# ERAS

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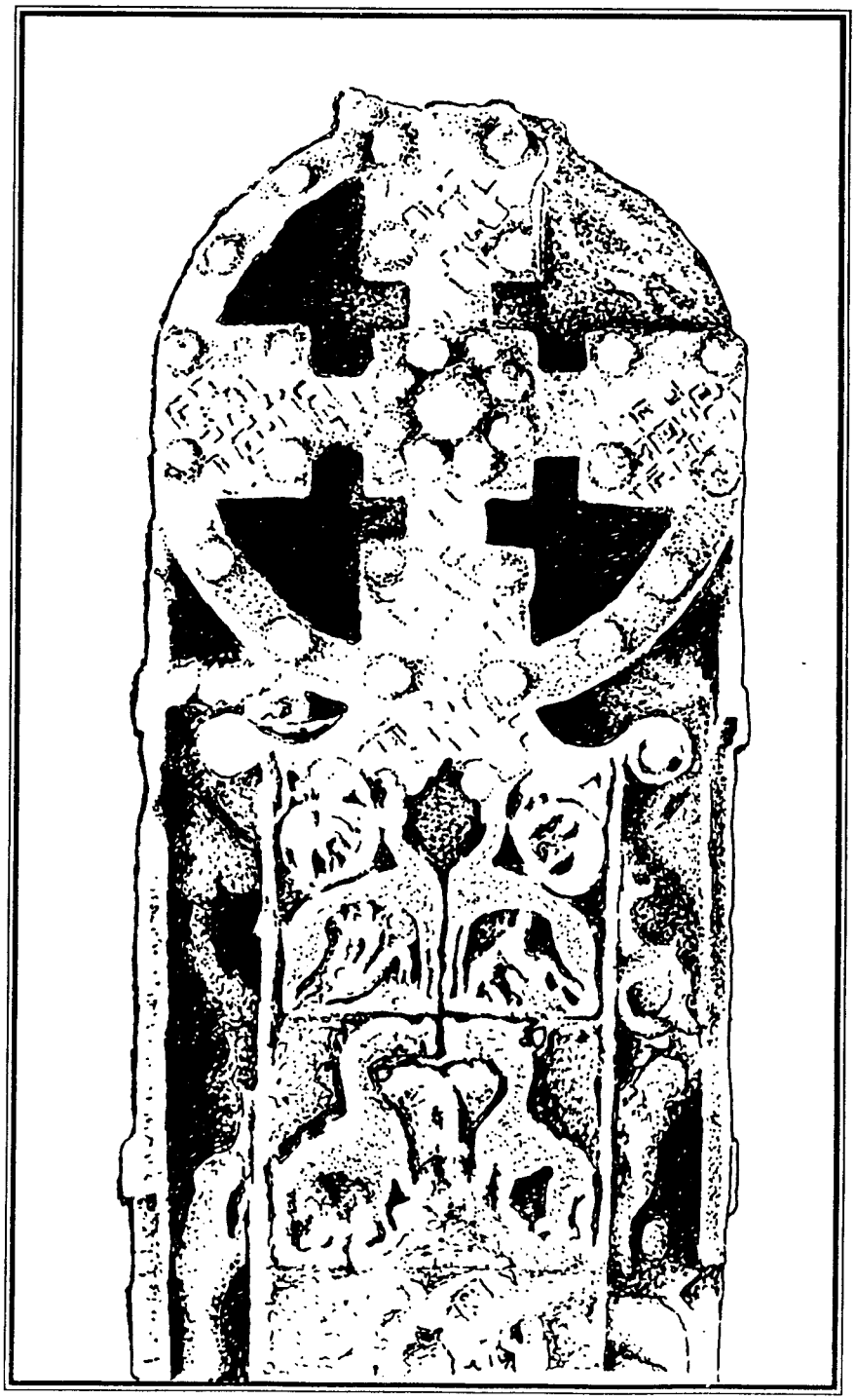

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Cover Drawing *(Kate Dennett)*
one of the Pictish stones seen by ERAS
members on the 1995 excursion to Scotland

Many members will be aware already that Bryan Sitch has left Hull and East Riding Museum to take up a position as Curator of Archaeology at Leeds City Museums and Art Gallery, which means, sadly, that the East Riding Archaeological Society will lose his valuable services. Bryan has been an efficient Secretary of ERAS for a number of years, giving many hours of his time; he has contributed knowledgeable articles to the newsletter; he has shared his expertise at many Field Study Group Meetings, organised a most enjoyable excursion to the Antonnine Wall, and he has provided many members with the opportunity to take part in fieldwork.

As a small expression of our thanks, Bryan was presented with a book token from ERAS members after the January lecture. The Society hopes to keep in contact and perhaps, once he has had time to establish himself in his new post, we might be able to make use of his new situation by way of an ERAS excursion. Thank you Bryan; we wish you well in your new job.

You will realise from the notice enclosed with this newsletter that the date and venue of the Annual Dinner has been altered due to a clash with a (loud) disco. I apologise for the short notice, but all those who tried to book for the original dinner have been notified by Penny Douglas and most, if not all, have transferred their booking to the new date. The rest of you now have another chance to book for the dinner, on the new date of Wednesday, February 28th. Please contact Penny if you have any enquiries and book as soon as possible because numbers are limited.

I would like to bring another date alteration to your notice - though this time it is as a result of a printing error which has crept onto the membership card. It has been pointed out by someone more observant than myself that the 26th of April, the date of the AGM on the your card, is not even a Wednesday, so if you don't want to miss your pre-AGM drink, make sure you attend at 7pm on the 17 April, the correct date. (The date was correctly printed in the last short newsletter).

May I remind you that membership subscriptions for 1996 are now due and have ***not*** changed; they are:

Ordinary members £10
Students £5
Families £15

Cheques should be made payable to the 'East Riding Archaeological Society' and sent to:

Mrs L Jackson
24 St Stephen's Close
Willerby
Hull HU10 6DG

At the last AGM I was asked to produce the newsletter in A4 format - hence the new appearance. I apologise if there are more errors and inconsistencies than usual. Please let me know if you prefer the larger format - or not. The larger size should allow more scope for illustrations, maps and plans - so please feel free to send them in. The more material I receive for the newsletter, the sooner the next issue will appear!

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## ERAS Field Study Group

*Kate Dennett*

The Field Study Group has started on a long-term project arising from initial contacts made by Bryan Sitch and looking at the parish of Bainton (near Driffield). Several farmers had expressed interest in the possibility of archaeologists field-walking parts of their land where pottery had been visible in the plough soil over a number of years.

The group is hoping to study the whole of the parish, looking not only at the known archaeological features and the pottery finds areas, but also at such things as botany, geology, land use and change, social history, existing buildings etc. - according to the interests of members. If you are interested or have any suggestions or contributions to make, please come along. Meetings are informal and are held on the first Wednesday of each month at 7.30pm at 35 High Street (next to Hull and East Riding Museum).

Field Study Group Meetings will continue to be a mixed bag of news, fieldwork, social contact, finds processing etc. and the Bainton Project should slot in alongside other work, such as Hayton. There will be occasional rather than regular contributions from our hard-pressed Keeper of Archaeology, Andrew Foxon, in the busy run-up to the opening of Hull and East Riding Museum. Many thanks to Andrew and to Bryan Sitch for all their contributions and to Peter Halkon also. The Group wishes Bryan Sitch all the very best in his new job as Curator of Archaeology at Leeds Museum and hopes to keep in contact in the future.

# A Summary of the Excavated Sequence at the Austin Friary in Hull

*Humberside Archaeology Unit*

The 1994 excavations revealed a complex sequence of occupation and other activities on this site, stretching from the middle of the 13th century until the present day. Although a large part of the excavations was devoted to the investigation of the monastic complex, important evidence was found for pre-friary occupation on the Market Place frontage, and the post-medieval structures and deposits produced some of the finest groups of closely-dated artefacts of this period from any site in Hull. Over 240 articulated skeletons were excavated and removed from the site; however, there are indications that further burials exist to the north of the monastic church (i.e. underneath the property presently occupied by King William House multi-storey car park) and in the southern balk of the excavation, and probably extending into the ground owned by the Department of Transport and reserved for future widening of the A63 trunk road).

The main findings are best summarised by area and by period.

## Pre-Friary Activity

A large natural depression or channel was located beneath the nave of the friary church; the bottom two-thirds of this feature appeared to have silted up naturally, after which it had been deliberately infilled with waste tipped in from the direction of the market place; finds incorporated in the upper fills suggested that this episode of land reclamation can be dated to the later 13th century.

Subsequently, a row of tenements was established along the Market Place frontage: the rear parts of two tenements were investigated. The plot boundaries were demarcated by shallow gullies, whilst the buildings were of post-and-wattle construction. At least two tile hearths were associated with the occupation of these buildings. The indications are that occupation of the Market Place frontage was established early within the life of the town and lasted for some time; the buildings appear to have been cleared from the site to make way for the friary.

## The Austin Friary

This was founded in 1316-17, and dissolved in 1540. Its formal gardens were investigated in 1976, and three sides of its cloister lay within the current excavations. The constructional sequence is best discussed in terms of individual ranges of buildings.

### The church

This formed the north side of the cloister. Three major phases of structures are apparent.

*Phase 1: the timber church*

The earliest church was a narrow timber structure on low brick sills. The chancel and most of the nave lay within the excavation - the two parts of the building being separated by a clearly defined step.

*Phase 2: the first stone and brick church*

The chancel (or choir) of the early church was soon replaced by the stone footings of a larger building; however, initially, the timber nave continued in use. Subsequently, this too was replaced by the stone footings of a large nave with both a north and south aisle. There were no transepts, and no central tower; however, antiquarian sources suggest that this structure had a west tower projecting into Market Place.

Towards the end of the Middle Ages, side chapels were added on either side of the choir.

Although the footings of this building were of stone, its superstructure, like that of nearby Holy Trinity church, would have been largely of brick - stone being reserved above ground for details such as quoins and buttresses, and for the jambs of windows and doors.

*Phase 3: the second stone and brick church*

In its final form, the church was extended some 6m to the east, and a new east end was constructed on massive brick foundations. As this was the structure which was standing at the Dissolution, it is this part of the building which has suffered most from later robbing and clearance.

### The cloister and cloister walk

This was a large rectangular area, with approximate proportions of 2:3. In its final form, this had an external arcade along its northern and eastern sides; the west walk was set inside the west range, whilst the south walk is a completely unknown quantity as it lay outside the area of excavation. At the midpoint of the northern and eastern walks, a brick paved setting indicates the existence of a probable path leading into the centre of the cloister; this in turn suggests the former existence of a central feature (eg a fountain

or spring head, or perhaps a *lavatory*. Extensive late disturbances had removed all trace of any such feature.

Prior to the laying out of this formal cloister, at least half a dozen buildings existed adjacent to its edges. Most of these were timber structures set on narrow brick sills, and incorporating occasional padstones. These are probably the remains of temporary buildings which were occupied whilst work proceeded on the construction of the main complex; the similarity in construction with that of the timber church is notable. Three of the buildings were associated with small internal ovens which were perhaps used for baking or brewing. An early brick-lined well belongs to this period of occupation.

In the north-east corner of the future cloister were the remains of two successive stone buildings, one of which was later incorporated in the west wall of the east range.

Two successive mortar floors were identified within the northern and eastern cloister walks. Both had burials cut from these levels through the floor of the walks. Burials within the northern walk were relatively sparse; in contrast those in the eastern walk were packed closely together - reflecting the proximity to the chapter house.

### The west range

Two phases of building are evident within the west range. The first of these was set on shallow foundations. A thin brick partition wall separated an internal cloister walk from the main rooms of the range; access into the range was clearly gained from Market Place. At least two distinct floor levels were recognised within the range.

In the later Middle Ages this range was clearly suffering from subsidence. As a result, a major rebuilding took place. The new east wall of the range encroached on the cloister, and was set on massive brick foundations on top of a wide stone raft. The floor levels which go with this building effectively sealed the earlier wall footings.

### The east range

Almost the full length of this range was available for excavation. As with the other parts of the friary, several different phases of building and occupation are apparent: in fact, it would seem that sections of this range were built individually, rather than being planned as a unitary whole.

In its final form, the range comprised four separate rooms; most of these had brick bench positions lining the internal faces of the walls. The most northerly room appears to have been contemporary with the building of the first stone and brick church, with which it is bonded. The second room saw a phase of industrial use, as there are the remains of a chalk-paved furnace base and a tile-lined fizz tank set within it. The external walls for both these rooms have substantial stone foundations; the west wall does incorporate part of a stone wall of an earlier building.

The range originally terminated at the end of a third room, with substantial angle buttresses at this southern end of the range. The eastern wall of this third room was set on brick foundations - unlike the rest of the range. The area to the south (ie in the gap between this range and the start of the south range) was originally left open: a number of organic deposits accumulated here, and were cut through by a series of pits. Towards the end of the Middle Ages, this gap was closed with a southwards extension of the east range of the buildings. These new structures were far less substantial than their predecessors, and were built on narrower stone foundations. At the southern end of this extension, an internal doorway gave access into the south range.

## Post-Medieval Activity

At the Dissolution the lead was removed from the roofs, and the glass was dismantled from the windows; apart from this orderly dismantling of materials, very little damage was done to the site. Most of the walls appear to have been left standing until at least the 17th century. Parts of the stone foundations of the east range were stripped completely at some stage during that century; a small amount of later 16th-century debris in a passage under the choir stalls is the only deposit which can be ascribed to the intervening period.

From about 1650 onwards there is a substantial number of featurea(wells, half cellars, cesspits, etc.) which indicate occupation on the Market Place frontage. In 1724 there are the earliest documentary references to a pub here: this may be the predecessor to The Tiger Inn which reputedly occupied the nave, tower and west range of the former monastery. Certainly, there is a well group of this period bearing a wine bottle dated 1710.

In about 1792 the church tower and adjacent structures were demolished to make way for the

new market, which was completed in 1806. In the area to the north of the market shambles, a large coaching inn, the Cross Keys, was built over the site of the former church and the northern third of the cloister. In between these structures a new street was established in 1796 - Fetter Lane, which led to the House of Correction. A row of buildings was erected along its northern side during the next 20 years: by 1817 nos 2-3 Fetter Lane had become the Marrow Bone and Cleaver public house.

The Cross Keys was pulled down in 1938, partly because of bad subsidence. It was replaced by a garage. Both this and the market shambles were destroyed by bombing during the War. Parts of Fetter Lane continued in use until the 1950s. The Marrow Bone and Cleaver closed in 1956 and was demolished in 1958. The street was still visible until the 1970s when it was covered by the present car park.

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## The Use of Insect Remains in Archaeology

*Barry & Jo Constantine*

When archaeological finds are mentioned, the image most usually conjured in the mind of the general public is one of 'small finds', for example potsherds, metalwork, jewellery or flints. Archaeologists themselves would include building materials and features such as pits or ditches as 'finds'. All the archaeological 'finds' mentioned so far can provide information about people in the past, where they lived, what they manufactured, used and owned, but many of them can be difficult to interpret or even in some cases be susceptible to conflicting interpretations.

Another class of 'finds' which is very informative about the past is the biological material, including such remains as animal and human bones, seeds and pollen and insect remains. Some of this material is also difficult to interpret but it provides a much clearer picture of *how* people lived. Questions like 'What are the living conditions of this community like?' are virtually impossible to answer on artefactual evidence alone; sometimes features that are difficult to interpret can be clarified by examination of the biological remains recovered from them. This kind of material is also important in that it fills in details about the wider environment in which the human community was living, working and dying.

Insects, particularly the Coleoptera (beetles), are the most widespread, successful and numerically superior order of animals in the world. Their remains can, under the right conditions, survive for millions of years. Samples from archaeological sites containing remains of beetles can be processed to isolate the insect fragments for identification. The processing of samples is a simple and fairly speedy job, though repetitive and boring. Samples are washed over a 300micron sieve with a continuous jet of warm water until the matrix is completely broken down. If the simple washing process cannot accomplish this, the sample is boiled in a sodium carbonate (washing soda) solution to aid disaggregation and then sieved. The residue left on the sieve is then put in a bucket and well mixed with a small amount of paraffin. Water is added to completely fill the bucket, which is then left to stand for about thirty minutes. Insect fragments, each in its own little drop of paraffin, float to the surface where they can be skimmed off, washed and then stored in alcohol. This flotation process is repeated several times until no more fragments are seen. Then comes the hard part! Beetles very rarely survive as intact specimens. Usually the 'float' contains the separated parts of beetle fragments known as 'sclerites', and even these are often damaged rather than whole. Each beetle fragment has to be matched against modern specimens until its identity is established, and a species list compiled.

Once this species list is ready one can begin the interpretation, bearing in mind that certain assumptions have to be made. The most fundamental assumption in palaeoentomology is that morphological constancy equals physiological constancy. This means that if a fossil specimen of a particular species looks like a modern specimen of the same species, entomologists are assuming that it will occupy the same ecological niche in terms of food, habitat, environmental parameters etc.

Partly because of their relative abundance and because of the specific niches occupied by some species (stenotypes), insects are useful in three areas:

(1) they can give a good indication of the wider environmental background of the site during the time it was in use;

(2) they can be indicators of specific activities on particular areas of a site;

(3) they can help to identify or aid the interpretation of sites where few finds have been recovered, or where only small parts of the site

are available for excavation and study.

A recent example of a site which was not wholly available for study is at Ulrome, where Bryan Sitch and other members of ERAS have been working on sections of the cliff exposed by coastal erosion over the past eighteen months. I sampled several of the layers in December 1993 and between a fifth and a quarter of the species found in the preliminary identification were indicators of human habitation. They included the Furniture Beetle, *Anobium punctatum* (woodworm), a pest of structural timbers, species of *Cryptophagus* usually found in such places as barns, cowsheds, mouldy hay or straw, compost heaps, middens etc., and dung beetles of the genus *Aphodius*. One of these, *A. contaminatus* prefers cow dung, usually on pathways rather than grass. The assumption therefore is that there was a farmstead quite close by. This was not obvious from the features in the cliff sections and unfortunately open excavation on the surface, to show building foundations and layout, was not possible. Even where sites can be fully excavated insects can be crucial in the correct interpretation of evidence.

During Corder's (1930) excavation of the Roman fort at Malton earlier this century a large amount of burnt cereal grain was found, up to 30cms thick in places, possibly representing up to 118 cubic yards of grain. This was assumed to be evidence of enemy action and the subsequent evacuation of the fort by the Romans. However, a re-examination of the burnt grain in 1973 by Buckland (1982) showed it to be infested with grain weevil and saw toothed grain beetle. This led to the conclusion that the grain had been deliberately stacked against the ramparts and burnt by the Romans as an early form of pest control.

Two simple experiments by Osborne (1983) also serve to show the value of studying insect remains. In the first experiment he collected samples of excrement from his garden where he had emptied an Elsan chemical toilet for ten years. When these samples were processed they were found to contain over sixty species of beetles, many of them found on archaeological sites in features presumed to be cesspits, thus confirming this interpretation. The second experiment involved eating 25 specimens each of two species of grain beetle, *Sitophilus granarius* and *Oryzaephilus surinamensis*, (the same species, coincidentally, that were found by Buckland in the Malton burnt grain). The 50 beetles were killed, mixed with thick vegetable soup and then eaten. No difference in taste or texture of the soup was noticed. Osborne then collected his own faeces and treated it as an archaeological sample using the paraffin flotation process described earlier. 30 of the 50 beetles were found to have survived the trip through his gut intact, down to antennae and legs. Most of the rest were found as disarticulated body parts (sclerites). When these two species were found during the excavation of the Roman sewer in York, it was assumed that the channel drained a granary and that the specimens had washed-in. It is now much more likely that they had been eaten in food made from contaminated grain, and entered the sewer in human excrement.

The science of modern palaeoentomology has come a long way since its origins in the work of Scandinavian entomologist Carl Lindroth in the 1940s and Dr Russell Coope in Britain in the 1950s, although the earliest report was published in the mid 19th century by Strobel and Pigorini (1864). In some cases, interpretation of evidence can be quite specific and when used either alone or, more commonly, in conjunction with other types of environmental evidence, can lead to a quite detailed palaeoecological picture; for example the pollen spectra for c.5000 BC are characterised by Lime, the most thermophilous native British tree. Beetles, and consequently the fossil record of beetles, react to environmental change much more quickly than trees or other plants, whose fossil record is preserved in pollen. Many species of beetle which are obtained from samples of that date are now extinct as the temperature was as much as two degrees higher than it is now. This has implications for natural Quaternary deposits as well as for archaeological deposits. Changes in climate can lead to quite rapid change in the beetle fauna of a particular area. In certain deposits this can help to place archaeological features in the wider environmental context.

**References**

Buckland P C (1982) The Malton burnt grain; a cautionary tale. *Yorkshire Archaeological Journal* **54**: 53-61

Buckland P C & Coope G R (1991) *A Bibliography and Literature Review of Quaternary Entomology*

Corder P (1930) *The Defences of the Roman Fort at Malton*. Leeds

Osborne P J (1983) An insect fauna from a modern cesspit and its comparison with probable cesspit assemblages from archaeological sites. *Journal of Archaeological Science* **10**:

453-463

Strobel P & Pigorini L (1964) Le terremare e le palafitte del Parmense, seconda relazione. *Atti della Societa italiana di Scienze Naturali, Milan* 7: 36-37

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# Humber Wetlands Project

The first annual conference of the Humber Wetlands Project was held at Hull University on 11 November, 1995 and chaired by Professor John Coles. The Humber study is the fourth in a series of major wetlands surveys funded by English Heritage.since 1973. The other projects are the Somerset Levels Project (1973-89), the Fenland Project (1981-95) and the North West Wetlands Survey.

The lowland area around the Humber has been divided into six physiographic regions for the study, with work being carried out and published for each area in turn. The first area covered, and now completed, is Holderness, to be followed by Humberhead Levels(1995-96), Lower Trent and Ancholme valleys (1996-97), Vale of York (1998-99), Hull valley (1998-99) and Lincolnshire Marsh (1999-2000). The main aim of the project is the detailed assessment of archaeological sites and landscapes in the Humber Wetlands as a basis for the management, preservation and conservation of the most important sites. The project involves the field survey of selected areas and an assessment by fieldwork and laboratory analysis of the date, character, extent and state of preservation of a selection of threatened sites. It also includes a programme of palaeoenvironmental work to assist in placing the archaeological sites within the surrounding environmental context.

The first part of the conference covered the physical characteristics of Holderness (relief and drainage, geology, soils and coastal and estuarine processes), land use, palaeoenvironmental evidence and archaeological survey. After lunch, the second half of the conference was devoted to research themes: sea-level changes in southern Holderness, vegetational history, soil erosion studies, the use of lithics, the wetland potential of medieval settlements and the preservation and interpretation of archaeological landscapes. A large body of work by an industrious team of people was covered - too much work to more than briefly summarise here. For more information I refer you to the 'Wetland Heritage of Holderness, an Archaeological Survey', details below.

## A brief summary of results reported at the conference

**Physical background to Holderness** ***(Steve Ellis)***
Holderness rises to only 30m OD, and this only in the northern and central parts - the smaller southern area reaches only 10m OD. Most of the rivers run south or west and the drainage has clearly been altered by artificial systems, such as Barmston Main Drain in the north and Keyingham Drain and Winestead Drain in the south. In the past the landscape of Holderness was characterised by numerous small lakes, or meres; only one of these survives today, at Hornsea, but covering a smaller area than it did in the past.

The last glacial period, the Devensian, is the most important period for the geology of Holderness. The main sediment is glacial till, with some sands and gravels. There are three types of till: Skipsea, Withernsea and Basement Till. The main types of soil are clays and brown earths. The clays can be poorly draining, but where the drainage has been improved they provide fertile conditions for agriculture and have made Holderness a region of agricultural importance. The glacial deposits also make the coastline one of the most rapidly eroding in the world; together with the human activities of drainage, this threatens the preservation of archaeological material.

**Landuse** ***(Richard Middleton)***
Two main sources of data were used to determine the present day pattern of landuse in Holderness: the MAFF Agricultural Land Classification map and the Institute of Terrestrial Ecology (ITE) Land Cover Map of Great Britain. Direct field survey is beyond the scope of this survey, but a certain amount of checking 'on the ground' has been added to help overcome the limitations of the two data sources. The disadvantages of the MAFF maps are that statistics from 1987 had to be used, because after that date the census returns are not published parish by parish, the parish boundaries of the MAFF data do not necessarily coincide with the Civil Parish boundaries and some areas are excluded altogether. The multi-wavelength infrared satellite images of the ITE provide precisely located data but suffer from the difficulty of obtaining cloud-free conditions within the target dates for both summer and winter. However, the two data sets do agree on the great predominance of arable farming, with probably over 80 percent of land used for crops. There is also agreement over the amount of grassland, some twelve percent.

A set of landuse maps published by the early 1930s by L D Stamp shows that the percentage of land under semi-permanent pasture was much greater (some 28 percent) at that time than in 1987. Clearly there has been a substantial loss of grassland. Moreover, the percentage loss has not been evenly distributed over the area; it has been greatest in the parishes of southern Holderness, the very areas containing the most extensive wetlands. It might be assumed that at least the high proportion of arable land offers good opportunities for fieldwalking, but the amount is reduced by 'set-aside', the predominance of winter crops and the intensive working of the land,

**Palaeoenvironmental Survey of the Meres of Holderness** ***(Mark Dinnin)***

Four types of land which might yield palaeoenvironmental evidence were identified within Holderness: meres past and present, present intertidal coastal and estuarine areas, areas influenced by coastal or estuarine accretion and river and stream flood plains. Investigations were started in the 19th century by geologists, naturalists and archaeologists who studied the sediment filling former meres where it was exposed by the erosion of the low till cliffs of the Holderness coast, such as at Skipsea Withow Gap, Barmston and Sand le Mere. However, without absolute dating techniques, incorrect correlations were made. Early descriptions were also often vague, leading to confusions of stratigraphic sequences and provenance of finds.

June Sheppard's map of former Holderness meres, produced in the 1950s, is largely based on place names and the coincidence between geology and place names. It depicts the distribution of some 70 meres, but is not supported by any independent evidence.

The Holderness survey undertook the coring of 35 putative mere sites. Eighteen of the sites, eg Atwick, contained only late-glacial deposits and no Holocene deposits (ie there were no peaty deposits). Although the place names suggest meres, Mark Dinnin suggested that perhaps the names were related to carr land which was only seasonally flooded. In any case, there is little chance of survival of wetland archaeological evidence or palaeoenvironmental information at such sites. With the inclusion of four new mere sites found in southern Holderness and of sites investigated previously, stratigraphic sequences are now available for 47 possible former meres in Holderness; of these, 24 contain Holocene deposits though only a small number were major wetland sites in the past. However, the smaller sites can be very important palaeographically, as shown by the remarkable Late-glacial/Holocene sequence at Cess Dell, so even small areas need to be investigated for their possible wet deposits.

In conclusion, the results of the coring suggest that many of the meres identified by Sheppard may not have been permanent lakes during much of the post-glacial period, but probably would have been wetlands supplying useful resources. A basis has been provided for identifying sites suitable for further investigation and which may contain wetland archaeological remains. There is potential for identifying changes in the environment brought about by human activity in the Mesolithic/Neolithic, but less so for more recent periods.

**The Archaeological Survey** ***(Robert Van der Noort)***

Robert Van der Noort summarised the aims, methodology and results of the survey , which was carried out between August 1994 and March 1995. Firstly, a 'rapid survey ' was conducted over a period of three days to identify areas with a high preservation potential and where the threats to the archaeological resource were both great and imminent.

The majority of the main survey consisted of fieldwalking, together with specific site visits to archaeological and geomorphological features, and a survey of the foreshores and adjacent areas. The two main areas concentrated on were the southern area, which had been influenced by coastal and estuarine accretion in the past, and the meres. Some areas could not be walked because of 'set-aside', or because the agricultural cycle was not at a suitable stage.

Fields were walked in transects at 30m intervals, following the direction in which the field had been ploughed and discoveries were recorded in the field on small palmtop computers with a 16-figure grid reference. Factors which might influence the level of recovery , such as weather, agricultural processes and personal ability of the field officer, were analysed.

The Wetland Survey has tried to avoid the use of the term 'site', as this can imply settlement, whereas a lot of artefact scatters are a result of processes rather than occupation. The word 'site' was only used when other evidence, such as crop marks, was also found. However, even isolated finds have been published because they could be of importance.

It was noted early in the field survey that very little pottery of all periods was being found, in contrast to the large amount of lithic material. Any pottery that was found was in a poor condition, abraded and in small sherds. Prehistoric pottery was almost absent and various possible factors causing this were considered. It was concluded that likely causes were the effects of alluviation, colluviation, the destruction of pottery through ploughing and weathering, and the selection of types of landscape for the survey.

The research themes covered in the second half of the conference were: sea-level changes in Holderness, vegetational history, colluviation, the use of lithics in prehistoric Holdeness and the wetland potential of medieval settlements.

Robert Van de Noort concluded the meeting by discussing the five sites in Holderness which were assessed for the quality of preservation of waterlogged archaeological and palaeo-environmental material and their suitability for long-term *in situ* preservation. Skipsea-25 (Round Hill) was found to be unsuitable because of the depth of root activity and the efficiency of drainage over previous decades. Skipsea Withow, a natural log-jam with evidence of beaver activity of Neolithic date, would have been suitable for *in situ* preservation if it were not being eroded by the sea. Although a site at Manor Farm, Seaton, yielded a Bronze Age coppiced stool, good preservation is now unlikely there because of the recent construction of a fish pond. A middle Bronze Age settlement, Skipsea-63 (Barmston) has been drained for decades, but both the pollen and wood preservation analysis indicate that much of the potential of the waterlogged site is still present and it was recommended that the management aim should be to rehydrate the layers containing the organic archaeological material.

Finally, Skipsea-38, known as West Furze, the site of a Neolithic/Early Bronze Age trackway, appears to have a better-preserved palaeo-environmental matrix than any other site assessed in Holderness. The site was excavated in 1880, causing some degradation of the archaeological wood, but the excavation did not expose the lower stratigraphy, which is below the current water level. Preservation should also be enhanced by the Holocene silt of low hydraulic conductivity which underlies the archaeology.

The ***Wetland Heritage of Holderness, an archaeological survey*** **edited by Robert Van de Noort and Stephen Ellis**, is available from the Humber Wetlands Project, School of Geography & Earth Resources, University of Hull, Hull HU6 7RX, price £15.00 plus £2.50 p&p Please make cheques payable to 'University of Hull.

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## Skipsea Withow, Holderness

*Stephen Harrison*

The former meres of Holderness have long been recognised for their archaeological and palaeoecological importance (summarised in Gilbertson, 1984a). Of all these sites, perhaps the most significant is that exposed in the rapidly eroding cliff line at Skipsea Withow (TA185545), 1.5km southeast of the village of Skipsea in northern Holderness. Here, during the course of the present century, a bone harpoon, worked flints and faunal remains of Mesolithic date have been discovered. A further dimension was added between 1978 and 1984, when a series of worked wooden remains was located, indicating the exploitation and management of Alder-carr woodland on the margins of the mere during the early Neolithic. This material, comprising Alder (*Alnus sp*) and Hazel (*Corylus*) rods and pegs, one of which dated to 4770 70 BP, was probably associated with wooden trackways and platforms constructed on the peat surface. Additionally, evidence for coppicing was also noted (Gilbertson, 1984b pp17-22). And, in 1992, the present writer discovered and recorded a small pit of unknown function, with a fill of clean water-worn gravel, in the same levels as the worked timber (Harrison, unpublished).

In October, 1995, during a periodic examination of the cliff section at Skipsea Withow, the writer recovered a further *in situ* Alder peg protruding from the deposit. Although subsequent coastal erosion makes any consideration of the relationship of this peg to the earlier finds impossible, it did come from the same general area and level. The rods and pegs reported by Gilbertson were located approximately 4m north of a modern land drain outfall, which cuts through the sequence. The latest discovery was some 15m further north of the outfall, and approximately 0.8m below the present day land surface at this point.

The well-preserved peg, like the *in situ* earlier finds, was driven vertically into marsh and carr peats. These horizons are characterised by dense horizontally-bedded timbers of Alder, with some

Ash and Oak present, together with large quantities of brushwood and hazel nuts. Gilbertson has interpreted these deposits as lake-margin swamp with Alder-carr woodland growing on the peaty soils - analogous, in fact, to the scene around the margins of Hornsea Mere today. The lower end of the peg was buckled around the still *in situ* Alder trunk, diameter 0.2m, with which it had come into contact.

The latest peg has an overall length of 45cm and a maximum diameter of 6.5cm. Both the tip and upper end are missing. Although somewhat warped, the lower section does, however, exhibit slight traces of faceting, suggesting the beginnings of a point. This peg, having a 'zig-zag' shape, is similar to one of those discussed by Gilbertson from the site. As he notes, this distinctive shape is not a feature of natural growth, either below or above ground level, but caused by the repeated hammering of a vertical timber through the peat deposits until it comes into contact with buried horizontal wood, at which point it would have a tendency to buckle (Gilbertson, 1984b: p22). Further, as Coles et al (1978) point out, when discussing similar finds from the Somerset levels, this 'zig-zag' pattern only occurs when 'green' timber is utilised; seasoned wood used in this manner would fracture and split rather than buckle. Pegs such as those described above could have been used to fasten planking to the peat surface.

Although no date is available for the latest peg, it seems probable that it is of a similar age to the rods and pegs previously located at Skipsea Withow. Stratigraphically, it comes from the same horizon, and all are overlain by the same series of laminated and detrital carr-peats. These objects, on the basis of the dated rod, are indicative of early Neolithic activity in and around the former mere.

**References**

Coles J M, Heal S V E and Orme B J (1978) The Use and Character of Wood in Prehistoric Britain and Ireland. *Proceedings of the Prehistoric Society* **44**: 1-45.

Gilbertson D D (1984a) Late Quaternary Environments and Man in Holderness. *Oxford British Archaeological Reports, British Series* **134**.

Gilbertson D D (1984b) Early Neolithic Utilisation and Management of Alder Carr at Skipsea Withow Mere, Holderness. *Yorkshire Archaeological Journal* **56**: 17-22.

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(**Ed**: the following comment from Joe refers to the ERAS lecture 'The First Northumbrian Coinage c.670-c.800 AD, given by James Booth. The lecture was summarised by Bryan Sitch in ERAS News 42, but Joe's comment was unintentionally ommitted from the newsletter by its editor.)

## The source of silver for early Northumbrian coinage; *a note from Joe Santaniello*

One of the questions asked of James Booth at the end of his lecture was the origin of the silver used for this early coinage. There was a local source. In the twelth century, the hills around Alston were thrown open to mining for silver-bearing lead. The contractor was able to exploit the region ruthlessly as his miners had the right to cut down any timber whatsoever for their smelting operations. The Pipe Rolls of Henry II show these mines were in the hands of two men, William son of Erenbald and William, son of Holdegar, names of German origin. Some three or four miles south of Alston itself, there is the village of Leadgate which may be an etymological survivor of those days. The motive for Henry I to transfer this area from Northumberland to the new sheriffdom of Carlisle is also attributed to the valuable silver mines. So it is possible that the argentiferous lead of the South Tyne district was known about in even earlier times.

**References**

G W S Barrow Northern English Society in the early Middle Ages *Northern History* Vol IV 1969 pp 23-24

J Hodgson *History of Northumberland pt II vol III* Newcastle 1840 pp 46-49

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## CBA Forum

Every year the Council for British Archaeology, Yorkshire and Humberside, holds a symposium in Leeds, giving us the opportunity to hear summaries of archaeological work which has been carried out in the region over the previous season. Some of the investigations that we heard about last year were already familiar to ERAS members - such as the excavations at the Magistrates Court Site, described by Dave Evans, or the Holme Project, summarised by Peter Halkon, but other topics covered were as diverse as fieldwork in Upper

Wharfedale, rock art from Teesdale and Swaledale, evaluations and archaeological implications of improvements to sections of the A1, Filey Roman Signal Station and the survey and excavation at Swales Yard, Pontefract.

## Swales Yard, Pontefract - Pontefract and District Archaeological Society

Over five months members of the society undertook a building survey and small-scale excavation at a half-timbered building which was about to be redeveloped. The frontage of the property dates to the 13th-14th centuries when this area of Pontefract was expanding as a result of extension of the Market. During a period in the 16th and 17th century when it was used as the mayors' 'Counting House', the building was listed as the town's most valuable property. The Counting House was where corn and other merchandise could be weighed and measured and where tokens were issued. In the 18th century the building was converted into cottages which lay derelict from 1940 onwards.

The Society's building survey was carried out over five months and resulted in 45 scaled plans of the building. The excavation was limited to two trenches where services would be installed. In trench 1, along the north wall of the building, deposits of garden soil sealed two medieval pits. Trench 2 was dug along the north gable end of the building and located two walls aligned north-south beneath a deposit of building debris (which included limestone roofing tiles). A layer of slag was found underneath the walls. No deposits were found pre-dating the 13th century.

The Swales Yard building is now a pub/restaurant and its restoration and conversion earned M Lister the year's Ironbridge Award.

## Ayton Castle - Anthony Walker and Partners

Ed Dennison reported on the survey of Ayton Castle, which was among work carried out during the year by Antony Walker and Partners. The surviving ruined tower beside the River Derwent at West Ayton, south-west of Scarborough (SE 987 851) is the last structural element of an important medieval and post-medieval manoral complex, much of which is represented in the many earthworks which surround the tower. The study was instigated by the owners, Scarborough Borough Council and grant-aided by English Heritage; it included a historical survey, a review of previous work, a photographic survey and architectural analysis of the ruined structure and a survey of the surrounding earthworks.

The castle, best described as a tower house, was built for Sir Ralph Eure some time after 1389. It originally consisted of a vaulted basement and two floors above. The only entrance appears to have been the existing doorway in the west side, with a staircase leading to the first floor hall. The hall, which was heated by a large fireplace in the east wall, was probably divided as an alteration to the original plan. Only parts of the south and east walls survive on the second floor, which probably had a garderobe in the east wall.

The castle has been uninhabited since the late 17th century and partly demolished and much neglected since. Limited excavations immediately to the east and south of the castle, carried out by the Scarborough and District Archaeological Society between 1958 and 1961, identified five phases of occupation. During the main phase (mid 13th to mid 14th century) there were at least five buildings: a hall, service annex, kitchen range and dovecote, all surrounded by a stone wall. The present tower, dating to the late 14th or early 15th century, was built over part of one of the earlier buildings.

The earthwork survey identified a square enclosure surrounding the tower. Small banks and ditches within the enclosure probably represent at least six buildings, including two possible gate-houses. Three terraces to the north may be garden or cultivation features. A hollow-way running along the southern side of the enclosure appears to bend around a level area which may have been an internal courtyard. To the south of the tower there are a set of fishponds fed by a leat. These lie within the floodplain of the River Derwent and are protected from flooding by a substantial stone-faced dam.

## Filey Roman Signal Station - York Archaeological Trust

Patrick Ottaway, for York Archaeological Trust, reported on excavations at Filey Roman Signal Station which was discovered in 1857 by a local doctor. The structure would have consisted of a square central tower surrounded by a courtyard, protected by a ditch, though it is now thought that there was no ditch on the eastern side where the cliffs would have offered sufficient protection. Substantial earthworks were found to post-date the signal station but pre-date the robbing of signal station stone in medieval times. The stone from the signal station might have been used for

Filey church and might explain why the church is situated, not in the centre of Filey, but on the north side.

Annual membership of CBA Yorkshire and Humberside costs £3. Anyone interested in joining should contact Andrew Foxon, who is the present membership secretary.

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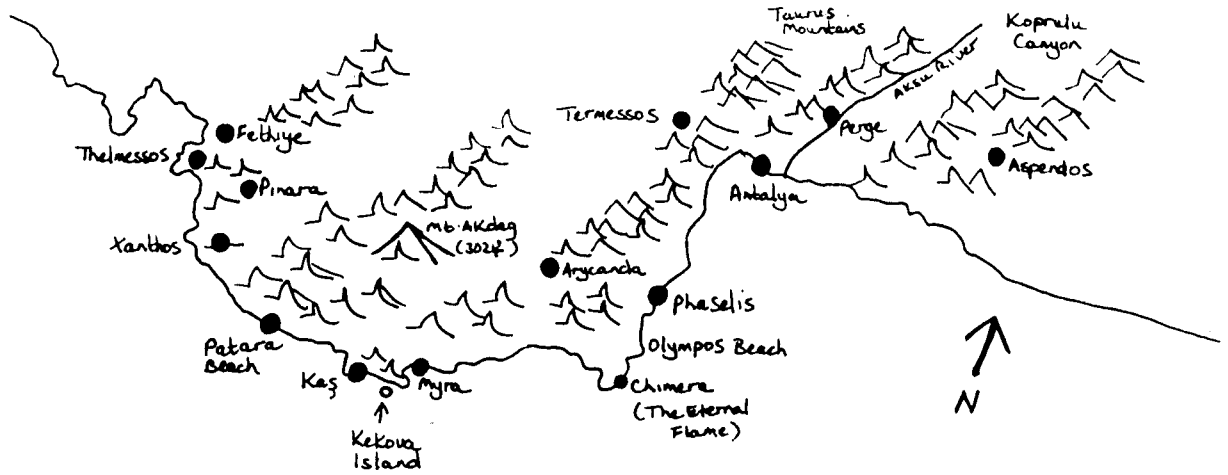
## A Visit to Anatolia: Part Two: The Mediterranean Coastal Sites

*Susie Gibson*




The coastal area I visited is justly known as one of the most beautiful stretches of coastline in the Mediterranean, and is often referred to as the Turquoise Coast or the Turkish Riviera and, more importantly, in March it's lovely and warm!

The following sites were either wholly or largely deserted (apart from our small party) which really added to their atmosphere. Some of them were not fully approachable by road and involved some walking, which perhaps explains why they were not crowded with visitors. Their locations, usually in beautiful surroundings, often on the side of mountains or within easy viewing of the coast, offered superb views of the landscape in which these ancient sites are situated.

Fethiye is built on the site of Thelmessos. All that remains is the necropolis behind the town which can be reached by climbing lots of steps. The cliff face is honeycombed with rock-cut Lycian tombs, the grandest of which are in the form of temple facades. The most splendid is the tomb of Amyntas dating from the 4th century BC whose facade is that of an Ionic temple. Close by is the deserted Greek town of Kaya (the Rock), deserted when the exchange of Greek and Turkish minorities took place in 1923 and never reoccupied by the local Turkish population. It has subsequently been destroyed by an earthquake and appears to be much older than it actually is.

Pinara is the most spectacular of the ancient Lycian cities dating to the 4th century BC. The main part of the city is perched on a narrow shelf below the cliff of the acropolis which is on the flat top of a rock 500 m above sea-level. The entire face of the rock is cut with 1020 square tombs. The operation of the cutting of the tombs must have been extremely precarious as many of them appear to be in quite inaccessible locations. More elaborate tombs of the 'temple' type are in the necropolis just below the city terrace and there are also some 'house' type sarcophagi in the vicinity: these are sarcophagi cut from a single slab of rock, with a 'roof' cut from another piece of rock, which are often supported on a pedestal.

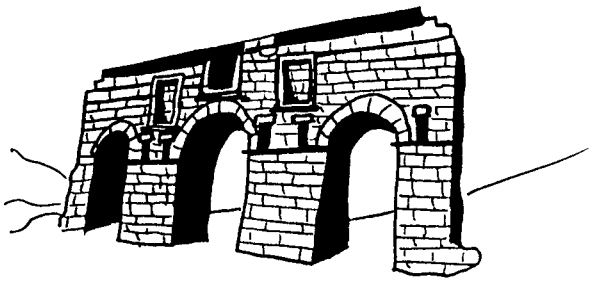
'House-type' Sarcophagus

The surviving monuments of the city include an agora (market place), an odeon (parliament), a temple of Artemis and a temple of Aphrodite, the latter with a unique colonnade of heart-shaped columns and its threshold marked with a phallic relief, and a Roman theatre below the city.

Xanthos was the ancient Lycian capital. The inhabitants were known for their bravery and were twice slaughtered in defence of their city. Plaster copies of he two most important funerary monuments that remain stand side by side next to the Roman theatre (mid 2nd century AD). One is a Lycian pillar-tomb, a sarcophagus of the 4th century BC standing on a platform. Next to this is the famous Tomb of the Harpies, a tall monolith which supports a sarcophagus in the form of a chest decorated with sculptures in low relief. The originals are in the British Museum. Apparently, in 1842, 70 crates of sculptures and inscriptions from Xanthos were shipped off to the British Museum by Charles Fellows. (I tried to find these monuments when I was last in the British Museum, but didn't succeed, perhaps I'll do better next time!) The ruins are extensive and further afield are a Byzantine basilica with a mosaic floor. Tortoise bask in the sun on the many walls and there is still pottery scattered around.

Kas, set in a lovely bay surrounded by high mountains, occupies the ancient site of Antiphellus, the remains of which can be seen in the small Hellenistic theatre above the town. Apparently, there were never any permanent stage buildings so as not toobscure the beautiful view, which I can well believe - watching the sun go down behind the mountains is indeed a lovely sight. There are also some fine sarcophagi scattered around in the harbour - even one in the middle of the town's main street. From Kas it is easy to take a boat trip to Kekova Island. You are supposed to be able to see the sunken cities of Simena, Tristomo and Dolicheste below the waves - I think I saw the foundation of a wall, but it could have been wishful thinking! However, the Byzantine church apse on Tersane is worth a look and the Byzantine fort with crenellated walls, which is on a hill behind the current village of Kale (castle), is worth seeing. Lycian sarcophagi abound on the hillsides and some actually stand in the water by the harbour.

I visited Patara in the company of a small group on our 'day off' and we had the whole place to ourselves. Patara was the port of Xanthos and an important city in its own right and boasts a sandy beach 22 km long. It is from Patara that St Paul changed ships on the homeward voyage of his 3rd missionary journey in 57 AD. It is also the birthplace of St Nicholas, the Miracle Worker, in the 3rd century AD, who has come down to us today in the form of Father Christmas or Santa Claus. So anyone still sending their letters to the North Pole, Lapland or other cold climes had better start re-addressing them! The ruins of Patara are extensive and are scattered around the periphery of the marshes that were once its harbour. There are two sets of Roman baths, a basilica and a Corinthian temple (dated around the 2nd century AD). The entrance of the city was by a three-arched Roman Gate with a dedicatory inscription dating it to 100 AD.



Three-arched Roman Gate at Patara

The theatre at Patara is said to date to the Hellenistic period: mention is made of it being repaired in the reign of Tiberius (14-37 AD) and reconstructed in 147 AD and dedicated to Antonius Pius. It is built in the northern side of a hill; the stage buildings, orchestra and much of the auditorium are now drifted over with sand, but it's a lovely spot. The granary store of Hadrian is the most imposing building, and the most difficult to get to; it is where grain was stored before being shipped back to Rome. At this point our small party split up - four of us viewed it from a distance (and took the obligatory picture) and went and had lunch (freshly squeezed oranges and a Turkish omlette - delicious!) in a little cafe close-by while the more hardy (only two!) after some difficulty (fighting the mosquitoes and other biting insects through the undergrowth and marshy ground) went and explored the granary.

Myra has a superbly preserved Graeco-Roman theatre. Cut into cliffs behind the theatre are Lycian rock-cut tombs of the temple type. Some of the tombs bear impressive reliefs of figures celebrating their funeral banquets. The Church of St Nicholas is at Myra and still has some faded frescoes on its walls. St Nicholas was Bishop of Myra in the 3rd century AD. The current church, restored by Constantine IX in 1043, was built on the

site of an earlier Byzantine sanctuary which was erected above the sarcophagus of St Nicholas. The church was one of the most famous shrines in Byzantium, but in 1087 merchant adventurers from Bari stole the bones of St Nicholas and took them back to their city where they still remain.

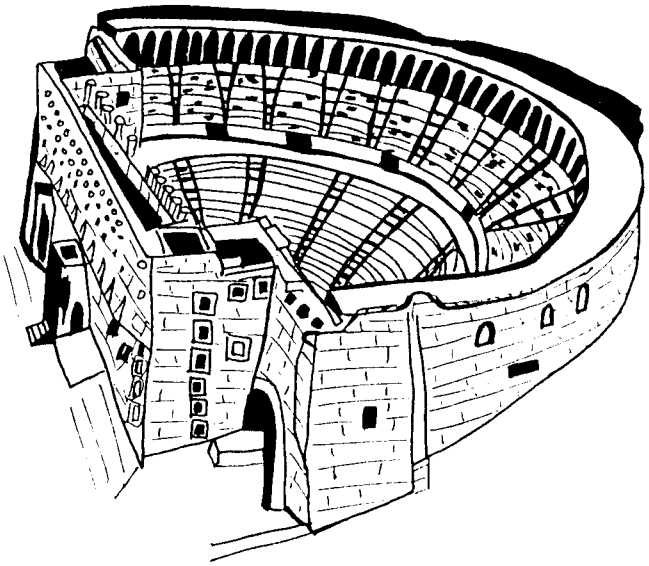
Arycanda is a ruined Lycian city set high in the mountains in the lee of a cliff face which overlooks a beautiful green valley with pine forests. There are temple tombs, baths, a gymnasium and theatre, and at the highest point under the cliff is the stadium with the remains of niches cut for statues.

Phaesilis is an ancient Lycian city founded around 690 BC and is surrounded by three natural harbour bays. There are the remains of Roman 2 agoras, a theatre, baths and an aqueduct. There are also sarcophagi scattered around the site and buildings which may have been market buildings and warehouses. An inscription on a gate by the south harbour dedicated it to Hadrian at the time of his visit to Phaesilis in 130 AD.

The remaining places are very well visited so that even in March they are full of people, but it is worth fighting your way around them. Perge was one of the most important cities of ancient Pamphylia (Pamphylia was the kingdom which stretched to the east of the kingdom of Lycia) and is first known from historical records in 333 BC when the city surrendered to Alexander. Perge is renowned as the birthplace of Apollunius, born about 260 BC, one of the greatest mathematicians of the Hellenistic Age. The theatre was built in the Hellenistic period and reconstructed in the Roman era. It had a seating capacity of 14,000. The Stadium, seating about 12,000 spectators is, after Aphrodisias, the best-preserved in Asia Minor and was built around the 2nd century AD. The round towers of the original Hellenistic gate still stand. The other remains include an agora, a huge baths complex and a basilica converted to a church in the early Byzantine period. The colonnaded way, which was the main thoroughfare through Perge, still remains and is flanked by statues and shop arcades. The ruts caused by chariots can still clearly be seen.

Antalya has a truly magnificent setting. (There is also a lot of dust but I'm told that it's not obvious to non-contact lens wearers!) The Lycian mountains stretch to the south and west, the Taurus range towers to the north and to the east is the lush subtropical Pamphylian plain. Watching the sun set over the harbour is truly a beautiful sight. There are the remains of the defensive walls and towers which were originally built in the mid-2nd century BC but rebuilt in Roman times. The Gate of Hadrian, built to commemorate Hadrian's visit in 130 AD, is flanked by two towers of the original Hellenistic walls. The most prominent monument in Antalya is Yivli Minare Camii (the Mosque with the Fluted Minaret). I had a super view of it from my hotel window. The fluted shaft is of pink-red bricks into which have been set small pieces of blue-green Selcuk tiles. It was erected in 1219 and was originally attached to a mosque which had been a Byzantine church. Although I didn't visit the Archaeology Museum I understand from those who did that it has a very good collection which covers the whole spectrum of civilisation in Western Anatolia.

The theatre at Aspendos is said to be the most magnificent in Turkey; it is remarkably well-preserved and dates to the 2nd century AD. It stands below the south-east side of the acropolis hill, the earliest occupation of which dates back to the late Bronze Age. The stage building is 25 m high x 100 m wide across the outer facade with the 5 major tiers of its windows corresponding to different levels of its interior. It is very impressive.



Theatre at Aspendos

At the northern end of the Acropolis is the last stretch of a magnificent Roman aqueduct, one of the best-preserved in Asia Minor dating to the 2nd century AD, which still stretches for about 1 km across the plain below.

Termessos (known as the Eagle's Nest) is set in the Termessos National Park, a beautiful wooded area

on the slopes of the Roseate Mountain. Like Perge, the city is first mentioned in historical records in 333 BC, when Alexander made an unsuccessful attempt to capture the city. The theatre, though originally built in the Hellenistic period, was rebuilt in Roman times. The bouleuterion (market hall) which also served as a parliament, is well-preserved and dates from the Hellenistic period and combines both Doric and Ionic elements in design. There are also the remains of seven temples. Termessos is surrounded on all sides except the east by its vast necropolis, with rock-hewn tombs, rock-built tombs and sarcophagi covering the mountainside in great profusion, all of which are Lycian in date. My pre-holiday fact sheet said that the necropolis looked like a scene from 'Judgement Day', which is a good description!

Where next? Inspired by Andrew Foxon's impromptu lecture on Orkney when the speaker was not able to attend, your Hon. Editor and I are planning a visit in July; I can hardly wait! *(Ed: see later this issue).*

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## The Stonehenge Blues?

*Pete Walker*

The lack of large stones in the close proximity of Stonehenge makes the construction of this world famous monument all the more remarkable. It was clear by the 17th century that the sarsens which form the majority and the most spectacular features originated on the Marlborough Downs 17 miles north of the site. They are most likely to have been dragged on sledges pulled by between 600 and 1000 people. The bluestones, however, are a different story.

Much of the archaeology relating to the bluestones is well known but needs to be considered in the context of the site in its entirety. Initially they were erected as part of the second building phase which was the first period during which substantial stone structures began to appear. A double circle consisting of 82 bluestones each weighing approximately four tons was planned for erection at the centre of the site. (The sarsens weigh as much as 50 tons). This structure may not have been completed. Bluestone fragments were found with sherds of beaker pottery to which a radiocarbon date in the region of 2200 to 2100 can be given. By this time Stonehenge had replaced Avebury as the most important centre of southern Britain. This range of dates can be regarded as fairly secure since it is based on at least four finds. The bluestones are therefore likely to have been erected by a Wessex-Middle Rhine group of Beaker folk. Subsequent phases included the construction of the sarsen circle of 30 linked uprights, the horseshoe-shaped setting of the five trilithons and the resetting of the bluestones as a circle and a horseshoe. The last phase may have required 2,000,000 manhours for its construction. The early phases belong to the late Neolithic period and the later to the early Bronze Age when Wessex still was the ritual centre of southern Britain.

There are several types of bluestone and they differ in texture, colour and hardness, although they are mostly bluish and sometimes speckled white or pink. The following types of rock have been found: Spotted Dolerite or Preselite (the most common), Rhyolite, Sandstone, calcareous ash and volcanic ash. 123 bluestones have been identified. The source of the stones, unlike the sarsens, was not immediately obvious but there have been two main theories. In 1923 the summit of Carn Meini, one of the Presceli Mountains in Dyfed, was proposed as the origin. This theory was based on the structure, texture and mineralogy of the rocks. These mountains are over 217 kilometres from Stonehenge. There is not, however, universal agreement about the route or even the nature of the craft used for transport. The favoured route has been the passage by sea along the coast of South Wales and then by the Avon, small rivers and short journeys overland to Amesbury, directly east of Stonehenge. The final part of the route is marked out by the Avenue, a pair of ditches and banks 22.5m apart. There are several other pieces of indirect evidence. Battle axes have been discovered, made from the spotted dolerite, and it is possible that it was the use of this material for regalia which formed part of a ritual monument which was dismantled and transported to Wessex. The mountains themselves may have been sacred. It is known that by the second millenium BC copper was being mined at Mount Gabriel in S.E. Ireland and that gold was discovered further north. It is conceivable that Beaker prospectors, returning from Ireland where they had been searching for metals and ores, might have been inspired by the Prescelis and initiated the considerable task of transporting the stones. The Altar Stone at Stonehenge is also likely to have come from South Wales, originating in the Cosheston beds at Milford Haven, near to the proposed source of the bluestones.

The argument relating to the origin of the Bluestones is, however, not entirely one-sided. During the 1970s (and again during the 1990s)

geologists proposed that the bluestones had been deposited locally as 'erratics' by glacial drift. This could have occurred about 400,000 years ago, the second coldest phase in history for this region of the world. This would eradicate the need for prehistoric peoples to have transported them over long distances. It would also explain why the stones had arrived at the site undressed and then reduced in size, sometimes to half their original dimensions. This would not be logical if they were to be moved large distances and then dressed on arrival; at least a degree of preliminary work would have saved considerable toil. If they had been transported long distances it would have been expected that the hardest stones would have been chosen rather than the ones which were actually used. Some of the stones are very soft and have been easy targets for souvenir hunters. People of this period had the knowledge to enable them to distinguish rocks possessing particularly useful properties from others on the basis of very insignificant features. They would have had no difficulty in identifying hard rock and rejecting the remainder. With local stones they may have had very little choice over which ones to use. These stones could have been closer than twelve miles away and experiments with trimerans show that transport by freshwater is an entirely feasible operation. There are approximately 1000 stone circles dating from 3200 to 1500 BC in the British Isles and none has been found to which stones have been moved more than a few miles.

More recently, an article in the Times described the results of some research designed to provide a definitive answer. The technique used was chlorine 36 dating, which measures the quantity of this isotope of chlorine which has accumulated since the rock was first exposed to the air. (All the isotopes of an element have the same chemical properties but slightly different masses, as with carbon 14 and carbon 12). The formation of the chlorine arises from the action of cosmic rays which reach the earth from other parts of the galaxy and possibly even from other galaxies. From the proportion of chlorine 36 it is possible to estimate the time which has elapsed since the rock was exposed to the air and therefore to the cosmic rays. The published date is about 14,00 years ago. Recent ice sheets cannot have carried the stones so far south as they were not sufficiently extensive. This appears to be definitive even if the findings were described as preliminary.

The issue, of course, has not been allowed to rest there and there has been a lively correspondence in the Times; there were four letters on Dec 21 1994 alone. Some of the main points are summarised below.

The sample used for dating was from a stone in Salisbury Museum, originally from Boles Barrow and not Stonehenge. The fact that it was discovered in a long barrow, which predates Stonehenge, shows that at least one of these stones was present in the area before it was built. (Not surprisingly, English Heritage are not enamoured with the idea of the removal of a cigarette box-sized piece of material from the monument itself).

Exposure to air may be caused by a number of factors other than human action. Rocks transported by glaciers may be covered by other rocks and then by boulder clay as the glacier melted. The rock would remain sealed from the air until exposed by erosion or excavation.

Deep layers of stones selected as special may be exposed by dressing - and the bluestones were dressed.

The technique described is useful but there are others which are less destructive.

Not only were the bluestones transported from South Wales but they came via Lundy and Lands End. This is based on the assumption that they followed a commonly used trade route connecting northwest and southwest Wales, Cornwall and Dorset. Bluestone axes from South Wales and greenstone axes from Cornwall have been found along this route, on the south coast between Sidmouth and Christchurch.

**References**

*The Times* Monday Dec 5 1994
*The Times* Wednesday Dec 21 1994
*Past Worlds, The Times Atlas of Archaeology*
Atkinson, *Stonehenge*
Burl, *Rings of Stone*
Burl, *The Stonehenge People*
Megaw and Simpson, *An Introduction to British Prehistory*

What do you think? Letters to the editor, please.

## (Appendix) A brief History of Stonehenge

### Phase I

A circular ditch was dug by Grooved Ware communities and a bank heaped around its inner edge. Several stones were erected to provide lunar and solar sight lines. These stones included the

Heel Stone, the Slaughter Stone and the Four Stations. There may have been a hut in the centre. 56 pits (the Aubrey Holes) were dug around the perimeter and libations poured in. After backfilling they later received cremations and personal objects.
Date - 2800 BC

**Stonehenge II**
Beaker people, originally from outside the region, decided to erect a bluestone circle inside the henge. An Avenue with earth banks was constructed which led to the entrance. A bank and ditch were dug around the heel stone and two of the Station Stones. Two bluestone rings were planned, one inside the other but not completed. The bluestones were removed.
Date - 2200 BC

**Stonehenge IIIA**
The five trilithons were constructed in a horseshoe shape, open to the northeast but rising towards the southwest and the midwinter sunset. Around the trilithons a circle of 30 sarsens was erected, a lintel linking each one. The stones were shaped and jointed.
Date - 2100 BC

**Stonehenge IIIB**
Two rings of postholes outside the sarsen rings were prepared for the return of the bluestones. This intention was not carried out.
Date - 2050 BC

**Stonehenge IIIC**
A circle of bluestones was erected inside the sarsen ring and a horseshoe of 19 dressed bluestones raised inside the trilithons. One taller bluestone was placed near to the centre. Images of weapons and the sun were carved onto the western stones.
Date - 1550 BC

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## An Orkney Visit

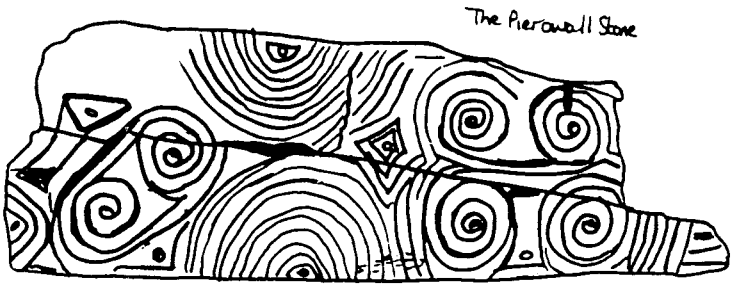
*Susie Gibson*

Inspired by Andrew Foxon's slides showing panoramic views and a wealth of archaeological sites in a relatively small area, I was keen to go and see some of them for myself. Your Hon Editor was easily persuaded that she deserved another visit herself, so a trip to Orkney in July last year was quickly arranged. Orkney lives up to all archaeological expectations and the pace of life has to be experienced to be fully appreciated.

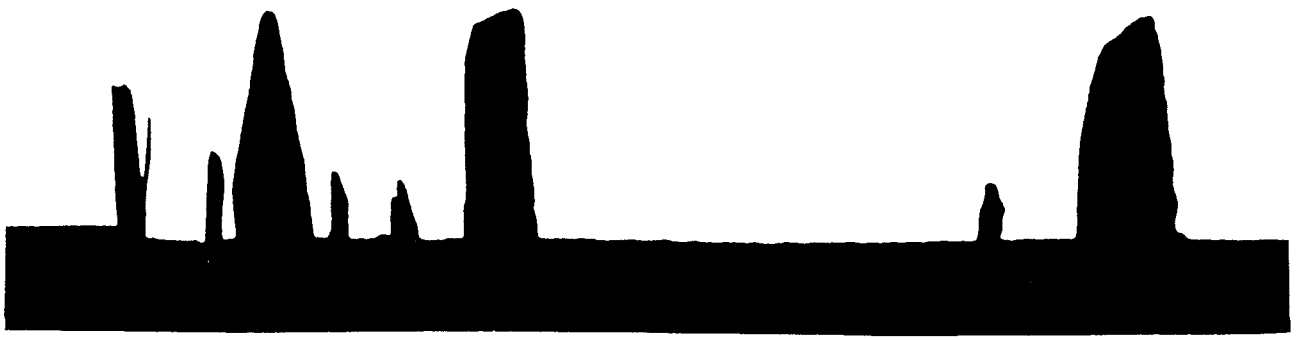
During our two weeks we visited a total of eight islands: Mainland, Rousay, Birsay, Westray, Papa Westray, the Holm of Papay, North Ronaldsay and Eday. Our means of transport were many and varied: ferry, car, minibus, foot, large and (very) small aeroplane, and rowing boat (slight exaggeration; it had a motor but it only seated the two of us plus the owner, the local lobster fisherman).

To try and cover all of the sites we visited (which included stalled and chambered tombs, earth-houses, stone circles, brochs and Neolithic villages) would take up the whole of this Newsletter, so here is just a taster of what Orkney has to offer; if you want to know about all the other exciting sites you will just have to go and find out for yourselves - you won't be disappointed!

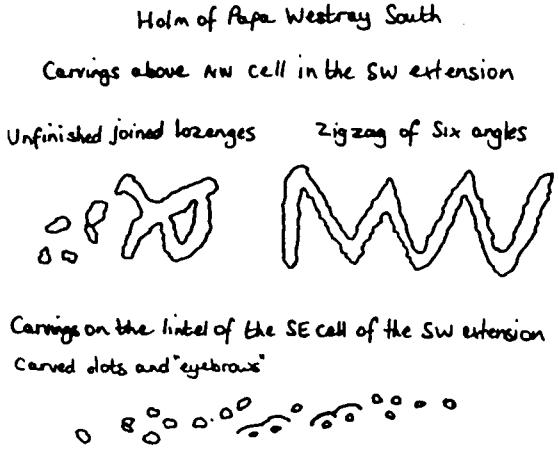
Orkney is reported to have all the known examples of Neolithic architectural art in Scotland, excepting cup and ring marks. A superb example of Neolithic art can be seen in Tankerness House Museum in Kirkwall. This is a stone from Pierowall on Westray which is superbly carved with arcs and spirals which are said to be reminiscent of the carvings found in tombs in the Boyne Valley in Ireland. They also reminded me of the carved arcs found in the tomb of Gavrinis in Brittany. After the Pierwall stone was found during quarrying in 1981, Niall Sharples carried out a rescue excavation and interpreted the tomb to be of the Maes-Howe type, a chambered tomb within a circular cairn. The tomb had been demolished about 3000 BC and the area had been paved to form a platform for working flint. Later still, around 1000 BC a round-house was built over the site. Other carved stones were found in the quarry debris, but these were of a lesser quality.




Other carved stones have been found in Orkney, including those found on the Holm of Papay, a small island close to Papa Westray, which was probably a promontory of Papa Westray at some time in the past. The carvings in this tomb required far less skill than those on the Pierowall Stone.

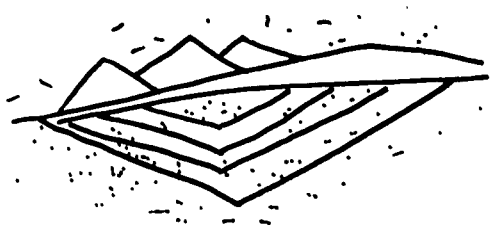


The 'Holm of Papa Westray South' is a tomb of the Maes-Howe type; however, the cairn, which is 38m long and 19.5m wide, is roughly rectangular rather than round like Maes-Howe. It was originally excavated in 1849 by a Captain Thomas who found that the mound of the tomb was surrounded by a low stone wall. The passageway is complete but the roof, originally of large flagstones, has been replaced by concrete. The original entrance to the cairn was from the middle of the SE side and is 13.5 m long. To gain entry to the cairn nowadays you have to climb down a ladder through a hatch on the top. There are twelve cells, two of which are double.

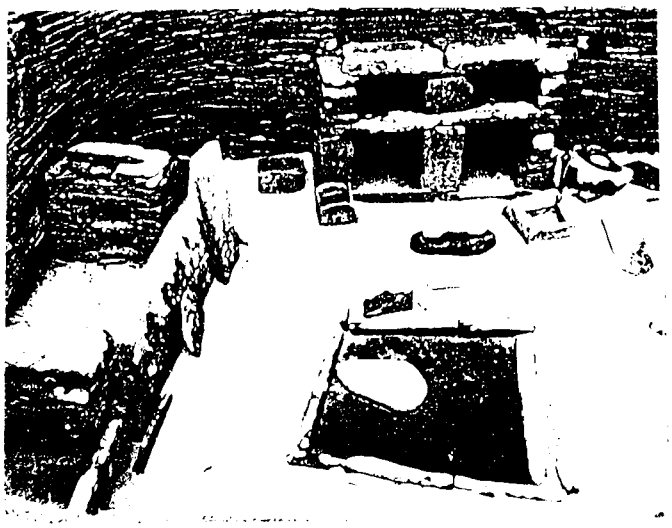



A number of stones in the chamber wall were found to be decorated, as many as eleven originally, with designs including zigzags, lozenges and dots and arcs, some of which form 'eyebrows'. These eyebrow motifs have also been found on the walls of some Irish tombs. It is thought possible that some motifs had ritual significance, as some have also been found on pottery. Keen to see any carvings we could find, we made full use of the plastic sheets and torch considerately provided and eventually 'discovered' the eyebrow carvings on the lintel in the SE chamber, and the zigzag and lozenge motifs on the opposite wall.

Although no carved stones were found in the two houses at the Knap of Howar on Papay, carvings were found on numerous stones at the Neolithic village of Skara Brae on Mainland. One of these designs, carved on a bedside stone, has now been identified as the view from Orkney of the West Coast of Scotland's majestic mountains. It is now recognised as being possibly the earliest landscape picture from the British Isles.



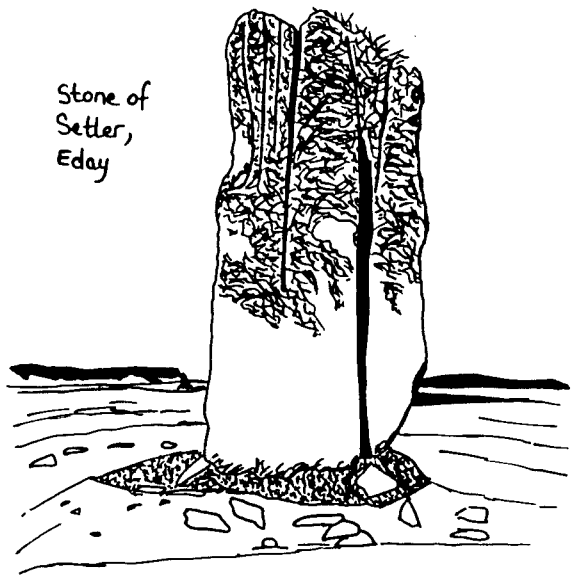
Neolithic landscape carving from Skara Brae



Skara Brae House

There are many prehistoric remains on Eday and its Calf, including houses, chambered tombs of various types, and traces of field boundaries and enclosures. There are also more 'modern' remains such as 17th century saltmills.

Even in a short walk of about 1 km, you can see three tombs, an impressive standing stone and a circular enclosure (while trying not to be distracted by the red-throated divers in the nearby loch) The Stone of Setter is probably the finest stone of its type in Orkney. Standing at 4.5 m high, it is the largest single standing stone in Orkney. It stands in a dominating position between Calf Sound and Mill Loch. The stone is covered with at least seven species of lichen, testifying to Eday's healthy air and, when we were there, the remains of a bird's nest was packed closely into a groove on the top!



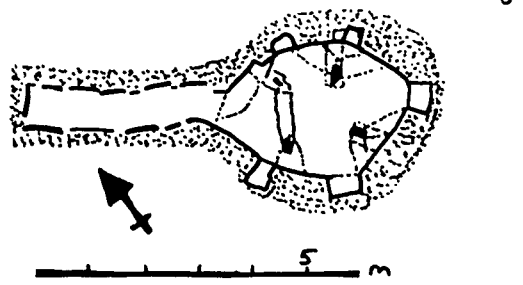

Close by is the Fold of Setter, a 90 m diameter enclosure with a low bank with protruding stones. The remains of Braeside Chambered tomb is 100 yards NW of the Fold of Setter. The roof has been removed and the centre dug out, but it is still possible to see the narrow chamber which is divided by upright slabs into three compartments.

Huntersquoy chambered tomb is just below Vinquoy Hill and had two round chambers, one above the other, which were reached by separate passages. Only two uprights remain of the upper chamber, and the lower chamber can now only be reached by keen swimmers as the chamber and passage are full of water. The chamber is said to be divided into three compartments by radial slabs. We had more success atTaversoe Tuick, a similar two-storey tomb on the island of Rousay, which is still accessible to visitors.

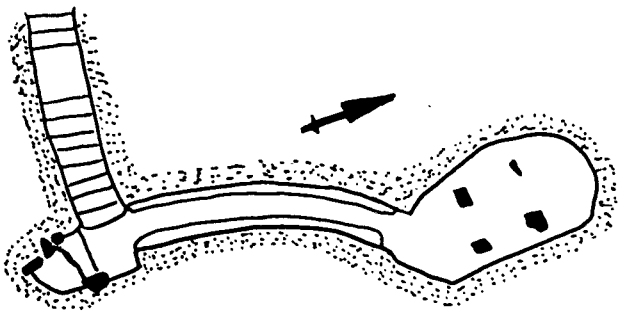
On the southern shoulder of Vinquoy Hill stands the prominent mound of a Maes-Howe type chambered tomb. A passage leads into a central chamber with four small compartments. It is well worth continuing the walk up to the top of Vinquoy Hill for a panoramic view of Calf Sound and the Calf of Eday.

ERAS members who, in April last year, went on the Society's field trip to Scotland, led by Andrew Foxon, will recall the souterraine we visited at Ardestie. Souterraines were used for storage and were close to domestic settlements. Around 25 souterraines have been found on Orkney, but they are known locally as earth-houses. The Orkney earth-houses were completely underground, unlike the example at Ardestie which would have had its roof at ground level. We visited two earth-houses on Mainland - Rennibister and Grain.

Rennibister Earth-house (From Anc. Monuments of Orkney)




Grain Earth-house (From Anc. Monuments of Orkney)



Rennibister still stands in the middle of a farmyard, where it was discovered somewhat spectacularly when the earth appeared to swallow-up a piece of farm machinery, due to the roof of the earth-house collapsing. It has dry-stone walls which contain five small cupboard-like recesses. The walls curve upwards to form a corbelled roof over an oval chamber which is supported by four stone pillars.

Looking somewhat incongruous amongst the units of a small industrial estate on the outskirts of Kirkwall, Grain is a particularly fine earth-house. An unusual feature is the flight of steps: the lower steps are original and lead down from ground level to the end of the passage. The floor of the passage has been undercut into bedrock in recent times to made access easier, but the roof is still

very low, requiring visitors to enter in a crouched position; it must have been even more awkward for the original users, unless they were much smaller or used to send their children down instead! The long curved passage leads into an oval chamber whose roof, like Rennibister, is supported by four stone pillars. Unlike Rennibister's corbelled roof, Grain has a roof which is lintelled like the passage. A torch is essential (and provided) as both the passage and the chamber are very dark, but this made the visit more enjoyable, for me at least!

**Bibliography and Further Reading:**

J L Davidson & A S Henshall, *The Chambered Cairns of Orkney*, Edinburgh University Press, 1989

Anna Ritchie, *Prehistoric Orkney*, B T Batsford Ltd/Historic Scotland, 1995

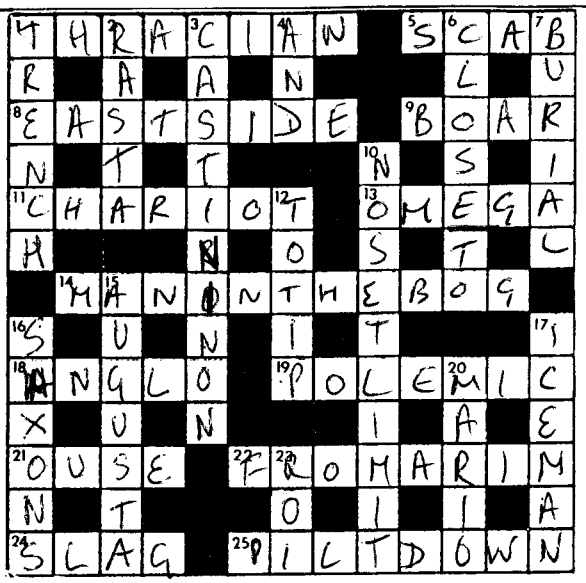
Anna Ritchie & Graham Ritchie, *The Ancient Monuments of Orkney*, HMSO, 1990

Ann MacSween & Mick Sharp, *Prehistoric Scotland*, B T Batsford Ltd, 1989

# CRYPTIC CROSSWORD

*(correction)*

In the last issue of ERAS News, the answers were given to the crossword which had appeared in News 41. However, the editor managed to add to the degree of difficulty by introducing one or two errors, so the correct clues (I hope!) are reproduced below. In the interests of clarity, and to allow you to have another try, if you wish, the original grid and clues are also given



CLUES ACROSS

1. The language of an ancient country in the Balkon Peninsula (8)
5. Got a taxi to work on site, in spite of her colleagues' objections (4)
8. The most sacred part of an ecclesiastical site.(4,4)
9. The emblem of the 20th Roman legion.(4)
11. (and 7 down) Tea before a Greek letter I blur at Garton (7,6)
13. Exclaim at the last girl to get a good grade.(5)
14. Pete on the john! (3,2,3,3)
18. (and 16 down) Snax on logs a crazy picnic of the 7th century? (5,6)
19. Evolutionists versus creationists, the debate goes on (7)
21. A sluggish waterway? (4)
22. A curvy piece? (4,1,3)
24. Almost like mixed up glass (4)
25. Head to upland pasture for a deception (8)

CLUES DOWN

1. Fish are stuffed, we hear, on excavation (6)
2. Rarely seen on site, this one has a heavenly body and some great locks (5)
3. Firm agreement with a pig (4,2,4)
4. Sum up with a hi-tech test (3)
6. Nearby, mislay a hundred in a small room - gosh! (5,2)
7 See 11across.
10. How many diggers are needed? The answer is lost in time. (2,3,5)
12. Sign on the site? (2,3)
15. A most imperious lady. (7)
16 See 18 across.
17. Frozen stiff! (3,3)
20. A confused Maori, in the wrong country. (5)
23. Gallic dig reveals illustrious remains. (3)

ANSWERS ACROSS

1.Thracian
5.Scab
8.East side
9. Boar
11.(and 7 down) Chariot burial
13.Omega
14.Man in the bog
18.(and 16 down) Anglo Saxon
19.Polemic
21.Ouse
22.From a rim
24.Slag
25.Pitdown

ANSWERS DOWN

1.Trench
2.Rasta
3.Cast in iron
4.~~DNA~~
6.Close to
7.see 11 across
10.no set limit
12.Tip
15.Augusta
16.see 18 across
17.Ice man
20.Mario
23.Roi

# DIARY OF EVENTS

| | |
|---|---|
| Wednesday 14 February 1996 | 1.30pm |
| University of Hull Department of Applied Biology seminar:<br>Ancient DNA: using molecular biology to explore the past.<br>*Dr T A Brown* | Hardy Lecture Theatre 2<br>Dept Applied Biology<br>University of Hull<br>Cottingham Road<br>*(contact Ed for further details tel: Hull 858274)* |
| Wednesday 21 February 1996 | 7.30pm |
| ERAS lecture: Crisis in England: coin hoards of the Civil War<br>*Craig Barclay* | Old Grammar School<br>South Church Side<br>Hull |
| Wednesday 6 March 1996 | 7.30pm |
| ERAS Field Study Group | 35 High Street<br>Hull |
| Wednesday 20 March 1996 | 7.30pm |
| ERAS lecture: Aspects of recent research on the Neolithic period in Yorkshire<br>*Terry Manby* | Old Grammar School<br>South Church Side<br>Hull |
| Wednesday 3 April 1996 | 7.30pm |
| ERAS Field Study Group | 35 High Street<br>Hull |
| Wednesday 17 April 1996 | 7.00pm |
| ERAS SOCIAL EVENING, AGM, & LECTURE<br>Holding onto Holderness: a wetland archaeological survey<br>Robert Van de Noort | Old Grammar School<br>South Church Side<br>Hull |