



Colchester Archaeological Group

Registered Charity No. 1028434

ANNUAL BULLETIN VOL. 24 1981

Editorial		1	(1)
The Ardleigh Project: A Summary	John Hinchliffe	2-4	(2-5)
Churchyard Surveys in the Colchester District	G.M.R. Davies & K. de Brisay	5-7	(6-9)
A Hand Axe from Feering	B.A. Bonner	8	(10)
Notes on the Skeleton of a Pig from Osea Road Red Hill, Maldon	Sebastian Payne	9-15	(11-18)
Roman Roads in Eastern England	L.S. Harley	16-17	(19-21)
Obituary Mr P.R. Holbert		17	(21)
1980 Cropmarks	R.H. Farrands	18-20	(22-25)
Late Iron Age Ditch at Mount Bures	Ida McMaster & A.J. Fawn	21-23	(26-28)
The Basic Briquetage of Salt Making	Kay de Brisay	24-34	(29-39)
Winter Meetings 1980 – 1981		34-40	(40-49)
Obituary: Mrs K. de Brisay		41	(50-51)
Winter Programme 1981 – 1982		42	(52)

This copy has been scanned from the original, first published in Courier New, and has been reformatted in Arial. Page numbers in brackets refer to the original edition, and should correspond to pagination given in the Bulletin Index.

*No part of this publication may be reproduced, stored or transmitted
without the prior permission of CAG.*

Please apply in writing to the Honorary Secretary at the following address:

*Honorary Secretary
Colchester Archaeological Group
c/o 27 Alexandra Road
Colchester
Essex CO3 3DF*

COLCHESTER ARCHAEOLOGICAL GROUP

Officers 1980-1981

Committee:

Mrs K.A. Evans	Chairman, Saltings, Peldon, Colchester. TN Peldon 346
Mrs K. de Brisay	Vice-chairman & Hon Secretary Corner Cottage, Laver de la Haye, Colchester. TN Layer 274
Mr. A.J. Fawn	Hon. Treasurer, 2, Silvanus Close, Colchester. TN Colchester 45887
Mr. A.B. Bonner	
Mr. H. Brooks	
Mr. M. Winter	
Mr. G.M.R. Davies	
Mrs. M. Dunn	
Mr. R.H. Farrands	
Mrs A. Gibson	
Mrs A. Hampton	
Mrs. I. McMaster.	

Editorial

As we were about to go to press we heard the very sad news of the death of our much loved Vice-Chairman and Honorary Secretary, Mrs Kay de Brisay. She died on Saturday 5th September 1981 having been well enough the day previous to do gardening, read the Bulletin manuscript and draw archaeological maps. Her death is a great blow to the Group; we have lost a valued colleague and a staunch and faithful friend. But the memory of her meticulous work, her energy and her enthusiasm will remain with us for future inspiration. Mark Davies writes more fully of Kay's contribution to archaeology on page 41.

Members of the Group will always think of Kay with pride and with great affection. Our sincere sympathies go to her son and daughter and her grandchildren in their very sad loss.

Mrs Ida McMaster, Fen House, Mount Bures, will act as Secretary for the present.

Editor.

THE ARDLEIGH PROJECT: A SUMMARY

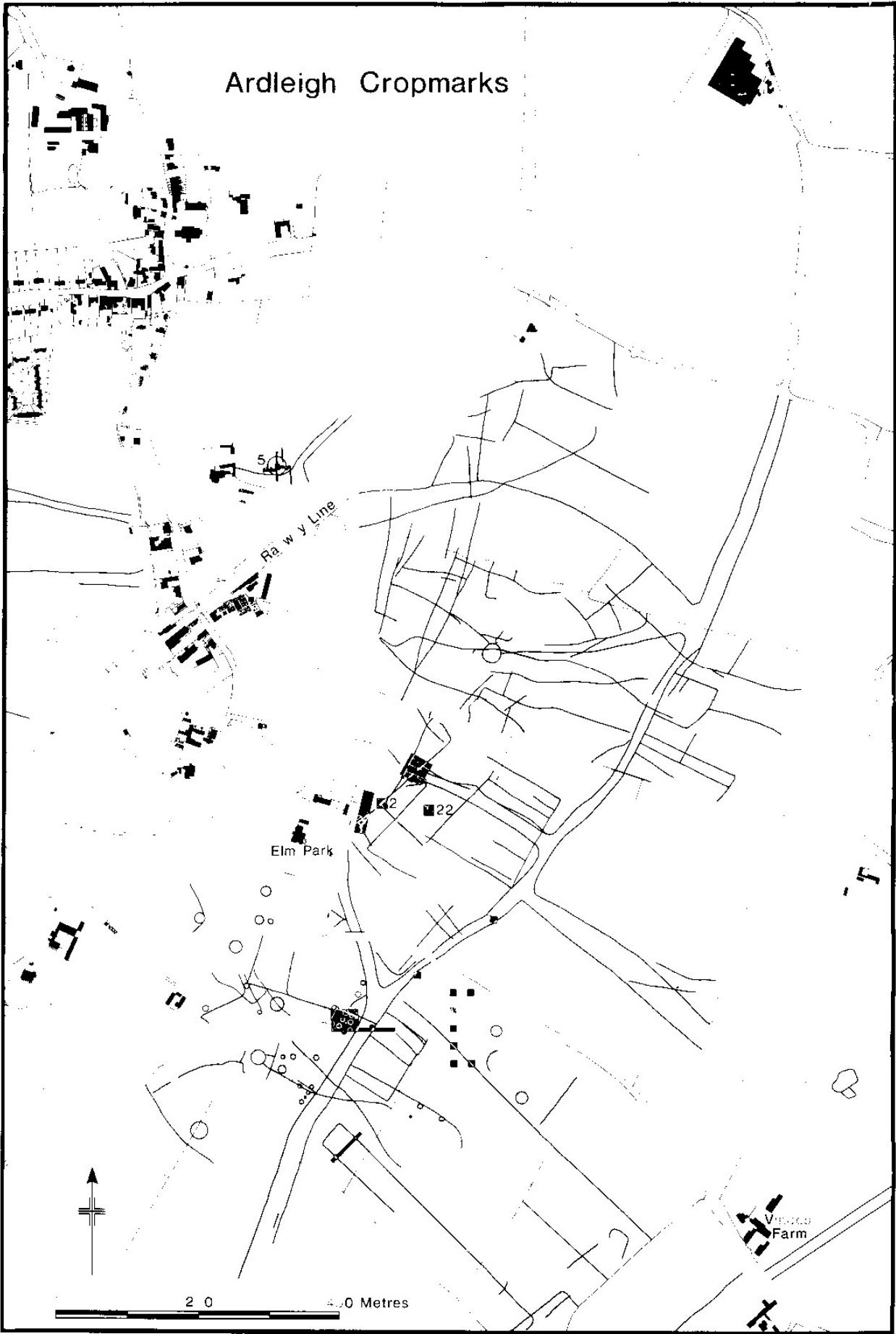
John Hinchliffe

From June 1979 until October 1980 the Central Excavation Unit was engaged in a programme of fieldwork on the cropmark site at Ardleigh (OS TM 060290). The site is notable for the broad date range of material recovered over the years as a result of the work of Felix Erith (of Vincennes Farm) and the Colchester Archaeological Group. Of particular interest is Mr Erith's excavation of over 100 Bronze Age urns located by systematic observation during ploughing (1). Subsequent excavations by Mr Erith and the CAG (2,3,4,5,6,7,8,9,10) demonstrated that the circular ditches in areas adjacent to those from which the urns were recovered, located as crop marks by Commander Farrands (11) and Mrs McMaster (1-2,13) represented the sites of levelled barrows containing burial urns broadly similar to those previously excavated.

The CEU's brief was to carry out an assessment of the effects of cultivation on the site and the resolution of certain questions raised by the earlier work. In view of the brief, it was felt that large scale area excavation of the kind generally undertaken in similar sites in advance of militant threats such as gravel extraction, was inappropriate. It was therefore necessary to devise a methodology with the specific aims of the project in mind. In total 22 discrete trenches were excavated (see Figure), their siting determined by the results of earlier work, cropmark information or the results of an intensive field-walking programme in the fields adjacent to Elm Park, which made a substantial contribution to the understanding of the site.

The results may be summarised as follows:

1. The earliest features encountered on the site were a number of shallow scoops of uncertain function in Area 7. These features were cut by the ditches of later Bronze Age barrows and produced a few sherds of pottery of late Neolithic/early Bronze Age date. The field-walking also produced a scatter of flintwork of this period.
2. The excavation of a large levelled barrow at the northern end of the cropmark complex (Area 5) produced a single primary cremation without an urn or grave goods. Radio carbon dating indicates this burial to be Early Bronze Age in date.
3. The opening of an area (Area 7) in the general vicinity of the later Bronze Age cemetery revealed all or part of 17 circular ditches which are presumed to be the sites of levelled barrows. The internal diameters of these features ranged from 7m to 2m. Few burials had survived the plough but it is perhaps significant that the deepest burials were those within the smallest barrows where the insubstantial nature of the ditches indicate that only a small mound had been constructed from the upcast. The ditched trackway known from cropmarks (see Figure) marked the eastern limit of the Bronze Age cemetery. Whilst it was not possible to demonstrate contemporaneity, the re-cut trackway ditches producing Romano-British material, and arrangement of the levelled barrows strongly suggest a contemporary boundary on this line - possibly an unditched trackway was provided with ditches in the 1st century AD.
4. Within the area covered by the field-walking exercise cropmarks indicate a large rectangular enclosure linked to the trackway system. The results of the field-walking indicated very clearly that the enclosure was not occupied in the Romano-British period. Excavation of the substantial ditch of the enclosure in Areas 8, 20 and 21 proved it to be an earlier feature and the little material recovered from the filling indicates a date broadly contemporary with the later Bronze Age cemetery. The relationship of the enclosure, which was furnished with several entrances, to the trackway system supports the hypothesis (3 above) that this system has its origins in the later Bronze Age.
5. Very little pre 1st century AD Iron Age material was recovered during the excavations. It seems likely that the focus for activity in this period was the small farmstead to the north of Vincennes Farm excavated by Felix Erith and Peter Holbert in 1965 (10).
6. In the first half of the 1st century AD a series of ditched rectangular enclosures were added to the eastern boundary of the Bronze Age enclosure whose ditch had, by this time, largely silted up (Areas 8,20,21 and 22). At this time the trackway system was defined by ditches also. Although ploughing had effectively obliterated any intelligible evidence of structures within these enclosures, the volume of occupation-derived material contained in the filling of the ditches, would suggest they were house



plots rather than fields or paddocks. At least two of the enclosures were furnished with waterholes, one of which had a prefabricated timber lining.

7. At some point in the middle of the 1st century an attempt to defend the settlement was made by the erection of a substantial timber palisade with an accompanying ditch. This work involved a minor realignment of boundaries of the settlement, the new line being followed by subsequent redefinitions of the enclosures after the dismantling of the palisade.
8. The settlement appears to have continued in existence until the middle years of the 2nd century. By then part, at least, of the population's energies were given over to the manufacture of pottery evidenced by the site of a circular kiln located by fieldwalking and excavated in Area 21.
9. The area of the Bronze Age cemetery also produced evidence of Romano-British activity, a circular timber building being constructed over a number of barrows which had been deliberately levelled. Evidence of pottery manufacture was again present in the form of massive dumps of material in contemporary ditches. A small simple kiln had also been excavated into the side of the adjoining trackway ditch.
10. The latest features of interest encountered during the excavation were two groups of inhumations, one in the area of the Bronze Age cemetery (Area 7), the other occupying the site of the early Bronze Age barrow at the north of the complex (Area 5). The latter consisted of six graves, aligned north-south containing brooches, beads, buckles, coffin-fittings and pottery of 4th century date. The former group consisted of four graves, aligned west-east with the only grave goods present two small iron knives.

References

- 1) Erith F.H. and Longworth I.A., A Bronze Age Urnfield on Vincles Farm, Ardleigh. Proc Prehist Soc XXVI NS (1960) 178-92.
- 2) " Ardleigh - Ring Five. CAG Bulletin 18 (1975) 2-4
- 3) " The Discovery in Martells Gravel Pit. CAG Bulletin VIII (1965) 30-36.
- 4) " Summary of Ardleigh Ring Ditches. CAG Bulletin VI (1963) 42-43.
- 5) " Ardleigh - Ring Three. CAG Bulletin IV (1961) 33-54
- 6) " Ardleigh - Ring Four " " " " 59-63
- 7) " Winter Ploughing 1959-60. CAG Bulletin 111 (1960) 2-7
- 8) " Circular Cropmarks in the Ardleigh District. CAG Bulletin 11 (1959) 31-34.
- 9) " and Holbert P.R., A Belgic Pit at Ardleigh. CAG Bulletin 17 (1974) 3-19.
- 10) " and Holbert P.R., The Iron Age 'A' Farmstead at Vincles Farm, Ardleigh. CAG Bulletin X (1967) 1-27.
- 11) Farrands R.H., Cropmarks at Ardleigh. CAG Bulletin 111 (1960) 13-15
- 12) McMaster I., A further 4 years Aerial Survey. CAG Bulletin 18 (1975) 26.
- 13) " Cropmarks: an appeal for conservation and observation. CAG Bulletin 14 (1971) 2.

Also:

- Couchman C.R., The Bronze Age Cemetery at Ardleigh: A Further Consideration. Essex Arch & Hist 7 (1975) 14-32.

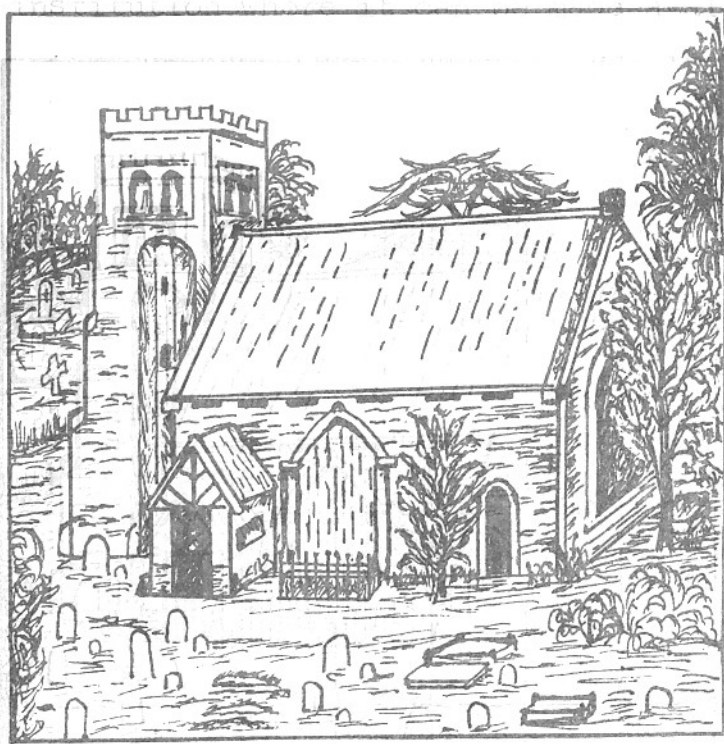
CHURCH-YARD SURVEYS IN THE COLCHESTER DISTRICT

G.M.R. Davies and Kay de Brisay

The need for such surveys has long been apparent and stems mainly from a variety of threats which are leading to the loss of a great many gravestones. Recently the upkeep of church-yards has become increasingly difficult and costly. The ancient craftsman of the scythe and sickle is more likely to be found under the turf than above it, so church-yards are 'tidied-up' by wholesale removal of monuments to permit easy access for grass-cutting machinery.

Some parishes, faced with a lack of space for further burials, choose the oft repeated expedient of eradicating older gravestones to create more room, in preference to the expensive and sometimes impossible alternative of extending the church-yard. In other cases, when churches are declared redundant, though many are found alternative uses, demolition often occurs with total loss of all grave-yard memorials. With the removal of the gravestones, whatever the reason, go the records of past families and with them much local history is lost for ever.

The CBA and Rescue have brought out a valuable handbook (1) entitled "How to Record Grave-yards". This sets out a simple method by which a comprehensive record may be compiled. It consists of a detailed record card for each memorial to include names, dates, ages, inscriptions, types of memorial etc. In addition a photographic record of each memorial is made together with a ground plan of the grave-yard. When complete the full archive is deposited in an appropriate public institution where it can be made available for reference and research.

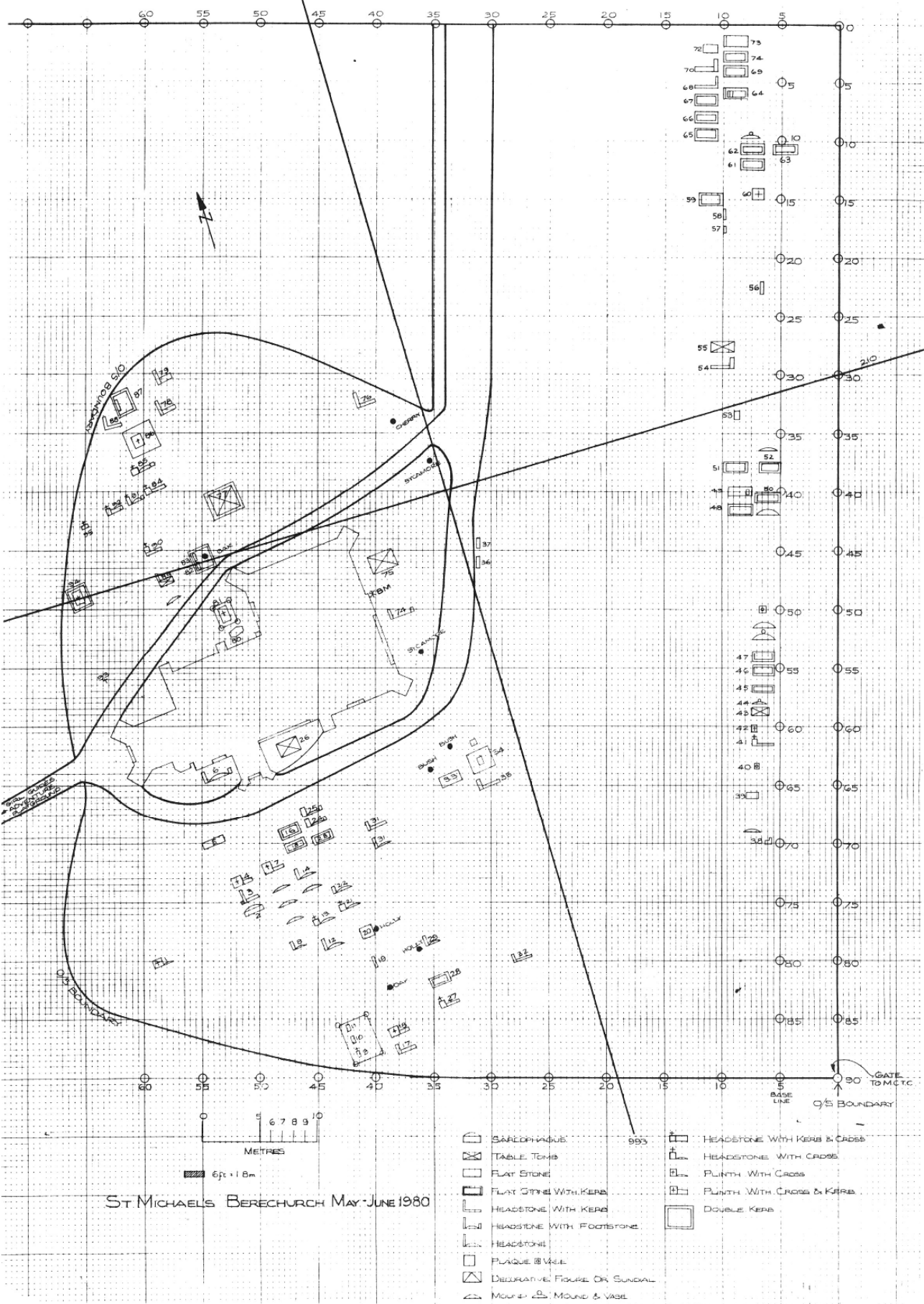


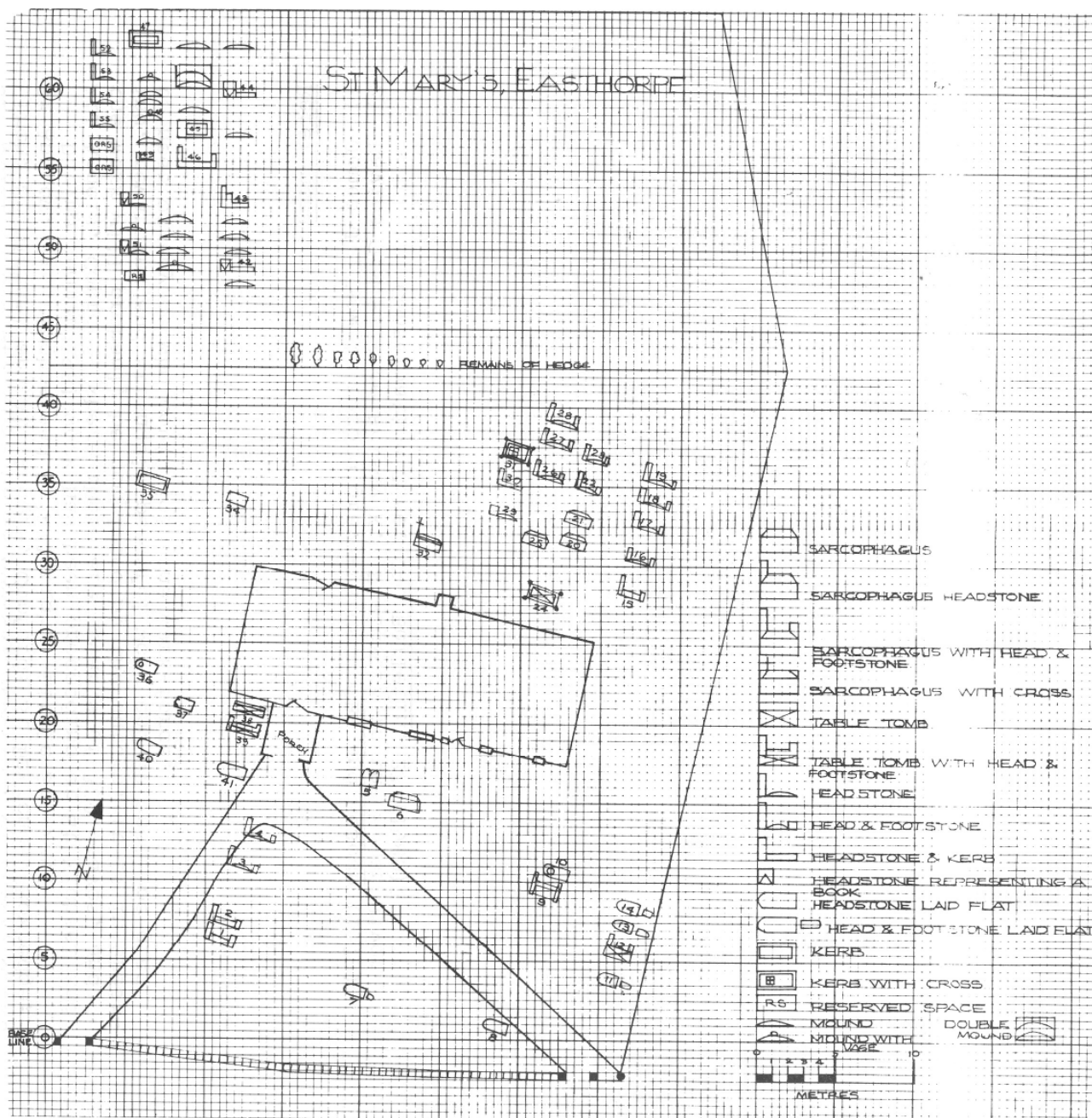
ST. MICHAELS, BERECHURCH

A programme of recording church-yards in the Colchester district has been initiated by the Colchester & Essex Museum which called for assistance from interested bodies and particularly from the Group.

The church of St. Michael at Berechurch (originally at W. Donyland) was declared redundant in 1974 and alternative uses for this compact little building, sited in secluded surroundings on the southern outskirts of Colchester, are still being considered. During the intervening seven years the church has suffered serious vandalism, both inside and out. Accordingly this survey was made the Group's first objective, followed by the church of St Mary at Easthorpe which stands on or near one of the many Roman roads leading to Camulodunum. Both these surveys were completed in 1980 and the records lodged with the Colchester and Essex Museum. The ground plans of the surveys appear on pages 6 & 7.

In the last Bulletin (2) mention was made of the Group's close association with the Roman River Conservation Zone and, in view of this, it was agreed that future church-yard surveys should be concentrated on the 11 churches within the Zone in order to enhance the historical and archaeological content thereof. In addition to St Michael, Berechurch there are four other churches which are redundant or in ruins; they are St Mary the Virgin, Little Birch; St Andrew, Langenhoe; St Lawrence, East Donyland and All Saints, Great Stanway. The remaining six churches which are still in use are those of St Andrew, Abberton; St Peter, Great Birch; St Michael and All Angels, Copford; St Lawrence, Rowhedge; St Andrew, Fingringhoe and St Allbright, Little Stanway.



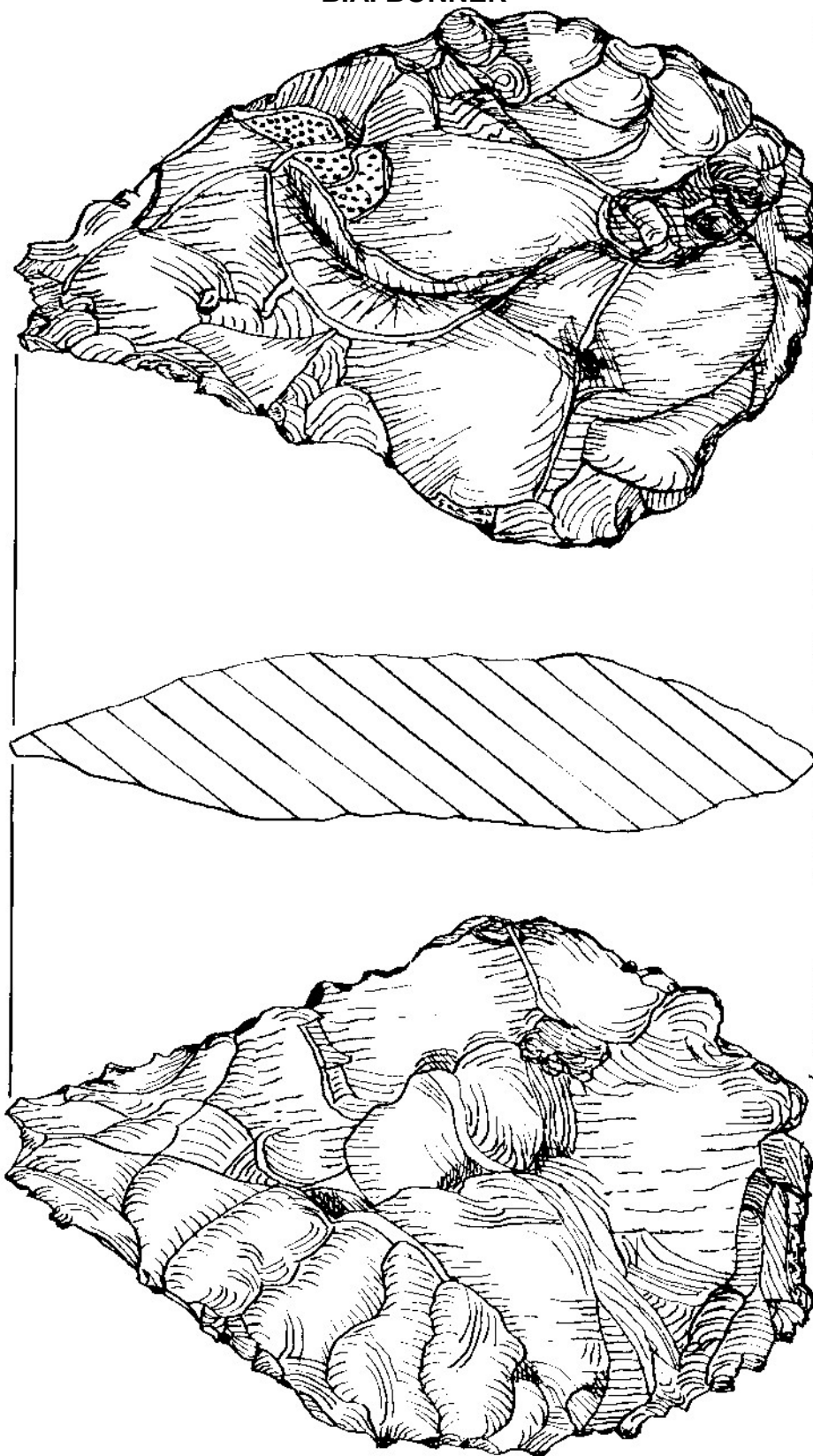


During summer 1981 work has been proceeding at St Michael and All Angels, Copford, where there are upwards of 300 graves, and the work will probably be completed by the autumn. It is interesting, rewarding and strangely peaceful work and we shall be glad to hear of anyone who could join the work-force.

References

- 1) Jones J., How to record grave-yards. CBA and Rescue (1979)
- 2) Davies G.M.R. & de Brisay K. Fieldwork in the Roman River Conservation Zone. CAG Bulletin, 23 (1980)2

**A HAND AXE FROM FEERING, ESSEX. TL 5675 1977
B.A. BONNER**



Scale 1/1

K deB

This flint hand-axe was found at Feering, Essex in May 1981 and has been described by Dr J Wymer as sub-cordate Acheulian. It was on the surface of a depression in the river terrace at a point about 90 yards SE of the River Blackwater. Recent slight damage from cultivation has exposed a piece of light grey interior, otherwise it has weathered to a reddish brown colour.

NOTES ON THE SKELETON OF A PIG FROM OSEA ROAD RED HILL, MALDON, ESSEX

Sebastian Payne

During excavations in 1972 at Osea Road Red Hill, a late Iron Age and early Roman salt-working site (1,2), the skeleton of a pig was found in grid square E 4/5, at a depth of about a metre (2). The skeleton was in articulation, and had presumably been deliberately buried. On stratigraphic grounds, the pig must be of late Iron Age or later date, as the pig, in which it lay had been cut into intermediate level deposits(2) and was not sealed. In the absence of Medieval or later buildings in the vicinity of the site, it seems likely that the skeleton dates from the later phases of salt-working at the site, but this cannot be demonstrated. Despite this uncertainty, the skeleton is of sufficient to deserve a brief description.

Skull: The skull is broken and incomplete; the lacrymals are too broken to be measured. Most of the upper dentition is preserved:

I¹ fully-erupted, coming into wear (J/W)

I² starting to erupt: tip about level with bone surface (E)

I³ fully-erupted, coming into wear (J/W)

C fully-erupted, broken; female

P¹ normal alveolus, tooth missing

P² fully-erupted, enamel wear only (J)

P³ fully-erupted, dentine exposed by wear (W)

P⁴ fully-erupted, dentine exposed by wear (W); both left and right slightly displaced labially (Plate 1)

M¹ fully-erupted, heavily worn: dentine insulae joined and right

M¹ with exposed root cavities and probably periodontal infection (Plate 1)

M² fully-erupted, in early wear: dentine insulae not yet joined

M³ not yet erupted, visible below bone surface (V) (Plate 1)

Mandible: The mandible is broken, but most of the lower dentition is preserved; the teeth show considerable abnormalities:

I₁ left is fully-erupted and in wear (W); right is absent, and there is no alveolus (Plate 2).

1₂ left is fully-erupted, with enamel wear only (J); right is half-erupted and unworn (½).

The enamel of the I₁ and both I₂s is abnormal, with considerable defects and irregularities (Plate 2).

1₃ left is fully-erupted, with enamel wear only (J); right alveolus is normal, and the tooth is missing.

C left and right both fully-erupted; left is broken, and right has dentine exposed by wear (W); female.

P₁ left has mandible broken at that point; right alveolus is normal and the tooth is missing.

P₂ left is starting to erupt, tip level with bone surface (E); right is fully-erupted, with enamel wear only (J).

P₃ right and left fully-erupted, dentine exposed by wear (W).

P₄ right and left fully-erupted, dentine exposed by wear; right is rotated (Plate 3).

M₁ right and left fully-erupted, heavily worn; dentine insulae joined, and root cavities exposed; both with probable periodontal infection (Plate 3).

M₂ right and left fully-erupted, in early wear; dentine insulae not yet joined.

M₃ right and left close to erupting, visible below bone surface (V) (plate 3).

Tooth measurements: crown lengths taken in axis of each tooth; widths at enamel base, at right angles to tooth length. All measurements are expressed in millimetres:

Tooth	Length	Width, first cusp	Width, second cusp
M ¹ left	16.1	12.6+	-
M ¹ right	15.4	12.6	12.5+
M ² left	21.8	-	-
M ² right	21.0	-	-
P ₄ left	-	9.2	-
P ₄ right	13.8	9.1	-
M ₁ left	13.8	9.7	10.3
M ₁ right	14.8	10.1	10.2+
M ₂ left	22.3	-	-
M ₂ right	22.5	13.4	-

Vertebral column: Most of the vertebral column is preserved, but many of the individual vertebrae are in fairly poor condition. There are no caudal vertebrae. Vertebral bodies are fused with their arches, but epiphyses are unfused. The cervical vertebrae are normal, but there is considerable abnormality in the lower thoracic and upper lumbar vertebrae. One vertebral body shows extensive erosion, proliferation and re-modelling. (plate 4), indicating infection at some time in the past followed by healing, and most of the lower thoracic and upper lumbar vertebrae show extensive secondary adaptation, in compensation for the stresses caused by the collapse of the infected area (Plate 5).

Forelimb: measurements of the limb-bones follow von den Driesch (3).

Scapulae tuber scapulae fused; left SLC 22.9+. GLP 34.7+; right SLC 22.6+.

Humeri proximally unfused; distally fused (fusion line minutely open on one epicondyle); left HCT (diameter of trochlea at central constriction) 19.5; right HCT 19.0; both humeri with unusual groove dividing medial and lateral halves of distal trochlea (Plate 6).

Radii proximally fused; distally unfused.

Ulnae proximally and distally unfused; right TPA ca.33.2; both ulnae with unusual groove across the semilunar notch (Plate 6).

Hindlimb:

Pelvis acetabula fused; right innominate normal; left innominate abnormal: acetabulum has perforation in floor, and wide grooves separating pubis and ilium and ilium and ischium, and ilium is bent over medially (Plate 7).

Femora proximally and distally unfused; both normal.

Tibiae proximally and distally unfused; both normal

Fibula (one only): proximally and distally unfused.

Feet: Many of the smaller foot bones are missing; those that survive include a number of carpals and tarsals, metapodia and phalanges.

Calcanea both present; tuber calcis unfused.

Astrangi both present; left GL1 41.2+; right GL1 41.7

Metapodia	axial and abaxial metapodia are present; all are distally unfused.
Phalanges	Axial first phalanges are proximally unfused; axial second phalanges are proximally fused; one abaxial first phalanx is unfused; there are no abaxial second phalanges, and no third phalanges.

Foetal bones: A number of foetal pig bones were also found, mixed with the bones of the pig skeleton; at least three individuals are represented (there are three left and three right humeri). The size of these bones suggests animals in the last month of gestation.

Discussion

The canine teeth show that this was a female pig; the foetal bones suggest she was pregnant at the time of death and fairly near to full term. The complete burial of the articulated skeleton, and the absence of cut-marks, suggest that the pig died naturally either accidentally or, more probably, from illness; animals that die from disease are unlikely to be eaten because of health risks. The absence of caudal vertebrae and third phalanges might suggest that the skin had been removed; but the absence of any cut-marks on the phalanges that survive, together with the absence of many other smaller bones, suggest that these smaller bones may simply have been missed during excavation.

The substantial abnormalities shown by the animal suggest that it must have had a long history of ill health. Dr Jefferies suggests that osteomyelitis is a likely cause of the lesion in the vertebral column; this typically affects young animals. Other causes are also possible. Though the infection was severe enough to cause the collapse of one or more vertebral centra, with subsequent repair and remodelling of a substantial part of the vertebral column in compensation, the animal would not necessarily have appeared to be very ill; and it is interesting to note that despite the condition of the vertebral column, and the probably related deformation of the left innominate, the left and right femora and tibiae match well, with no obvious asymmetry. The extent of repair and remodelling suggests that the animal was infected some time before death and that the infection was not directly responsible for death. It is tempting to suggest that the pig might have died during farrowing as a consequence of its mis-shapen pelvis; but the small size of piglets at birth in relation to the large size of the pelvic cavity and outlet means that the pig was probably not at increased risk at least on this account.

The dental abnormalities and the grooves on the distal humeri proximal ulnae are unlikely to be directly related to the pathology of the vertebral column; but are indirectly related probably reflecting a generally poor state of health, possibly with chronic low-grade infection and nutritional deficiencies.

In a normal animal the state of dental eruption and wear would suggest an age of 18-21 months as the second incisors are in the process of replacement. The state of epiphysal fusion is consistent with this estimate. It is known, however, that illness retards normal development and it is possible that the pig was, in fact, a little older.

Location of material: The skeleton of the pig from the Osea Road Red Hill is accessioned as No. 7611 in the collections of the Colchester and Essex Museum.

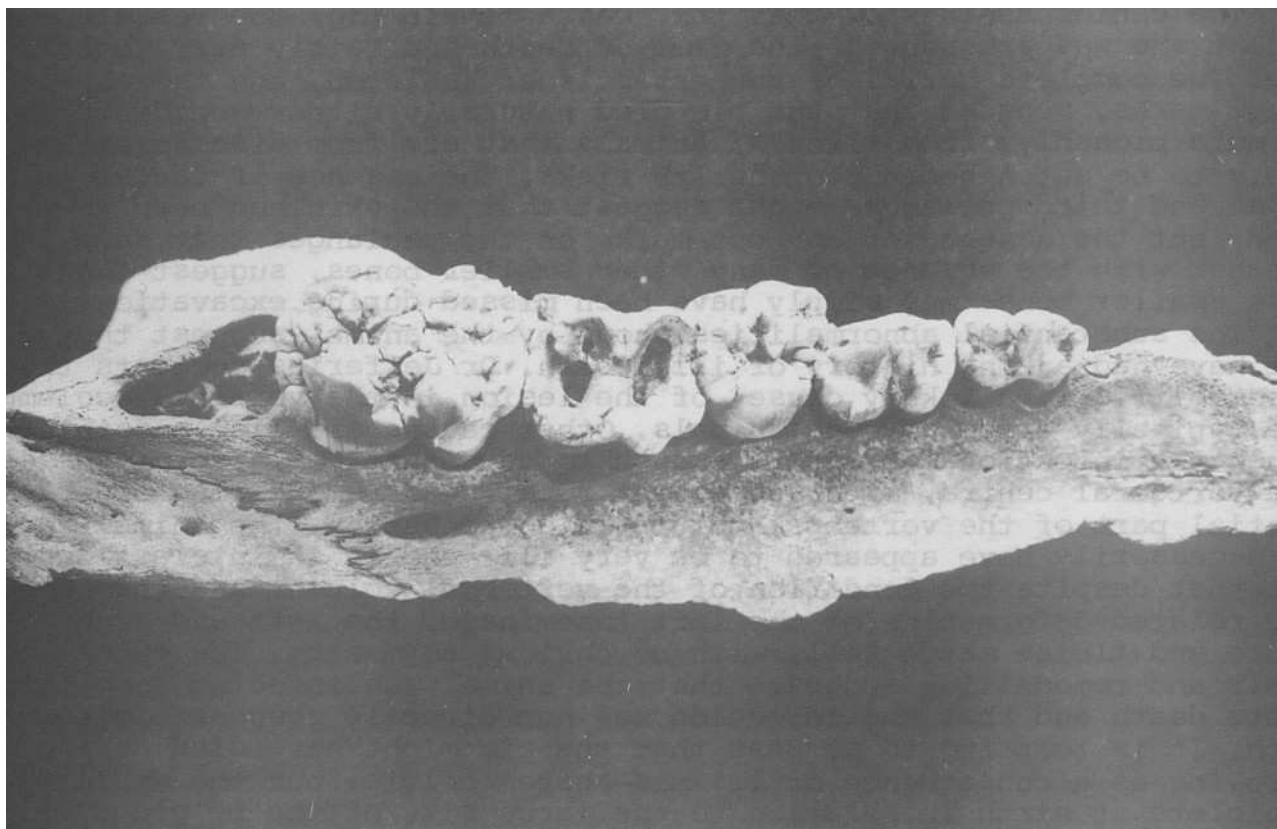
Dating: A ¹⁴C determination carried out by the British Museum Research Laboratory gave the following result: BM 1905 150± 50BP (AD 1800); determination on collagen from selected long bones.

Acknowledgements

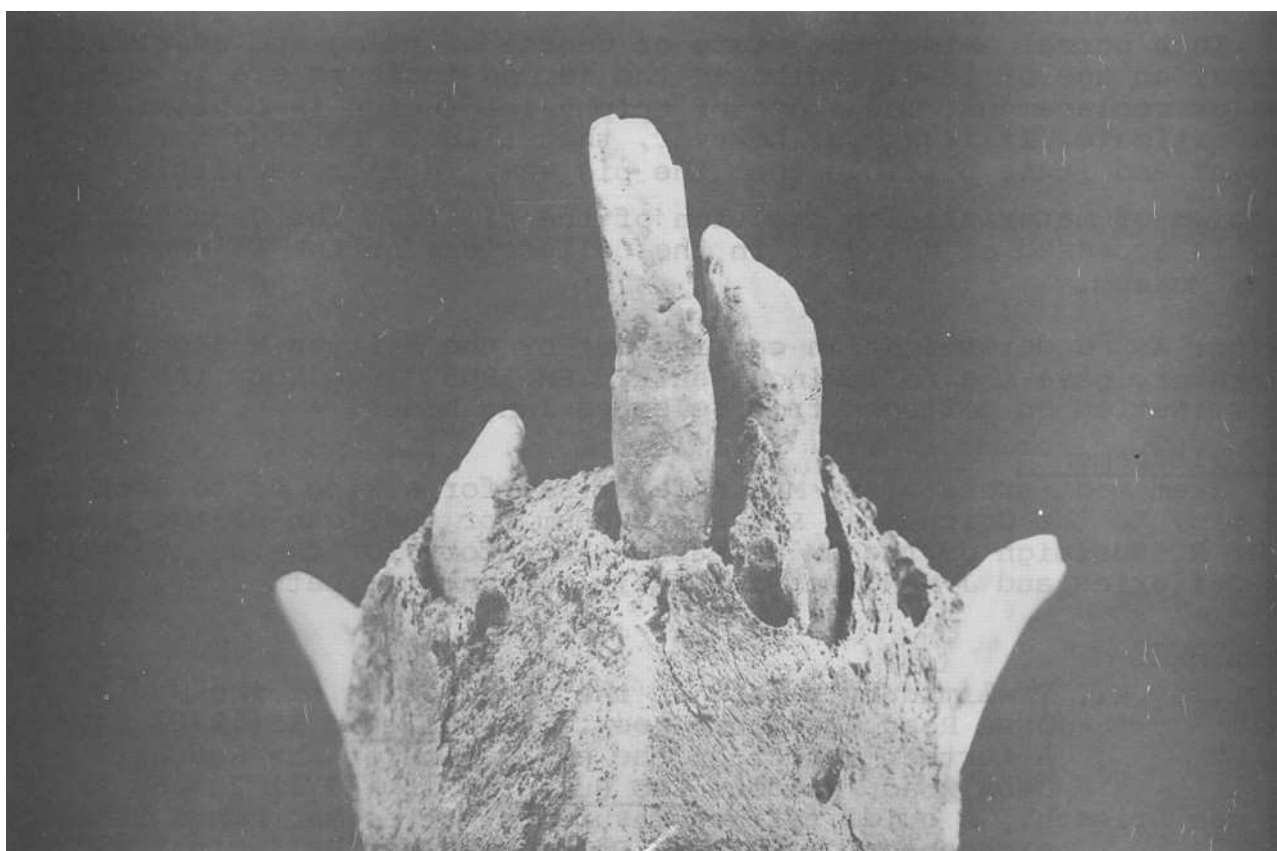
I am most grateful to Mrs K de Brisay for asking me to look at the pig; to the Colchester & Essex Museum for the loan of the skeleton; to Dr R. Burleigh of the BM Research Laboratory for the dating and Drs A R Jefferies and J M Holmes for their comments on pathology.

References

- de Brisay K., Preliminary report on the exploration of the Red Hill at Osea Road, Maldon, Essex. CAG Bulletin 15(1972) 24-43
- " A further report on the excavation of the Red Hill at Osea Road, Maldon. CAG Bulletin 16 (1973) 20-36
- von den Driesch., A guide to the measurement of animal bones from archaeological sites. Peabody Museum Bulletin 1 (1976) Harvard University.



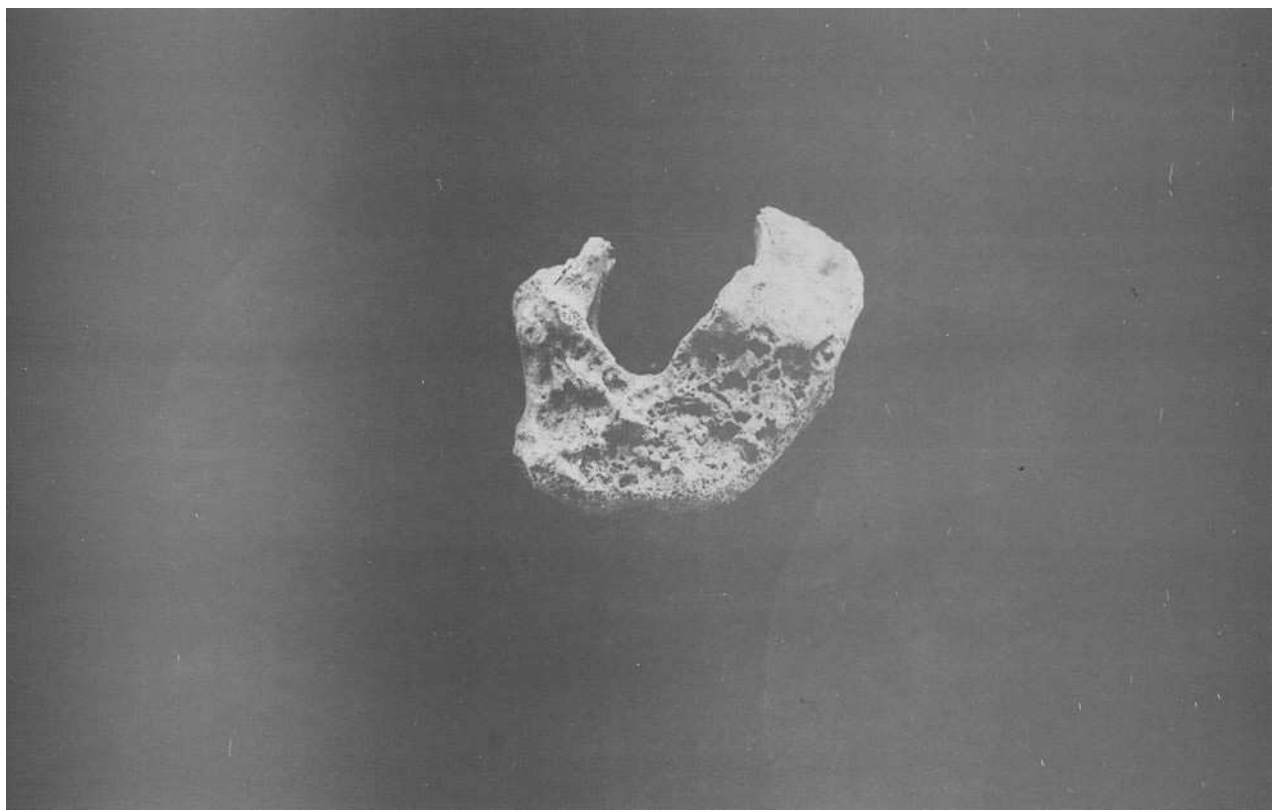
1. Right maxilla of the pig from Osea Road Red Hill; note the displaced p^4 and excessive wear on m^1



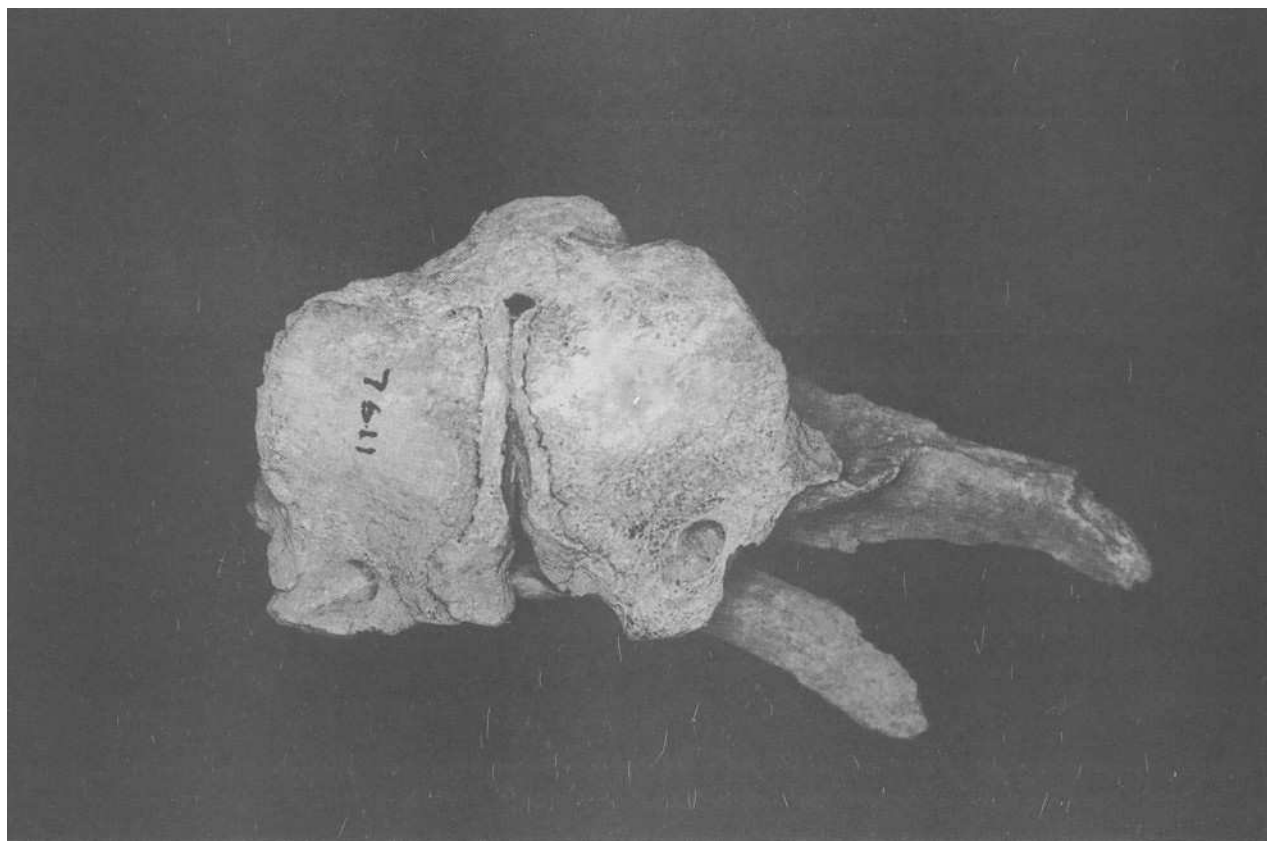
2. Mandible of the pig from Osea Road Red Hill; incisors and canines, seen from below; note the absent right I_1 (no alveolus) & the defective enamel of the left I_1 and I_2



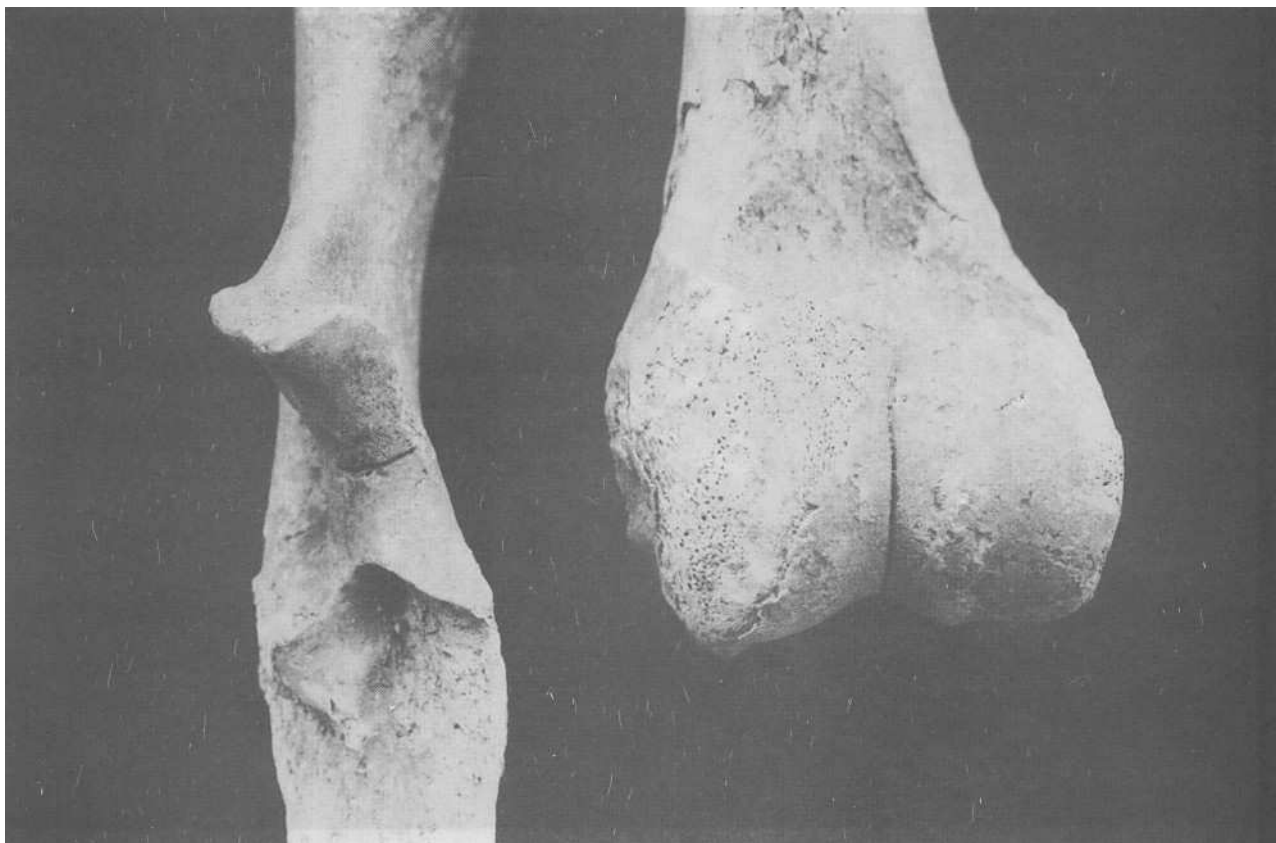
3. Right mandible of the pig from Osea Road Red Hill; note the rotation of P₄ and excessive wear on M₁



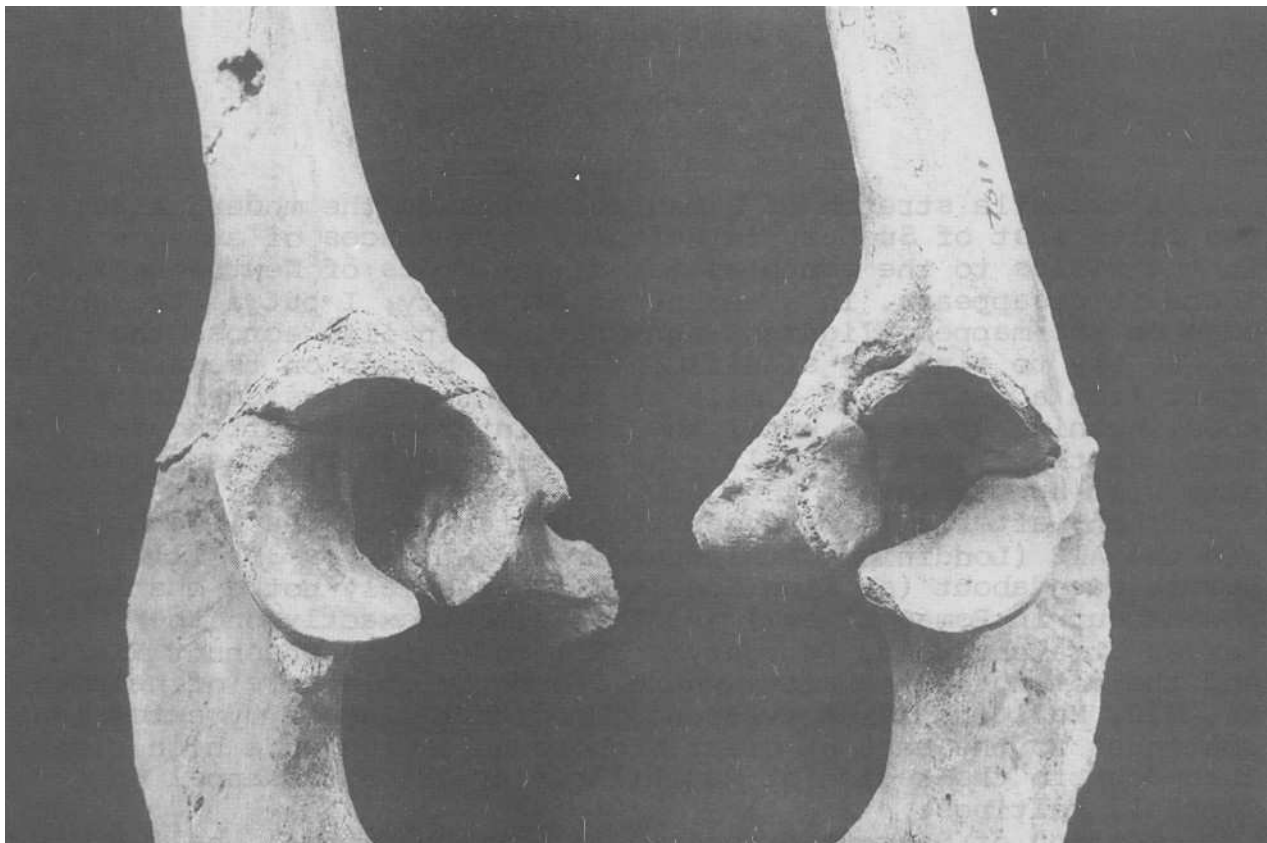
4. Infected vertebral body of the pig from Osea Road Red Hill



5. Two thoracic vertebrae of the pig from Osea road Red Hill; note the angle between the two vertebral bodies and the proliferation on one side that has fused the vertebrae together.



6. Distal humerus and proximal ulna of the pig from Osea Road Red Hill; note the abnormal grooves



7. Pelvis of the pig from Osea Road Red Hill; note the grooves in the left acetabulum and the distortion of the left ilium

ROMAN ROADS IN EASTERN ENGLAND

Salt and Statistics

L.S. Harley

A two mile stretch of Roman road crosses the modern A134 two miles east of Sudbury in Suffolk, with traces of an agger in the fields to the south as far as the woods of Newton Leys. There it disappears. In a moment of curiosity, I put a straight edge on the mapped alignment and drew a thin line across the map to try to find any significant places beyond on the same line. Apart from a quarter of a mile of straight lane beside Lord's Wood, nothing appeared until the line intersected Whitehouse Farm, south of West Bergholt; the possible significance of this name will appear later.

Then, after a 10 mile gap from Newton Leys, the line crosses the A12 (Londinium-Camulodunum road, Margary's 3b) (1) at Lexden roundabout (at King Coel's kitchen - surely not a chariot roundabout in Roman times?) and then almost exactly on the Lexden Straight road, (Margary's 321) and skirts Cheshunt Field and the Roman theatre site, where I had the pleasure of helping Mr. M.R. Hull in its excavation. The direct line of my extension continues to the east of Great Wigborough church on a high ridge, then down to the region of Red Hills near Salcott Channel on Cophall saltings.

Mention of Salcott brings me to Whitehouse Hill, half a mile to the west of Salcott village; the name Salcott is obviously Saltcote (2). Whitehouse Hill and its extended road of nearly a mile seemed a candidate for the straight-edge treatment and yielded another Whitehouse Farm to the north three miles beyond, just south of Layer Breton, where Margary describes the arrival of a branch (his 321) from the south-west of the Cheshunt Theatre site.

We know from Margary's researches that in Gloucester, north of Cirencester, a Roman road now called the White Way (his 55) continued north to Pen Hill, where it turned north-westward and then, as the Salt Way, continued for three miles or more down Salter's Lane to the marshes of the Severn Estuary.

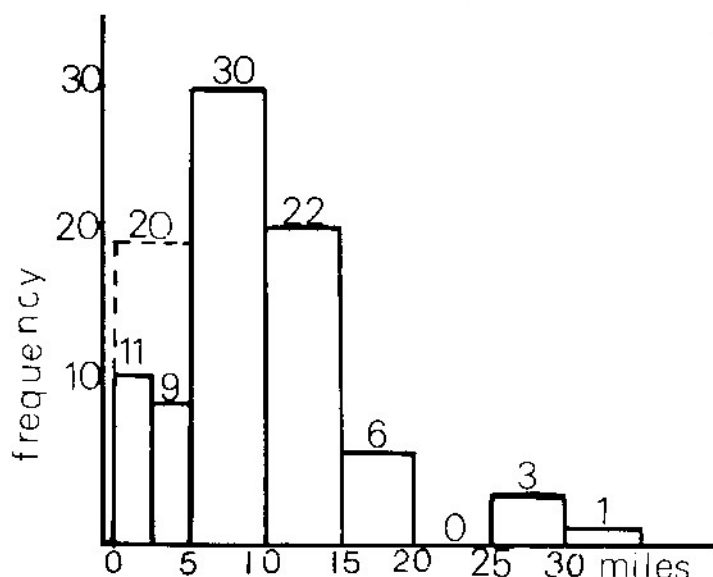
This seems to me a verbal 'Rosetta Stone' for Middle English argot and equates the place-name 'White' with 'Salt'. Also a document of Henry IV speaks (in translation) of Pedlars Way alias Salters Way. The numerous 'Whitehouse' names mentioned, including also White Hall Farm, where my first-mentioned Roman road starts, strongly suggest that the network of Roman, and perhaps pre-Roman, roads round Colchester were used largely for salt traffic inland from the Red Hills of the Blackwater to Villas and to Camulodunum.

Not all 'Whitehouse' names were necessarily related to Salt storage houses; many a weather-boarded Essex farmhouse, painted white in the past, may have naturally attracted such a name, but the number of 'White' names associated with Salters tracks must suggest a likelihood of affinity with the Salt trade, both in Roman and Medieval times. We have to beware of the extravagances of the 'Old Straight Trackers' in supposing that long lines of sight over the earth's spherical surface can be traced by straight lines on a map. The presentation of features of the earth's surface on a plane map demands an unavoidable distortion, which can amount to some 100 yards in 20 miles on the Ordnance Survey polyconical projection.

But I was assailed by doubt of that gap of at least 10 miles from Newton Leys; how far are we justified in extending alignments of one Roman road to another Roman road on the same alignment, without clear evidence of any Roman road in the interval?

I therefore analysed all the certain Roman roads shown on Margary's map of the East Anglian network and measured all the straight portions, observing that usually a change of direction occurred on high ground suitable for a surveying beacon. This implied that if the 'gap' in a plotted alignment lies over meadow-land, one may assume no change of direction in the interval, but commonsense and some knowledge of Roman civil engineering methods must qualify otherwise uninformed guesses. Walking the alignment and observing any traces of an agger on it, or aerial photography, are necessary correctives of guesses however well informed.

I found some 40 roads with a distribution of 81 straight lengths between 2 and 31 miles, as shown in the histogram below. If we are concerned with a gap of some 10 miles, it seemed worthwhile to analyse those known straight lengths of between 5 and 10 miles to find the mean and standard deviation. These appear to be a mean of 7.6 miles, with a standard deviation of 1.4 miles. That is, in a normal distribution, it is 95% likely that one might find straight lengths of 4.8 to 10.4 miles in a ten mile gap. This seems to suggest



Distribution of lengths of straight sections of Roman Roads in Eastern England.

that such a gap is not to be discounted as impossible. I may add that the skew distribution shown on the histogram has an overall mean of 9.6 miles with a SD of 3.4 miles. This approaches a 'Poisson' distribution where the mean and variance are equal. That most Roman roads change direction about every 10 miles on average is borne out by the distances given in the Antonine Itinerary.

It seems likely to me that the smaller roads near Colchester were used not only for goods passing through coastal and riverside ports, which included exports of grain, cattle, metals, slaves and hunting dogs, and imports of wines and fine tableware, but for transporting salt. Salt would have been essential to winter meat preservation at Roman villas however self-sufficient they may have been in summer meat production.

References

- 1) Margary I.D. Roman Roads in Britain Baker 1973
- 2) Reaney P.H. The Place Names of Essex OUP 1935 322.

Footnote Mr Harley's suggestion that buildings having 'white' in their names may have been related to the traffic of salt and may have been storage depots is intriguing. It would be most interesting to know if any briquetage, particularly pieces of containers, has been found at or near any 'white' houses or farms. Perhaps an enquiry should be made. Another unknown fact is how 'white' was Iron Age, Roman or Medieval salt?

Editor.

OBITUARY

Mr. P. R. Holbert

The Colchester Archaeological Group has suffered the sad loss of its Director of Excavations, Mr P.R. Holbert, who died on Monday 3rd November, 1980, at the early age of 57. Among the many excavations directed by him with quiet efficiency was the one in Priory Street, Colchester, which resulted in the re-discovery of Bastion No. 3. He also directed the work at 26, Lexden Road tracing the main Colchester to London road there; trial trenching in the garden of old St Mary's Rectory prior to demolition, and the cleaning of the Balkerne Gate. He supervised many sites at Ardleigh, including the important Iron Age Farmstead at Vincens Farm; the investigation of linear features and pits at Elm Park and the adjoining field, and another Roman road near Ardleigh Park. At Mount Bures he directed the excavation of an early Medieval site near the Mount, a Roman tile kiln and other features; also a ring ditch at Great Bromley; a large well preserved Roman tile kiln at Lexden Lodge and a Medieval tile kiln at Garlands Farm. He was the author of many excavation reports and articles and gave several lectures on archaeological subjects. He was, until recently a member of the Group's Committee and of the Colchester Excavation Committee (now the Archaeological Trust). He was afflicted with declining health, which he bore with patience and fortitude, during the last years of his life. Our sympathy goes out to his widow and family; we shall all miss his enthusiasm and kindly interest.

K. de B.

1980 CROPMARKS

R. H. Farrands

A combined list of cropmarks photographed from the air by Ida McMaster and R.H. Farrands during 1980. The list is confined to those which have not been recorded in previous Annual Bulletins of the Colchester Archaeological Group.

Ardleigh, Essex	TM 069300	900 metres of lane or road leading NW from just west of Hungerdowns.
Barking, Suffolk	TM 10635312	Ring ditch.
	TM 10455321	Double concentric ring ditches.
Bucklesham, Suffolk	TM 25554209	Additional ring ditch to complex mentioned in CAG 21(1978) 24.
	TM 25604120	Ring ditch.
	TM 25394141	Ring ditch.
	TM 26064179	Ring ditch.
	TM 25134082	Ring ditch.
	TM 25604120	Ring ditch.
	TM 25394141	Ring ditch.
Bures Hamlet, Essex	TL 901337	Small ring ditch & linear ditches (between Bakers Hall and Parsonage Hall).
Chelmondiston, Suffolk	TM 194369	Ring ditch and linear ditches.
Colchester, Essex	TM 97602235	Ring ditch.
	TM 97582231	Double concentric ring ditches;
Greeting St Mary, Suffolk	TM 09605489	Large ring ditch.
Dedham, Essex	TM 04303223	Ring ditch.
	TM 062327	Corner of large ditched enclosure.
	TM 065326	Additional to Pound Farm complex is part of a rectangular enclosure lying east of the known ring ditch -CAG 14 (1971) map 19, site E. A little to the west is a curious feature which resembles half of 2 adjoining ring ditches. These have an open entrance with dividing ditch between them forming a small heart shape.
Eight Ash Green, Essex	TL 95632559	Ring ditch.
Erwarton, Suffolk	TM 22209515	Two intersecting ring ditches, the larger being pennanular. Linear features and trackway in the vicinity. (CAG V11, 1964, No.4, fig 1 p.39)
Foxhall, Suffolk	TM 213352	Field enclosures and linear features
Freston, Suffolk	TM 22864302	Large ring ditch.
Glemsford, Suffolk	TM 17403868	Small ring ditch.
	TL 84214680	Ring ditch.
	TL 84124664	Ring ditch.
Great Bromley, Essex	TM 083257	Three ring ditches.
	TM 082261	Three ring ditches; see CAG V1,4(1963) 42 and 11,4 (1959) 42.
Great Clacton, Essex	TM 147150	Ring ditch.
Halstead, Essex	TL 830295	Ring ditch and large sub-rectangular enclosure with an entrance (typical Iron Age shape).
Harkstead, Suffolk	TM 20293501	Small ring ditch.
	TM 206350	Field and enclosure complex.
Ipswich, Suffolk	TM 203408	Enclosure complex and ring ditch
	TM 19814110	Ring ditch
	TM 20004094	Ring ditch.
Langford, Essex	TL 840093	Large ring ditch with adjoining smaller one. Two other rings with trackways and enclosures close by.
	TL 845093	East west trackway with square enclosure abutting on south side.

		This has internal markings within. The trackway turns south east in the next field at TL846093.
	TL 847096	Parallel linear ditches emerge from Langford Park travelling in a SSE direction. They merge with the existing straight line of road to Maldon. If this is Roman its projection NNW could take it beyond the Colchester-Roman road to the Rivenhall Roman villa.
Langham, Essex	TM 022332	Large sub circular enclosure with possible internal features. Adjoins the large complex to the north. <u>CAG</u> 20 (1977) 16-17.
Levington, Suffolk	TM 23694088	Large ring ditch.
Little Bromley, Essex	TM 089274	Cropmarks in peas show that total number of small ring ditches lying just east of henge number at least 16. <u>CAG</u> 20 (1977) 17.
Little Totham, Essex	TL 886091	Ring ditch and enclosures NE of Chapel farm
	TL 880082	Large field complex with trackways possibly covering adjoining areas.
	TL 881079	Part of a ditched enclosure having two rounded corners. Underlying this is possibly another larger enclosure which has a distinct trackway entrance.
Middleton, Essex	TL 878403	Two ring ditches
Mistley, Essex	TM 10693108	Ring ditch.
	TM 11203152	Former London-Mistley road diverted by Rigby in the 18th century.
	TM 113311	Enclosures and linear ditches south of Dairy House Farm. Adjoins Colchester - Mistley Roman road.
Nacton, Suffolk	TM 21974099	Ring ditch.
	TM 21684072	Ring ditch.
Nayland, with Wissington, Sflk.	TL 945337	Faint ring ditch.
St Osyth, Essex.	TM 121171	Site of a Roman villa farm estate consisting of an access road bordered by parallel ditched enclosures. The Roman road from Elmstead -St Osyth passes close by in a SE direction narrowing curiously at TM 128164. However this continues on to M 132160. Here the existing road junction overlies it at the point where a clear major double ditched feature (possibly square) also appears. From the NE corner of the latter feature another pair of parallel ditches continues back northwards.
	TM 135155	Large area of trackways and field systems perhaps part of the above site.
	TM 12901530	Ring ditch.
	TM 13001520	Ring ditch.
	TM13041510	Ring ditch.
	TM 13421432	Ring ditch.
	TM 13541430	Rectangular enclosure.
Shotley, Suffolk	TM 24053428	Ring ditch.
Stoke by Clare, Suffolk	TL 731431	Group of seven ring ditches.
Stoke by Nayland Suffolk	TL 99233495	Ring ditch. Additional to Cocky Hatch group of ring ditches.
	TM 024348	Complex of small ditched fields.
Stratford St Mary Suffolk	TM 045338	Complex of enclosures geometrically formed.
Stutton, Suffolk	TM 15893624	Ring ditch.
Tattingstone, Suffolk	TM 15893624	Ring ditch.
	TM 148375	Field with previously unrecorded cropmarks showing extensive ditched field system and track ways adjacent to area recorded (<u>CAG</u> 18, (1975) 18; and <u>CAG</u> 19 (1976) 22).
	TM 14513800	Ring ditch.
	TM 14593788	Ring ditch.
Tendring, Essex	TM 133253	Parallel ditches lying not far from the projected eastward line of the Elmstead Roman road. Perhaps a junction travelling in the direction of Ardleigh.
Trimley St Martin, Suffolk	TM 26593790	Ring ditch.
	TM 26663806	Ring ditch
	TM 26553770	Ring ditch.

Woodham Walter, Essex	TL 827076 TL 812081	Faint ring ditch. This site has been trial sampled by Essex Archaeological Section - report pending. On a raised terrace above the stream is a triple ditched Romano-British enclosure which went out of use in the 1 st century AD. It has a complicated construction but clearly avoids a ring ditch in its perimeter. All three ditches have a common entranceway on the south side. Adjoining to the east is a typical late Iron Age enclosure with an entrance also on the south side. Further east still is a 'ladder' type system of Early Iron Age enclosures and adjoining to the south. Mesolithic and Neolithic flints were also present.
Wrabness, Essex	TM 175317	Large rectangular enclosure.

LATE IRON AGE DITCH AT MOUNT BURES - FIRST REPORT

Ida McMaster and A.J. Fawn

The Group's activities on Hall farm at Mount Bures have included a survey of the Mount, a Norman motte(1); an excavation of a Roman tile kiln(2) and a medieval mill dam(3). However, one particular site, the tantalisingly incomplete excavation of the Welwyn type Iron Age burial vault recorded by Roach Smith in 1849(4), has escaped all efforts to rediscover it. Therefore, the excavation described below is of special interest.

Roach Smith described the original excavation by Jackson, the contractor for the Marks Tey-Sudbury railway, as being close to the railway, about a quarter of a mile south-east of the Mount. This information is obviously insufficient to enable the small excavation, a triangle with 7' sides, to be re-located and it is hardly surprising that exploratory trenching and augering along the present railway boundary have been unsuccessful. However, an aerial photographic study of the area in recent years by Ida McMaster has inadvertently led to an interesting discovery.

Photographs of Middle field showed a pattern of linear ditches and at one point a roughly circular dark cropmark (see plan). The cropmark suggests a pit of similar size to the 1849 excavation. When tillage has permitted during the last three years members of the Group have excavated several of the linear ditches. One of the ditches, as reported in 1979(5), was an old field boundary which was removed before 1845 as shown by the railway company's plan of the proposed railway alignment. The others contained field drains of either 4cm circular bore or of U section resting on flat bases.

Excavation of the sub-circular cropmark revealed a mainly natural subsoil, but in a corner of the exploratory square a small patch of grey loam, contrasting with the sandy gravel of the subsoil, was observed. Extension of the excavation has shown that the grey loam is the fill of a ditch which has an average width of 1.6m at plough level (0.3m below present surface) and an average depth of 0.8m below the present surface. It terminates near the area of the circular cropmark. Perhaps water draining along the ditch down the slope of the field and accumulating at the terminus is responsible for the mark which is mainly outlined by the water loving weed horsetail (see X on plan).

The ditch has now been traced by excavation for a length of 18m. It travels in an approximately straight line north-west from the terminus. Whether this is a true terminus or is, perhaps, an interruption such as a causeway, has yet to be determined.

Some 50 sherds of pottery, all dating from the late Iron Age, have so far been found at every level in the ditch, but mostly at the top near plough level indicating that silting-up was complete and the ditch out of use by the early 1st century.

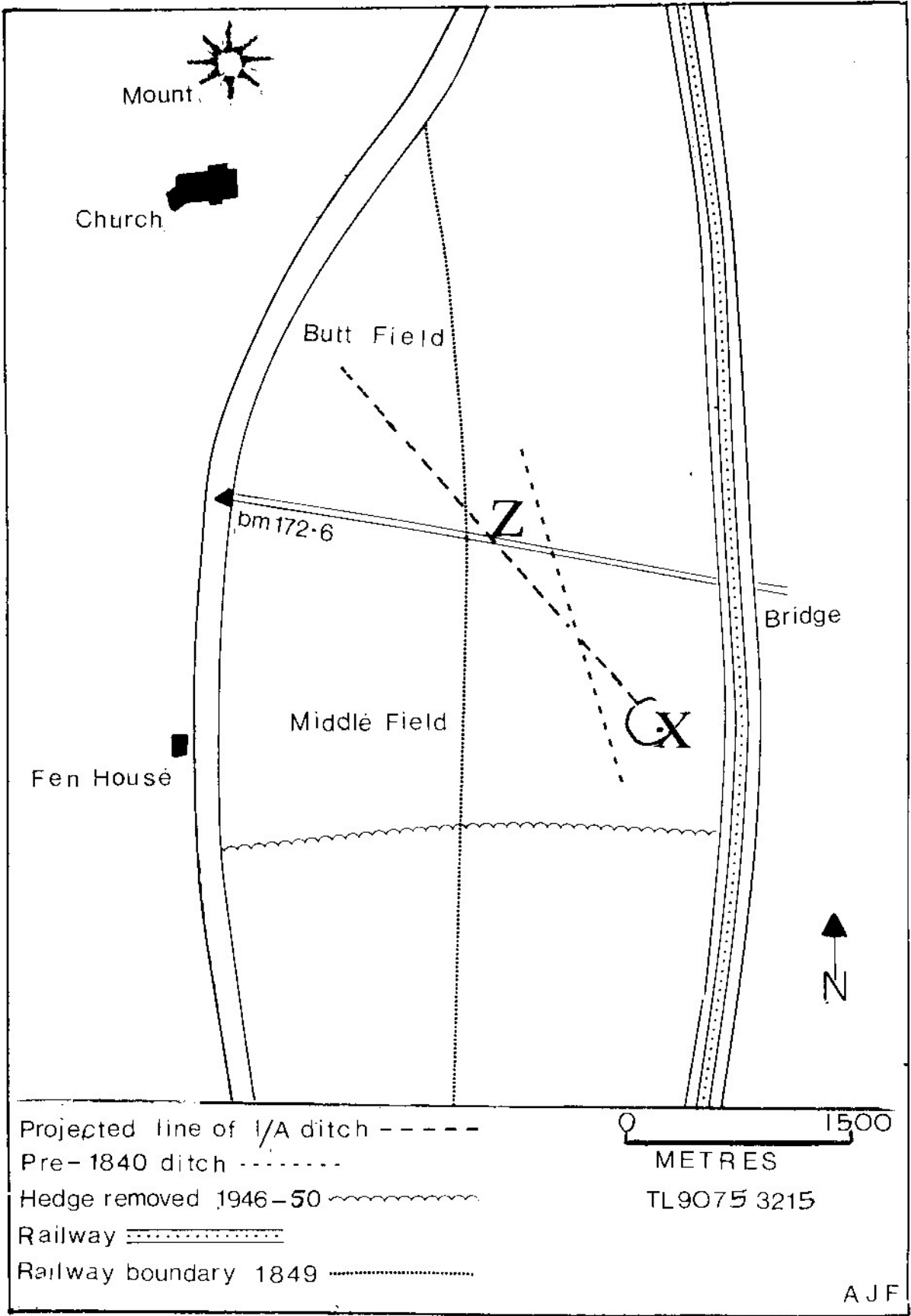
With one possible exception the aerial photographs do not show this ditch presumably because it is not deep enough to influence markedly the growth of crop or weeds. A very faint line in the correct location and direction is visible on the exceptional photograph and suggests that the ditch traverses Middle field and continues northwest into the adjoining Butt field. Tracing the whole length by excavation would be laborious even if agriculture permitted. It is proposed therefore to investigate the headland between the two fields at the point of crossing indicated by the photograph to see if the ditch is still present (see Z on plan).

Investigation south-east of the terminal would be worth while although augering here has so far failed to reveal any continuation beyond a postulated causeway. Such a continuation in the ditch direction would, if long enough, cross the railway into the field containing the Roman tile kiln and also an extensive area where 1st century pottery and hypocaust tile is turned up by the plough.

At one point along the excavation of the ditch an adjoining area of fairly substantial stones was observed. Extended trenching at right angles to the ditch across this stony layer has revealed on the other side another shallow parallel ditch containing similar Iron Age pottery. The extent of the excavation is at present insufficient to establish whether the stones and flanking ditches form a trackway course but further investigation is intended.

Since the ditches appear to be of about the same date as the burial, it is tempting to assume that they may be associated with it, perhaps as an enclosing boundary or a trackway to the burial place.

EXCAVATIONS AT MOUNT BURES 1977-80



There is a further reason for investigating the headland between Middle and Butt fields. Roach Smith states that the vault was found during the deepening of a ditch and so the 1849 excavation was continued beyond the Railway Company's boundary fence into the field of William Pettit, the occupier of Mount's Hall Farm. The 1845 railway plan shows (6) the railway was several times as wide as the existing enclosed embankment and that the western boundary ran roughly through Middle field. The field ditch and headland between Middle and Butt fields crosses the line of this boundary about a quarter of a mile south-east of the Mount approximately at the point where the headland is to be investigated. Perhaps the intended investigation will reveal the vault as well as the Iron Age ditch.

Acknowledgements:

Our grateful thanks are due to the members of the Group who have helped with the excavation.

References

- 1) McMaster I. and Fawn A.J. A Survey of the Motte at Mount Bures. CAG Bulletin 20(1977) 4.
- 2) Holbert P.R. A Romano-British Tile Kiln at Mount Bures. CAG Bulletin 15(1972) 19.
- 3) " The Investigation of a Mound at Mount Bures, Essex. CAG Bulletin 16(1973) 3.
- 4) Roach Smith C. Roman Remains found at Mount Bures near Colchester. Collectanea Antiqua 2(1852) 25.
- 5) McMaster I. Note on a Cropmark at Mount Bures, Essex. CAG Bulletin 22(1979) 12.
- 6) Essex Record Office Q/RU m2/33

THE BASIC BRIQUETAGE OF SALT- MAKING: A COMPARATIVE ANALYSIS

Kay de Brisay

Having spent some 20 years in the study of salt-making, it is now possible to take an objective view of the furniture used in this ancient process and to begin to compile an illustrated catalogue in the hope that this may be of use to future students; the period covered is from prehistoric times up to about 500 AD. Generally the artifacts and evaporating or crystallizing vessels were made from local clay on or near the working area and pre-fired on the site. All this crude pottery is known by the general term briquetage. Details of the various methods of salt-making can be found elsewhere (1).

Fire-bars

The fire-bar is commonly found on all English salt sites. They are shaped as elongated triangles; the depth at the centre point is increased to withstand stress, a sophistication in design on a par with modern practice. Those illustrated (fig. 1 a,b,c) are shown reversed to indicate evolutionary differences. The earliest (a) is of finer construction with a single point at the centre; the second (b) has a flattened centre; both come from Peldon (2) an earlier site than Osea Road where the third example (c) was found. This latter site continued well into the post-conquest period (3) shown by the thicker, rougher bar, possibly due to increased, possibly mass, production. Fire-bars from later, mainly Roman, sites took the form of straight bars, rectangular in section and have been found at Middlewich (4) and on the Fenland sites. Another form of fire-bar was in the shape of a true, rather than an elongated, triangle; these have been found at Peldon and Canvey Island and it has been suggested that they were partly inserted into circular oven walls to support round bottomed crystallizing vessels. The 'bolster' fire-bar (fig. 1d) found at Denver, Norfolk, and the 'shuttle' fire-bar (fig 1c) from Wolferton, Norfolk, both Roman sites, are hitherto unknown designs and we are indebted to the Norwich Museum for permission to include them here.

Whilst the fire-bars could be used across the walls of a hearth, they could also be put across pairs of pedestals. The cylindrical supports usually have a strong mushroom-shaped base from which the stem rises to a boat-shaped head on which the fire-bar rested. This type is particularly common on Essex sites. They are solidly made and often the marks of the fingers which shaped them can be seen and felt. Some stems appear to have been shaped by winding withies round them. Generally they are found broken off just above the base where they would be subjected to the greatest heat. In fact, one of the earliest excavators, Mr Francis Reader, who made the first systematic study of the Essex Red Hills, 1906-7 (5) refers to 'pedestals' and 'T pieces'; meaning bases and heads, both with some of the stem attached, and it was not until the Group's excavation at Osea Road in 1972-3 that a complete pedestal was found (3), thus dispelling a misnomer which could have become a recognised archaeological term. Since then it has become possible to reconstruct complete pedestals. Various types of Essex pedestals are illustrated in fig 11(a,b,c,d) most of which were found at Tollesbury(6) or E. Mersea where a large Red Hill is being eroded by the sea. Only one solitary pedestal was found at Peldon. Figure 11(f) shows a cupped pedestal, a type which has been found at Mucking, Essex, in a Bronze Age context; the bases of this type were flattened into the shape of a 'fish-tail'. Similar examples are found in France and Germany and are used today in West Africa (7) where a small cup fits into the cupped pedestal thus producing a standard size of salt cake. The remaining example (fig 11g) comes from France and is similar to those found in Essex but is of a more delicate Gallic elegance. Figure 11(a and b) shows a different type of pedestal base from Essex together with four types (c,d,e,f) from France.

The handbricks (fig 11g,h,j,k) are from Lincolnshire and France. These were not pre-fired, they were simply lumps of raw clay, squeezed into the required shape and used as props and fired in the general process crystallisation. Impressions of the finger-tips are clearly seen; also some show marks on the top where the container rested and on the sides when they were used horizontally, indicated by colour difference and, sometimes, salt glazing on the upper side. Other later examples are shown (fig 11v) from Cambridgeshire, Norfolk (8) and France.

The foregoing serves to show the persistent use of the all important pedestal form in some of its variations and also its widespread use in different parts of the world.

Crystallizing Vessels

Another important item of salt-making equipment is the vessel containing the brine to be evaporated over heat. It should be emphasized that these would be used only in those countries where solar evaporation was not possible due to climatic conditions. As mentioned above, the Essex containers were of large size

and heavy construction. The Peldon site was notable for the variety of finger-tipped rims from the flat circular dishes which were particularly suitable for use over a walled hearth. Unfortunately, large fragments suitable for illustration were not recovered. However, large pieces of the 'pig trough' shape were found at Peldon as well as at Osea Road. That illustrated (fig Vb) came from Coopers Beach, East Mersea. The troughs were made from flat rectangles of clay, probably rounded over a stone or a log and the U-shaped end added. The fragment illustrated clearly shows the 'high water mark' of the brine. Troughs of this sort were also found by Reader in his excavations mentioned above (5).

Other vessels, mostly from Osea Road, were rectangular with ridges on the base (fig Va) and it is suggested that these, being of particularly heavy construction, were made on a pallet of sticks to facilitate their removal to the firing site where the sticks would have been burnt away. The ridges are seen well in the illustration.

In Lincolnshire some smaller vessels were used to crystallize the brine and these could also be carriers for sale or barter (fig VIa and b). An important discovery from Lincolnshire is the Swinnerton dish (9) found by him on the beach at Ingoldmells. These Lincolnshire finds are lodged at Nottingham Museum and are discussed by Jeffery May(10) who was responsible for assembling fragments of the dish to obtain a complete profile. Such pottery dishes were long and shallow with one end narrower than the other. Pieces of some four of them were found recently, also on the beach at Ingoldmells, by Mr Andrew White of the Lincoln Museum and Mrs Betty Kirkham of Hogsthorpe who kindly produced the drawing shown in Figure 8. We gratefully acknowledge their permission to reproduce the drawing; a report is forthcoming. An interesting observation is the discovery of staining on the sides of the dishes marking the position of hand-bricks, probably on their sides as mentioned above. The 'thumb-pot' and salt mould (fig VIc,d) are from Tollesbury, Essex, and indicate an attempt to produce standard size salt cakes. Salt cakes were also produced in France using the delicate little 'augets' (fig VIff). These were made from thinly rolled out clay which was cut into a shape of a Maltese cross and folded up and secured at the corners. These were not pre-fired but used sun dried and evaporation obtained by placing them on a grid over a trench in which the fire was laid(11).

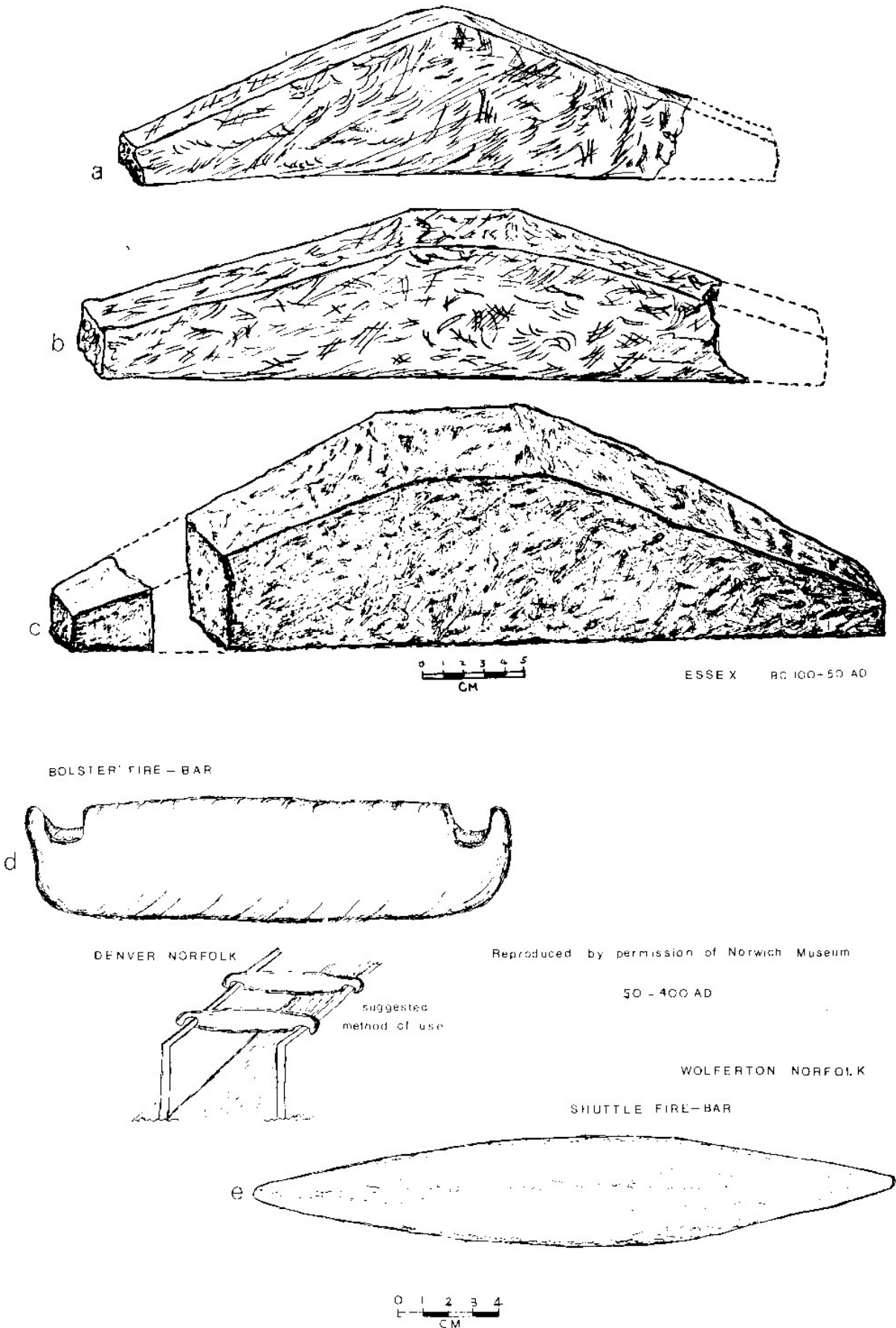
Crystallizing vessels of a more sophisticated type were used in Germany, Poland and Japan. Those from Halle on Saale in Germany are some of the earliest known and have been the subject of investigation since 1825. Dr. Karl Riehm (12) continued this research and has defined four types of salt mould (fig VIIa); starting from the left the first mould is termed a goblet and dates from about BC 1000; next is the chalice which later developed into a 'cone on a quiver', and the last is the 'jar on a pillar'. The containers which stood on the top of these moulds would be packed tight with salt crystals and stood around a glowing fire to solidify. All these artefacts would be mass-produced using a wooden mould to ensure a constant standard; the stems of the goblet and chalice would be broken off and the top portion together with the cone and the jar on the other two sold or bartered complete with salt; it would be necessary to break the containers to extract the salt cake. The crystallizing vessels from Poland (fig VIIb) (13) and Japan (fig VIIc) (14) are similar to those discussed above and, no doubt, were used in the same way. This is a striking example of parallel evolution of salt making practice from three countries which probably had no connection with each other at such an early date. We acknowledge with thanks the illustrations of Dr Riehm, Dr Jodlowski and Professor Kondo.

Briquetage

Another aspect of the early English briquetage which is of interest is the use of organic matter mixed with the clay, no doubt to increase its plasticity. The French pedestals are treated in the same way but not the 'augets' or the hand bricks. When artifacts are fired the organic admixture burns away and, from the lacunae remaining, it is possible for an expert to determine the crops growing near the site. Mr Bob Alvey, of Nottingham University, has carried out research on much of the Essex and Lincolnshire briquetage and has identified the following plants:- Spelt and emmer wheat, barley, oats, rye and grass (*bromus* species) (16).

Essex Red Hill sites are numerous and field walking carried out over many years has confirmed more than 200 of them. Those excavated, as already mentioned, were at Osea Road (3) where excavation consisted of two full weeks in 1972 and 1973; Peldon (2) which was worked at weekends and at low water for three summers from 1974-1976, and at Tollesbury (7), similarly, in 1977 and 1978; as well as beach-combing at Coopers Beach, East Mersea. A table showing the total fire-bars and pedestals found in recognisable fragments from these sites and from the four excavated by Reader is shown below.

Fig I
FIRE - BARS



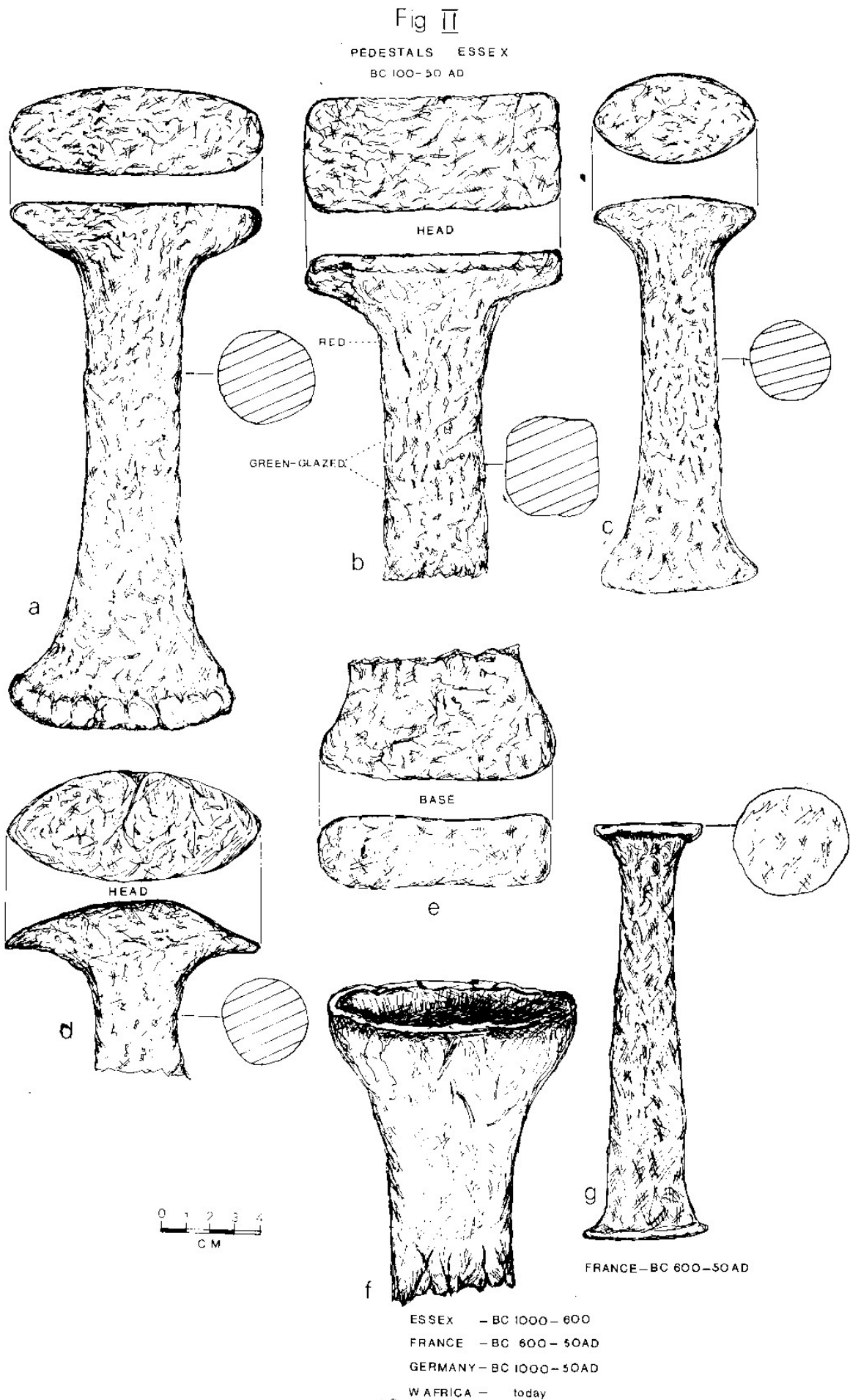
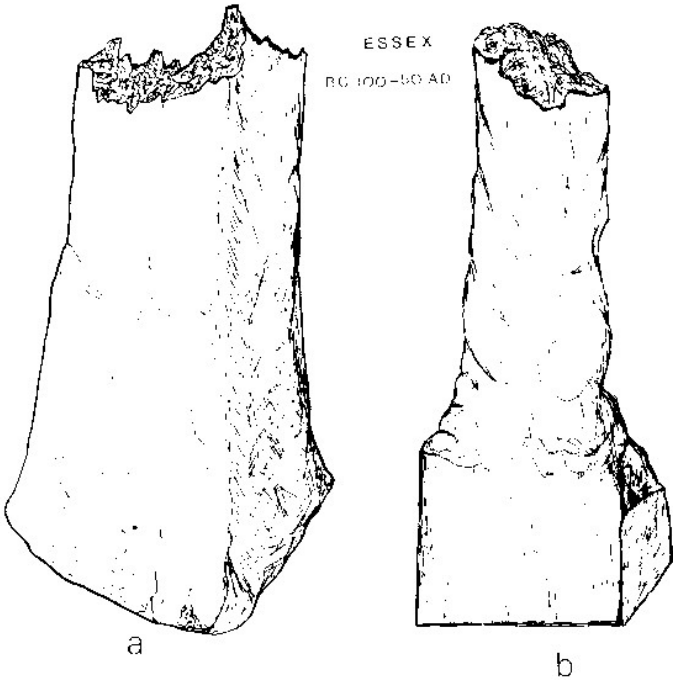


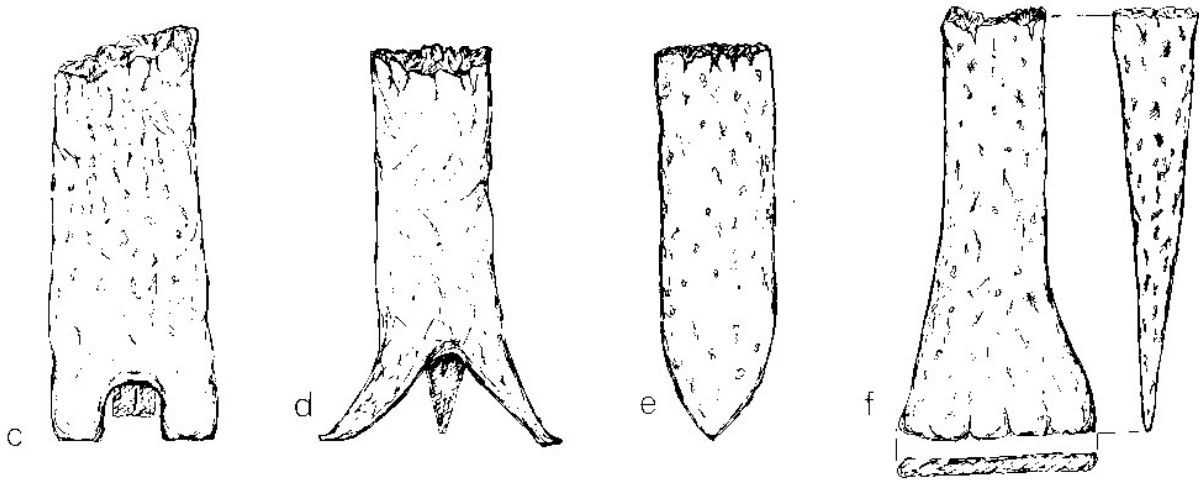
Fig III

PEDESTAL BASES

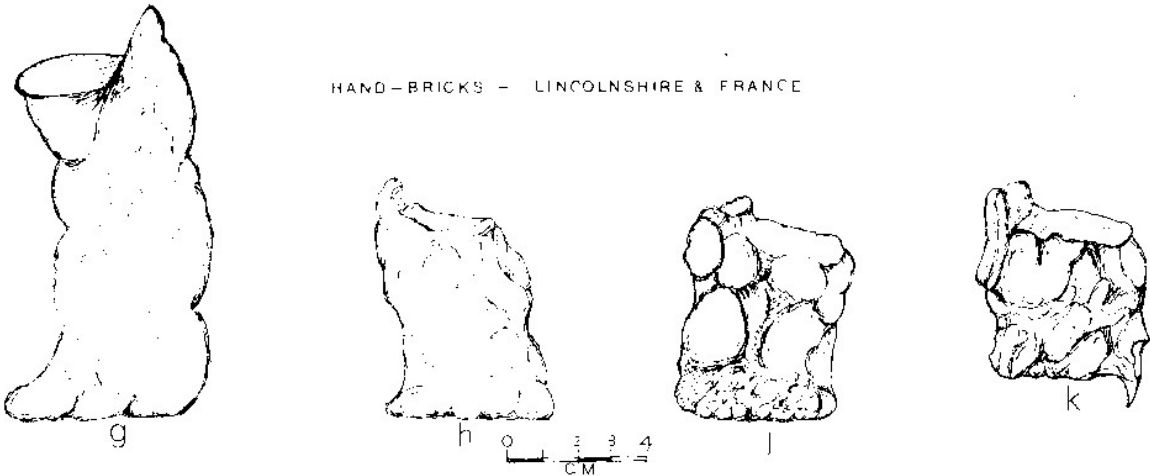
ESSEX
RC 100-50 AD



FRANCE



HAND-BRICKS - LINCOLNSHIRE & FRANCE



0 1 2 3 4
CM

Fig IV
PEDESTALS

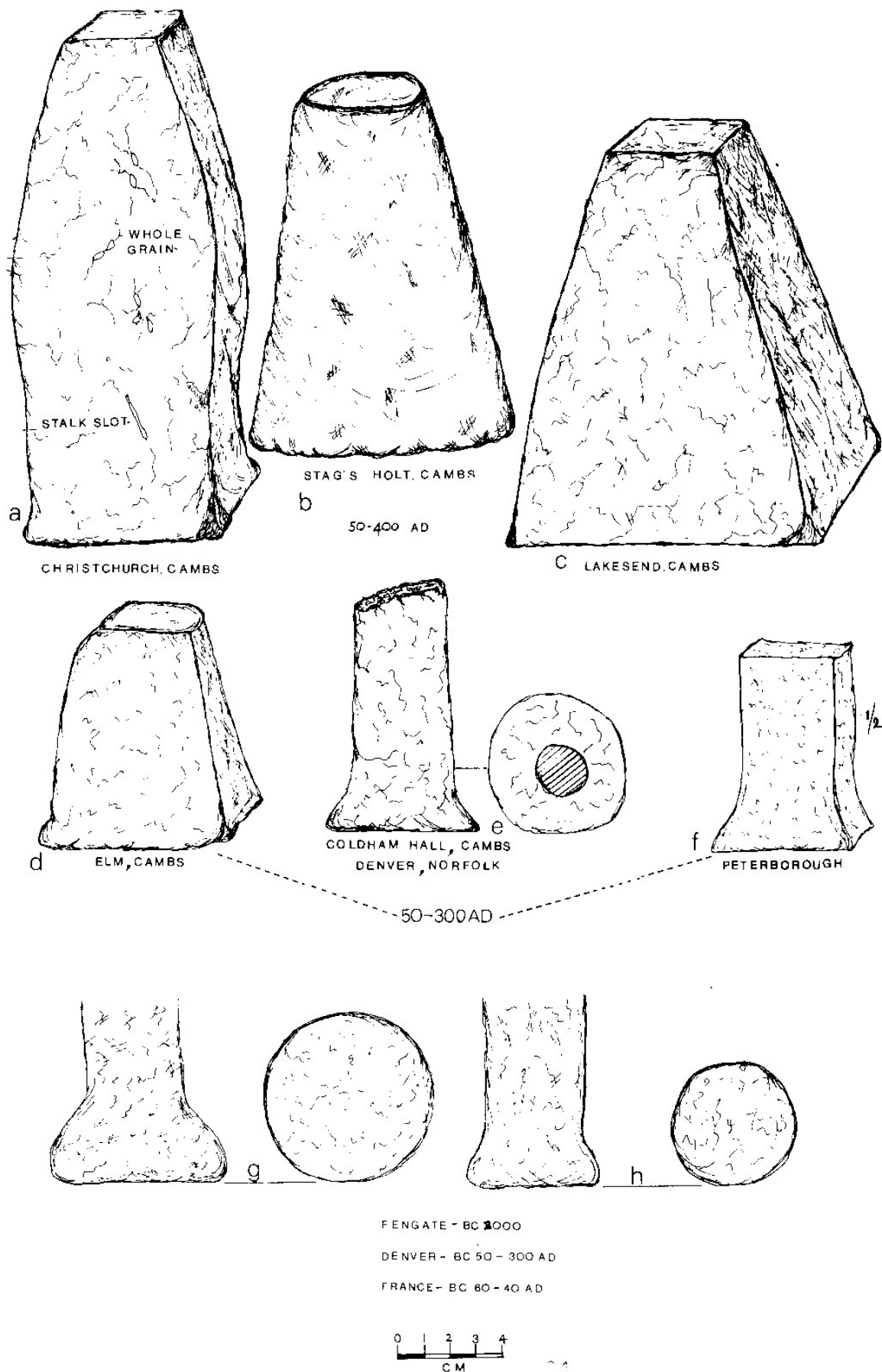


Fig 7
BASE OF CRYSTALLISING VESSEL

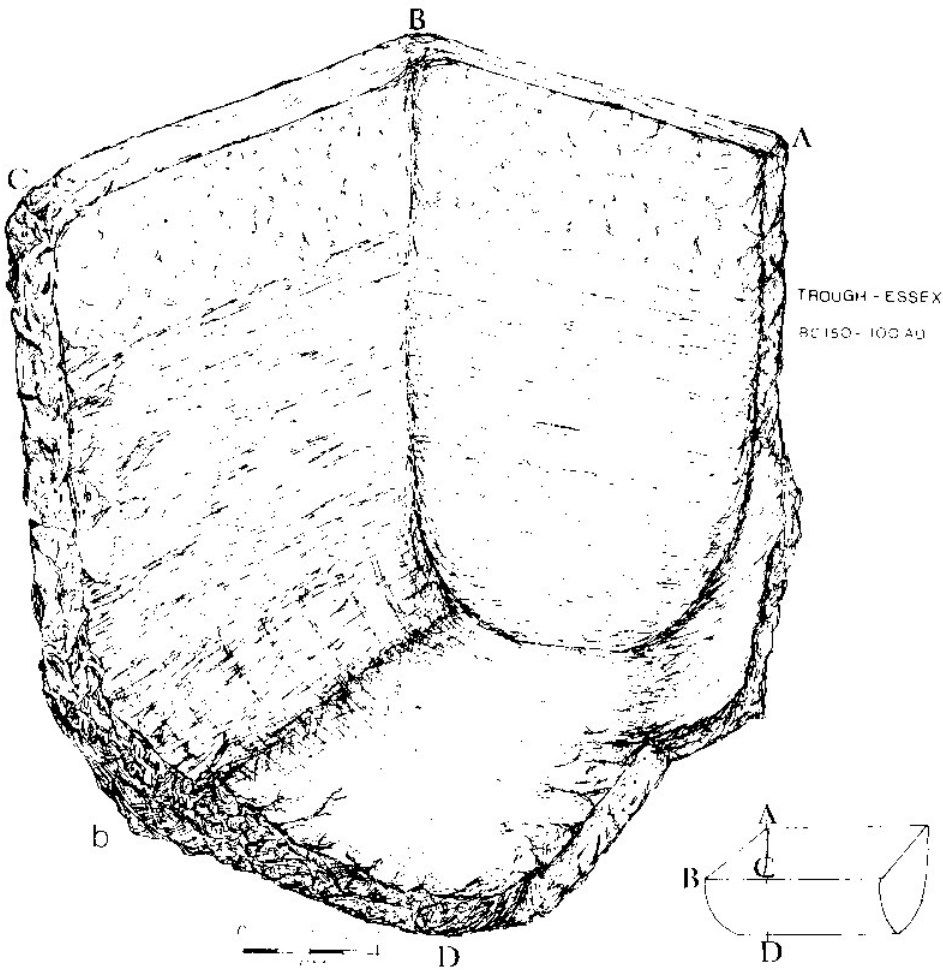
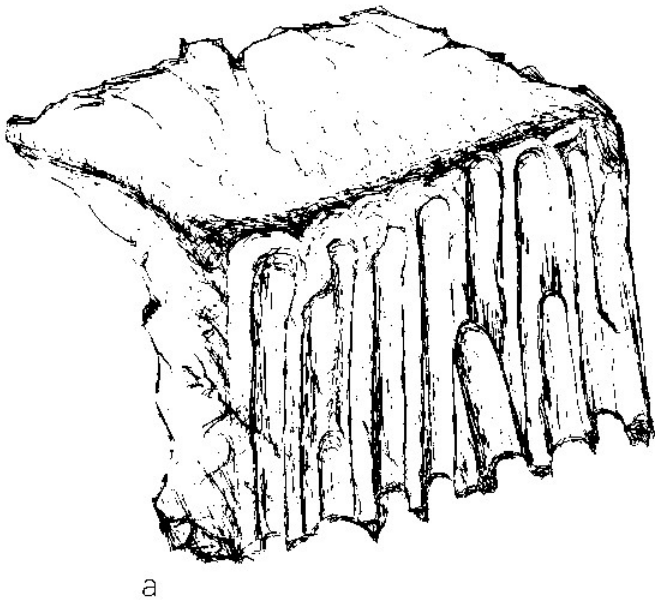


Fig VI
CRYSTALLISING VESSELS
BC 200 - 100 AD

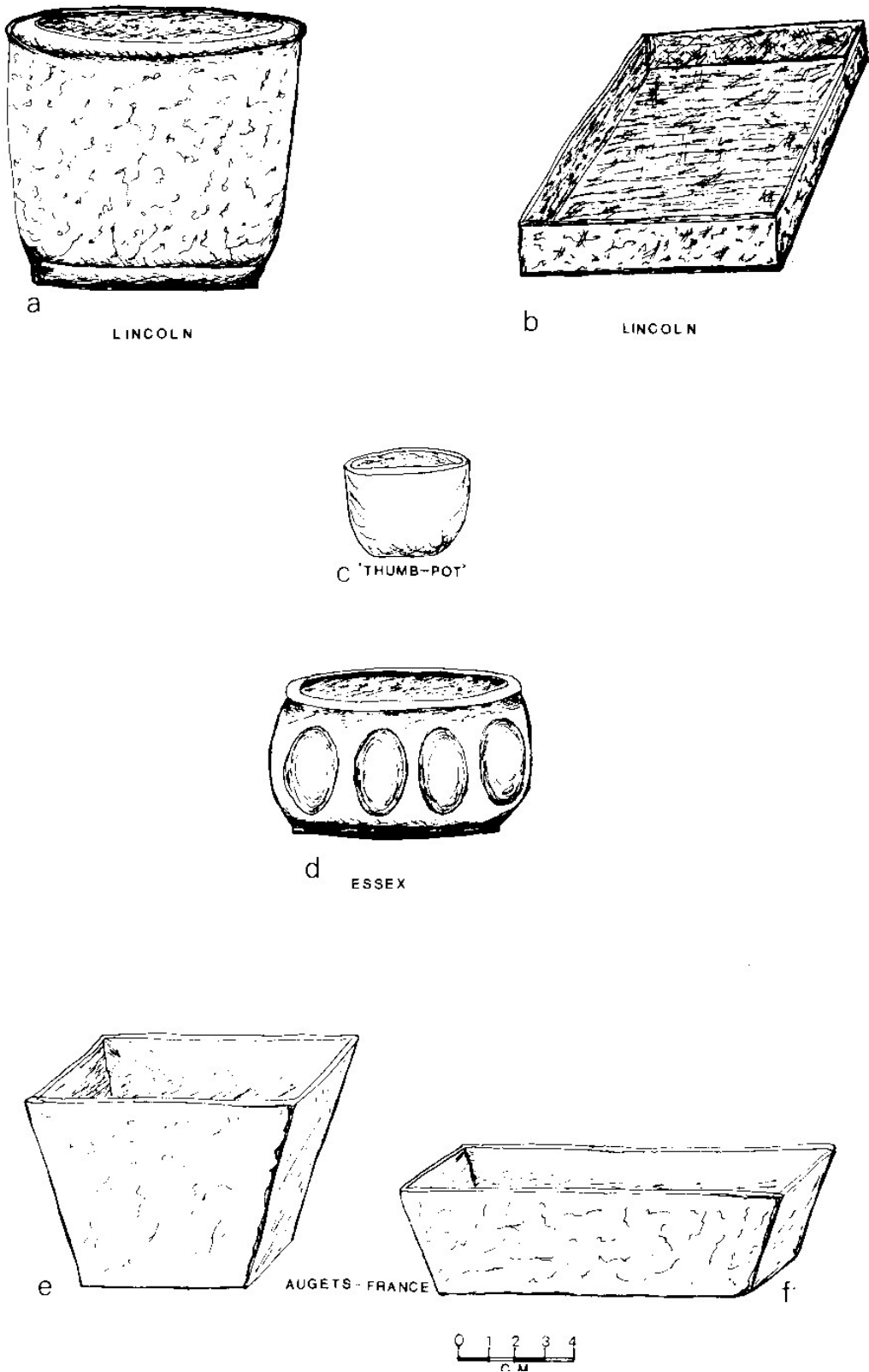
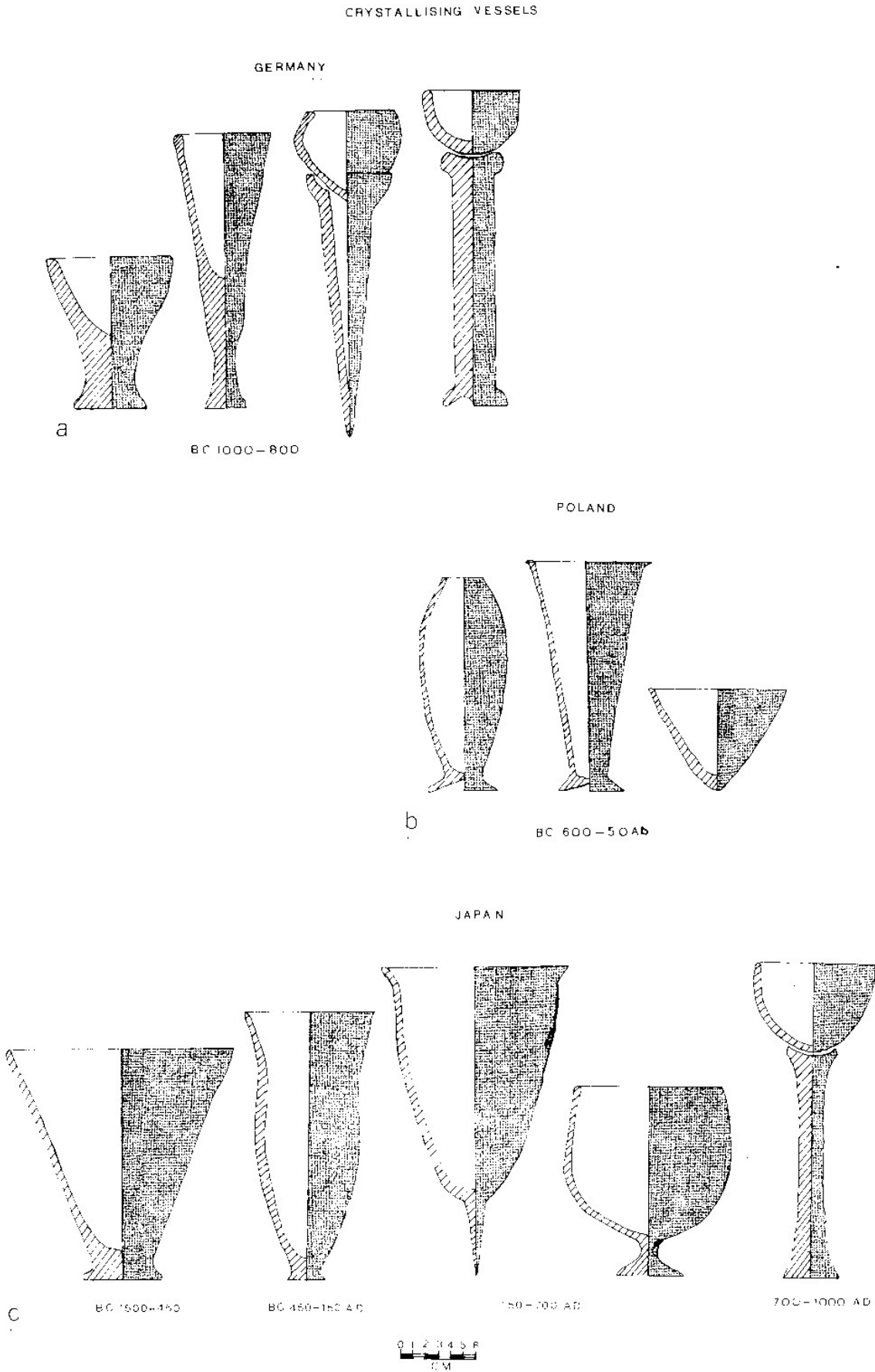


Fig VII



Iron Age Saltern Trough from Ingoldmells, Lincolnshire, 1981. Fig VIII



Fire-bars and pedestals found at 8 Essex sites

Site	Fire-bars	Pedestals		
		Bases	Stems	Heads
Reader - 4 sites all in Essex	665	61	0	55
Osea Road, Maldon	246	35	42	39
Peldon	350 approx.	0	0	1
Tollesbury	79	18	19	21
Coopers Beach, E.Mersea	43	19	39	33

In conclusion, it should be explained that the foregoing is only an analysis of the basic briquetage, there are of course, many variations on this theme.

References

- 1) de Brisay K.W. & Evans, K.A. (Eds) Salt, The Study of an Ancient Industry (1975) (Report of Conference)
- 2) " The excavation of a Red Hill at Peldon, Essex. **CAG Bulletin** 17(1974) 25-42
- 3) " The Red Hill at Peldon. **CAG Bulletin** 20(1977) 13
- " Preliminary Report on the exploration of the Red Hill at Osea Road, Maldon. **CAG Bulletin** 15(1972) 22-43
- " Further report on the excavation of the Red Hill at Osea Road, Maldon. **CAG Bulletin** 16 (1963) 19-36

- | | |
|--------------------------------|--|
| 4) Bestwick J.D. | Romano-British Salting at Middlewich. op.cit I above 66-70 |
| 5) Reader F.W. | Report on the Red Hills Exploration Committee PSAL 2nd s. xxii (1908) 164-90 |
| " | Report to the Red Hill Committee. Further details on Goldhanger and Canewdon. PSAL 2nd s.xxiii (1910) 66-68 |
| 6) de Brisay K.W. | A Red Hill at Tollesbury, Essex. Its background and excavation. CAG Bulletin 21(1978) 5-10 |
| 7) Gouletquer P-L | Niger the Country of Salt. op. cit. 1 above 50 |
| 8) Grateful acknowledgement to | Wisbech & Kings Lynn Museums for their help and co-operation. |
| 9) Swinnerton H.H. | The prehistoric pottery sites of the Lincolnshire coast. AJ XII(1932) 239-53 |
| 10) May J. | Prehistoric Lincolnshire (1976) 148, fig 72 |
| 11) Gouletquer P-L | Le sel en Europe avant l'histoire. Archaeologia |
| 12) Riehm K. | Prehistoric salt boiling. AJ XXXV (1961) 181-91 |
| 13) Jodlowski A. | Salt production in Poland in prehistoric times, op.cit. 1 above 85-7 |
| 14) Kondo Y. | The salt industry in ancient Japan, op. cit. 1 above 61-85 |

WINTER MEETINGS 1980 - .1981.

Excavations at Brancaster 27th October, 1980

Mr. J. Hinchliffe, BA, Central Excavation Unit.. DOE.

When the Roman rule of Britain reached its limit there was trouble in the Pennines and unrest in the Highland Zone. Coastal raiding lead to a series of forts from the Wash to the Isle of Wight being established in the 3rd and 4th centuries. Brancaster (Branodunum) and Reculver (Regulbium) were the earliest. They were similar being rectangular with internal turrets and were both on north facing coasts. The next series were also rectangular but had external bastions; the last were irregular with external bastions. Brancaster is built on a low plateau overlooking salt marshes from which natural creeks ran along the east and west boundaries of the fort. Recent aerial photographs show clearly the outlines of the fort with a broad road running east-west across the centre. Internal turrets and some buildings were also visible and a smaller rectangle to the north could have been the site of an earlier fort. A small square to the south might indicate a signal tower. There is no sign of a road approaching the south gate but two known roads flank the fort on the east and west - the Peddars Way finishing at Holme-by-the-Sea and another towards Holkham.

Although nothing can be seen on the ground, a multiplicity of settlement marks appear on the photographs on either side and adjacent to the fort. In the face of housing development Mr Hinchliffe was able to excavate to the west with surprising results. Deep ploughing which had occurred for three seasons during the war differentiated from the normal ploughing, and a complicated system of ditched enclosures, seemingly planned and measured, was also recognised. The ditches had been recut several times but a 'main road' was maintained throughout fields both to the east and west on the same alignment. All ditches were at right angles to this road except the latest which was the only feature on the same alignment as the fort. This seems to suggest that a fort had been established over a large settlement which had, however, continued to exist.

Worked flints and pottery were found including highly decorated late Neolithic, Beaker ware and a Bronze Age urn, Iron Age, Romano-British and Antoninian Saurian ware. Early ditches produced cattle bones and later sheep, a few pigs, dog and horse bones, the last presumably, from the occupation of the fort by Dalmatian Cavalry. Also found was a tile inscribed CIAQ.,signifying COHORS I AQUITANORUM. Military remains included armour and spearheads. Although difficult to date the settlement probably began before 200 AD and died out towards the end of the 4th century.

Early Farmers and their Animals 3rd November 1980

Mr. Sebastian Payne MA, recently British Institute of Archaeology, Ankara.

Mr Payne began his lecture by emphasising the importance of the interaction of men and animals with their environment. If this was not properly in balance the habitat might be eroded. Animal bones found on archaeological sites showed not only which animals had been domesticated and were able to live on the

terrain, but something of their development from the condition of the bones. Similar kinds of animals, such as cow, gazelle and sheep used the same habitat. Sex and age can both be estimated from teeth. The canine teeth of the male pig go on growing but teeth of females have closed roots, are small and remain small. The presence or absence of milk teeth and the eruption of molars also indicate age, as does the fusion of the plates at the ends of the long bones. An indication of sex is the heavier and stronger muscle attachments, particularly at the joints, in the male animal. At excavation it is not enough to collect just large bones; all spoil should be sieved, preferably under water, so that small bone fragments and teeth can be saved. It is only by assessing as complete a collection as possible that the animals in question can be properly identified. The usual ratio of animals on early sites is about 40% cows, 10% pigs, 7% sheep and 3% dogs. There is some variation in the size of dogs in which the height is measured by the length of femur and tibia. Dogs of the Neolithic, Bronze and Iron Ages are of uniform medium size, but a marked increase in size is shown in the Roman period, only to become smaller again in Saxon times. Many excavated bones show signs of butchery and the following meats were eaten on the bone:- cow, head, shoulder and hind leg; pig, head and shoulder; horse, small leg joints only. This suggests that other meat was cut off and used in some sort of stew. Split vertebrae have been found -presumably split to get at the marrow. A study has been made of the age/sex ratio of sheep on local sites. Many juveniles, mostly of age 0 - 3 and mostly male, were killed; natural death occurred in juveniles of both sexes. Wool came from animals aged 1 - 6 years and females up to 8 years were kept for milk. Sheep were common before 3000 BC, pig and cows coming later. The onager, a creature similar to the donkey but stronger, heavier and stockier, was common from 2000 BC. In reply to a question on the distribution of the onager, it was stated that horses were common in northern Europe and Asia, zebras in mid and south Africa, donkeys in the Mediterranean and north Africa and onagers in south-east Asia. For some reason onagers died out though, outside zoos, there are still some to be found in Mongolia. An article by Mr Pay're on the pig found in the Osea Road Red Hill appears on page 11 of this Bulletin.

Britons, Romans and Villas 10th November, 1980
Mr John Percival, University of Wales, Cardiff.

The speaker explained that he is a classicist rather than an archaeologist and his chief interest is, perhaps, in Britons rather than Romans. He began by drawing our attention to Asterisk, the comic strip Gaul, and his attitude to his Roman overlords. Asterisk tolerated them, though he remained defiant and resentful and Mr Percival thought that the Celts in Britain probably had the same attitude. He wondered if villas were an extension of the British-Celtic culture, rather than of the Roman conquest. There is no evidence of any sense of Celtic nationalism in Britain but contemporary Roman writers consider there was reluctance to accept Roman ideas. Boudicca, Caractacus and other rebels mostly rose in response to some personal injury and not from patriotism. Tacitus, father-in-law of Agricola, remarks that the toughness of the Silures, their brave behaviour and individualistic values were to be admired. Agricola trained the sons of the leading classes in military prowess and some of them adopted Roman ways, including the toga. Others preferred to appear stupid and so ignored or intentionally misunderstood Roman customs and administration. Celtic language, art and religion persisted under the military occupation when there must have been relatively few true Romans; many of the legions consisting of native troops from Europe. At the time of the Conquest the Roman Empire covered 3000 miles from east to west and 1500 from north to south.

Viking York 17th November, 1980
Mr R. Hall, site supervisor, York Archaeological Trust.

In the unavoidable absence of Mr Addyman the lecture was given by Mr Hall. The history of this important site and its development in relation to the rest of the country was outlined. In 71 AD the Romans founded Eboracum with a legionary fortress followed by the establishment of the Colonia and the civilian settlement. The town flourished until the Romans left about 400 AD. The next known event was the baptism of Edwin, in a specially built wooden church, as the first Christian Anglo-Saxon King of Northumbria. In 735 AD the Archbishopric of York was established. In 865 AD the Viking Great Army landed in East Anglia and captured York (Jorvik) killing the Anglo-Saxon king and establishing Halfdan as the first Scandinavian King of Northumbria. In 886 AD there was a resurgence of the English, they occupied London under King Alfred and eventually regained control of the whole of England except Northumbria until some 25 years later, when Alfred's grandson conquered Jorvik. Power alternated between Saxon and Viking until 954 AD when the last Scandinavian king Erik Bloodaxe was defeated and expelled.

Meantime York had become a flourishing mercantile centre, equalled only by Dublin. Stone Roman buildings were demolished by the Vikings, and excavations in Coppergate have revealed at least two levels of their elongated wooden buildings, in some cases to a height of 6'. The upper levels were of oak planks laid

edge to edge and locked to strong uprights with wooden pegs. One large house had wooden floors with earth filled wooden benches round the walls. Hearths were found in what appeared to be living rooms but not in rooms which appeared to be for commercial use. Wooden doors and shutters, one from a hollowed out tree trunk and dated 950-960 were found. The remarkable state of preservation was due to water logging.

Profitable trading with the continent was attested by the many finds. Evidence of a local mint came from several coins, coin dies and two lead sheets used for testing dies - a unique discovery. The coin designs are of great interest - a knot, a standard, a raven and religious inscriptions. Also found were beads, finger rings and brooches of intricate woven designs and encrusted with silver studs, amber and pearl. Tools included whet stones, axe heads, a chisel and a spoke shave. Objects of wood included shoe lasts, bowls, plates and a pan-pipe made from a single block of wood and still capable of producing a clear five note scale. Other items included a gaming board with pieces of jet and several bone dice; combs made from antlers, one with a carving of dogs; a sword scabbard with bronze decoration; leather shoes and a leather work box and a unique silken purse with a silk lining.

Among the seeds discovered after careful wet sieving were those of carrot, celery, field bean, apple and other stone fruits as well as seeds of henbane, white bryony and agrimony. Animal remains included cattle, pig, sheep, goats, chickens and geese; fresh and sea water fish with oysters, whelks and cockles.

Many more sites await investigation and it is fortunate that the York Trust is funded by many munificent bodies headed by the Prince of Wales and the King of Norway; Magnus Magnussen is in charge of publicity.

The Pattern of the Landscape 24th November, 1980
Mr D. Miles Institute of Archaeology, Oxford.

Mr Miles described the welcome change in methods of archaeology since the beginning of the century. Even so, much recent legislation was ineffective and sites are still lost through irresponsible ploughing and lack of adequate surveying and planning. Even scheduled sites are lost and in the Cotswold, where there had been 70 long barrows - the best collection in Europe - now only one survives and that reduced to an empty shell,

With modern methods of aerial photography, careful surveying and planning an extensive picture of the pattern of our past was emerging. For instance 30 miles of Celtic fields had been found south of Doncaster on what had been considered barren ground. In Scotland and the northern Isles a vast distribution of the characteristic Broch had been plotted where it was thought only a few existed. Recent work, using new techniques, has enabled Professor Cunliffe to compile a graph of the Iron Age population. A marked increase over that of early times had coincided with the growth of stable agriculture. An increase in trade followed though population remained static. Mr Miles thought that though trade benefited the country as a whole, it disturbed tribal economy; slavery became prevalent. Local coinage became a status symbol and tribes established their own mints. Because of the increasing and far reaching trading a common system of weights and measures became necessary. Dr Peacock's study of amphorae has shown that this important form of container had reached Britain from as far away as Seville, Italy and Carthage. From these distant markets came luxury goods such as finest pottery, silver and bronze.

Present day archaeologists are now studying the early history of the working farm and its progress through Roman and Saxon times; also the settlements of the high country and in the valleys together with the distribution of pottery of all types. Such studies can now be collated by computer. In England alone upwards of 40 million sites have now been confirmed and a comprehensive picture of farming and ranching methods is emerging.

Roman Tile Making and Kilns 1st December, 1980
Mr A. D. McWhirr, MA, BSc., FSA. Leicester Archaeological Institute

In the past excavators have either discarded Roman tiles as of little importance or made quantitative studies of them. By the latter method 12½ tons from Beaufort Park and 4½ tons from Norfolk House near Leicester were recorded. It has not been possible to give provenance or date for the earliest use of tile in Britain with certainty; it could only be said of Colchester and St Albans that tile was in use before 61 AD and of Silchester before 68 AD. However, recently it has become fashionable to study all types of tile as objects of interest in their own right including tegulae, imbrices, pilae, box flue tiles, roof ridges, finials and chimneys. This has resulted in a large number of stamps and finger tipped and combed decoration pieces. The method was probably that clay was dug in the autumn and left to weather during winter. In the spring it was puddled

and shaped mainly in moulds, stamped by the maker and left to harden before firing.

The first stamp shown was that of ARVERIUS from Silchester with a miniature spade, shaped like an entrenching tool, at each end. This had led to a study of tools. A more common range of stamps consists of 3 or 4 single letters, the significance of which has not yet been established, for instance:- TPF, TPFA, TPEG, TFPF, RPG, LHS, many of which also had swirling marks made by 2 fingers. Many had paw and foot marks of farmyard animals and of children suggesting a working family unit; impressions of cloth were also found. On box flue tiles comb marks in various patterns are common, sometimes the marks of two different combs on the same tile. Flue tiles were thought to be made around wooden blocks with a small aperture on each side by which the mould was extracted before the clay hardened, evidenced by finger marks. A Samian kiln in Lesoux had yielded vessels with a variety of potter's marks, suggesting a communal firing arrangement. The kiln-base was probably cut out of the ground often on the side of a hill. The solid base was made of brick or tile leaving a flue trench clear of the centre; sometimes two flue trenches were used; always the firing was on the side of the prevailing wind. The outer walls were built up but it is not now thought that an outer cover was used. The fuel was probably straw and a drainage channel was often provided using imbrex tiles to carry away surface water in times of bad weather. Kilns were often in small groups presumably because clay, water and efficient drainage from the centre of the firing chamber were available. Although usually rectangular in shape, circular kilns are known, especially in Italy.

What is a Field Monument Warden? 8th December, 1980

Mrs H. Patterson, Field Monument Warden, Herts, Essex, Greater London North and Suffolk.

Mrs Patterson explained that field monuments are antiquities under the earth, in fields, woods and open spaces. They are not buildings, though some have remains of buildings on them. They vary greatly in type and age. They are 'scheduled' monuments, the owners being paid compensation by the DOE for restrictions put upon the use of the site and owners must inform the DOE of any plan to change the use of, or develop, the site. In 1978 it was planned to appoint 20 suitable people to cover the country to warden field monuments and to report back to the DOE inspectorate on their condition. About 17 wardens are now appointed and Mrs Patterson is one of these her area being Herts., Essex, Greater London North and Suffolk. In her area there are a great variety of monuments including barrows, IA hill forts, linear earthworks, Roman and Monastic sites and even Dean holes. She is given details of each site, almost always with OS map reference and sometimes with a small map and description. She visits the monuments, ideally at about 18 month intervals, to see that they are not being destroyed or defaced; she also looks out for new monuments which may need to be scheduled. There are many problems including the fact that the DOE information on a site is often out of date or inadequate; some monuments are known from aerial photography and so there is nothing to see on the ground. Many monuments are deep in woods, on land difficult to get at or are not known even to local people and so difficult to inspect. Ongoing damage, even destruction, can come from erosion, building of new towns, farming animals and people - particularly dumping of rubbish in moats and ditches and motorcyclists using banks and ditches for speed tracks, Mrs Patterson said in her experience farmers were helpful and cooperative and she felt much sympathy with them in the restrictions imposed by having a monument on the farm. Difficulty with owners came more often from multi-ownership, for instance, a dyke on a suburban road involving 48 owners who each had to be seen.

The Gold Jewellery of the East Anglian Iron Age 26th January, 1981

Mr P.R. Sealey Asst. Keeper of Antiquities, Colchester & Essex Museum

The talk was on the incidence of gold torcs in the territory of the Iceni. The surprising aspect was the rarity of these beautiful objects and the limited period of their production. Many of the Icenian hoards of the early Roman period are dated to the unsettled times leading up to the Boudiccan revolt, but none of these include gold torcs - so called, although they are made of an alloy of gold and silver known as electrum. The famous hoard from Snettisham, Norfolk, serves as an important type site and, to a lesser degree, Weybourne, Norfolk and Netherurd, Peebleshire. Each of these sites contained gold torcs accompanied by coins. At Snettisham there were 12 Gallo-Belgic coins and 145 Potin coins from which it was possible to deduce that the hoard was buried in the summer of BC 54. There were only five other hoards containing electrum in East Anglia; they were at Sedgford, North Creake, Bawdsey, Mildenhall and Ipswich. It is thought that the source of the gold and silver was mainly Wales and that it was not plentiful. So much so that most of the gold torcs included in the East Anglian hoards were scrap metal probably intended for re-use. The great Snettisham torc had part of another thrust through its terminal, which in turn, was linked to a bracelet. The incidence of Potin coins, a currency mainly circulated in Kent and Belgic Gaul, suggests that the goldsmiths who buried the East Anglian hoards were refugees fleeing in the face of the Roman invasion. The presence of gold coins, some blank, together with an unfinished torc and a cake of metal bears out this

surmise.

Slides of the torcs showed some of the terminals had twisted wire bodies and were decorated with beautiful curvilinear Belgic designs. Others had plain looped ends and, although reinforced with silver and sometimes tin, they would have been sufficiently malleable to open up for placing round the neck. It was pointed out that they would have been heavy and uncomfortable to wear and were probably used only by men. An interesting artifact found with the Snettisham hoard was a local pebble so shaped that it could comfortably be held in the hand and used for unwinding the coiled wire as well as for breaking up the gold.

After this only bronze torcs were made - how was it that the Icenian goldsmiths switched to this base metal and never dug up their hoards of gold?

Recent Excavations in the Welland Valley 2nd February, 1981.
Mr F.M.M. Pryor MA, Cambridgeshire Archaeological Unit.

That mysterious land area covering some hundred miles south of the Wash known as the Fens has experienced more changes than any other part of England. From the end of the Ice Age and the subsequent rise of sea level and the severance from the Continent, much of the area between Stamford in the west and Downham Market in the east was flooded. Only a few islands here and there and the primary woodlands buried beneath a thick layer of clay remained. Subsequent earth movements and marine transgressions produced different layers of peat, silt, alluvium and gravel. The rivers Welland, Nene and Ouse, which originally were tributaries of the Rhine have changed their courses and various drainage schemes, first carried out by the Romans, have all contributed to a most complicated landscape.

Mr Pryor has initiated an enlightened and efficient method of survey which provides an all-over picture of the ancient landscape rather than the investigation of a few individual sites. Due to drainage and subsequent drying out, the surface of the fens has shrunk by about 30', and gravel extraction and domestic development has made such a survey imperative. The centre for this operation is Deeping Fen, adjacent to the village of Maxey in the Welland valley, some 10 miles north-west of Peterborough, the scene of Mr Pryor's recent work at Fengate. Deeping Fen was drained as recently as the last century. Working on land which has been 'scraped' by a large long armed crane, the team use a portable grid of one metre squares to study the surface. Samples of each square are taken to assess phosphate content. If the reaction is strong the presence of cattle is indicated and the scraped surface should show ditches and postholes. Twenty-three Bronze Age barrows have been revealed. Metal detectors were used by a contingent of the Royal Engineers. Test excavation was only at ditch intersection or post holes to ascertain the patterns of houses or other buildings. All the spoil was dry sieved and then, over a specially designed wave action net, set over a large tank of water; thus preserving the smallest flint, seed or insect. Results from a micro-computer produced an interesting picture. Drove roads lead to a large ditched enclosure containing separate corrals with round houses for the animals. Human dwellings encircled the perimeter of the enclosure; the pottery scatter was outside the doors and in the yards of the dwelling houses and some of it had washed into the ditches. The overall plan was dramatically illustrated by aerial photography, showing the Iron Age farmsteads overlying Bronze Age barrows and earlier henges, also a cursus and a network of roadways and tracks. Slides of various burials were shown; one body had been dismembered and tied up in a bundle. Mammoth bones and teeth were found in the primeval clay. Quantity colour charts, based on computerised findings, provided a dramatic series of pictures of these exciting discoveries.

Qasr Ibrim; an island fortress on the Nile 9th February 1981
Dr J.A. Alexander MA, FSA, University of Cambridge.

That part of Nubia through which the River Nile flows and which is bounded on the north by the first cataract and on the south by the site of modern Khartoum, became the object of a gigantic rescue dig prior to the establishment of the Aswan dam. The flood plain on both sides of the river has been occupied by peoples of many tribes and persuasions from early times. A complete lack of rain for some 2600 years resulted in ideal preservative conditions yielding rich archaeological remains. As a result of the dam 300 miles of land were flooded and many nations, under Unesco, have been allotted areas for study. Now the dam is complete and flooding has taken place all that remains of Qasr Ibrim is a walled citadel on high land which is now an island. Dramatic pictures of the tel surmounted by massive walls were shown on slides and we learned how part of the wall had been eroded revealing another wall of Roman date beneath. Among the buildings is the remains of a Christian cathedral dating from 1350 AD with an apse and wall paintings including one of the Virgin and child with the three wise men riding on horse back.

The remains of an early circular water wheel which would have been turned by cows, causing the water to flow into large jars similar to those used today as well as sealed jars containing documents of papyrus and parchment were found. The parchments were in many languages and one was three metres long. One was a complete army list enumerating all the troops in the garrison. Small finds included military sandals, ballista balls, some 30,000 amphorae - some inscribed – and over 70,000 pottery sherds. Also, due to favourable climatic conditions, seeds, insects, some with wings, frogs and fish were found.

The Roman occupation ended sometime between 300 and 700 AD and camel transport opened up the Sahara leading to its invasion by many tribes and by 1400 AD the Christian era had ended with a complete reversion to Islam.

The Ironbridge Trust 16th February, 1981

Mr A.T. Herbert B.Sc., Special Project Officer of the Ironbridge Trust.

The famous Iron Bridge at Coalbrookdale was not only the first of its kind in the world but it marked the peak of the industrial revolution in England. The Severn Gorge was the centre of a rapidly expanding commercial growth from the mid 18th century, producing coal, iron and pottery, the materials for which were readily available nearby. Although the river provided an important means of transport, the industrial expansion on both sides of the gorge made the linking of the two banks imperative. Ferries were uncertain in the fast running and turbulent waters so it was decided to build a bridge. This bridge had to be single span and high enough for sailing barges to pass under. Surrounded as it was by iron works, iron was the obvious material to use. The initial idea came from a local architect and was to be carried out by two ironmasters. The first proposal was in 1773, but because of objections and conflicts it was not until 1777 that work began under Abraham Darby III. The blast furnace which he used was excavated in 1959 and can now be seen in situ. It is interesting that the various members of the bridge which were cast separately, were put together with 'carpenter's' joints. The final span was 100' 6" and the sandstone abutments still display the notches made by the hawsers attached to the barges which passed under the bridge. Once the approach roads were constructed the bridge finally opened in 1781. A table of tolls still survives; - carriages 1/-, horse, mule or ass 1½d, pig, sheep or foot passenger 1½p etc.

It is notable that the bridge has survived to this day. Though pressure of traffic was relieved in 1909 when a free bridge was built of reinforced concrete about half a mile downstream, it was not until 1931 that the bridge was closed to vehicles. From 1950 the bridge came under the care of Shropshire County Council and substantial repairs began in 1972 with money raised by the Ironbridge Museum Trust. They are now completed.

Other exhibits incorporated in the Blists Hill Open Air Museum include examples of the first railway lines which took wooden wheels; iron plates and other materials for Telford's ship the Great Britain; beam engines for blast furnaces; the canal aqueduct over the River Dee at Llangollen; the Hay inclined plane for lifting barges to and from the Shropshire canal (a distance of 1000 and a height of 300 feet) ; the Blists Hill mine; the brick and tile works; tallow factory; printing shop; fire clay mine; ironmaster's house; workers' cottages and the toll house.

Recent Excavations at Silchester 2nd March, 1981

Dr M.G. Fulford PHD, FSA, University of Reading

The Roman town of Calleva Atrebatum, now known as Silchester, was a Civitas or Cantonal capital, established in the 1st century AD and which controlled a wide area roughly the modern counties of Hampshire, Berkshire and Surrey. The site is of 100 acres and is surrounded by the continuous wall with gates to the north, south, east and west. The north-south road aligns with the west wall of the basilica and forum. Built on a high gravel spur, from aerial photography and the presence of Gaulish coins, including a debased coin of Epilus, the town appears a Belgic site underlying what must be the only Roman town in Britain to survive intact in plan.

Unfortunately early excavation was inexpert, both by the Duke of Wellington and the Society of Antiquaries (in 1890). In 1960 the site was taken over by the DOE and in 1973 the amphitheatre, which is just outside the north-east gate, was excavated. It had been constructed by digging out the centre using the spoil for the surrounding bank of seats. A section through the embanking showed seven rows of timber benching and the wall enclosing the central stage. Late in the 3rd century the area had been enlarged to seat 2500. The whole structure was adapted in 15/16 centuries to make a defensive position. In 1980 the forum and basilica were re-excavated, they had been left open since the 1891 dig. The basilica enclosed an area of

1800 square metres and would have housed the district HQ of the Roman Army and other administrative offices. Evidence was found in the forum of a colonnade of Bath sandstone decorated with Purbeck and French marble and paved with Greek marble tesserae. The ghosts of wooden joists were found on the floor of one building. Remains of shops in the forum disclosed traces of trades and goods. Among the decorative items were a pottery head of Silenus and a limestone carving of Fortuna holding a cornucopia. A layer of burning contained iron slag and the cut up fragments of bronze statues, presumably for re-use, suggested metal working. A bronze eagle was found intact with over 300 coins, mostly 3rd century and a rare bronze coin mould showing the barbarous radiate head of the goddess Pes (Hope). Also found were pewter bowls together with the moulds from which they were made. Nests of pottery and samian vessels showed where the pottery shop had been. Outside, to the south of the forum, stood a small church with an apsidal east end and a porch on the west.

Past excavators have mentioned bath blocks, a mansio, several temples and wells, also a conduit passing outside the walls. All these await rediscovery. In reply to a question Dr Fulford confirmed that the site museum has been reorganised and is open every day.

The Ardleigh Project 9th March, 1981

Mr J. Hinchliffe BA., Central Excavation Unit, DOE

Mr Hinchliffe described the current state of the Project. Since activities ended he has written a brief report for us which, with a map, appears in this Bulletin.

The Bar Hill Fort on the Antonine Wall 16th March, 1981

Mr J. Oldham, BSc., Flatford Mill Educational Centre

The Wall that Hadrian built in 120 AD is well-known the world over; designed to quell the wild highland tribes and to stop them invading the land held by the Romans; but the Highlanders were chivvying a friendly British tribe, so a more northerly wall was needed to contain them further north. Agricola caused this to be thrown up from the Firth of Clyde to the Firth of Forth twenty years later. This is known as the Antonine Wall and was built more quickly than its predecessor. Thirty-seven miles in length it had a wide stone base with a large ditch in front. The earth from this was piled up to a height of nine feet and faced with turf. Eight large forts were linked to it differing in size from nine to seven acres. Three legions were used to build the wall, in all about 6000 men. Each legion, the 2nd, 6th and 20th, were given their own section. Later additional smaller fortresses were added, making eighteen in all, with signal stations in between. Unlike Hadrian's Wall there was no rearward vallum and with the forts more closely spaced a smaller garrison could act more quickly and closely in rounding up the enemy against the barrier and its great ditch. However, the flanks were weak and troops had to be seconded to patrol the southern banks of the two Firths.

Once the Antonine Wall was completed and fully manned, Hadrian's Wall ceased to be patrolled and only the forts were held, free access was permitted through the gates and over the Vallum. This illusory peace did not last long and Hadrian's Wall was reinforced and reoccupied in 155-8 with a temporary loss of the territory to the north. However, this was regained for a short period in 160 AD and the Antonine Wall was repaired and occupied once more but only until the close of the century when its garrison finally withdrew. There is evidence of purposeful destruction before the garrison left; an early example of the 'burnt earth' policy.

Bar Hill is about 15 miles west of the North Sea coast and the excavation of 1979 was directed by Dr L.J.F. Keppie of the Hunterian Museum, Glasgow. A section was put through the ditch and wall which, at Bar Hill, was the only fort not incorporated in the wall. The section revealed a striking picture of the make up. The internal buildings were terraced to allow for the slope of the ground and some floors were paved with local sandstone. Surprisingly, traces were found of earlier Iron Age occupation with an ancient trackway leading to the site. A well in the central courtyard was choked with broken masonry bearing out the planned evacuation of the Roman fort. Pottery found was of mid second century date; many coins were found and a leather shoe.

Mr Oldham also mentioned the Bears Den fort, now in the northern suburbs of Glasgow, which had revealed a granary, a bath house and a buttressed wall.

K de B.

Note: These informal notes are produced as 'aides memoires', they are not reports which have been seen by the lecturers.

ED.

Kay de Brisay, FSA

The death of Kay de Brisay on the 5th September, 1981, very much marks the end of an era for the Colchester Archaeological Group, which she served as honorary secretary for 23 years - ever since its formation in 1958. Her contribution both to the Group and to local archaeology is unlikely ever to be matched, so outstanding was her achievement.

Born at Lincoln into a naval family of whose record she was justly proud (her paternal grandfather was Admiral Sir Doveton Sturdee), and educated at St Felix School, Southwold, she moved to Colchester just after the war when her late husband, Lt-Col R. L. de Brisay of the Royal Lincolnshire Regiment was posted here. Previous postings abroad had taken her to Hong Kong and India. During the war, as well as bringing up her family, she joined the British Red Cross Society, working with the VADs and ran a canteen for troops in Oxford.

In 1955 she joined a WEA course in archaeology at Colchester tutored by Dr. John Morris with which Rex Hull also became involved in the third year; at the end of that final year Kay applied her drive and initiative to forming the class into the CAG which rapidly grew in numbers.

Fieldwork was undertaken in collaboration with the Museum - a connection which has been maintained ever since - and a programme of weekly lectures was built up for winter evenings. All these activities, as well as outings, were organised by Kay, who also edited the quarterly, later to become the Annual, Bulletin. The pages of its successive editions need only be perused casually for it to be realised how much the Group owes to her. In everything undertaken by the Group Kay always set high standards and expected them to be achieved, which they invariably were as a result of her great enthusiasm, determination and organizing ability. Never one to back away from a challenge she approached all new projects wholeheartedly and accepted any personal responsibilities only on behalf of the Group to whose interests she devoted an enormous amount of her time.

As the Group's representative she was an ardent supporter of many archaeological and related environmental organizations in the area and served on their committees. These included the Colchester and District Federation of Amenity Societies, the Roman River Valley Conservation Zone, Colchester Excavation Committee, The Advisory Committee for Archaeological Excavation in Essex, the Community Council of Essex and the Essex Archaeological and Historical Congress of which she was chairman in 1974.

In 1973 Kay de Brisay was elected Fellow of the Society of Antiquaries, an honour much valued, which she modestly claimed was more a reflection on the Group than on herself. She became well known for her specialist interest in ancient salt making and particularly in the Red Hills of Essex which she studied and recorded. Many members will recall with admiration the dedicated way in which she applied herself (and others) to the by no means easy task of excavating a number of these sites. The published results can be read in the Bulletin and elsewhere. In 1974 she organised a successful international conference on ancient salt making at the University of Essex - an unprecedented event which stimulated contact between scholars and students in a number of countries. Kay herself was, sadly, unable to attend because of an accident. However, within a year the proceedings of this weekend were published in the name of the Group in characteristically prompt and efficient manner and soon became a standard work of reference known as the Salt Report.

Over the years Kay organised and took a leading part in many excavations, often in collaboration with the Museum. Recently she had helped with fieldwork in the Roman River Valley and in the recording of graveyard memorials at Berechurch, Easthorpe and Copford. Only last month she completed the survey of yet another Red Hill on Mersea Island.

Kay had many other interests besides archaeology. In her youth she was a keen sportsman, having swum and played squash, tennis and lacrosse. She enjoyed the challenge of competitive sport in which she remained avidly interested throughout her life. During Wimbledon fortnight, for example, she was virtually unobtainable. She was also a keen gardener and at one time was an active member of the English Speaking Union.

But it is for her archaeological work that Kay de Brisay will best be remembered and particularly for all that she did for the Group. She firmly believed that amateurs, or part-timers as she preferred to call them, should play an active role in archaeology. Her dedicated example will remain as a constant reminder to the Group in the years ahead. For the present, the condolences of all CAG members go to her family in their bereavement which is shared by many friends.

GMRD.

WINTER MEETINGS 1981/1982

In the Lecture Room, Colchester Castle, at 7.30pm.

1981

12th October

ANNUAL GENERAL MEETING immediately followed by:
QUIZ on ANCIENT COLCHESTER D. T-D Clarke, MA, FSA, FMA. Curator,
Colchester & Essex Museum

19th "

RECENT EXCAVATIONS AT IVY CHIMNEYS, WITHAM
B.R.G. Turner BA, ECC Archaeology Dept.

26th "

DUNWICH UNDERWATER PROJECT
G. Cousins. Freelance underwater archaeologist.

2nd November

EXCAVATIONS AT GOLTHO
G.T.M. Beresford FSA, Specialised Medievalist associated with the DOE.

9th "

EXCAVATIONS AT STONEA
R. Jackson Research Asst., Dept Pre-historic & RB Antiquities, British Museum.

16th "

ROMAN VILLAS AROUND VERULAMIUM
D.S. Neal, FSA, Verulamium Museum, St. Albans.

23rd "

A PRACTICAL APPROACH TO ARCHAEOLOGICAL EVIDENCE
D. Harvey North Worcestershire College.

30th "

ROMAN ADMINISTRATION IN THE WESTERN PROVINCES
M.W.C. Hassall, MA, FSA Inst of Archaeology, London

7th December

RECENT RESULTS OF ARCHAEOLOGICAL FIELDWORK IN LEICESTERSHIRE
P. Liddle, BSc Archaeological Survey Officer, Leicester Museums.

14th "

XMAS PARTY

1982

25th January

IPSWICH - ITS URBAN ORIGINS
K. Wade Archaeology Section, Suffolk Co. Planning Dept.

1st February

EXCAVATIONS ON A ROMANO-BRITISH CEMETERY AT STEBBING
C. Going, Chelmsford Excavation Committee

8th "

THE MARY ROSE- UNDERWATER EXCAVATION OF A TUDOR WARSHIP
Member of the Archaeological Diving Team

15th "

EXCAVATIONS AT CULVER ST. COLCHESTER
N. Smith BA, Colchester Archaeological Trust.

22nd "

THE NORTH SHOEbury EXCAVATION PROJECT
J.J. Wymer, MA, FSA, FGS

1st March

BOAT ARCHAEOLOGY & THE WORK OF THE ARCHAEOLOGICAL RESEARCH CENTRE Miss S.V.E. Heale, National Maritime Museum.

8th "

PROPERTY & COMMUNITY: EAST BRITTANY IN THE 9th CENTURY
Dr. W. Davies, Dept History, University College, London

15th

GROUP EXCAVATIONS & FUTURE PLANS

Non-members are welcome - entrance per meeting 50p.