons from bronze age sites in the Po Valley.

The buttons in question are all of the same type,

- ALLCROFT, A. H. 1927. *The circle and the ring*, Vol. 1 (London).
- BAILLOUD, G. 1964. *La Néolithique dans le Bassin parisien* (Paris).
- BAILLOUD, G. and P. MIEG DE BOOFZHEIM. 1955. *Les civilisations néolithiques de la France* (Paris).
- BALTOLU, A. 1972. Alcuni monumenti inediti dell'altopiano di Buddusò e Alà dei Sardi (Sassari), *Studi Sardi*, XXII, 38-98.
- BELLIVET, M. 1844. Rapport sur l'ouverture d'un tumulus dans la commune d'Ernes, arrondissement de Falaise, *Mém. Soc. Ant. Normandie*, 2nd Ser. II, 312-14.
- COUTIL, L. 1918. Le tumulus de la Hogue à Fontenay-le Marmion (Calvados), *Bull. Soc. Préhist. Française*, XIV/XV, 65-94.
- DANIEL, G. 1960. *Prehistoric chamber tombs of France* (London).
- DIANA, A. 1959. Esplorazione Archeologica Nel Campidano, *Studi Sardi*, XVI, 316-49.
- GALERON, F. 1835. Description du tumulus de Condé-sur-Laizon, *Bull. Soc. Ant. Normandie*, 149-64.
- LILLIU, G. 1966. Il Dolmen di Motorra (Dorgali-Nuoro), *Studi Sardi*, XX, 74-128.
1970. *Civilisations anciennes du Bassin Méditerranéen* (Paris).
1972. *La civiltà dei Sardi dal neolitico all'età dei nuraghi*, 2d ed. (Turin).
- LOMBARD-DUMAS and ROUSSET. 1886. Note sur une sépulture mégalithique découverte dans la commune de Collorques (Gard), *Mém. Acad. Nimes*, IX, 203-15.
- MAJNO, G. 1975. *The healing hand* (Cambridge, Mass.).
- MEANEY, A. 1964. *A gazetteer of Early Anglo-Saxon burial sites* (London).
- O'LAVERTY, J. 1879-82. Notes on pagan monuments in the immediate vicinity of ancient churches in the diocese of Down, and on peculiar forms of Christian interments observed in some of the ancient graveyards, *Jour. Roy. Hist. Arch. Assoc. Ireland*, V, 103-8.
- PETITOT, E. 1892. La sépulture dolménique du Mareuilles-Meaux (Seine-et-Marne), *Bull. Soc. Anth. Paris*, III, 344-60.
- PIGGOTT, S. 1974 (*et al.*). *France before the Romans* (London).
- SALIN, E. 1952. *La civilisation mérovingienne*, Vol. 2 (Paris).

being conical with slightly convex undersurfaces, which are perforated horizontally for attachment.

They come from three sites (FIG. 1):

*Mercurago* (prov. Novara) (FIG. 2:1). Sixteen buttons found together near the bronze age lake settlement (Gastaldi, 1876, Pl. x; Munro, 1912 Pl. xlvi, 9; Montelius, 1895, 29-30). They are of a blue to

## NOTES AND NEWS

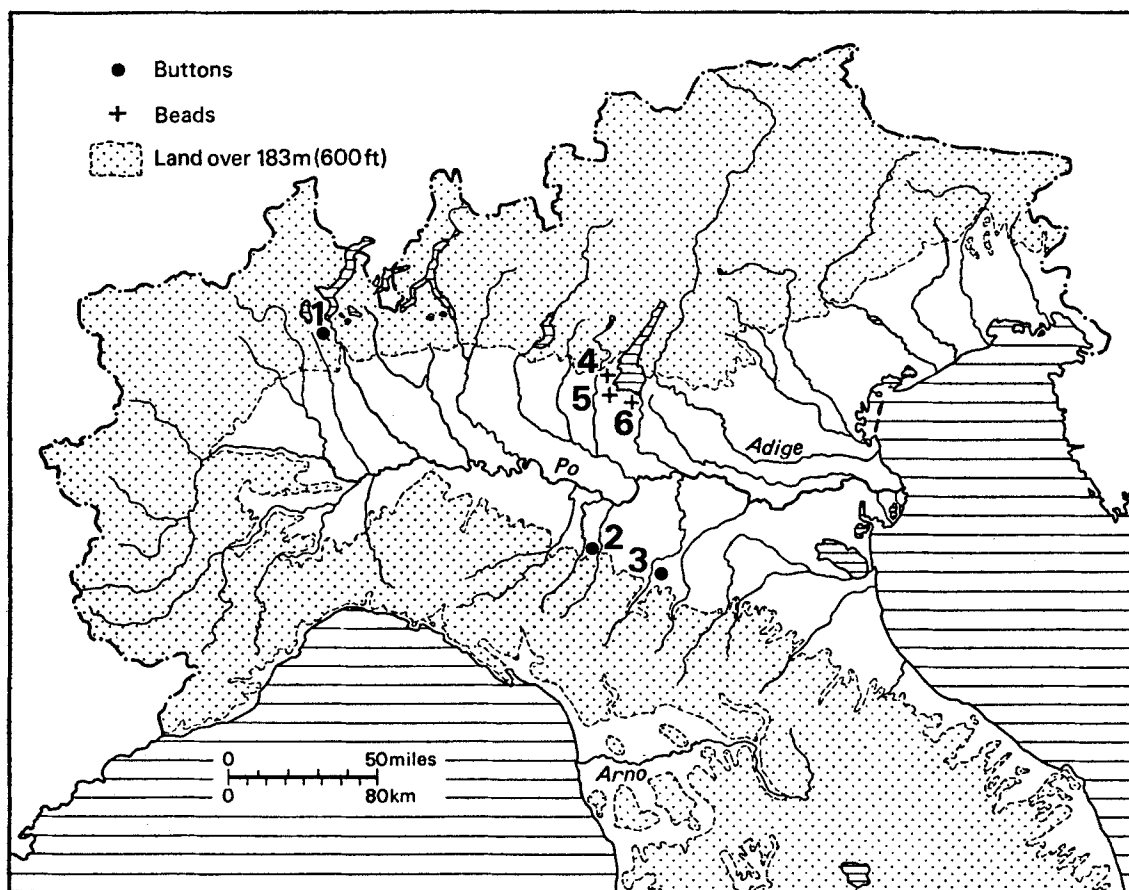


Fig. 1. Distribution of bronze age 'faience' in Northern Italy.  
1. Mercurago; 2. Quingento; 3. Montale; 4. Lucone; 5. Lavagnone; 6. Cavriana

green 'frit' and appear to have been strung together as a necklace.\*

*Quingento S. Prospero* (prov. Parma) (FIG. 2:2). Two buttons from a 'terramara' settlement, of a light blue green to almost white glass paste (Frova and Scarani, 1965, Pl. lii, 13-14).†

\* Gastaldi submitted the buttons to Professor Cossa for analysis who reported that they were composed of a 'massa fritta, non fusa; dico fritta perchè esaminandone col micro-scopio polarizzante piccole schegge vi si osservano, con tutti loro caratteri, granellini di quarzo inalterato, impigliati in una massa agglutinata ma non perfettamente vetrificata. La massa è composta essenzialmente di Silico, calco e poca allumina, la superficie è rivestita di smalto composto di silico, soda cossido di rame che non si altera punto per l'azione degli acidi' (Gastaldi, 1876, 507).

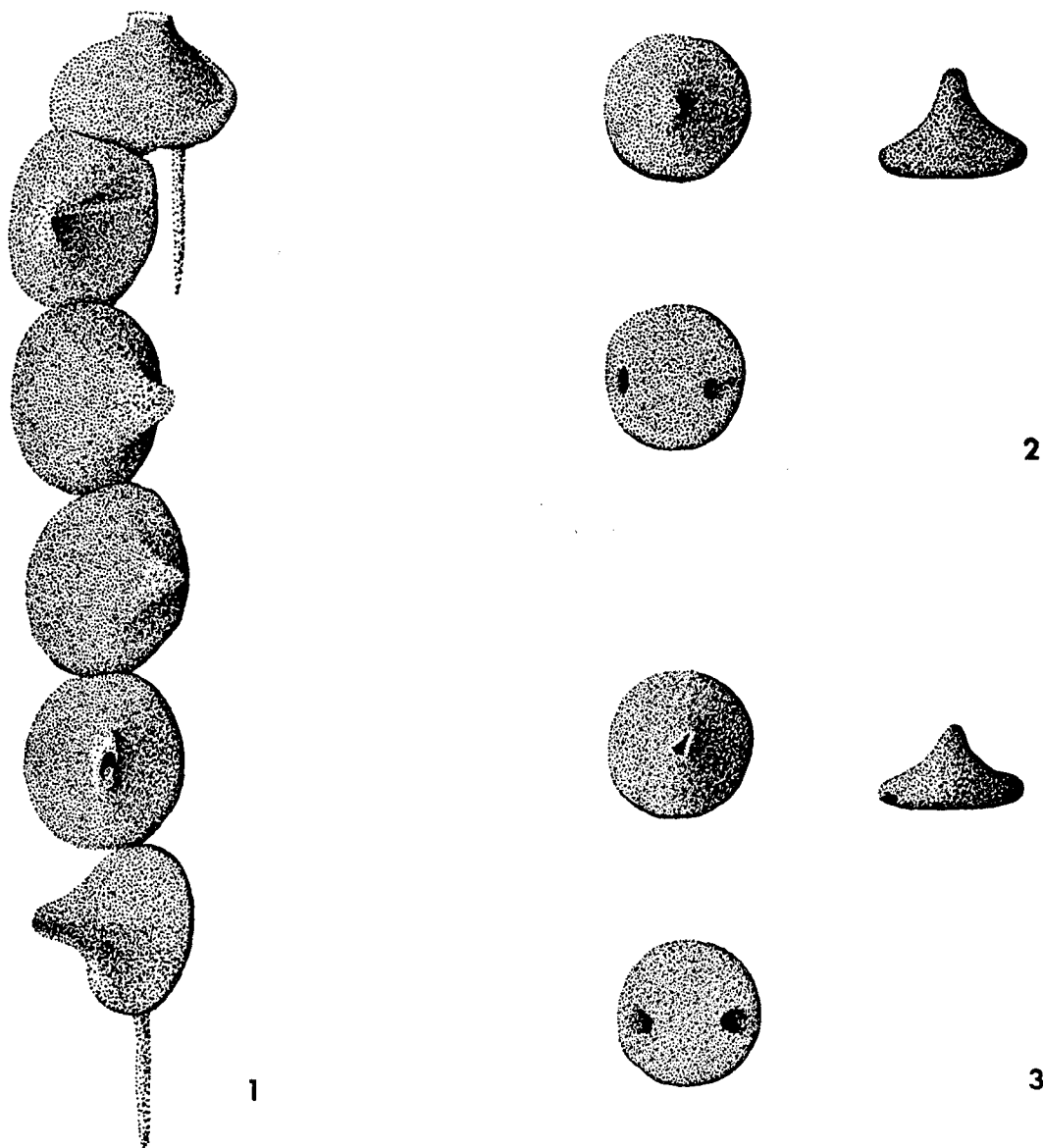
† Museo Nazionale di Antichità, Parma. I am grateful to Dotoressa Calvani for allowing me to draw these objects.

*Montale* (prov. Modena). Two buttons from an extensive *terramara* settlement. They are conical with a short cylindrical base, of opaque white glass paste, perforated laterally at the base. Diameter 23 mm (Säflund, 1939, 42; Scarani, 1963, 311).

The principle period of occupation on all three sites dates to the Middle Bronze Age on the evidence of metalwork, which is in the central European tradition of Reinecke B to D (1500-1200 BC) (de Marinis, 1975). However, all the sites have produced some evidence that they may have been occupied already during the Early Bronze Age.

In spite of the fact that both Montelius, in respect of the Mercurago buttons (Montelius, 1895, 29-30), and Scarani (1963, 311) in considering the Montale faience postulated these buttons to be of later date than the respective bronze age settlements, we have been unable to find any close

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*Fig. 2.1 : Buttons from Mercurago (after Gastaldi) ; 2 and 3 : Buttons from Quingento*

later parallels for them and their occurrence now on three bronze age settlements would seem to suggest a bronze age date.

On typological grounds an early bronze age date might at first sight be suggested, since not only have buttons given way to pins as a fastening device throughout most of Europe by the end of the Early Bronze Age, but also the conical form of these Italian examples is very similar to that of the early

bronze age buttons in other materials with 'V' perforations, which are well represented in the Polada culture in Northern Italy itself. Faience also is a substance whose use, during the Bronze Age in Central and Western Europe, was only widespread during the Early Bronze Age. On the other hand the absence of faience buttons from the much richer early bronze age sites of the Polada culture and the close association with 'terremara'

## NOTES AND NEWS

sites would suggest that they date to the Middle Bronze Age. The question of whether they are of early or middle bronze age date thus remains open.

These buttons would seem to be of local manufacture, since no similar ones are known elsewhere in Europe, and were probably made in the Western Po Plain. This group would appear to add weight to the suggestions made by Harding (Harding and Warren, 1973) and Renfrew (in Newton and Renfrew, 1970), that European faience was mainly of local manufacture, although I would consider that the process of manufacture at least was learnt ultimately from the Eastern Mediterranean.

The only other faience objects known to me from North Italy are some biconical beads from Lucone di Polpenazze (prov. Brescia) in Lombardy, a lake-side site occupied during the Early Bronze Age (Polada culture) as well as during the Middle Bronze Age (Simoni, 1966, 42; Barfield, 1971, Pl. 35), seven biconical and segmented beads from Lavagnone (prov. Brescia) (Perini, 1976), biconical beads from Bande di Cavriana (unpublished), both early bronze age, and flat globular 'glass paste' beads from Montale (Säflund, 1939, 42).

L. H. BARFIELD

## An international buildings record

An international building record has been launched by a private association—IBR—registered in Geneva and operating on the internationally established principles of a charitable institution. The founding committee has opened membership to all corporate bodies wishing to utilize the Record; individuals may also join. Nearly 1,000 universities, libraries, museums, international, national and local cultural associations and official bodies in more than 50 countries, have been notified of IBR's programme and a growing number has already applied for membership.

IBR is not sponsored by any single national or international authority and relies on grants, subscriptions and fees for the growth of the service it offers. All resources acquired are to be utilized for the progressive accumulation of information in the Record; the larger it becomes, the greater will be its usefulness to members.

The Record is based on a specially designed system which permits the three-dimensional description of any class and type of building and its contents on any site in either hemisphere, whether *in situ* or incorporated in some other building or

- BARFIELD, L. H. 1971. *Northern Italy before Rome* (London).
- DE MARINIS, R. 1975. L'età del Bronzo, in *Preistoria e Protostoria nel Reggiano* (Reggio nell'Emilia), 31-55.
- FROVA, A. and R. SCARANI. 1965. *Parma, Museo Nazionale di Antichità*, Pls. Iii, 13-14 (Parma).
- GASTALDI, B. 1876. Frammenti di Paleoeotnologiá Italiana, *Atti della Reale Accademia dei Lincei*, III, Ser. IIS, 497-556.
- HARDING, A. 1971. The earliest glass in Europe, *Archeologickè Rozhledy*, XXIII, 188-200.
- HARDING, A. and S. E. WARREN. 1973. Early bronze age faience beads from Central Europe, *Antiquity*, XLVII, 64-6.
- MONTELIUS, O. 1895. *La civilisation primitive en Italie première partie, Italie septentrionale, Texte* (Stockholm).
- MUNRO, R. 1912. *Palaeolithic man and the Terremara settlements in Europe* (London).
- NEWTON R. G. and C. RENFREW. 1970. British faience beads reconsidered, *Antiquity*, XLIV, 199-206.
- PERINI, R. 1976. *Significato delle ricerche al Lavagnone* (Desenzano).
- SÄFLUND, G. 1939. *Le Terremare* (Uppsala).
- SCARANI, R. 1963. *Preistoria dell'Emilia e Romagna*, II (Bologna).
- SIMONI, P. 1966. Prima campagna di scavo all'ex lago Lucone di Polpenazze (Brescia), *Annali del Museo di Gavardo*, No. 5, 7-53.

conserved in museum collections; furthermore, it allows for references to personalities associated with buildings and their contents. Provision is made for source references, and bibliographies are developed for each building.

A brief description of the System will help give an idea of how effective the Record can be and of what uses can be made of it.

The entire System centres on the site, wherever it may be. Each site is attributed a unique reference number expressed as geographical coordinates. If known exactly, the location of the south-west corner of the site is given to the nearest geographical second (on average 18.7 m). For each site there are numbered building activity phases. Each such phase is defined by the earliest and latest significant dates given in the source material. These dates can be BC, AD or Hijra; they are given by year, century, half-century, quarter-century or decade; they can be certain, possible/probable or a period. All descriptive variables in all other parts of the Record refer exclusively to the appropriate building or activity phase for the site concerned.

The names of each site or building and the

## ANTIQUITY

associated place-name are given in full in Latin characters; the country and regional names are abbreviated.

Statements for each part of each building or object are made throughout the Record indicating the extent of any remains, the state of any building, the nature of the source of the description even if no physical remains survive.

For descriptive purposes, a building is disaggregated into conventional building blocks, floors within each block, tiers within each floor; adjuncts such as apses, and vertical units such as towers and domes, are treated independently but in association with the appropriate building block.

A number of general characteristics are indicated, such as style, class or use, ownership and patronage, generalized plans, overall external measurements, and the other buildings comprising a complex of which the building described is a part.

The descriptions given are morphological; that is to say they permit the identification of features and their relationships in terms of building surface and spaces, not the re-creation of an architect's or engineer's drawing.

Plans and internal elevations are described block by block, floor by floor and tier by tier; the external elevation is described block by block. Sections and profiles, component features, materials, measurements and dates within building activity phases are given. Structural elements and fittings, decorations, furnishings, miscellaneous articles and even manuscripts and books can be described individually. Their location, generalized and particular characteristics, materials, design and iconographic features, dimensions and titles can be recorded; items in museums also carry catalogue reference numbers. Personalities are recorded by name with their professions and titles.

It is emphasized that these are the facilities offered by the System. They can only be utilized where source material is available—the size of bricks is not always given.

The user may extract as much or as little of the information recorded about any particular building or object as he requires. The basic form of the questions the user puts to obtain information from the Record is very simple; the answers will be as complex as the information available incorporated in the Record at any time will permit. A glossary-index is provided which gives the alphabetical and numerical coding used in the System and which corresponds to the nomenclature habitually em-

ployed by users of the Record. This coding is written as appropriate on pre-printed forms. The completed form is sufficient for interrogation of the Record through a standard terminal (compatible with the General Electric/Honeywell Network Information Service) which gives access to the central computer used for processing the data stored in the Record.

The basic form of question is essentially: what building(s) or object(s) are recorded within a given geographical area (or country or region) within a given period of years, having or not having one or more specified characteristics. The answer given in printout form (immediately or, more cheaply, within 24 hours) consists of the location, dates and denomination of the buildings answering the questions. If the number of buildings listed is too great for the user's purposes, the question can be defined more precisely and the number reduced. At very little cost, any part of the Record relating to the buildings identified can be printed out first in code, to see how much descriptive material is really required, before obtaining all such material printed in convenient form, in the standard language chosen, initially English, French, German or Italian. Bibliographies and museum titles can be printed automatically in full (translated into Latin characters where necessary).

The Record is based essentially on analyses of the literature as selected by expert committees; invariably the most recent issue of any publication will be given priority over back-issues which, however, will also be analysed as rapidly as possible. The compilers of the Record in various countries are selected by panels of professorial rank. They analyse the literature under the guidance of supervisors reporting to the Editorial Board. All material is checked, on a sample basis by supervisors and by the Editorial Board, for quality, and by the computer for formal accuracy. IBR claims to achieve 95 per cent accuracy in its analyses of the sources.

The Record is being divided into cultural periods from earliest to modern times. For each project, approximately 8,000 buildings will be recorded every year; it is planned to initiate a new project annually or as resources permit, so that several projects will be running concurrently within a relatively short time. The first project is Christendom—Origins to 1200 AD; the second is to be Christendom—1200 to 1500 AD. These periods will satisfy those concerned with Early

## NOTES AND NEWS

Christian, Byzantine, Medieval and early Renaissance architecture, art and archaeology.

Use of the Record should save the historian and the archaeologist much time in bibliographical research and the identification of material for comparative purposes and analysis. Thereby, more time will be available for fundamental study. The research project planner will have new opportunities for extending the scope of his activities at home and abroad and for making budgets and the use of research time more effective. Administrators will acquire a new tool for determining priorities for conservation and maintenance programmes.

It must be recognized that the Record is purely a tool for research which records available factual

information without making any qualitative judgements, and that its accuracy will be dependent on the reliability of the sources. Thus it in no way usurps the function of the researcher himself, but merely speeds his acquisition of necessary data and on a scale otherwise impracticable in terms of time and money.

Anyone who has not yet received direct notification of this important undertaking is invited to apply for subscription and membership details and any other information to: *The Secretary, Inter-buildings Record Association—IBR, 72 Boulevard St-Georges, 1205 Geneva, Switzerland.*

JOHN W. FRANKLIN—*Director*

## Book Chronicle *continued from p. 113*

**Locational models** by Peter Haggett, Andrew D. Cliff, Allan Frey. **Locational analysis in Human Geography** by Peter Haggett, second edition volume 1 (first published 1965). London: Edward Arnold, 1977. 116 pp., numerous figs. £4.50.

**Locational methods** by Peter Haggett, Andrew D. Cliff, Allan Frey. **Locational analysis in Human Geography** by Peter Haggett, second edition, volume 2 (first published 1965). London: Edward Arnold, 1977. 360 pp., numerous figs. £7.50.

**L'Age du Bronze dans la région de Paris. Catalogue synthétique des collections conservées au Musée des Antiquités Nationales.** Paris: Editions des Musées Nationaux, 1977. 263 pp., profusely illustrated. 250 F.

**Approaches to archaeology** by Peter J. Fowler. London: Adam and Charles Black, 1977. 203 pp., 22 pls., 33 figs. £6.50.

**Das Mesolithikum im Flachland zwischen Elbe und Oder Vol. 1.** by Bernhard Gramsch Berlin: VEB Deutscher, 1973. 172 pp., 58 pls., 2 tables, 3 diagrams, 9 maps. No price.

**The Iron Age in Britain: a review** edited by John Collis. Sheffield: University of Sheffield, 1977. 68 pp., 6 pls., 41 figs. £2.50 post free. Obtainable from Dr John Collis, Department of Prehistory and Archaeology, University of Sheffield, Sheffield S10 2TN.

**Peoples of the sea** by Immanuel Velikovsky. 'Ages in Chaos' series. London: Sidgwick & Jackson, 1977. 279 pp., 16 pls. £5.95.

**Ancient Chinese bronzes** by William Watson. London: Faber, 1977. First published in 1962. 128 pp., 113 pls. (9 in colour), 13 figs. £9.50.

**Das jungsteinzeitliche Jäger-Bauerndorf von Egolzwil 5 im Wauwilermoos** by Rene Wyss. **Naturwissenschaftliche Beiträge** by Hans R. Stampfli, Samuel Wegmüller, and Fritz H. Schweingruber. Archaeologische Forschungen. Zurich: Herausgegeben vom Schweizerischen Landesmuseum, 1976. 162 pp., 4 pls. (in colour), 67 figs., 10 pull-out plans, 10 tables, 1 pull-out chart. Sw. Frs. 48.

**The Water Newton early Christian silver** by K. S. Painter. London: British Museum, 1977. 48 pp., 35 pls., 8 figs. £1.50.

**Rocks and man** by Myra Shackley. London, Boston, Sydney: Allen & Unwin, 1977. 159 pp., 35 figs. £4.95.

**Food production and its consequences** by Philip E. L. Smith. Second edition. Menlo Park, California; Reading (Mass.); London, Amsterdam, Don Mills, Ontario, Sydney: Cummings, 1976. 130 pp. \$5.95 hardbound; \$3.25 softbound.

**Archaeology and the rise of the Greek state. An inaugural lecture** by A. M. Snodgrass. Cambridge, London, New York, Melbourne: Cambridge University Press, 1977. 36 pp. 70p.

**Archaeology and anthropology: areas of mutual interest** edited by Matthew Spriggs. BAR Supplementary Series 19. Oxford: British Archaeological Reports, 1977. 180 pp., 10 figs. £3.30.

**Time on our side?** A survey of the archaeological needs of Greater London. Report of a joint working party of the Department of the Environment, the Greater London Council and the Museum of London, 1976. 16 pp., 9 pull-out maps. No price.

*continued on p. 170*



PLATE IX (a): EDITORIAL  
*Remains of a hut-village ('cabanes') at Saint-André d'Allas, Dordogne, France*

*See pp. 89-90*

*Photo: René*



PLATE IX (b): PLIOCENE FOOTPRINTS AT LAETOLIL, NORTHERN TANZANIA:  
*The left foot is on the left side, followed by the right foot*

*See p. 133*





PLATE XV (a): BRONZE AGE MEAD

*Cist 1, Ashgrove, Fife, seen obliquely during brief excavation, July 1963. The original sample for pollen and macroscopic fossil analyses was taken from about the centre of the triangle delimited by the skull, dagger and beaker, the last clearly showing external staining*

*See pp. 108-13*



PLATE XV (b): TOWARDS AN ABSOLUTE CHRONOLOGY OF CERTAIN SAHARAN ROCK ART:  
*One of two elephants in 'naturaliste' style found recently near Touaret. The scale is 20 cm long*

*See pp. 135-6*

*Photo: Mark Milburn*

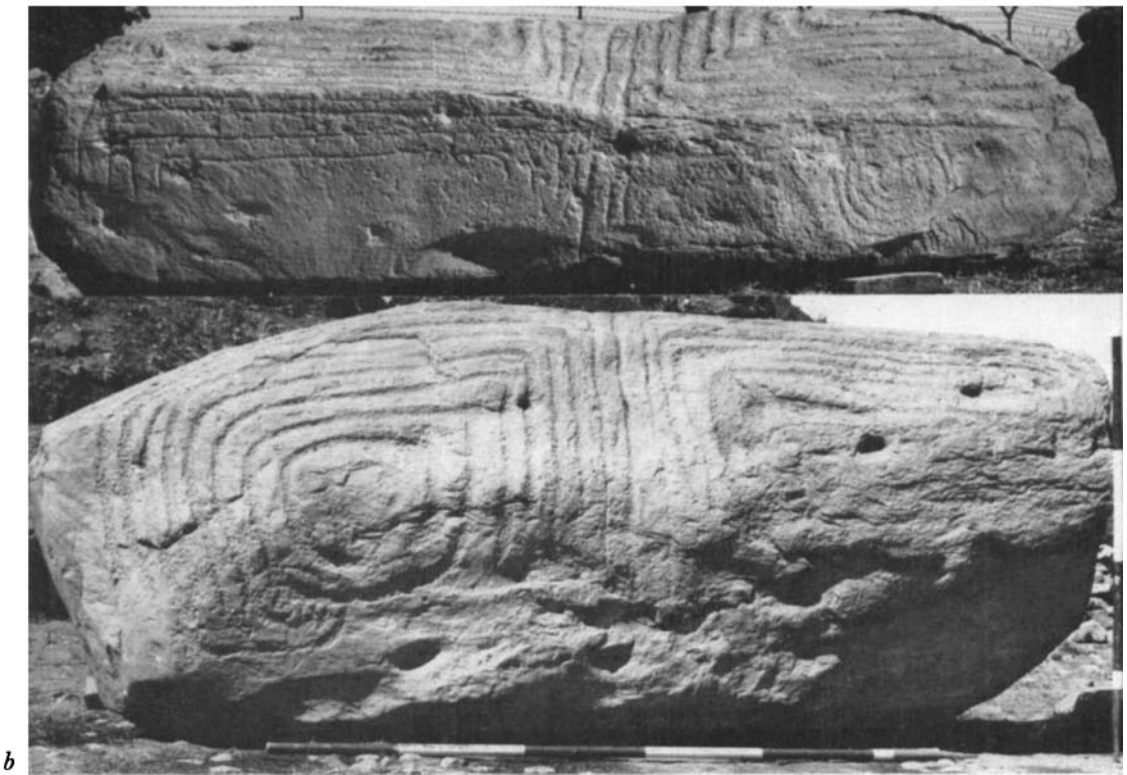


PLATE XVI: THE ENTRANCE STONES AT KNOWTH, IRELAND

*Knowth, Site 1 : (a) The Western entrance stone ; (b) The Eastern entrance stone, outer face and top*

*See pp. 134-5*

*Photos : G. Eogan*



*a*



*b*

PLATE XVII: THE ENTRANCE STONES AT KNOWTH, IRELAND

*Knowth Site 1 : (a) Entrance stone before Eastern chamber, detail of left top; (b) Eastern entrance stone, detail of centre*

*See pp. 134-5*

*Photos: G. Eogan*



PLATE XVIII(a): 'ANCIENT VERMONT'  
*A structure at the Crow Site, Woodstock, Windsor, Vermont*

*See pp. 100-6*

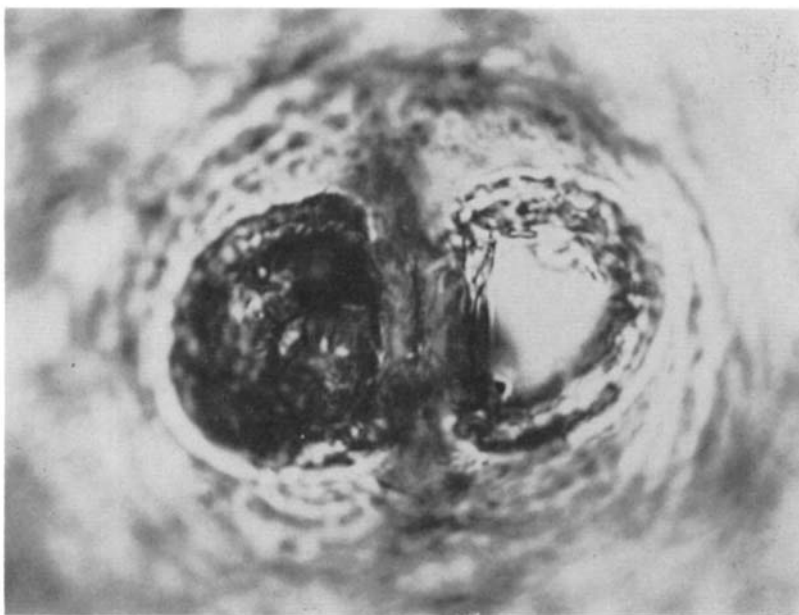
*Photo: Courtney Fisher*



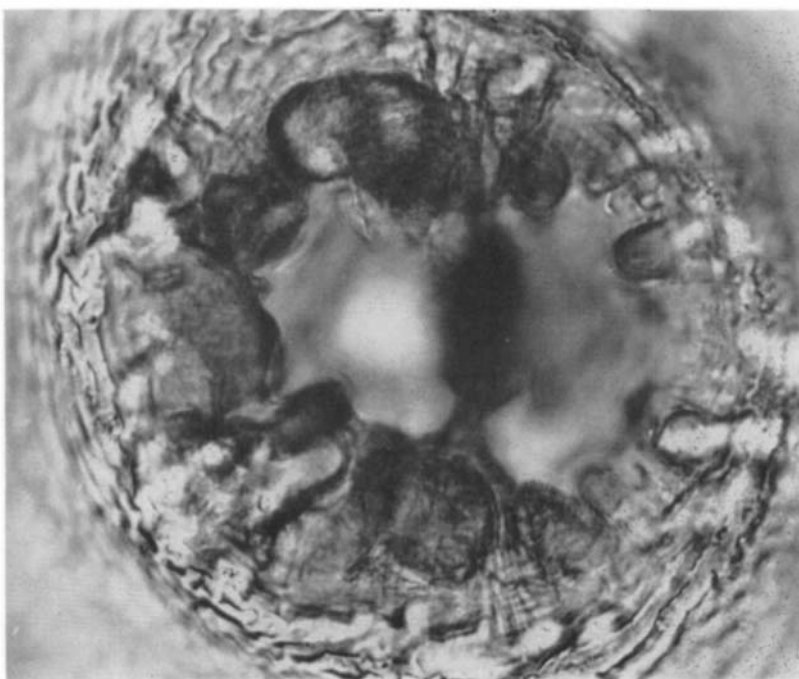
PLATE XVIII(b): AN EARLY NORWEGIAN LYRE FROM RØLDAL, HORDALAND (NORWAY)  
*The Røldal lyre: detail from a fragmentary wall-painting on timber, now in the Historical Museum of the University of Bergen, Norway*

*See pp. 140-3*

*Photo: Graeme Lawson*



*a*



*b*

PLATE XIX: PALEONEMATOLOGY: SOME RECENT EVIDENCE FROM NEOLITHIC BULGARIA  
*(a) External photomicrograph of cyst wall showing female organ of cyst from Chevdar, c. 5000 bc. One fenestra is blocked by debris. (b) Internal photomicrograph of female organ from Chevdar, showing diagnostic bullae and underbridge crossing beneath vagina*

*See pp. 136-7*

*Photos: Derrick Webley*



PLATE XX: AIR RECONNAISSANCE: RECENT RESULTS, 45

*Square barrows clustered together to form a large burial-ground 3.75 km SW of Carnaby, Yorkshire ER (TA 130623). Oblique view looking NNE. 2 August 1970. (Cf. Fig. 1, p. 139)*

*See pp. 137-40*

*Photo: Copyright reserved, University of Cambridge*