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A LATE MESOLITHIC ROCK-SHELTER SITE AT HIGH HURSTWOOD, SUSSEX

by R. M. Jacobi, MA, PhD and C. F. Tebbutt, FSA

This paper describes the exploratory excavation of, and the finds made from, a Mesolithic site at the foot of an outcrop at the Ardingly Beds at Hermitage Rocks, High Hurstwood in East Sussex. The excavation yielded an assemblage of just over four thousand pieces of struck flint from the upper part of a gley-podsol. Associated with these artifacts were charcoal lenses and at one point a hearth, constructed of sandstone pieces. Radiocarbon dates obtained on charcoal fragments from the excavation suggest that occupation(s) took place close to five thousand (radiocarbon) years bc, while the typology of the microliths leads us to speculate that the makers may have been one of the groups who made up the occupants of a 'social territory' extending as far west as Devon and Cornwall. Occupation(s) of this site is (are) argued to have taken place in spring and the tool kit may suggest use of the shelter by (a) male hunting band(s). A single 'Horsham point' as well as a small number of 'archaic' shapes of microlith from the base, or near the base, of the excavation, may hint at an earlier phase of activity perhaps during the seventh millennium bc, by a group who formed part of the population of the 'Wealden Social Territory' which can be identified in south-east England at this time.

INTRODUCTION

High Hurstwood, in Buxted parish, is situated in the well wooded High Weald about midway between Crowborough and Uckfield (Fig. 1). As in other parts of the High Weald rocks of the Ardingly Beds (Tunbridge Wells series) outcrop here. At a number of these outcrops Mesolithic flints have been found (Tebbutt 1974, 34 43). This site, at TQ 496251, and at a height of 46.2 m O.D., is in the private grounds of The Hermitage, High Hurstwood, and has long been noticed (Turner 1860, 13–16). This was chiefly because the vertical rock face, 275 m long, at its west end next to the modern house, terminates in a large cave which is part natural and part artificial. This was the legendary home of a hermit, but its last use was probably for malting or as a hop oast.

From the present house, east along the garden, the rock face shows further artificial features, such as niches, and a shallow cave which has holes made in its face to take horizontal timbers to extend its size forward. At its far eastern end the rock face forms the northern boundary of a paddock situated in a narrow shallow valley with a number of ponds fed by springs, of which there are said to be either five or seven. The far end of the valley drains into a tributary of the Buxted brook, and the rocks die out. Before the rock face starts to diminish in height are three large bulges, separated from each other by narrow vertical cracks and rising to about 8 m above ground level (Plate I).

In 1972, when the site was visited by the authors, it was found that the meadow had been levelled and the surface harrowed up to the rock face. Immediately opposite the three prominent bulges the surface was almost pure sand, derived from erosion of the rock face, and amongst it flint flakes were thickly scattered. This scatter occurred for about 24 m along the

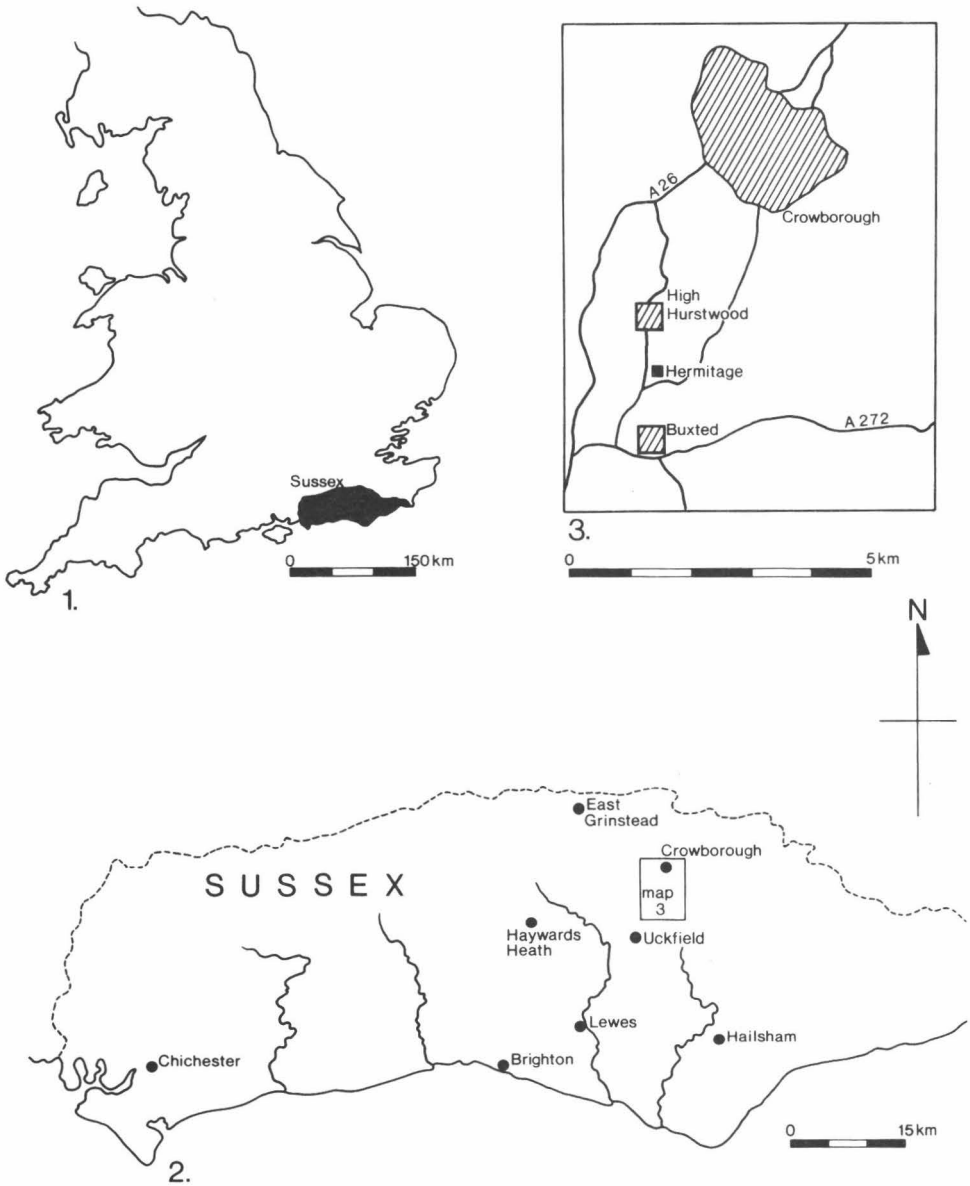


Fig. 1. The Hermitage. Site location.

rock face and 10 m back into the field. Several hundred flint artifacts were picked up from the surface, most apparently of Mesolithic date. These finds and this scatter may derive from a *number* of discrete artifact spreads, not all contemporary: clearly this is something that will have to be investigated by any future work at Hermitage Rocks. It is not therefore possible to assert that any or all of the occupation occurrences at this spot spread over an area of 240 m^2, or to use this statistic to estimate the number of individuals using the site within any one occupation.

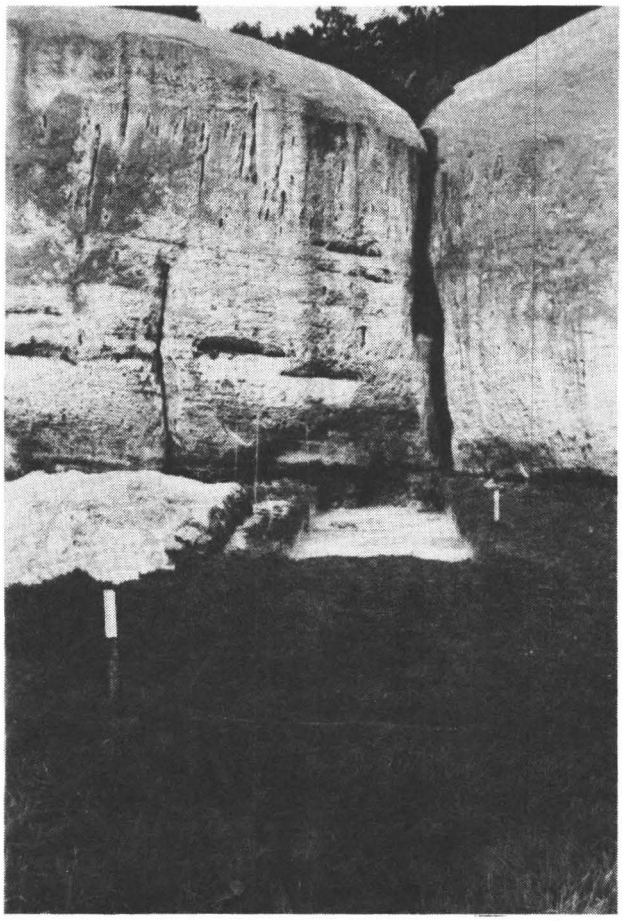


Plate I. View of the 1975 trench looking towards the rocks. The 1974 excavation lay beneath the dump to the left of this trench. Towards the back of the trench can be seen hearth feature I. Photograph: E. W. Holden

THE EXCAVATION

In June 1974 it was decided to make a small four-day trial excavation to obtain, if possible, diagnostic artifacts together with charcoal for radiocarbon dating. For this purpose a trench 10 ft x 5 ft (3.05 m x 1.52 m) was dug approximately at right angles to the rock face, opposite the central bulge, and starting seven feet (2.12 m) from this to avoid animal burrows.

Later Mesolithic artifacts were found to be stratified into the upper part of a gley-podsol. The topmost 15 cm of this had been disturbed by recent 'agricultural' activity and finds from this disturbed deposit, designated spit A, included modern glass and tile fragments as well as a winged and stemmed arrowhead and Mesolithic flint artifacts.

The bleached horizon below this disturbed zone betrayed no stratigraphic features and this was therefore removed in 10 cm spits, the base of each spit being measured from the surface contours of the undisturbed A horizon. The base of each spit thus ran parallel to the surface of the A horizon instead of being tied to the horizontal. It was possible during the 1974 season to

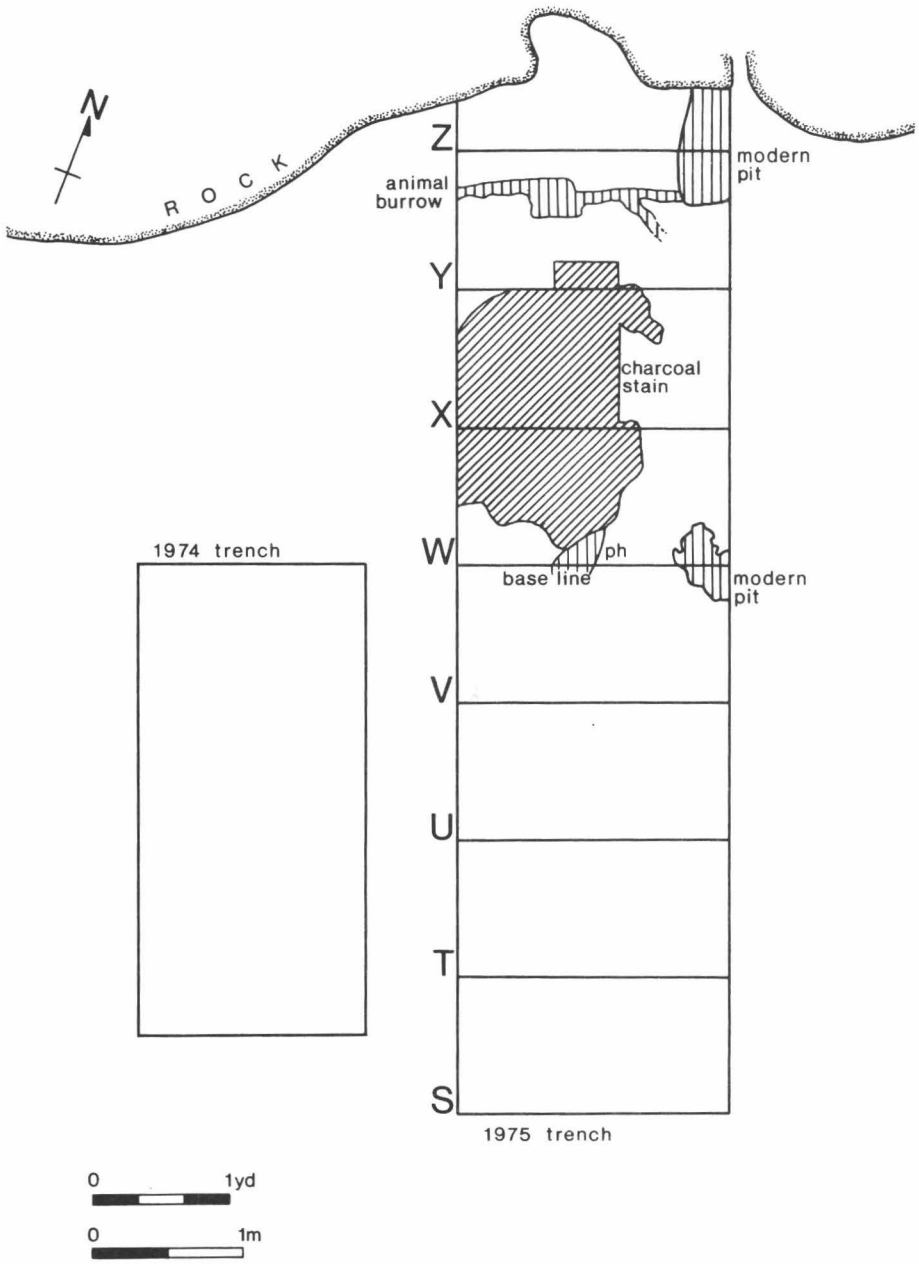


Fig. 2. The Hermitage. Relationship of the 1974 and 1975 trenches.

excavate to four spits depth below the disturbed topsoil spits B, C, D and E. Within spit E was observed the change to a water-table hardpan. The only non-Mesolithic artifact from spits B to E was a leaf arrowhead from the summit of spit B.

The horizontal position of every retouched and worn piece recognized during the excavation was recorded and each was attributed to a spit. Unretouched pieces, by-products and retouched and worn pieces where not recognized were simply related to their appropriate spit.

As work proceeded on spit B it was seen that the sand became darker at the rock face end of the trench, and pieces of burnt wood (charcoal) began to appear in sufficient density to indicate the position of a fire spot (radiocarbon sample Q 1311).

From within the following spit (spit C), again at the rock face end of the trench and roughly below the constellation of wood fragments observed in the overlying spit B, were collected further burnt wood fragments (radiocarbon sample Q 1312). With these were scattered pieces of sandstone apparently reddened by fire. No evidence for any fire spot (either intact or dispersed) was obtained in 1974 from spit D while spit E, which because of a rapidly rising water table could only be explored with great difficulty, appeared to be without even burnt wood fragments.

In September 1975 it was decided to extend the area of the excavation and a new trench was opened 2 ft (0.61 m) east of, and parallel to, the first (Fig. 2). This was 22 ft x 6 ft (6.75 m x 1.83 m), and continued up to the rock face. However, it was found that here there was deep disturbance by burrowing animals going under the overhanging rock, and also a small modern pit. The contents of these burrows and of the modern pit were incorporated as a part of spit A. Small disturbances extending into the bleached A horizon of the gley-podsol were observed elsewhere and the contents of these hollows were also assigned to spit A.

As in 1974 each worked piece was related to a spit, but the position of each retouched piece was recorded three rather than two dimensionally. Depth was measured from a horizontal datum line 5 ft above the west side of the trench, while each horizontal position was plotted by right-angle measurements from the west side of the trench and from a fixed base line across it.

Excavation continued between 19 and 29 September but heavy rain on 27 September again caused water levels to rise and made further excavation anywhere below spit D impossible. Indeed excavation only in fact reached as deep as this for a distance of 13 ft (3.96 m) from the rock face.

Isolated small pieces of fine-grained pale grey quartzitic sandstone presumed to be weathered from the rock outcrop occurred in each of the spits excavated in 1975 as they had in 1974, but within spit D was identified a 'hearth base' formed by 43 small pieces of sandstone and covering an area of 75 cm by 60 cm (Fig. 3, Feature 1 and plate II: upper right). The sandstone pieces were burnt a vivid red and the whole was surrounded by a roughly oval soil stain 185 by 135 cm, perhaps representing the raked-out ash content of the hearth. The 'hearth base' was without kerb-stones and did not appear to be sunk into any form of pit. From this was collected radiocarbon sample Q 1562.

South-east of Feature I and at the base of spit D were two further localizations of sandstone pieces, some of these burnt red. One, 60 by 50 cm (Fig. 3, Feature 2 and plate II: centre) and made up of at least 45 sandstone fragments, had been disturbed by a modern post-hole, while the other (Fig. 3, Feature 3), made up of at least 48 sandstone fragments, disappeared outside the excavation, but had a maximum north-south dimension of 56 cm.

The second two features are tentatively identified as hearths dismantled by the inhabitants of the site, with the larger surviving elements being incorporated into hearth I, whose stones

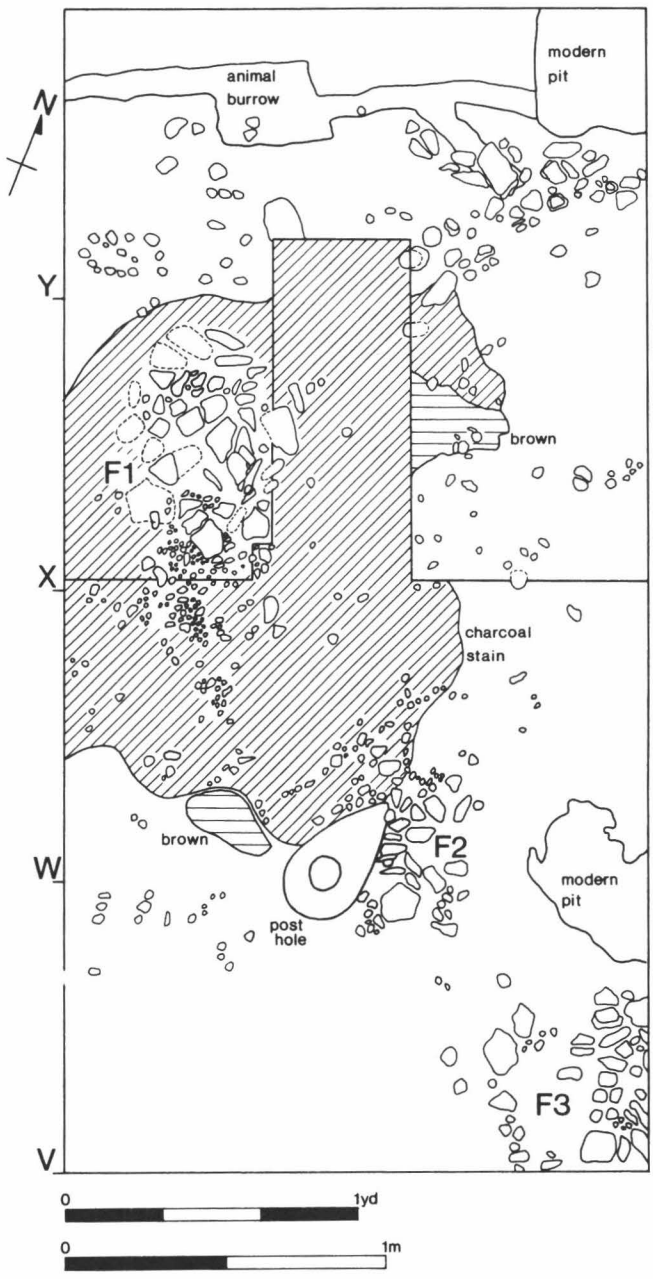


Fig. 3. The Hermitage. Plan of northern part of the trench excavated in 1975 showing intact and displaced hearth features recognized in spit D.

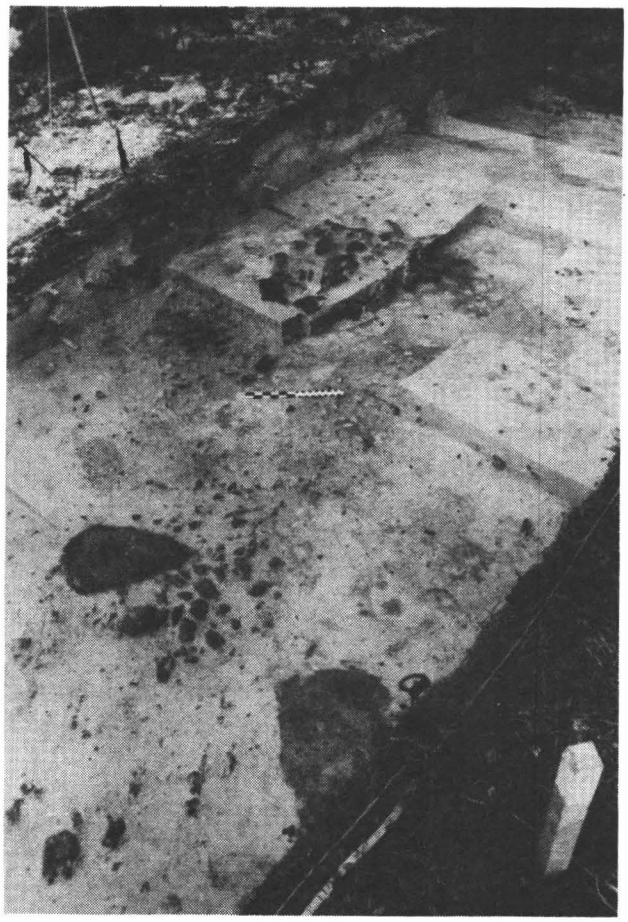


Plate II. View of the 1975 trench looking W.N.W. over the excavation units V, W, X, Y and Z. The rock wall is visible at the back of the excavation. Near the centre of the photograph is hearth feature I, while towards the foreground is 'dismantled' hearth feature II cut into by a modern post-hole. Scale in cms and ins. Photograph: E. W. Holden

both showed a far greater intensity of reddening and were slightly higher within spit D than the components of Features II and III. The presence of three distinct hearth bases may hint at at least three visitations equivalent to spit D.

The Flint Assemblage: Relationships of the Assemblage to Arbitrary 'Spits'

Struck flint was recovered from each of the five spits excavated in 1974 and from each of the four spits investigated in 1975. In 1974 a closely similar proportion of the 2480 pieces came from spits B, C and D (26, 24 and 24%), a rather smaller proportion (17%) from spit A and the smallest total from spit E (9%).

No clear discontinuities were observed within the population(s) of flints contained in the soil profile and there was no way of recognizing and separating the products of discrete occupations. It is apparent to us that those spits must have cut across populations of contemporary artifacts. Thus a burin spall in spit D refitted a burin in spit C (Fig. 8 No. 4), a similar

spall in spit C refitted its parent burin in spit D (Fig. 8 No. 5) while two small flakes in spit B, and a single flake in spit C, could be replaced on a core from spit C. It is unknown whether this vertical distribution of conjoining pieces reflects disturbances no longer detectable as soil marks or is a hint that the flint material either represents debris from one occupational event or, if from several events, that these were separated by intervals too short to allow a relative stratigraphy to develop.

The results of three radiocarbon determinations on fragments of burnt wood (charcoal) collected from spits B, C and D, however, came out in the correct stratigraphic order with the date from spit B failing to overlap at a single standard deviation the result from spit D. The dates, supplied by Dr. V. R. Switsur of the Godwin Laboratory in Cambridge, are as follows:

Spit B (1974) 4,850 bc ± 100 (Q-1311) upper part
Spit C (1974) 4,970 bc ± 110 (Q-1312) lower part
Spit D (1975) 5,155 bc ± 70 (Q-1562) hearth feature I

The significance of these dates will be discussed in the conclusion to this report. (The dates are conventional radiocarbon dates bc on the Libby half-life for radiocarbon of 5568 years).

RAW MATERIALS

All of the 4329 worked pieces are made of flint and no chert or other fine-grained stone could be identified. An attempt was made to divide the flint into categories by colour and texture, but this exercise proved too subjective and the whole assemblage can best be described as being made in a flint which ranges in colour from honey, through grey to black. Two sources for this flint are, however, suggested by 38.1% of the struck pieces which carry patches of cortex. Of these 96.2% possess a cortex which is relatively thick, white, and often chalk-like in consistency. This group of attributes suggests an origin either direct from the chalk of the South or North Downs (18 and 31 km away respectively) or from any covering deposit of clay with flints on these. The other 3.8% of pieces, however, carry a cortex which is thin and intensively battered. Its closest resemblance is to the cortex found on sea-tossed pebbles (plate III) and

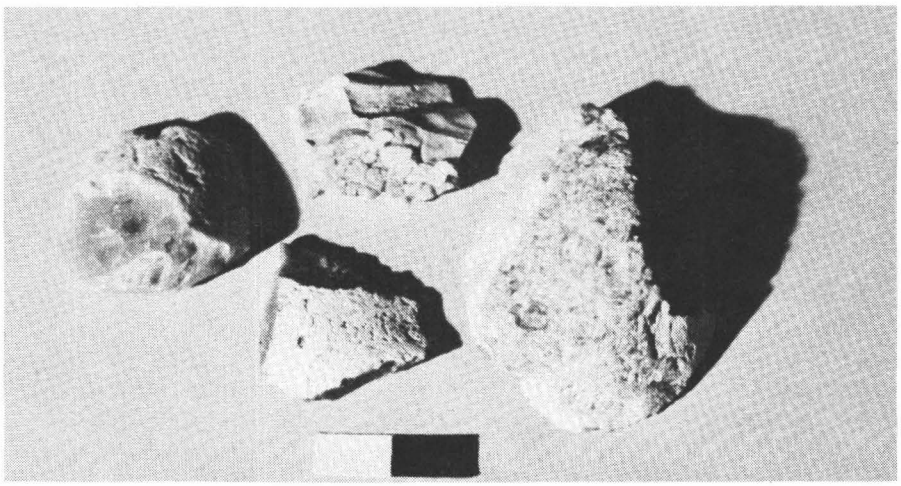


Plate III. Unretouched pieces from spit B of the 1974 excavations. Each carries an area of thin heavily abraded cortex suggesting an origin in a river gravel whose contents derive from an older raised beach. Scale in cm.
Photograph: J. Thompson

these pieces, whose cortex also resembles that of three pieces from Selmeston (Clark 1934, 141), come most probably from a local river gravel deposit, such as that at Piltdown (6.4 km to the south) or that to the north of Edenbridge (27 km away), whose constituents derive from raised beaches of Pleistocene age.

The proportion of pieces with cortex is highest in the spit E of the 1974 excavation, then drops by almost 9% to a value of 29.6% in spit D. The proportion of pieces with cortex then rises gradually up the spits to a new maximum in spit A. The proportion of 'battered cortex' similarly peaks in spit E, drops sharply in spit D and then climbs to a new maximum in spit A. Interestingly the proportions of flint affected by burning behave in precisely the same way (Table I).

TABLE I

Distribution by spit of burnt flint and pieces with cortex expressed as percentage of total assemblage within each spit. Cortex types expressed as percentages of pieces with cortex in each spit.

	Burnt Flint	*Cortex Present*	*Thick white Cortex*	*Thin battered Cortex*
(1974 and 1975) Spit A	49.8%	36.3%	94.4%	5.6%
,, B	40.9%	31.0%	96.7%	3.3%
,, C	36.3%	26.9%	97.4%	2.6%
,, D	32.3%	29.6%	98.4%	1.7%
(1974) E	38.6%	38.1%	93.9%	6.1%

One core from spit C is developed on a fragment of flint which carries a series of older blade-like removals whose surfaces have patinated a pale blue. This re-use has exposed the black flint below the thin patina, and it is onto this core that it was possible to re-fit three removals.

THE ASSEMBLAGE

The totals of worked pieces from the 1974 and 1975 seasons are presented on Tables II and III. The worked flints are divided into (1) 'retouched pieces' (6.3%) regarded as tools discarded, or used and discarded, on the site (2) 'worn pieces' (1%) which are pieces of flint whose outlines have not been modified by retouch but which show traces of wear or use damage (3) 'by-products' (2.2%) which are interpreted as debris from the preparation of 'retouched pieces'. Finally (4) some 90.4% of the worked pieces are categorized as debitage, that is as the debris of flint knapping—these pieces carrying no retouch or evidence of wear. They are further not recognizable as the debris of preparing specific retouched types. The distribution of these four categories of flint work through the five spits is displayed on Table IV.

TABLE II

Table of Finds from the Excavation at The Hermitage, 1974

SPIT	TOOLS																WORN PIECES		BY-PRODUCTS							DEBITAGE										GRAND TOTAL
	Microlith	*Scraper/Notch*	*Scraper/Double Notch*	*Burin*	*Burin/Denticulate*	*Burin/Retouch*	*Truncated Piece*	*Truncation/Notch*	*Piercer*	*Nosed Piece/Notch/Denticulate*	*Denticulated Piece*	*Double Notch*	*Single Notch*	*Mèche de Foret*	*Backed Knife*	*Pointed Limace*	*Chopping Tool*	*Retouch*	*Diverse*	*Pièce Emoussée*	*Utilized Piece*	*Microburin*	*Mishit*	*Micro-intermediate*	*Scraper Ret. Flake*	*Burin Spall*	*Chamfer Spall*	*Notch Spall*	*Adze Thinning Flake*	*Blades*	*Flakes*	*Broken Pieces*	*Crested Pieces*	*Cores*	*Core Fragments*	*Core Tablets*	*Fragments of Raw Mat.*	*Burnt Unworked*	
A	4	1		2			4				1	1	6		1	1		1	1	2	2	3				2	1	1		25	158	190	1	1		3	4	5	421
B	13			1			6					1	1								16	1	2			2	2	2	1	28	198	337	8	7	3	3	6	4	643
C	28			3	1	1	4	1	1		1	1	1	1?	1		1	1			4	4	8		1		1	2	2	42	183	283	8	8		7	1	3	603
D	18			2	1	1	1				1		2								12	3	1	1	3	3	1	2		54	216	252	6	6	1	8	1	1	598
E	2	1			2		2				1		1					3							1	2				30	45	115	4		1		5		215
	65	1	1	8	1	2	17	2	1	1	3	3	11	1?	2	1	1	7	1	4	34	11	11	1	7	9	5	6	2	179	800	1177	27	22	5	21	17	13	
	Σ129																			Σ38								Σ52								Σ2261		Σ 2480 GRAND TOTAL

TABLE III
Table of Finds from the Excavation at The Hermitage, 1975

SPIT	TOOLS																				WORN PIECES			BY-PRODUCTS									DEBITAGE								GRAND TOTAL
	Microlith	*Scraper/Notch*	*Scraper/Retouch*	*Burin*	*Burin/Retouch*	*Burin/Emoussée*	*Truncated Piece*	*Truncation/Notch*	*Truncation/Retouch*	*Piercer*	*Denticulated Piece*	*Double Notch*	*Single Notch*	*Mèche de Foret*	*Chopping Tool*	*Retouch*	*Diverse*	*Pièce Emoussée*	*Utilized Piece*	*Piece of Flint Hammerstone*	*Microburin*	*Mishit*	*Rod Reject?*	*Krukowski Piece*	*Backing Spall*	*Scraper Ret. Flake*	*Burin Spall*	*Notch Spall*	*Adze Thinning Flake*	*Blades*	*Flakes*	*Broken Pieces*	*Crested Pieces*	*Cores*	*Core Fragments*	*Core Tablets*	*Fragments of Raw Mat.*	*Burnt Unworked*	
A	4			2		1	3	1			1		6			5	1	1	1			1	1			1		2		18	95	154	9	5	2	3	1	4	322
B	13																																							
B		1		2			2				1		2			5	1		1	1	2	3		1			4	4		43	225	299	12	7	1	6		5	
B/C	1																																						642
C	35																																						
C				1			2	1	1			1	5	1?		11		1		1	8	6		1	1		3	2	1	33	209	313	6	11		4		1	
C/D	4																																						663
D	19		1		1		2			1			3						1								1	3		16	64	94	3	6		2		2	222
	76	1	1	5	1	1	9	2	1	1	2	1	16	1?	1	23	2	2	3	2	10	10	1	2	1	1	8	11	1	110	593	860	30	29	3	15	1	12	
																Σ144			Σ7									Σ45									Σ1653		Σ1849 GRAND TOTAL

TABLE IV

% of major categories of struck flint expressed as a % of the total number of pieces of struck flint in each spit, 1974 and 1975 seasons

	Retouched Pieces	*Worn Pieces*	*By-products*	*Debitage*	
Spit A	6.3%	.8%	1.6%	91.3%	Σ 743
B	4.0%	1.4%	1.9%	92.8%	Σ1285
C	8.5%	.5%	3.2%	87.8%	Σ1266
D	7.0%	1.6%	2.2%	89.3%	Σ 820
E	4.7%	.9%	1.4%	93.0%	Σ 215
	273	45	97	3914	Σ4329

The results displayed on Table IV are broadly similar spit to spit. However, the values for retouched pieces and by-products are both greatest in spit C and these reflect a rather larger population of microliths and the debris from producing microliths in this spit. These rather higher percentages have depressed the score for debitage.

RETOUCHED PIECES

(i) *Microliths*

These were divided into pieces sufficiently complete to be assigned to a shape category (90) and those either too broken to be so assigned (47) or too exotic to be classified (4). The results of classifying the 90 more (or less) complete and assignable pieces are displayed on Table V. The most common shape category is made up of scalene pieces (31) with short lanceolate pieces the second most common (24) form. The microliths have, so to speak, been allowed to type themselves and the shape categories selected for on Table V are those 'thrown up' by consideration of the microliths from the site alone, and group as realistically as possible the end products aimed at by the knapper(s) using the Hermitage rock shelter.

TABLE V

Distribution of Microliths by Shape and Spit

	'Horsham point'	*Obliquely backed pieces*	*Large triangle*	*Scalene pieces*	*Straight-backed pieces*	*Four-sided pieces*	*Long convex-backed pieces*	*Short lanceolate pieces*	*Elongated lanceolate pieces*	*Short convex-backed pieces*	*Micro tranchet*	*Lunate*	*Not classified (the majority too fragmentary)*	*TOTAL*
Spit A				2				1					5	8
B				3	1	1	1	4		1			15	26
B/C boundary								1						1
C		1		16	2	4		15	4	3	1	1	16	63
C/D boundary				1			1	2						4
D		1	1	9	5	1	4	1					15	37
E	1	1												2
TOTAL	1	3	1	31	8	6	6	24	4	4	1	1	51	141

N.B. These figures have not been converted into percentages because of the small sample size for most spits

The sample of microliths for each layer is particularly small with only the total for spit C approaching 50 typed pieces. These samples are rendered still further unimpressive when it is recalled that up to twenty-five pieces are recorded from finds of microliths potentially interpretable as components of single artifacts (Jacobi 1976). However, some comments do seem appropriate.

Firstly, the only basally retouched piece is from the lowest spit. It would be tempting to link this 'Horsham Point' to the large triangle from spit D and the obliquely backed pieces from spits E and D, and to suggest that these represent debris of an occupation of the seventh millennium bc.

Secondly, the microliths of spit D are dominated by narrow scalene forms while the number of straight-backed bladelets is equivalent to the total of convex-backed and lanceolate pieces combined. The date for this spit is 5,155 bc ± 70.

Thirdly, in spits C and B lanceolate pieces (short and long combined) outnumber narrow scalene pieces. There are only three microliths in spit A, and bearing in mind that in the 1975 season the sediments included as this spit contained sand dug in recent times from pits excavated in the lower spits of the site, the outnumbering of a short lanceolate piece by two scalene pieces seems of doubtful significance. If then we ignore spit A, spits C and B suggest that lanceolate microliths are in the process of becoming as important as, or more important than, narrow scalene pieces. The ages obtained for spits C and B are 4,970 bc ± 110 and 4,850 bc ± 100.

The significance of this observation will be discussed in the conclusions of this report. The classified microliths are depicted on Figs. 4 to 6.

(ii) *Scrapers*

There are only four pieces capable of being described as scrapers. In each case the scraper edge is worked on the distal end of the support these being in three cases of flake-like dimensions and in the fourth case a blade. Two of the supports also carry single notches, one support carries a pair of adjacent notches (Fig. 7 No. 1), while the fourth has light retouch along its right-hand side. One scraper with single notch is made on a crested flake while the scraper on retouched support has a small area of cortex at its distal (or scraper) end.

(iii) *Burins*

Eighteen supports carry burins and in three cases these burins are combined with other tool categories (in one case a denticulate (Fig. 7 No. 6) and in two cases (Fig. 8 Nos. 1 and 6) indiscriminate retouch). A fourth burin is worked on a support which has been worn by use (i.e. it is a pièce emoussée). Fifteen of the supports carry a single working edge while three supports carry working edges at opposed ends: of the latter one carries a pair of opposed angle burins (Fig. 7 No. 6) and the other two angle burins opposed to burins on natural truncation (Fig. 8 Nos. 2 and 4). In total the 18 supports carry 21 working edges. Of these working edges 14 are developed on truncations prepared by retouch (12 concave and two convex Fig. 7 Nos. 2–7, Fig. 8 Nos. 1–2, 4 and 6) and seven are developed on natural breaks or terminations (Fig. 8 Nos. 2, 3, 4 and 5). The width of working edges varies between 1 mm and 7 mm with a mean of 3.5 mm. Of these edges, 15 are 5 mm in width and the majority would be suitable for 'groove and splinter' work. In three cases it is possible to refit burin spalls (Fig. 8 Nos 4, 5 and 6) and in one case the spall carries an oblique truncation at its distal end.

(iv) *Truncations*

Thirty-one supports carry truncations at their distal ends. In four cases these supports also carry single notches (Fig. 9 No. 7) and in one case indiscriminate retouch. Of these truncations 11 are on supports still of blade-like dimensions, ten are on flakes and ten are on broken pieces. Of the truncations themselves 17 are oblique to the axis of the support (Fig. 9 Nos. 1, 2, 3, and 4), five are concave (Fig. 9 No. 5), six convex (Fig. 9 Nos. 6 and 7) and three at right angles to the main axis of the support (Fig. 9 No. 8).

(v) *Piercers*

There are two piercers both on small blades, one worked at the distal end of the support (Fig. 9 No. 9), the other at the bulbar end of its support (Fig. 9 No. 10).

(vi) *Nosed piece*

One flake carries a nosed projection at its distal end, while down its left hand edge are three contiguous notches (denticulation) and a single notch (Fig. 10 No. 1).

(vii) *Denticulated pieces*

Five supports carry more than a pair of contiguous notches. These are termed denticulates. All of the supports are flakes, and the number of contiguous notches varies from nine to four. The widths of the individual notches varies between 2 and 12 mm with an average width of 5 mm (29 notches total: Fig. 10 Nos. 2 and 3). In addition, one burin and one nosed piece also carried lengths of denticulation.

(viii) *Double notches*

Four supports carry a pair of adjacent notches (Fig. 10 No. 4). The mean width of the eight resulting notches is 5 mm. In addition one scraper noted above also carried a double notch.

(ix) *Single notches*

Twenty-seven supports carry single notches. Of the supports, six are blades, eight are flakes, 12 are broken pieces and one a crested blade. The mean width of the notches is 4 mm with individual widths varying between 2 and 9 mm. In addition two scrapers, four truncated pieces and a nosed and denticulated piece listed above also carried single notches. This gives a total of 34 notches.

(x) *Mèches de Foret*

Two pieces are tentatively classified as mèches de foret or 'drill bits'. One is a bladelet which retains its bulb and is retouched along each edge to a point. The second is the butt of a burnt piece with light retouch along each side, this retouch seemingly heading towards a pointed tip at the distal end.

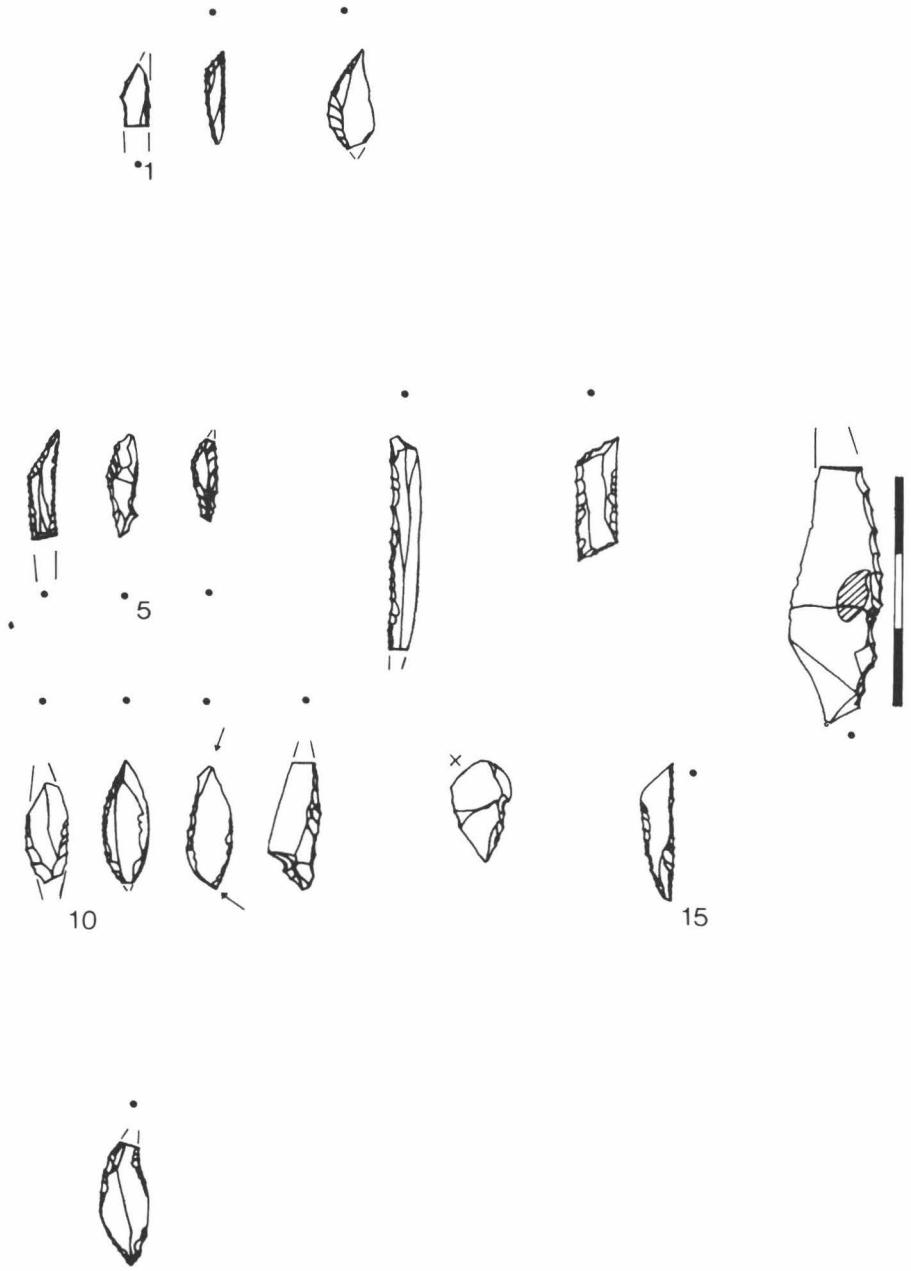


Fig. 4. *The Hermitage: microliths.* Nos. 1—3 spit A; nos. 4—15 spit B; no. 16 spit B/C. Nos. 1—2 and 4—6 scalene pieces; nos. 3, 10—13 and 16 short lanceolate pieces; no. 7 (narrow) straight-backed piece; no. 8 four-sided piece; no. 9 long convex-backed piece; no. 14 short convex-backed piece and no. 15 not classified.
Note: On all drawings of flint artifacts a + indicates the position of a bulb of percussion still present at this point on the ventral surface of the artifact. A • indicates the former position of such a bulb, now removed. Snaps are indicated by solid black infill and fire damage by oblique shading. All scales are in cm.

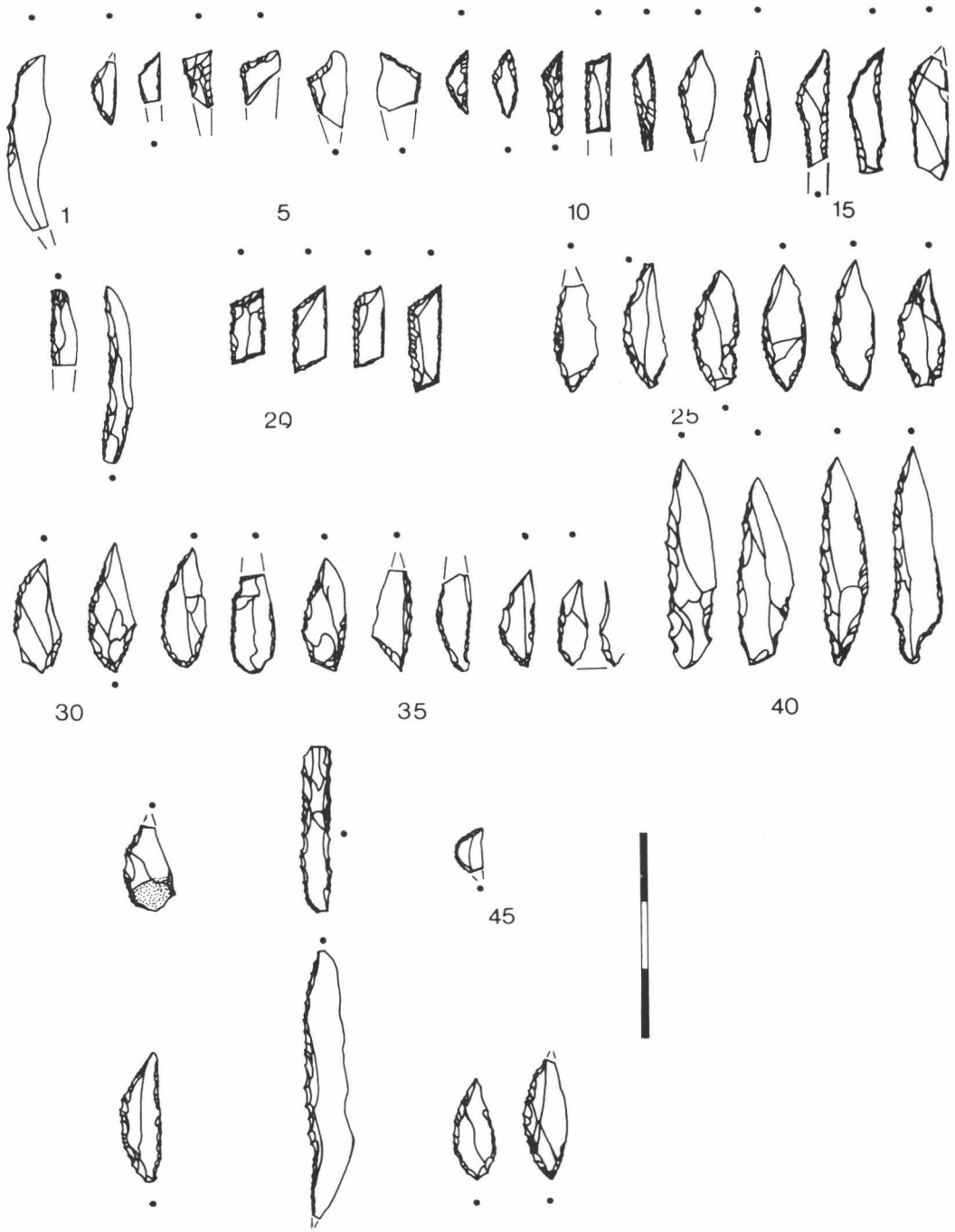


Fig. 5. *The Hermitage: microliths.* Nos. 1—45 spit C; nos. 46—49 spit C/D. No. 1 obliquely backed piece; nos. 2—17 and 46 scalene pieces; nos. 18 and 19 (narrow) straight-backed pieces; nos. 20—23 four-sided pieces, nos. 24—38 and 48—49 short lanceolate pieces; nos. 39—42 elongated lanceolate pieces; no. 43 short convex-backed piece; no.44 ?micro tranchet; no. 45 ?lunate; no. 47 long convex-backed piece.

Fig. 6. *The Hermitage: microliths.* Nos. 1—25 spit D; nos. 26—27 spit E. Nos. 1 and 26 obliquely backed pieces; no. 2 large triangle; nos. 3—11 scalene pieces; nos. 12—16 (narrow) straight-backed pieces; no. 17 four-sided piece; nos. 18—21 long convex-backed pieces; no. 22 short lanceolate piece; nos. 23—25 not classified; no. 27 "Horsham point".

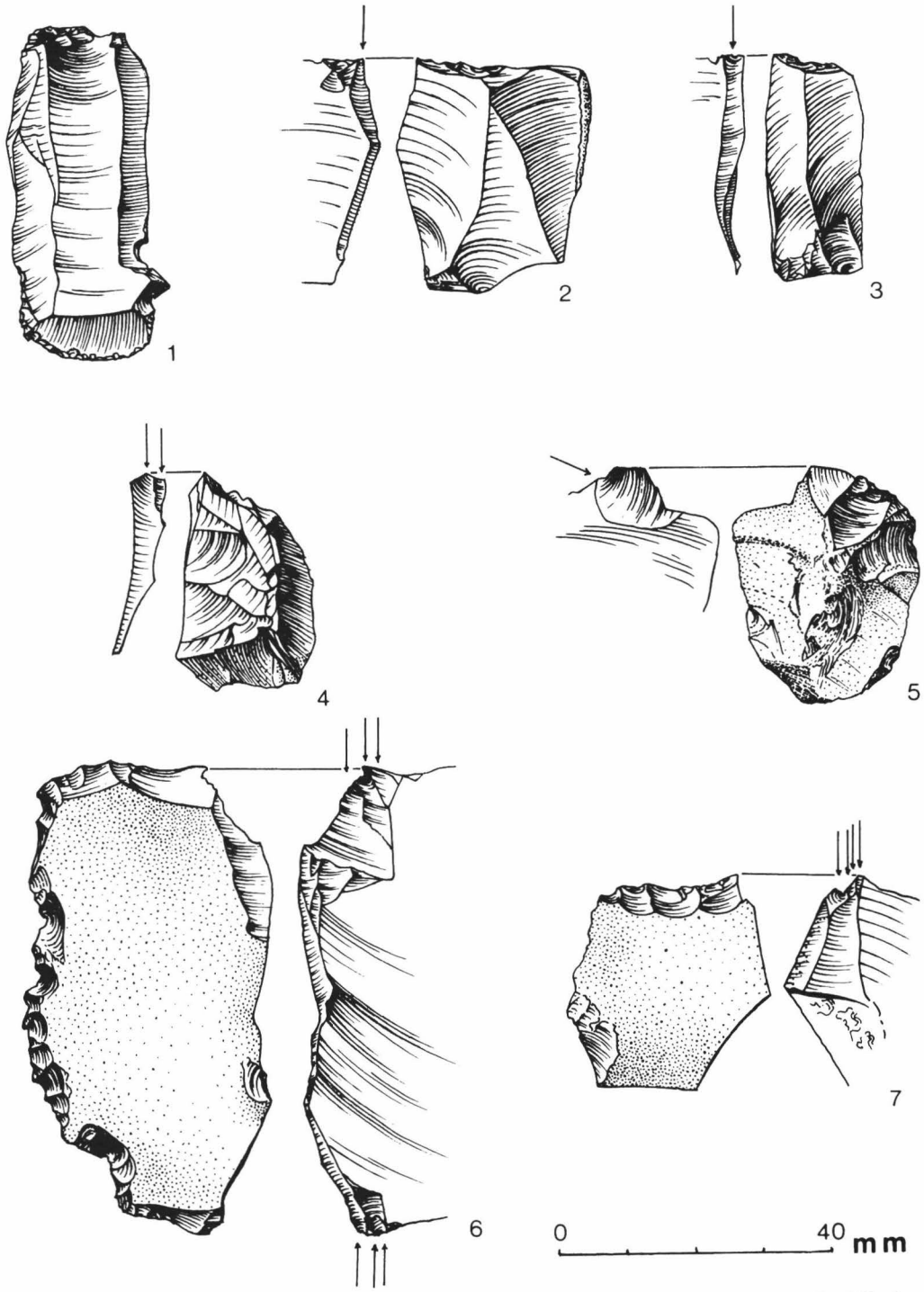


Fig. 7. The Hermitage. No. 1 End scraper on elongated support with pair of adjacent notches. Nos. 2—5 Single angle burins. No. 6 Pair of angle burins on support with denticulation along the left hand side. Scale in millimetres.

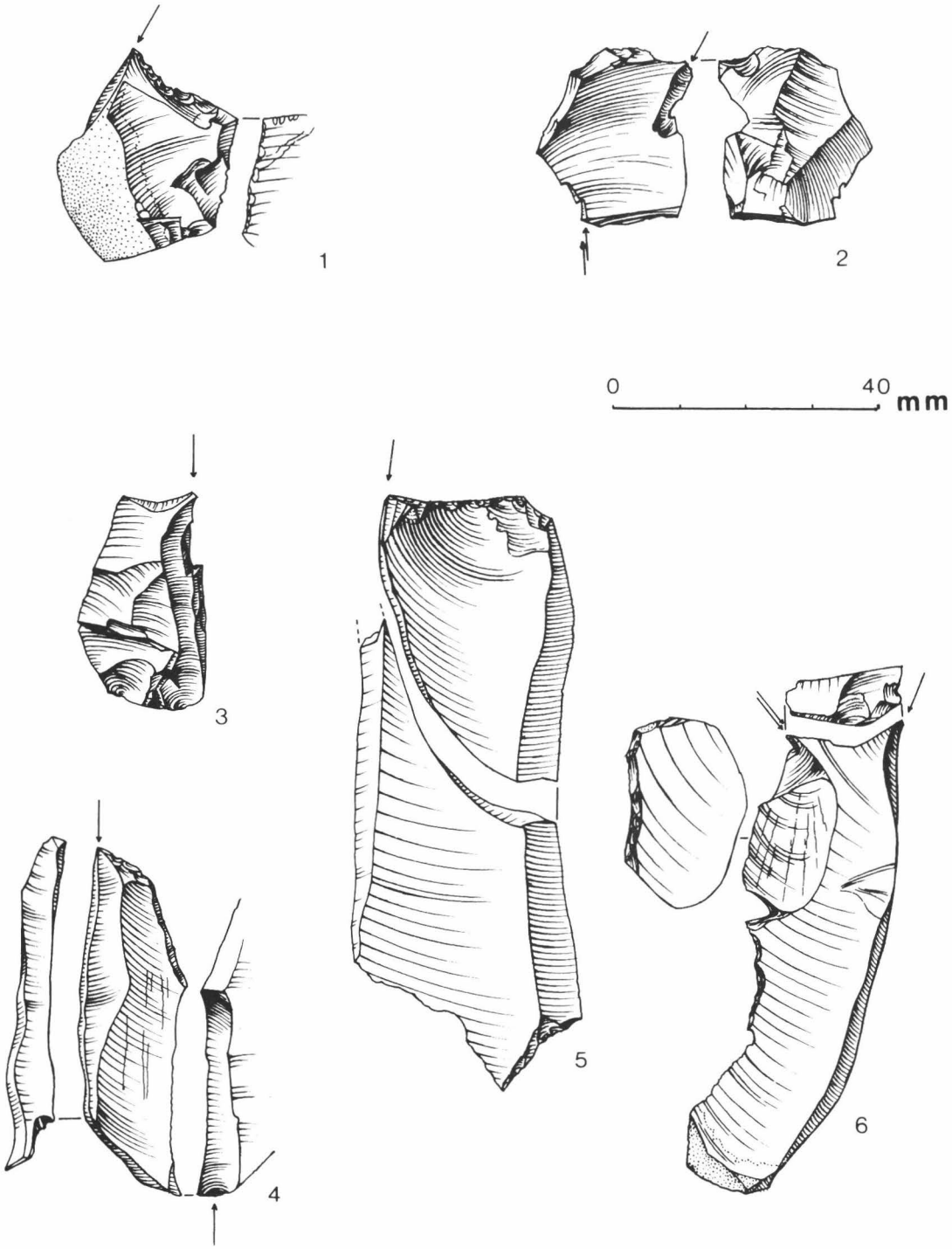


Fig. 8. The Hermitage. No.1 Single angle burin on flake with inverse retouch. No. 2 Angle burin combined with burin on natural break on short support. No. 3 Single burin on natural break. No. 4 Angle burin combined with burin on natural termination together with refitting spall. No. 5 Burin developed on the striking platform of a piece, together with refitting (broken) spall, the latter with oblique truncation on its distal end. No. 6 Pair of angle burins developed from the same concave truncation. The left hand margin of the support is retouched and a spall refits the burin on this side. Scale in millimetres.

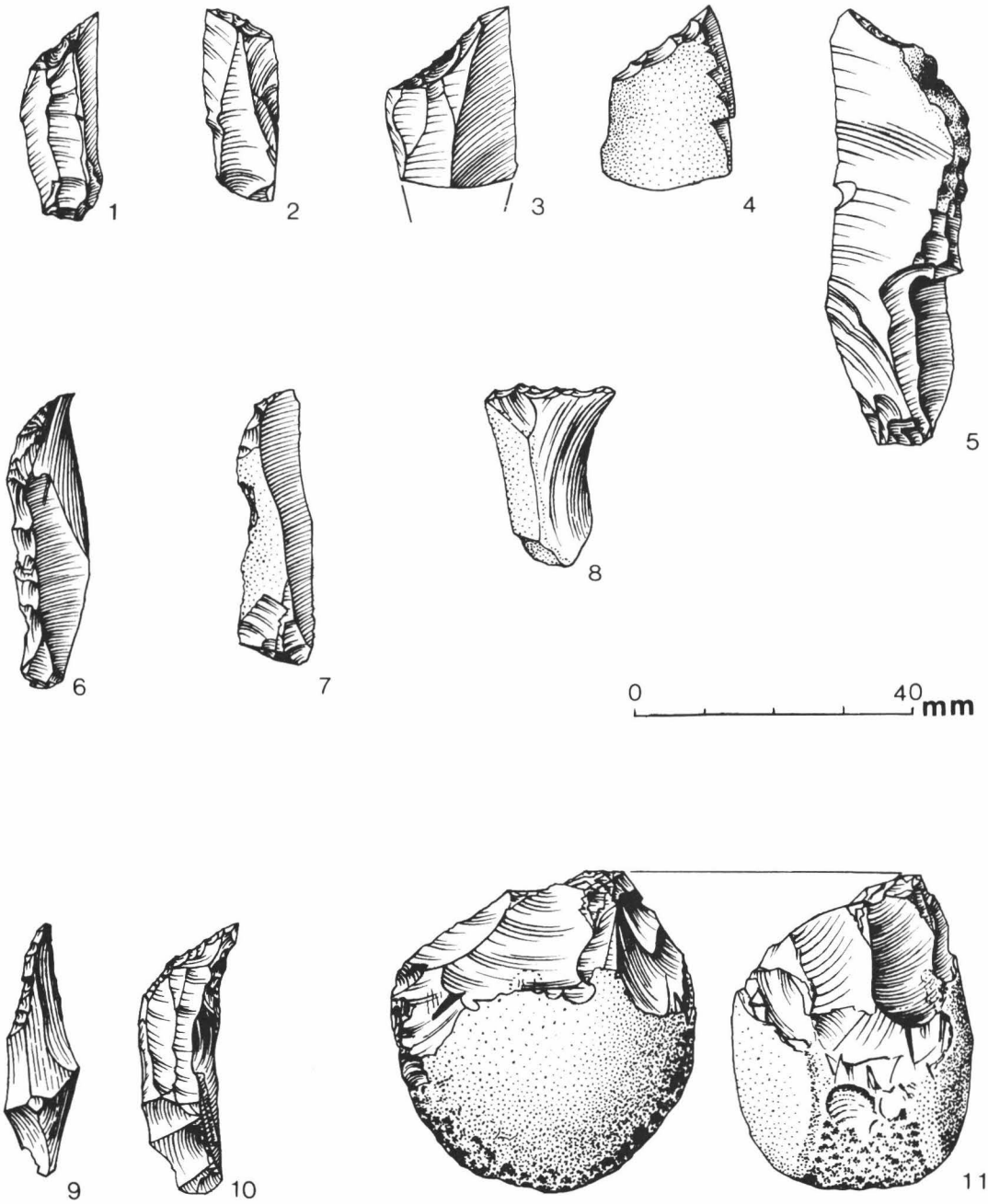


Fig. 9. The Hermitage. Nos. 1—8 Truncated pieces. Nos. 9 and 10 Piercers. No. 11 Chopping tool made on pebble previously used as a hammerstone. Scale in millimetres.

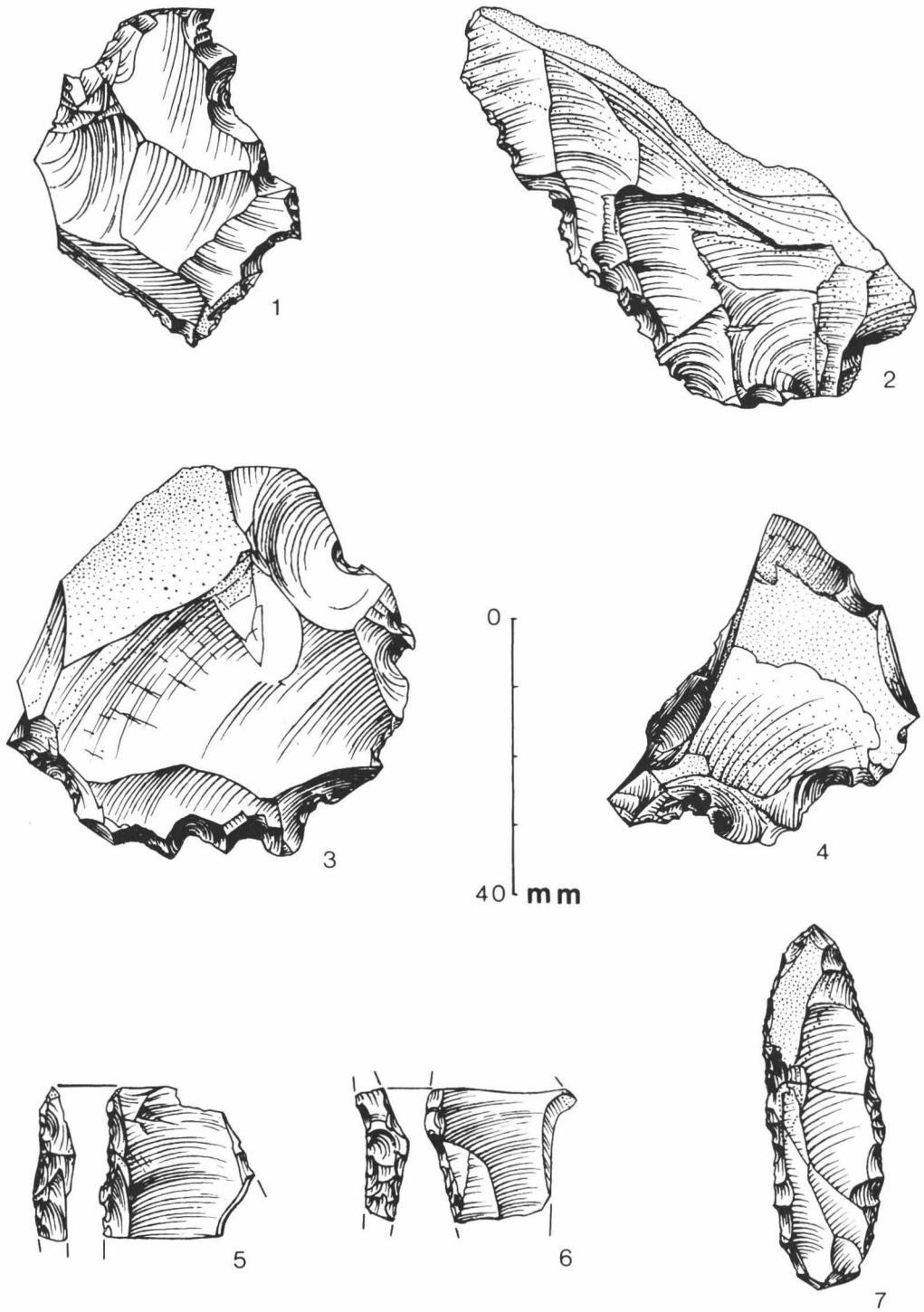


Fig. 10. The Hermitage. No. 1 Nosed and denticulated piece. Nos. 2 and 3 Denticulated pieces. No. 4 Piece with pair of adjacent notches. Nos. 5 and 6 Fragments of backed knives. No. 7 Limace-like piece. Scale in millimetres.

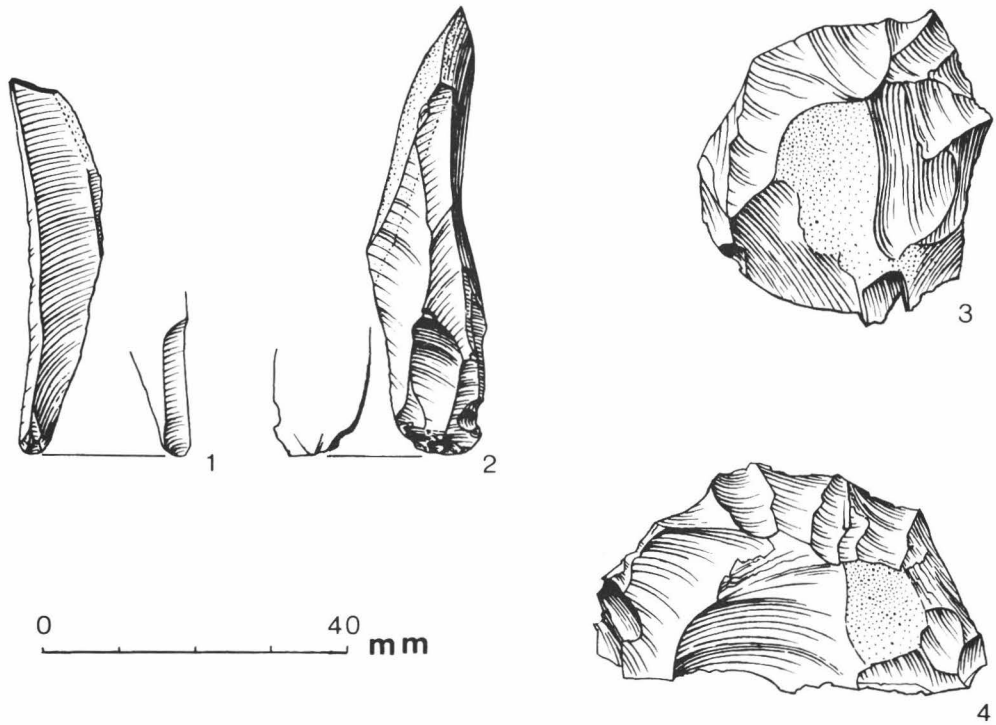


Fig. 11. The Hermitage. Nos. 1 and 2 "Pièces emoussées. Nos. 3 and 4 Adze thinning pieces. Scale in millimetres.

(xi) *Backed knives*

Two sections of what may once have been elongated supports have steep trimming along one edge. One piece is from the distal end of a support and the other from near the mid-point of a support. The pieces are respectively 5 and 6 mm thick. Both are interpreted as fragments of backed knives (Fig. 10 Nos. 5 and 6).

(xii) *'Limace-like piece'*

A burnt blade from spit A has steep convex retouch along each side. This retouch meets at the distal end of the support to form a thick triangular sectioned point. The piece which was broken in antiquity carries a thin strip of cortex on its left-hand side and towards the tip. The artifact is tentatively described as a limace-like piece because of the similarity to Middle Palaeolithic pieces which go under this description (Fig. 10 No. 7).

(xiii) *Chopping tools*

Two pieces of flint, one a pebble, the other a fragment of a nodule still retaining a chalky cortex on a part of both faces, have been flaked into small chopping tools. The example developed on a pebble is made on a piece of flint previously employed as a hammerstone (Fig. 9 No. 11).

(xiv) *Retouched pieces*

Thirty pieces carry retouch which does not serve to transform the support into a recognized tool form. It is frequently difficult to separate genuine retouch designed to alter the outline of a support from heavy utilization or even damage sustained during or after excavation.

Of these retouched pieces five are blades, eight are flakes, sixteen are broken pieces and one is a crested blade. Twenty-one pieces appear to be retouched along a part of one edge and the remaining nine along two or more edges. In each case the retouch is light, at steepest semi-abrupt, and scarcely invasive.

(xv) *Diverse*

Under the heading 'diverse' are included three artifacts: two, a leaf-shaped and a tanged and winged arrowhead (these former from the surface of spit B and the second from within spit A) are clearly of farmer period age and require no further comment. The third item listed under 'diverse' is, however, a pointed thermally split nodule of flint (from spit A of the 1975 excavations) with its back largely covered in a thick white cortex. Its snout is trimmed to thick point, and a single flake has been removed for the lower (or thermal) face of this snout. The object could be variously classified as a nosed piece, a short squat pick or a pointed chopping tool. Its age is clearly uncertain but there is no reason why it should not be a part of the Mesolithic assemblage.

WORN PIECES

Six pieces show areas of smoothing at one or more points on their perimeter compatible with a description as 'pièces emoussées'. It would be tempting to associate these worn pieces (three blades, two flakes and one thermal fragment) with attempts to engrave or prepare by smoothing the rock face behind the site as has been suggested for similar pieces from French Mesolithic sites below outcrops of soft sandstone. Two of the pieces (one blade and the thermal fragment) are worn at both ends, another pair at one end only (Fig. 11 Nos. 1 and 2), and the two flakes on one edge.

Thirty-seven pieces additionally show damage to a part of their perimeter comparable with a description as utilized pieces. Recognition of this is very subjective and it is possible that for some or perhaps even most the apparent use traces are due to abrasion received at the moment of excavation or received during subsequent transportation.

Two pieces, one a flake, the other a broken piece, display areas of localized abrasion suggesting that they derive from either hammerstones or pounders of flint.

BY-PRODUCTS

Significantly of 97 pieces classed as by-products 46, or 47%, are connected with the production or maintainence of microlithic equipment. That is they take the form of successful microburin removals (21.6%), unsuccessful microburin removals (21.6%), an uncompleted microlith (1.03%) and in one case the basal reject from producing a straight-backed bladelet (1.03%). Finally two pieces (Krukowski pieces) represent the repointing of microliths (2.1%). The ratio of discarded microliths to waste rejects from the preparation of new microliths is 3.2:1 (the microintermediate and the Krukowski pieces are not included in the calculation since in the first case no microlith was produced and in the second two cases only the repointing of existing pieces is documented). It would seem that far more hunting equipment is being discarded on the site than is being replaced.

There are equivalent totals for notch spalls and burin spalls (17) and their outnumbering of scraper retouch spalls (8) confirms the greater importance of the first pair of tool categories. A single small flake appears to have been removed from the back of a thick piece which was being blunted by bipolar retouch. This is tentatively incorporated as a 'backing spall' and it is envisaged that it could have derived from a knife similar to Fig. 10 Nos. 5 and 6.

The most significant items among the by-products are three adze thinning pieces—thin flakes with a gently curving longitudinal profile and converging negative flake scars on their dorsal surfaces. They give evidence for the use (or at least the thinning down) of a tool category otherwise unrepresented on the site (Fig. 11 Nos. 3 and 4).

The Debitage

The debitage (unmodified and seemingly unused pieces) is discussed in an appendix by Dr. Martin Hemingway: eliminated, however, from his discussion and that which follows, are 25 pieces of burnt flint which appear to be unworked. There are 59 cores and fragments of cores and these can be classified as follows: (spits E to A combined).

TABLE VI

Cores with a single striking platform part round the perimeter	19
Cores with two opposed striking platforms part round the perimeter	9
Cores with two striking platforms at right angles to each other	14 + ?1
Cores with two opposed platforms and a third platform at right angles	4
Cores in the form of a bifacially flaked disc	2 + ?1
Core of globular form with flakes removed in a number of directions	1
Total of classified cores	49 + ?2
Fragments of cores	8
Grand Total	59

The 'importance' of cores and core fragments relative to the remainder of the assemblage can be expressed by two ratios—(1) the ratio of cores and core fragments to the tools, worn pieces, by-products and debitage within each spit and (2) the ratio of core and core fragments to the combined total of blades, flakes, broken pieces, crested pieces, core tablets and fragments within each spit (Table VII). The second set of statistics compares the total of cores with the total of pieces most likely to have been 'produced' on the site.

TABLE VII

	Total of Cores and Core Fragments	*Ratio of Cores and Core Fragments to the Total of Pieces*	*Ratio of Cores and Core Fragments to other Categories of Worked Debitage*
Spit A	8	1:92	1:83
Spit B	18	1:70	1:58
Spit C	19	1:66	1:57
Spit D	13	1:62	1:55
Spit E	1	1:214	1:199

Particularly noticeable is the decrease in the ratio of cores and core fragments from spits D to A. The increase in the number of removals per core/core fragment combined with an increase in the mean size of removals surviving intact (appendix) may, if the latter is not due to natural size sorting within the sandy matrix of the site, suggest an increasing volume for the individual chunks of available raw material. This is perhaps the opposite to what one might expect if the same surface scree is being collected from, and may hint at either (1) excavation for flint below surface screes or (2) increasing exploitation of one or more new sources of flint. The gently increasing proportion of ?marine flint cortex from spits D to A may suggest one of these more heavily exploited sources (Table I), while the increasing % of cortex from spit D to A may suggest a greater surface area of nodule to be decorticated. As with every other statistic presented spit E stands distinct from the other spits—in this case in showing a vastly greater number of removals in relation to the single core fragment.

The whole blades and flakes from spits E to A of the 1974 excavation were measured for B/L and the results expressed as in Pitts and Jacobi (1979) (Table VIII).

TABLE VIII

Table to show Breadth/Length ratios for whole pieces of unretouched flint (flakes and blades) not including crested pieces and core tablets. All figures except for final totals expressed as percentages.

B/L RATIO	.2	.2 .39	.4–.59	.6 .79	.8 .99	1.0–1.19	1.2–1.59	1.6	Σ
SPIT A	1.1	5.5	14.2	26.8	20.2	17.5	11.5	3.3	183
B	.44	3.5	14.6	21.2	19.5	21.7	14.6	4.4	226
C	.44	5.0	18.7	17.3	20.0	18.7	13.8	5.8	225
D	1.5	8.9	15.9	17.8	16.7	18.2	12.6	8.5	270
E	0	17.3	28.0	14.7	8.0	12.0	12.0	8.0	75
									= Σ979 Observations

Again the results from spit E are more different from those for spits D to A than any of those spits are to each other. This might seem to support the argument developed above that spit E contains artifacts up to over a thousand years older than the finds from spits D to A.

Stone Object

A cylindrical nodule 138 mm long and 37 mm in greatest girth of weathered clay-ironstone was recovered from spit B. This object, which has lost much of the original surface due to peeling, is of a material common in the Weald clay of Sussex (R. W. Sanderson, *in littera* 28 October 1980), and while presumably a manuport shows no sign of shaping or utilization (Plate IV).

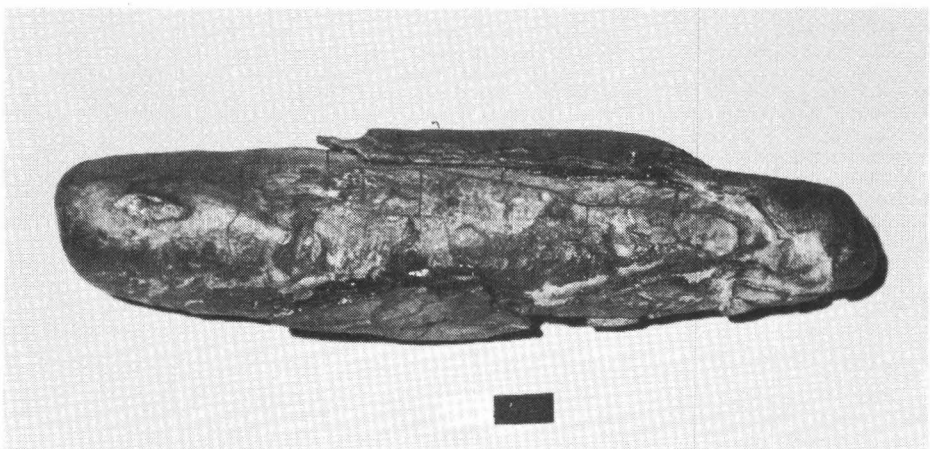


Plate IV. Cylindrical nodule of weathered clay-ironstone from spit B of the 1975 excavation. Scale in cm. Photograph: J. Thompson

FUNCTIONAL AND SEASONAL ASPECTS OF THE SITE

To describe the functional properties of the assemblage spit by spit the numbers of supports carrying tools of each type were calculated and each score converted into a percentage (Table IX). This approach was possible for each spit except E when only eight tools were identified. Greatest reliance can be placed on the relative proportions of tools calculated for spits D, C and B, since spit A was cleared rapidly in order to expose the undisturbed sediments beneath. This may explain the much reduced proportion of microliths in the spit (but see below).

TABLE IX

Percentage(s) of supports carrying retouched pieces of each type

Spit	*Microliths*	*Scrapers*	*Burins*	*Truncated Pieces*	*Piercers*	*Nosed Piece*	*Denticulates*	*Double Notches*	*Notches*	*Mèches de Foret*	*Backed Knives*	*Limace*	*Chopping Tools*	*Supports*
A	20%	2%	12%	20%			5%	2%	34%		2%	2%		41
B	60%	2%	7%	18%			2%	2%	9%					45
C	68%	1%	5%	9%	1%		2%	2%	8%	2%?	1%		1%	99
D	64%	2%	7%	7%	1%	2%	2%		14%				1%	58
E	2	1		2			1	1	1					8

Characteristic of spits D, C and B is the dominance of the tool kit by microliths suggesting the importance of hunting at this site. Common to all the spits are notched pieces, truncated pieces and burins. The notched pieces seem likely to have served as shaft smoothers and the small width of these notches (mean 4 mm) suggests that these shafts were arrow shafts. The very high percentage of notched pieces in spit A (34%) compared to the small percentage of microliths (20%) and the fine by-products of microlith manufacture in this spit may hint that in the final phase at this site many shafts were being prepared for future hunting but not tipped with microliths. The functions of the truncated pieces is less certain, but in some cases at least the truncation may have provided a support for the finger, the piece serving as a whittling or even butchery knife. The burins could have been associated with the working of antler and, if so, this antler is most likely to have been worked in the spring when at its most compact, just before or just after shedding. The widths of the majority of the working edges of these burins (mean 3.5 mm) suggests that these tools would be suitable for the 'groove and splinter' working of antler.

Represented in only four of the five spits, and in each spit only by single examples, are scrapers. This rarity of scrapers could be interpreted in two ways: firstly, it may hint that occupation did not take place in, or did not extend into, the autumn when we might expect the preparation of deer skins then at their best. A lack of occupation in autumn is certainly hinted at by the absence of carbonized hazelnut shells on a site where burnt and presumably contemporary wood has been preserved; and by the absence of stone rubbers for seeds. A second explanation, however, for this rarity of scrapers may be not a seasonal one, but connected instead with the makeup of the group using the site. Thus a rarity of scrapers, and an absence of plant food residues and preparation equipment for immobile foods may hint that females were not a part of the residence group. The logical conclusion of this argument would be to suggest that The Hermitage was an extractive camp used by a male hunting band.

The small number of scrapers cannot be explained simply in chronological terms—scrapers becoming rarer with time—since one in five retouched pieces at Abinger in Surrey is a scraper and this site will be argued to be *later* in date than The Hermitage (see below).

The absence of adzes from the finished tools suggests an absence of elaborate carpentry, carpentry which will at least on winter sites have included post-built houses of the type identified at Broomhill in Hampshire.

The Hermitage is thus interpreted as an extractive camp, perhaps occupied by a male hunting group. The presence in each spit of burins with edges suitable for the working of red deer antler may hint at a spring use of the site. Similarly the rarity of scrapers, an absence of burnt nut shells and an absence of seed rubbers may argue against an autumn use. It is assumed that the environment was that of a deciduous woodland and that the animals preferentially hunted will have been wild cattle, red and roe deer and pig.

DISCUSSION

In the formal part of the report presented above the spits and their contents were discussed as if they represented some form of stratigraphic reality. It should, however, be remembered that these spits are arbitrarily defined units and that these may have cut across or wrongly

combined former stratigraphic realities, or may, as suggested in the appendix by Dr. Martin Hemingway, in the case of spits D to A simply subdivide what is in fact a single population of artifacts and debitage, whose contents have become naturally size sorted within the sandy matrix of the site. Thus the statistical qualities attributed to the contents of each spit may be partially or wholly fortuitous.

While again it was believed possible on a purely subjective basis to detect differences between the samples of microliths from spit D and those of spits C, B and perhaps A, these differences could not be shown to be statistically significant (see appendix). In the discussion which follows, therefore, these four samples of microliths will be regraded as forming parts of a single population of such artifacts. Not, however, included in such an 'amalgamation' are the contents of spit E, whose two microliths it was argued above might be up to over a millennium older than at least the majority of the contents of spit D.

Several of the characteristics of such a 'bulked' population of microliths deserve comment. Firstly, scalene pieces are the most common shape present (36%) only just outnumbering the total of lanceolate pieces (33%) and by rather more the total of convex-backed pieces (12%). *Both* the lanceolate and convex-backed pieces outnumber straight-backed (9%), four-sided (7%) and most significantly, obliquely backed pieces (2%).

'Narrow-blade' microlithic assemblages in which either (or both) convex-backed and lanceolate microliths outnumber obliquely backed pieces appear confined to the south of the island (Fig. 12). In some of these (open circles) these convex-backed and lanceolate pieces are, even when combined, outnumbered by scalene pieces. This is true for spit D of The Hermitage if this is considered in isolation. In two cases (half-infilled circles), scalenes are the most numerous pieces present, but they do not exceed the total of convex-backed and lanceolate microliths *combined.* One of these cases is The Hermitage if the microlithic content of levels D to A is combined. In the remaining cases (infilled circles) either (or both) convex-backed and lanceolate pieces exceed in number the scalene forms. This is true for spits C and B of The Hermitage (considered separately or together) where lanceolate pieces outnumber scalenes.

While all the assemblages which are marked by various forms of circle on Fig. 12, and which are here interpreted as outlining a 'social territory', of the final sixth and of the fifth millennium bc share the characteristics that lanceolate and convex-backed pieces taken both singly and in combination outnumber obliquely backed and straight-backed pieces, there is considerable variation in the relative importance of narrow scalene forms. Thus representation of these ranges from a high of 60% at Culverwell (site 3: Fig. 12) to a low of 7% at Abinger (site 2) with a score for The Hermitage (site 1) of 33%.

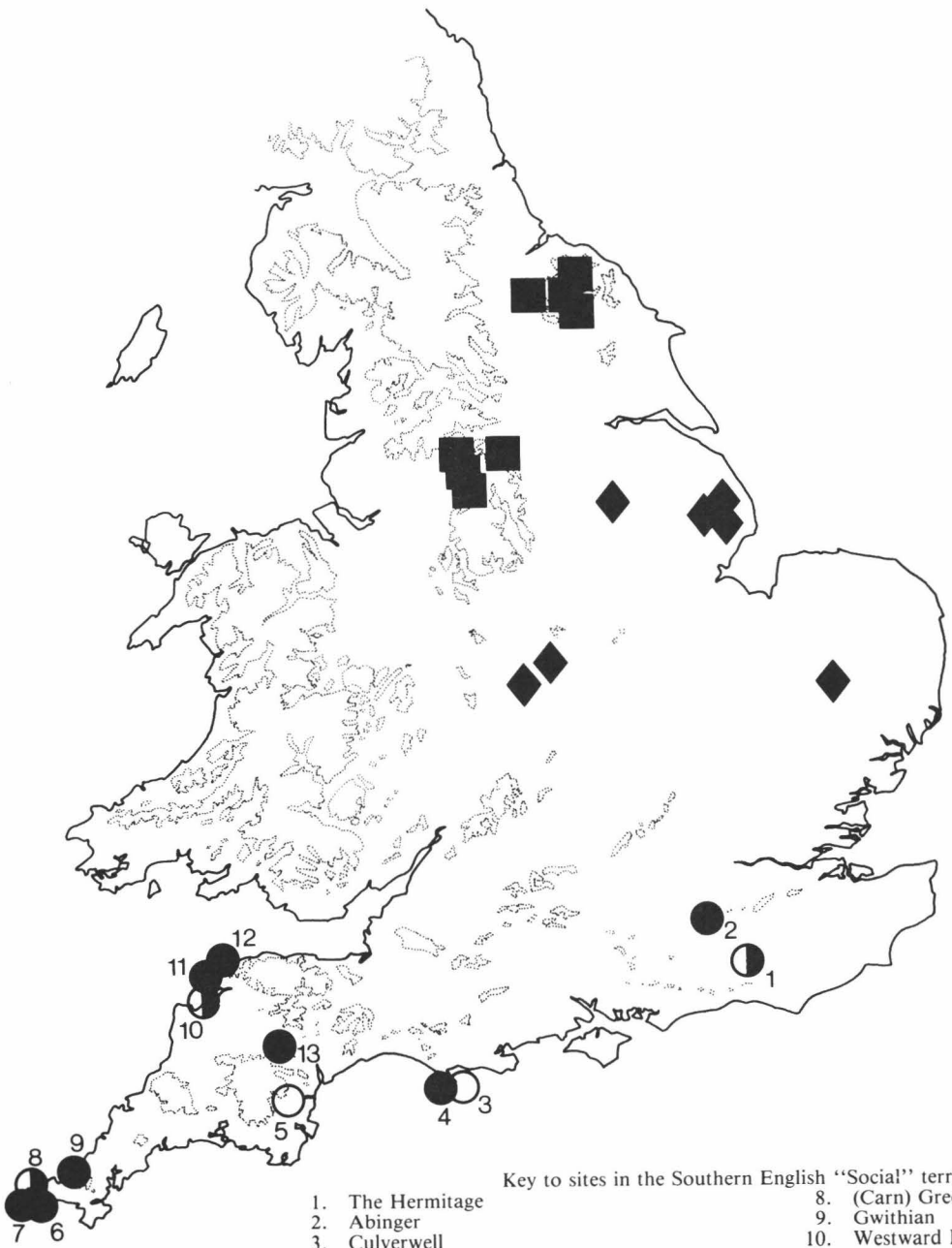
One explanation of these extreme values may be, although this cannot at present be certainly demonstrated, that, rather than being of functional significance, the relative representation of scalene pieces is time related.

Incorporated into Table X are percentage scores for the six microlith shapes which appear always to be dominant or near dominant in southern English 'narrow-blade' assemblages. To date no narrow-blade assemblage has appeared where any other microlith shape is dominant or near dominant. The scores are for eight of the 13 'collections' which are (1) suggested as representing the technology of a 'southern English social grouping' and which (2) incorporate more than 25 classified microliths. The assemblages are arranged with Culverwell which has the greatest percentage of scalene pieces at the base and Abinger, with the smallest at the top.

TABLE X

Tentative seriation of microlithic assemblages of the 'southern English' social territory

		Scalene pieces	*Convex-backed pieces*	*Lanceolate pieces*	*Straight-backed pieces*	*Four-sided pieces*	*Obliquely backed pieces*	*Total of classifiable microliths considered*	*Total of classifiable microliths not considered*	*Total sample of classifiable microliths*
• Abinger		7%								
• Baggy Point		15%	22%	31%	16%	—	16%	45	2	= Σ47
• Portland site I		16%	21%	42%	12%	—	9%	33	1	= Σ34
• Roskestal Cliff		33%	25%	37%	—	—	4%	24	2	= Σ26
◑ Hermitage Rocks spits	A B 4,850 bc ± 100 (Q 1311) C 4,970 bc ± 110 (Q 1312) D 5,155 bc ± 70 (Q 1562)	36%	12%	33%	9%	7%	2%	85	3	= Σ88
◑ (Carn) Greeb		41%	28%	26%	—	—	5%	43	0	= Σ43
○ Three Holes Cave	5,151 bc ± 97 (BM 960)	63%	15%	11%	—	—	11%	27	1	= Σ28
○ Culverwell	5,200 bc ± 135 (BM 473)	64%	7%	17%	6%	4%	2%	186	12	= Σ198



Key to sites in the Southern English "Social" territory":

1. The Hermitage
2. Abinger
3. Culverwell
4. Portland site I
5. Three Holes Cave
6. Rosketal Cliff
7. Stamps
8. (Carn) Greeb
9. Gwithian
10. Westward Ho!
11. Baggy Point
12. Woolacombe
13. East Week

Fig. 12. Circles: Sites attributed to a Southern English "Social territory" of the final sixth and the fifth millenia bc. Also shown are sites attributed to a central English (diamonds) and a Northern (squares) social territory. Either or both of these may be contemporary with the social territory identified for southern England.

This arrangement (seriation) of sites is at best tentative given (1) the small size of the majority of the samples (2) that three of the eight samples represent only surface collections and (3) that any or all could incorporate individual items or groups of items discarded either earlier or later (or both) than the bulk of the microlith sample considered. In the case of The Hermitage, the sample of microliths listed might include 'archaic' shapes abandoned during a suspected use of the shelter in the seventh millennium bc.

Clearly if this variability is time related we are in need of further radiocarbon determinations to establish the direction of any evolution. Nevertheless, there is no evidence which denies, as a working hypothesis, that assemblages with many scalene pieces (open circles) may be earlier than those where this shape is outnumbered, often substantially by at first lanceolate and convex-backed pieces combined (half-infilled circles) and later by either or both lanceolate and convex-backed pieces considered separately (infilled circles). If this supposition is correct then Culverwell, with its 64% of scalene pieces, would be the oldest, and Abinger, with its 7%, the youngest site. Such a development is certainly not contradicted by the contents of spits D, C and B at The Hermitage if these are treated separately, with in spit D scalenes outnumbering both convex-backed and lanceolate pieces and within spits C and B lanceolate pieces outnumbering scalenes. Again, however, it is important to stress that the spits are arbitrary not stratigraphic units, that the samples of microliths from each spit are small and that the differences between them cannot be shown to be statistically significant (see appendix).

What is significant, however, is that whether we consider the contents of spits D, C, B and A of The Hermitage separately or combine these, suspecting them to be the parts of a single population, The Hermitage still emerges as a representative of the 'social grouping' identified for southern England and whose oldest member is argued to be Culverwell (site 3: Fig. 12).

Turning to one part of this 'social territory', it seems particularly significant that so far *no* assemblage of later Mesolithic microliths has been identified from Devon and Cornwall which does *not* appear to be the product of members of our 'southern English' social grouping (Jacobi 1979). Consideration of those collections of microliths susceptible to any form of typo-numerical analysis suggests that *all* of these could be younger than Culverwell, and that all except for those from the Three Holes Cave and (Carn) Greeb may be younger than The Hermitage. Using similar typological arguments, the only substantial narrow-blade assemblage from inland Devon, that from East Week on the north-east flank of Dartmoor (Greig and Rankine 1953) would have to be placed above both Culverwell and The Hermitage on Table X.

Clearly the additional chronological data which The Hermitage has introduced into the discussion of the evolution of the microlithic technology within this 'southern English' social territory has helped to expose a gap in the later Mesolithic archaeology of south-west England and evidently further work is necessary either to confirm this gap or to fill it. Two statements, neither of which can at present be shown to be incorrect, could perhaps be made:

(1) That the south-west of the island (West Devon and Cornwall) was unexploited by populations using a narrow blade technology before 5,200 radiocarbon years bc. The absence of such a population would of course explain the failure to locate the 'archaic' forms of narrow-blade technology so successfully identified in south-eastern England.

(2) If this is considered improbable as a hypothesis, then it would seem that any cliff-top sites earlier than about 5,200 radiocarbon years bc, and which could have been expected to have yielded an 'archaic' later Mesolithic technology, have been removed by the rising sea-level of the post-Glacial, while so far survey in the interior of Devon and Cornwall has been insufficient to locate complementary (? summer) exploitation bases.

A corollary to the above observations is that artifactual evidence for coastal exploitation in the form of 'bevelled pebbles' has been collected from several of these south-western English sites. Since none of these can now be shown to be earlier than Culverwell, evidence for coastal exploitation in England cannot be demonstrated to have taken place earlier than about 5,200 radiocarbon years bc.

Finally, if our ordering of these assemblages is broadly correct, and if there is no even later microlithic technology which we have failed to find, or which we have grossly misdated and hence misplaced, then equipment used by the latest indigenous inhabitants of the south-east and west of the island can be speculated to have resembled Abinger. Clearly these is a need to date assemblages which would fit later in the seriation than The Hermitage, but it would not be surprising to find, certainly in the south-east of England, that a microlithic technology ceased to appear close to 4,000 radiocarbon years bc.

CONCLUSIONS

Excavation at the foot of an outcrop of rocks of the Ardingly Beds produces 4329 pieces of struck flint. In spit D of a sequence of 10 cm spits (A–E) was found a hearth founded on blocks of sandstone. Three radiocarbon dates were obtained on pieces of burnt wood from spits B, C and E. These suggest an age for the occupation(s) of between 5150 and 4850 radiocarbon years bc. The finished tools are dominated by microliths with truncated pieces and burins; important artifact classes. The site is tentatively interpreted as a spring hunting camp.

Differences in typology which it was thought could be detected between the microlith populations of spits E, D, C and B could not be shown to be of statistical significance but two microliths from spit E are suggested as residual from a potentially much earlier 'Horsham' assemblage. Within the microlith population of spits D to B obliquely backed pieces are outnumbered by both convex-backed and lanceolate pieces, a phenomenon restricted to southern England and perhaps helping to identify a 'social territory' extending across the width of the island. In the south-east this social territory is separated by a millennium from an earlier 'Wealden social territory' (Jacobi 1979, Fig. 10). The radiocarbon dates obtained from The Hermitage are relevant to the interpretation of microlithic assemblages as far away as Devon and Cornwall, and would seem to expose a gap in the archaeological sequence for this area.

ACKNOWLEDGEMENTS

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DESTINATION OF THE FINDS

The finds have been given to the Museum of the Sussex Archaeological Society at Barbican House, Lewes, by Mr. and Mrs. J. G. Berry.

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Addendum

It was not possible, as had been hoped, to obtain a satisfactory count for the microliths from the infill of the pit (? grave pit) at Abinger, Surrey. The statistics given on Table X should be treated with circumspection. It was not possible to identify those pieces actually from the pit infilling and it is probable, given the presence of a 'Horsham point' in the surface collection from the site that older microliths have found their way into the collection. However, only one small scalene piece appears to be present and the most common microlith shape appears to be the short convex-backed piece. The rather high value for obliquely backed pieces may reflect the incorporation of pieces from an earlier Wealdon stage occupation—hinted at by the Horsham point. Several bitruncated pieces of rhombic outline point in the same direction.

OBSERVATIONS ON THE LENGTH AND BREADTH MEASUREMENTS OF WHOLE FLAKES FROM THE HERMITAGE ROCK SHELTER

by M. F. Hemingway

Figures for the lengths and breadths of whole flakes from the five spits employed in excavation of the Hermitage rock shelter were supplied by Dr. R. M. Jacobi. All were measured using the Maximum Length Orientation (Hemingway 1980, 152–4; Saville 1980), and subjectivity is controlled by having all measures taken by a single worker (R.M.J.) over a short period of time.

Mean values for breadth, length, and the breadth: length ratio of each sample are shown in Table XI.

The breadth:length ratio is a rough criterion of flake shape that shows some chronological partitioning in British Post-Glacial assemblages (Pitts 1978; Pitts *et al.* 1979). A one-way analysis of variance comparing the samples from each spit indicated that there was no statistically significant variation between the five (F-ratio = 1.41 (>2.37 for 0.05 significance)). Mean values and standard deviations are listed in Table I, and graphed in Fig. 13 with the two standard error range marked. Here the disturbed spit A, and the basal spit E have the narrowest mean values, while there is a slight increase in mean and range from level D up to level B.

Having noted the existence of size sorting according to depth in a probably single level early Mesolithic (late Maglemosian) occurrence in unconsolidated sand in my own excavations at the Rocks, Uckfield (Hemingway 1980a, and in prep.), I decided to test for the presence of this at the Hermitage using other criteria than the breadth:length ratio.

TABLE XI

Mean values and standard deviations for length, breadth and the breadth:length ratio

		Length (mm)		*Breadth (mm)*		*Breadth:Length*	
Spit	*n*	$\bar{x}$	*SD*	$\bar{x}$	*SD*	$\bar{x}$	*SD*
A	183	20.6	10.6	16.13	7.86	0.850	0.322
B	226	18.9	10.3	15.74	8.50	0.923	0.455
C	225	18.4	11.5	14.94	9.06	0.904	0.380
D	270	17.6	11.3	13.63	8.07	0.889	0.414
E	75	21.9	10.6	15.71	9.35	0.820	0.516

TABLE XII

Mean values for L x B, L + B, $\sqrt{L + B}$, B:L + B

		L x B	*L + B*	$\sqrt{L + B}$	*B:L + B*
Spit	*n*	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$
A	183	391	36.8	5.90	0.444
B	226	357	34.5	5.71	0.458
C	225	351	33.3	5.57	0.455
D	270	299	31.2	5.38	0.446
E	75	386	37.7	5.99	0.415

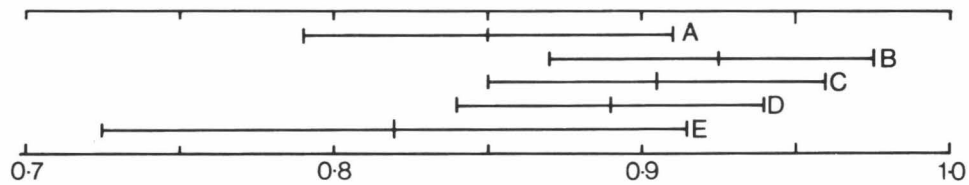

Fig. 13. Breadth: length ratios spits E—A. Mean and range of variation (double standard error range).

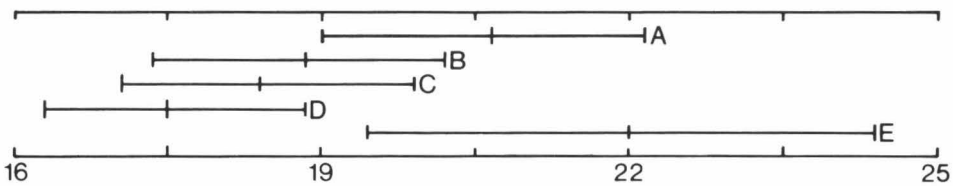

Fig. 14. Lengths of flakes spits E—A. Mean and range of variation (double standard error range).

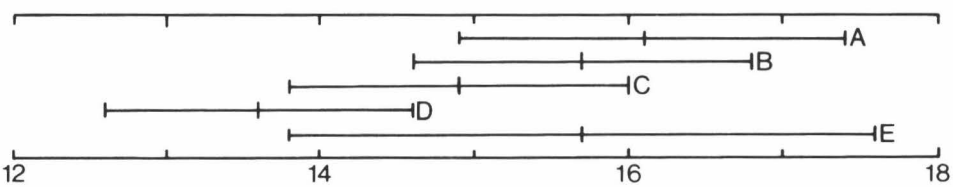

Fig. 15. Breadths of flakes spits E—A. Mean and range of variation (double standard error range).

Analysis of variance tests were carried out on the length and breadth measurements, and showed statistically significant levels of variation within the sample. The mean values are listed in Table XI, and the ranges of variation shown in Figs. 14 and 15. The F-ratio for length (3.71) is significant at the 0.01 probability level, and that for breadth at the 0.025 probability level. The graphs show a clear decline in each from spit A down to spit D, with spit E in both cases distinct.

Percentage histograms of the number of flakes in 2 mm size classes on length are plotted in Fig. 16. The increase in the number of pieces in columns on the left of the figure from spits A to D is clear, as is the clear difference of E, which is also less strongly unimodal.

Although the breadth:length ratio is accepted as a measure of the shape of flakes, there is no accepted index to summarise the size. Various combinations were attempted in the effort to provide such a measure, although with only length and breadth measurements available thickness could not be employed in these.

Table XII lists the means for L x B, L + B, $\sqrt{L}$ + B, B:L + B. It was suggested that the first two combined measures would exaggerate the effect of the few much larger pieces in each assemblage on analyses, and the qualified versions of these in columns 3 and 4 were employed in the attempt to minimise this effect. Analysis of variance tests were run on these also.

The F-ratio for L x B (1.78) is not significant ($p > 0.1$), but that for L + B (3.71) is identical to that for length and significant at the 0.01 level of probability. Of the two other measures attempted, B:L + B (F-ratio 2.57) is only significant at the 0.05 level of probability, while that for the $\sqrt{L}$ + B is the strongest calculated (4.98) and significant at the 0.001 probability level.

The simple statistical measurements attempted here indicate:

1. That there is no significant variation within the sample in the breadth:length shape ratio, although there is an indication that between levels D and B pieces become slightly broader.

2. The two basic size measurements show a statistically significant level of variation, with increase in both from levels D to A, and E distinct on both. The various attempted indexes of size except B:L + B showed the same trend from D to A with the differentiation of spit E at varying levels of statistical probability.

Setting E apart one can note accordingly that whole waste flakes appear to get larger up the profile. Fig. 16 indicates that this is due to a fall in the number of pieces in the smallest size classes. Various explanations of these observed trends may be suggested.

Level E differs consistently from the overlying spits. The bi-modal distribution of flake lengths on Fig. 16 contrasts with the strongly unimodal samples from spits D–A. On breadth:length ratio level E has the lowest mean, but the highest standard deviation and again the percentage histogram (Fig. 17) shows a less strongly unimodal distribution, and a 'narrower' modal value.

Pitts *et al.* (1979, 163) note that the debitage samples with which they are dealing show unimodal distributions of the breadth:length ratio; and (ibid, 166) note a change between early and later Mesolithic samples in flake breadth, with the early samples narrower.

While the sample from level E is smaller than from the overlying levels, and this may have contributed to the spikiness of the percentage histograms, one might suggest that the sample of whole flakes from level E represents a mixture of the later Mesolithic to which most of the material from the site can be attributed, and an earlier Mesolithic. In this connection one can note that during the excavation of the Hermitage Tebbutt noted a change in soil structure *within* spit E.

The presence of the Horsham point in spit E could be considered an indicator of the presence of some earlier material at the base since Jacobi (1978) suggests that Horsham assemblages predate the later Mesolithic 'micro-triangle' assemblages. In their analyses of debitage Pitts and Jacobi demonstrate no clear difference between Horsham and later material but only three Horsham collections were analysed and it could be suggested that this is insufficient indication of the potential range. The presence of a microlith of early Mesolithic type in the surface collection from a disturbed area could be regarded as an independent indicator of the possible presence of earlier material.

On the breadth:length ratio there is an increase in relative breadth from D to B, while A is narrower. The sample from this latter level is the most strongly unimodal (cf. Fig. 17), and although Pitts *et al.* (op. cit., 171) note that Neolithic flake samples are narrower than late Mesolithic, and the presence of two Neolithic arrowheads (in A, and on top of B) is noted, there are I think no real grounds for suggesting that the sample could contain some Neolithic debitage.

The most statistically reliable analyses performed suggest a clear change in size over the four upper spits. Comparable changes have been observed over time in the Initial Magdalenian sequence at Laugerie-Haute East, France (Hemingway 1980, 154–56). The Hermitage shelter has a sequence of C14 determinations becoming younger upwards, and it might be suggested that we have a chronologically related change here. There is no clear reason why the observed increase upwards in time in burnt flint, and cortical flakes should relate to this, although again it may be noted that the Laugerie-Haute East sequence also showed a regular change over time in the proportion of cortical flakes. The increase in time of proportion of flakes with battered cortex regarded as from pebbles from gravels incorporating older beach pebbles could, however, be interpreted as reflecting a shift in raw material source.

The alternative hypothesis is the one that prompted the analysis: that the change reflects mechanical sorting in an unconsolidated sandy matrix. The prompt to this hypothesis was my own excavation at the Rocks Fields Site A (Hemingway 1980a). This showed an apparently single early Mesolithic occurrence on the surface of a white sand level, with spread of material upward in the overlying grey sand, with moles and rabbits as the principal agents of this movement. Although samples of whole flakes are not yet large enough to permit measurement of change in size from spit to spit within this grey sand, one comparison that can be made is of significance. This is of two one metre squares, one dry sieved and one wet sieved. Fig. 18 shows that the difference in recovery technique resulted in little difference in number of pieces recovered between the two in the upper spits, but that in the spit immediately overlying the white sand a much greater number of pieces were recovered by wet sieving, most of which could be presumed smaller.

Some experimental work designed to investigate the amount of movement caused by soil animals has been initiated at the Rocks (Hemingway in prep), but results are not expected for a number of years.

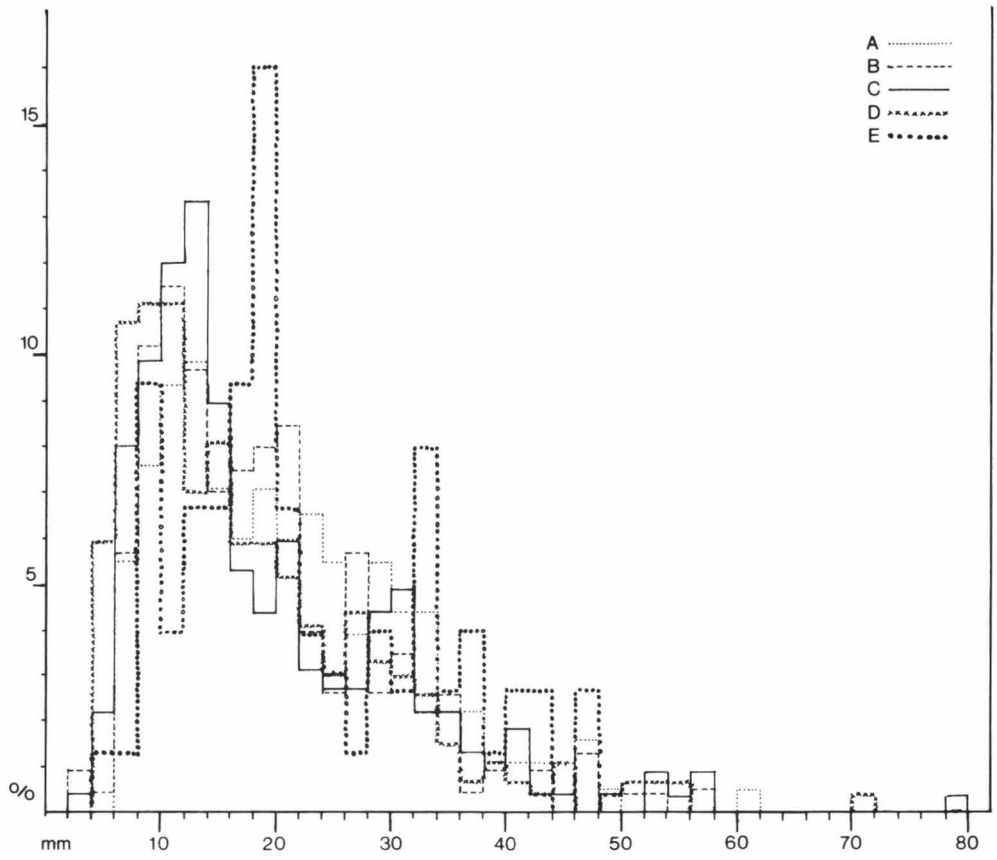

Fig. 16. Percentage histogram of flake lengths spits E—A.

Other experimental work on the subject is scarce, but one can note three studies that are relevant to the question.

Stockton (1973) working in sand at the Shaws Creek shelter (New South Wales, Australia) investigated movement by burying broken glass at a depth of 5 cm in an area that was walked over during the course of a normal working day. After 24 hours he reexcavated in 2–3 cm spits and found the material spread from the surface to a depth of 16 cm, this latter further than a foot could reach by pressure. The smaller splinters penetrated deepest, while larger pieces had ridden up.

Siiriainen (1977) working in Kenya noted changes within his undifferentiated sandy deposit that suggested industrial change associated with a change in raw material preference over time. Further analysis, however, suggested that the change was one of size, and that the apparent change in raw material preference related to the different fracturing of the different raw materials, with quartz—shattering more finely—settling further down.

Cahen and Moeyersons (Cahen and Moeyersons 1977; Moeyersons 1978) worked on the classic site at Gombe point (Kinshasha, Zaïre (formerly Belgian Congo)). Here, in redeposited Kalahari Sands is the sequence on which Central African prehistory is based, with levels of industrial material associated with a series of C14 dates in perfect sequence. The dated charcoal was associated with the archaeological material on depth only, and was unassociated with any archaeological feature. Studying the archaeological material Cahen was able to reassemble pieces from assemblages at different depths formerly regarded as representing different sets of archaeological material or 'cultures'. The number of such reassemblies, and the evidence that the vertical order of distribution did not follow the order of removal, militated against reutilisation as an explanation. An experimental simulation was attempted, using columns with identical sedimentological characteristics, and alternately wetting and drying them. It was found that this alternation could cause pieces to sink below the surface. Once buried the pieces would move vertically with deposit as it compressed, some moving more or less than the englobing deposit. The experimental column was more consolidated than the soil sample, and the absence of soil fauna it was noted meant that sediment was not being carried up, and that in the actual situation 'the mantle at Gombe can be considered as consolidating permanently in reaction to the ever continuing biogenic activity' (Moeyersons 1978, 126). The conclusion drawn from experiments and observations was that the industrial sequence reflected the vertical movement of pieces, and did not relate to the date sequence.

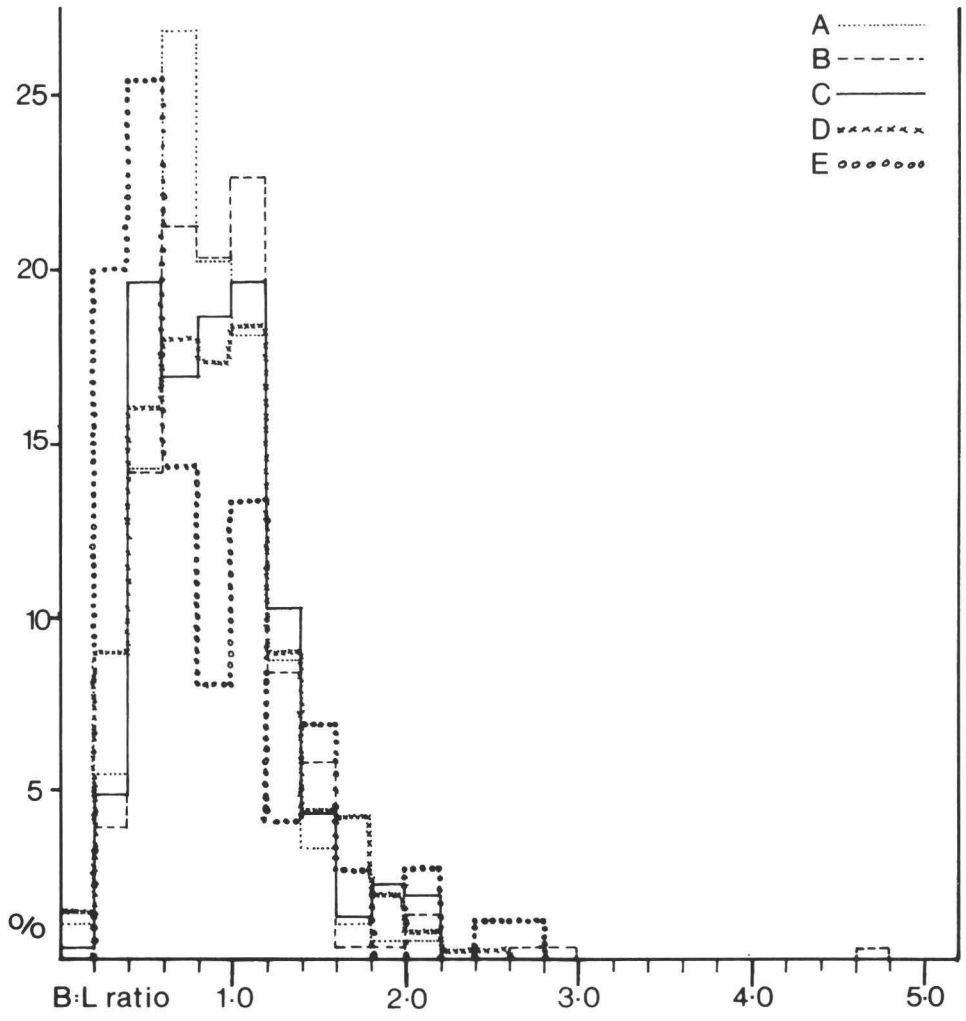

Fig. 17. Percentage histogram of flake breadth: length ratios, spits E—A.

The conclusions of these studies are neither clear nor unanimous. Cahen and Moeyersons note movement vertically using a simple mechanical variable, but dependent on the action of soil fauna. Stockton using simple mechanical processes noted downward movement of small pieces, upward movement of large. Siiriainen suggests a vertical separation dependent on size, with a suggestion of downward movement of small pieces. My own observations suggest upward movement of pieces, with either just large pieces moved up by animals (the smaller pushed aside), or alternatively more rapid resettling of smaller material. Of the two, the latter is I think less likely since few pieces have penetrated the white sand below, and those largely along clear root stains. The few comparative examples suggest that vertical movement is a relatively common phenomenon in sandy deposits. In the case of the Hermitage one could suggest that the sample from spits D–A represents a stratigraphically limited later Mesolithic occurence that has been spread vertically by soil processes, with either larger pieces moved up, or smaller down, or a combination of these two effects. Equally perhaps one might suggest that the basic sequence is real, with just some settling down of smaller pieces due to mechanical or vegetational processes.

The change in proportion of cortical pieces would be explicable under this model, if as might be expected, being outer and probably preparatory flakes cortical pieces were generally larger. Unfortunately the data to test this hypothesis does not exist. The increase upward in the proportion of pieces with 'battered' cortex can only be even more hypothetically subsumed, if one were to suppose that in these cases a thicker cortical zone was trimmed to remove the depth of flint made unusable by the flaws caused by impact (cf. the observations of Moore (1979, 7) at Fairlight).

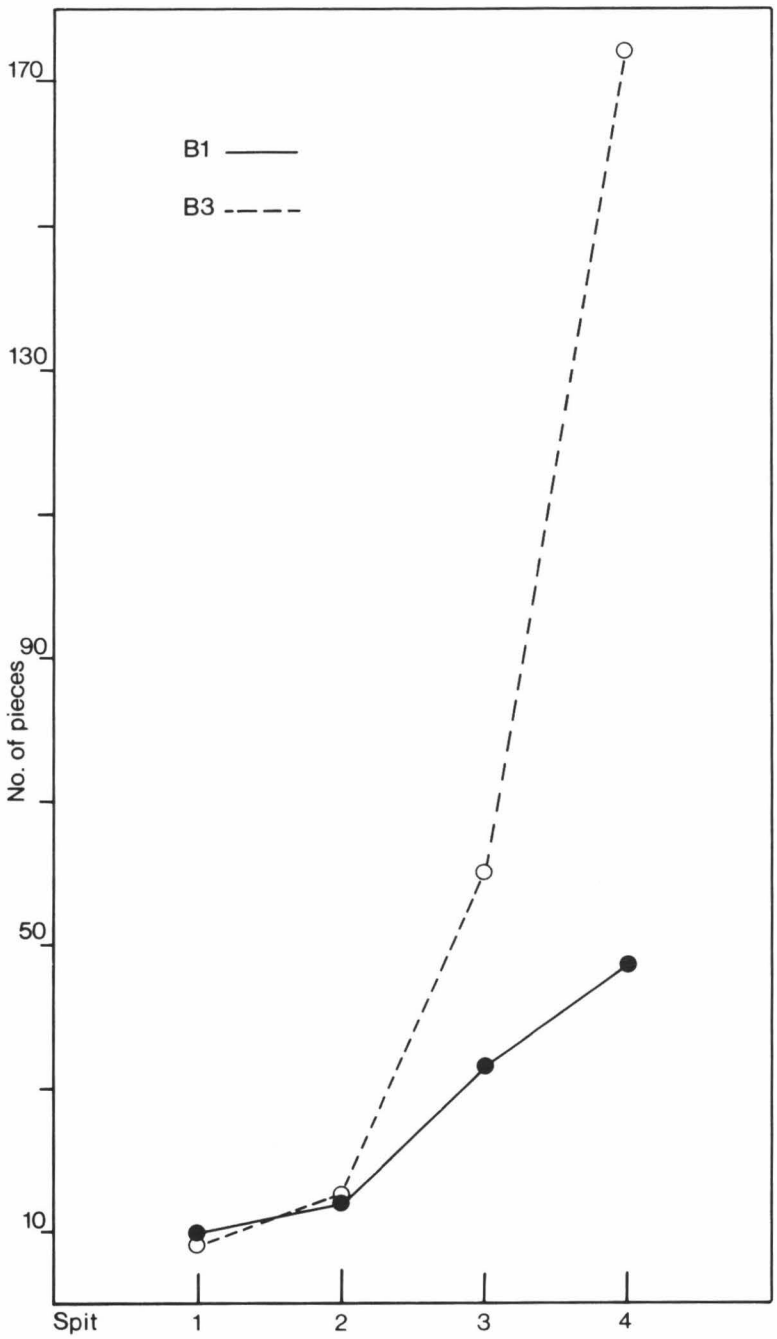

Fig. 18 Comparison of recovery by dry and wet sieving indicating size sorting in a sandy matrix. Rocks Field Site A, B1 (dry sieved), B3 (wet sieved).

Although changes comparable to those seen at the Hermitage were noted at the French site of Laugerie-Haute East in presenting the first hypothesis, it must be noted that Laugerie has finer grained sediment, clear stratigraphic separation of studied levels, and independent typological indicators of chronological development.

The microliths of levels D–A were studied in the attempt to distinguish any development or seriation in their forms. Visual examination indicated few exclusive differences between spits—with the large triangle present only in D the biggest difference, while numerical variation (assessed by the ratio number of pieces in class: total microliths/total classes for each level) was slight. Chi-square tests were essayed on the complete distribution of pieces in order to test for any significant differences between the samples from the different levels that might suggest they represented different statistical populations. The test could not be validly performed, and reductions of the number of classes were attempted. None of the tests showed significant statistical differences between the samples.

Conclusion

While the addition or combination of other variables it can be suggested would have extended the observations that could be made on the sample of flakes from the five spits of the Hermitage shelter, the analyses in this Appendix have demonstrated certain differences and trends in the assemblage with varying levels of statistical probability. The lowermost spit—E—can be considered, on typological grounds, to contain at least some earlier material, and shows regular differences on debitage shape and size from the four overlying spits. In these latter, are regular trends in shape and size (except for shape in spit A), showing increase in breadth and size upward. It may be suggested that these changes result from change in technological practice over time, from mechanical processes within a sandy matrix, or from a combination of these. Neither the figures presented, nor the comparative examples allow a clear choice: more analytical, observational, and experimental work is required for the interpretation of this site, and of other sites with comparable deposit.

I should like to thank Dr. S. Young of the Imperial College Field Station, Silwood Park, Ascot, for his statistical advice.

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EXCAVATIONS AT LANCING DOWN, WEST SUSSEX 1980

by Owen Bedwin, B.A., Ph.D.

(with pottery report by David Rudling, B.Sc., M.A.)

Excavations at the site of the known Romano-British temple near Lancing Clump revealed traces of a small, square wooden structure, 3.5 m across, adjacent to the temple. It is suggested that this represents a late Iron Age shrine, which preceded the temple on the same site. The temple masonry itself was in a poor state of preservation. In addition, a stretch of temenos gully was examined and was shown to have been preceded by at least two phases of post holes. Pottery from the site provides little evidence for use of the temple into the 3rd and 4th centuries A.D.

INTRODUCTION

The Romano-British temple at Lancing (NGR TQ 177 066) is situated on a chalk ridge overlooking the English channel to the south, and the Adur valley to the east (Fig. 1). The site was originally marked by a conspicuous mound, 4 ft (1.2 m) high; when dug into by a Mr. Medhurst in 1828, the masonry foundations of the temple were revealed (Frere 1940, ably summarises the nineteenth-century findings). The area cleared was sufficient to expose not only the full extent of the surviving temple walls, but also a number of cremations around the edge of the temple; these latter are the outline features marked to the south and west of the temple in Fig. 2. The masonry foundations were 3 ft (0.9 m) thick, of mortared flint nodules with some chalk, in the classic 'square-within-a-square' shape. The outer square was 40 ft (12.5 m) across, the inner *cella* 16 ft (5 m) across, with a gap (entrance) in the centre of the eastern wall. The *cella* was paved with roughly-shaped sandstone tesserae, and the outer face of its walls were faced with plaster. The burials discovered around the temple displayed a wide range of dates and artefacts, from a Bronze Age urn inverted over cremated bones (4L in Fig. 2), to a number of Romano-British cremations, with pots, coins, fibulae, rings and combs. Many unstratified finds were also made, including much Roman pottery, some early and late Iron Age pottery, and coins of the late Iron Age and Roman period (Frere 1940).

After its discovery in 1828, the temple remains were opened to the public (advertised admission prices were: adults, one shilling; children, sixpence), but in 1833, the entire site was grubbed up by the farmer and covered over with soil so that no vestige remained. As a result, the precise location of the temple was uncertain until its rediscovery in 1929 by two masters at Lancing College, Mr. Handford and Mr. Biddle, who were able to trace wall-footings in a trial trench.

Much of the central part of the temple now lies beneath a footpath running up from Lancing village (the path follows the fence-line in Fig. 2, on the other side from the 1980 excavation). The north-east and south-west corners of the temple masonry both project into ploughed fields, and are therefore vulnerable to continuing plough-damage. It was therefore decided to carry out a limited rescue excavation of part of the temple site for two reasons:

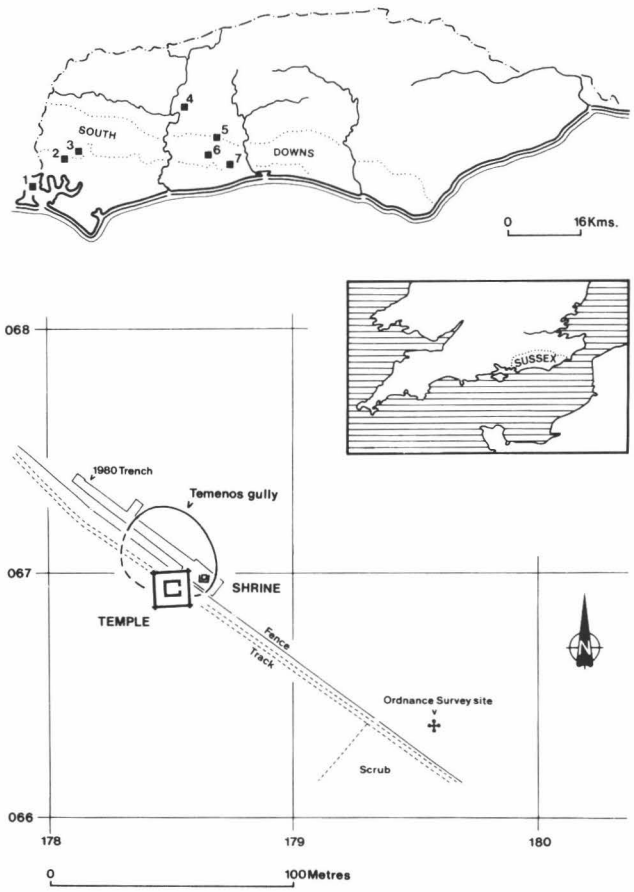


Fig. 1. Lancing Down 1980. Site location, showing other nearby Romano-British temples.
Key to numbered sites: 1 Hayling Island; 2 Ratham Mill; 3 Bow Hill; 4 Pulborough; 5 Chanctonbury; 6 Muntham Court; 7 Lancing.

(i) the presence of late Iron Age pottery and coins on the site (Frere 1940) suggested the possibility of a late Iron Age precursor to the Romano-British temple. If an Iron Age building had existed, it might survive in the form of post holes, which could have been missed in the nineteenth century investigations, but which might be detected by modern area excavation.

(ii) the Archaeological Officer for West Sussex recently reported the existence on an aerial photograph of a dark, oval soil-mark, 40 m maximum diameter, surrounding the temple site (Plate 1, and Aldsworth 1976, 328). It was thought worth establishing the nature and date of this feature, because of the possibility that it was a temenos, i.e. the ditch defining and enclosing the sacred area. No such feature had been mentioned during the nineteenth-century excavations.

A three-week excavation was therefore carried out in September, 1980 by the Sussex Archaeological Field Unit, under the direction of the author.

LANCING DOWN

ROMANO-CELTIC TEMPLE & IRON AGE SHRINE

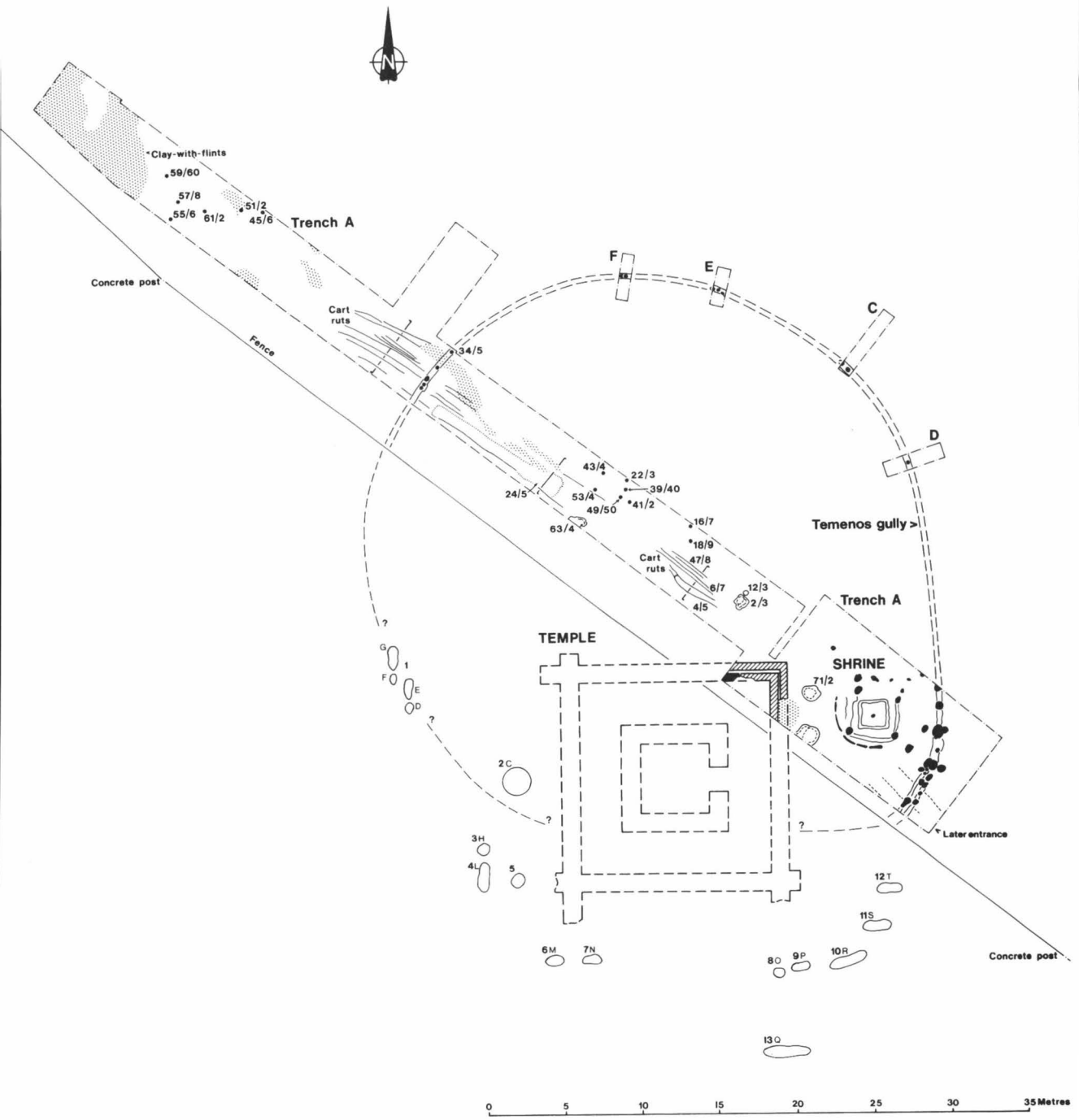


Fig. 2. Lancing Down 1980. General site plan, with location of the nineteenth century finds shown relative to the 1980 excavation.

Plate 1 Lancing Down 1980. Aerial view of the site, with the dark, oval soil mark (corresponding to the temenos) indicated by black arrow. Reproduced by kind permission of the County Planning Officer, West Sussex County Council.

EXCAVATION

Using the aerial photograph as a guide (Plate 1), work was begun on trench A, which was laid out so as to cut across the centre of the area enclosed by the oval soil-mark (Fig. 2). A machine was used to clear plough soil from most of trench A; the soil cover was thin, up to a maximum of 25 cm, deep, over a subsoil that was mainly Upper Chalk, though with irregular patches of Clay-with-flints. It was quickly established that the oval soil-mark corresponded to a gully (the temenos), and it also became apparent that the temple was not located centrally within the area defined by the temenos (Figs. 1 and 2). Eventually, it was necessary to extend trench A by hand at its south-eastern end to include the area overlying the temple and the structure described as a 'shrine' (Fig. 2). Trenches C–F, each 1 m wide, were all dug by hand to check the position of the temenos.

It may be appropriate here to explain the numbering system used for the post holes, pits, etc., found during the excavation. This took a form slightly different from usual, in anticipation of details of the excavation being stored on a computer. Essentially, any pit, post hole or ditch is given a number for which the dimensions of the whole feature, and other relevant details, are recorded. The various layers within these features (or contexts, as they are now referred to) are then each given separate numbers, and the information relevant to these is also recorded. Thus, pit 71 contained a uniform fill 72 (and no other type of fill) and is thus labelled in plans and sections as 71/2 (Figs. 2 and 3). Pottery from this pit is then referred to as coming from the fill 72, and *not* from pit 71, and this is why it is necessary to put both numbers in the illustrations.

The temenos

The substantial dark soil-mark on the aerial photograph (Plate 1) corresponded to a shallow gully, only 25 cm deep in places, and with a maximum depth of 45 cm and maximum width of 65 cm. A number of post holes, of varying sizes, were found at intervals along this gully, and it was possible to establish a sequence of events, in which the digging of the gully itself represents the final phase (except for one late post hole), as follows:

Phase (i) A fence-line of relatively small posts, represented by the shallow post holes 122/3 and 128/9 (Fig. 3), and 34/5, 65/6 and 67/8 in trench A, and the post holes in trenches C–F (Fig. 4). Further subdivision is possible; e.g. in trench E, three post holes, very close together, may not all be contemporary. Some of these post holes have relatively squared corners, and possibly some shallower ones were completely obliterated by the phase (iii) gully.

Phase (ii) This consists of the two largest post holes in trench A, namely 110/1 and 126/7 (Fig. 3). The sequence is shown by the fact that 110/1 cuts 128/9, and by the general similarity of 110/1 and 126/7. Clearly, two post holes do not make a fence line, and these two, because of their size (80 cm deep), could conceivably represent a gateway.

Phase (iii) The temenos gully is then dug approximately along the line of these previous post-hole phases. This part of the sequence is established by sections showing the gully (81/2) cutting through the top of the post holes 110/1 and 126/7 (Fig. 5).

There is, in addition, the odd post hole 112/3, which in section (Fig. 5) clearly cuts through the gully fill, and must therefore be later. It should also be pointed out that not all the post holes are accounted for in this sequence, and there could be further subdivisions.

Phases (ii) and (iii) can be firmly dated to the early Roman period by the associated pottery; phase (i) is undated because of lack of finds. The temenos gully of phase (iii) extended as far southwards as the top of post hole 126/7 (Fig. 3), and therefore corresponds to the

entrance structure defined by two or possibly three parallel lines of unmortared flint nodules running south-east/north-west in the south-east corner of trench A.

These last surviving traces of flint (?) walls overlay a further, though separate, stretch of the temenos, best appreciated by comparing Fig. 3, showing the flints *in situ,* with Fig. 4, showing the features underlaying the flints. This part of the temenos differed considerably from that described above; instead of a shallow gully, it consisted of two parallel narrow slots with post holes in the bottom. Where the fill had not been badly disturbed by rabbits, it was hard-packed and chalky, as if to suggest deliberate backfilling, unlike the gully 81/2, which appeared to have silted up naturally. Unfortunately, the relationship between the slots 150/1 and 152/3, and the sequence of phases (i) to (iii) outlined above, could not be established as there was no intercutting of features. Slots 150/1 and 152/3 did, however, yield early Roman pottery.

The temple (Figs. 2 and 3)

Only the extreme north-east corner of the temple's outer wall was uncovered, and little of the masonry survived. A single thickness of mortared flint nodules was present, plus a little unstructured rubble. Unexpectedly, these footings took the form of two narrow, parallel features, which together made up the 3 ft (0.9 m) thickness recorded in the nineteenth century. There was no sign of the two buttresses then observed (Frere 1940, Fig. 16). Mr. Handford, one of the two Lancing College masters who relocated the temple in 1929, visited the 1980 excavations, and was able to confirm that the corner of the masonry corresponded to the footings which he had found 51 years previously, beneath the footpath.

The shrine (Figs. 2 and 3; Plate 2)

This interesting structure consisted of a shallow, four-sided square gully, 2.0 m across, inside a shallow, 3-sided square gully, 3.0 m across. Outside the latter were extremely faint traces of a narrow, circular feature (120/1), 3.5 m in diameter. The outer square gully had four post holes, one in each corner, and the inner square gully had two shallow ones, at the south-east and south-west corners respectively. There was also a central post hole (79/80), which was not placed quite symmetrically within the gullies, but did appear to be precisely at the centre of the circle partly defined by feature 120/1. The fill of all these features was chalky, and might indicate deliberate backfilling.

This structure clearly shows the 'square-within-a-square' layout, similar to that of the nearby masonry temple, though on a much smaller scale. This, and the similarity in alignment to that of the temple, suggest a religious function, hence its description as a 'shrine'. The post holes and gullies making up this feature were in most cases only a few centimetres deep, and therefore represent the fortunate survival of what was presumably a small, wooden structure.

Other features

Individual post holes (not part of a structure) A number of these are shown in Figs. 2 and 3; almost all are undated. Some of those at the south-eastern end of trench A may relate either to the shrine or the temenos.

Pits Three oval pits were found (2/3, 71/2, 124/5), all of a similar depth (50–60 cm). The fill of each of these was characterised by a large number of flint nodules, with only a few small scraps of Romano-British pottery. The contrast between these features and those of a similar size found in the nineteenth century to the south and west of the temple, containing cremation burials and numerous artefacts, suggests that these pits may have been dug out in the nineteenth century, though not apparently noted at that time.

Plate 2 Lancing Down 1980. General view of the south-eastern end of trench A, from the south-east. The dark linear feature in the foreground is the unexcavated temenos gully, the shrine is in the centre, and in the left background is the corner of the temple masonry. Scale 2 m.

Cart ruts A number of long, shallow, roughly parallel features were found in two groups in trench A (Fig. 2). These were interpreted as cart ruts and were dated, by the latest pottery they contained, to the nineteenth century. They are presumably the result of farm vehicles going along the ridge past the temple site.

The artefacts

These were disappointing both in quantity and variety compared with the remarkable finds made in the nineteenth century. Most of the pottery was in small abraded sherds, and there was

LANCING DOWN

IRON AGE SHRINE

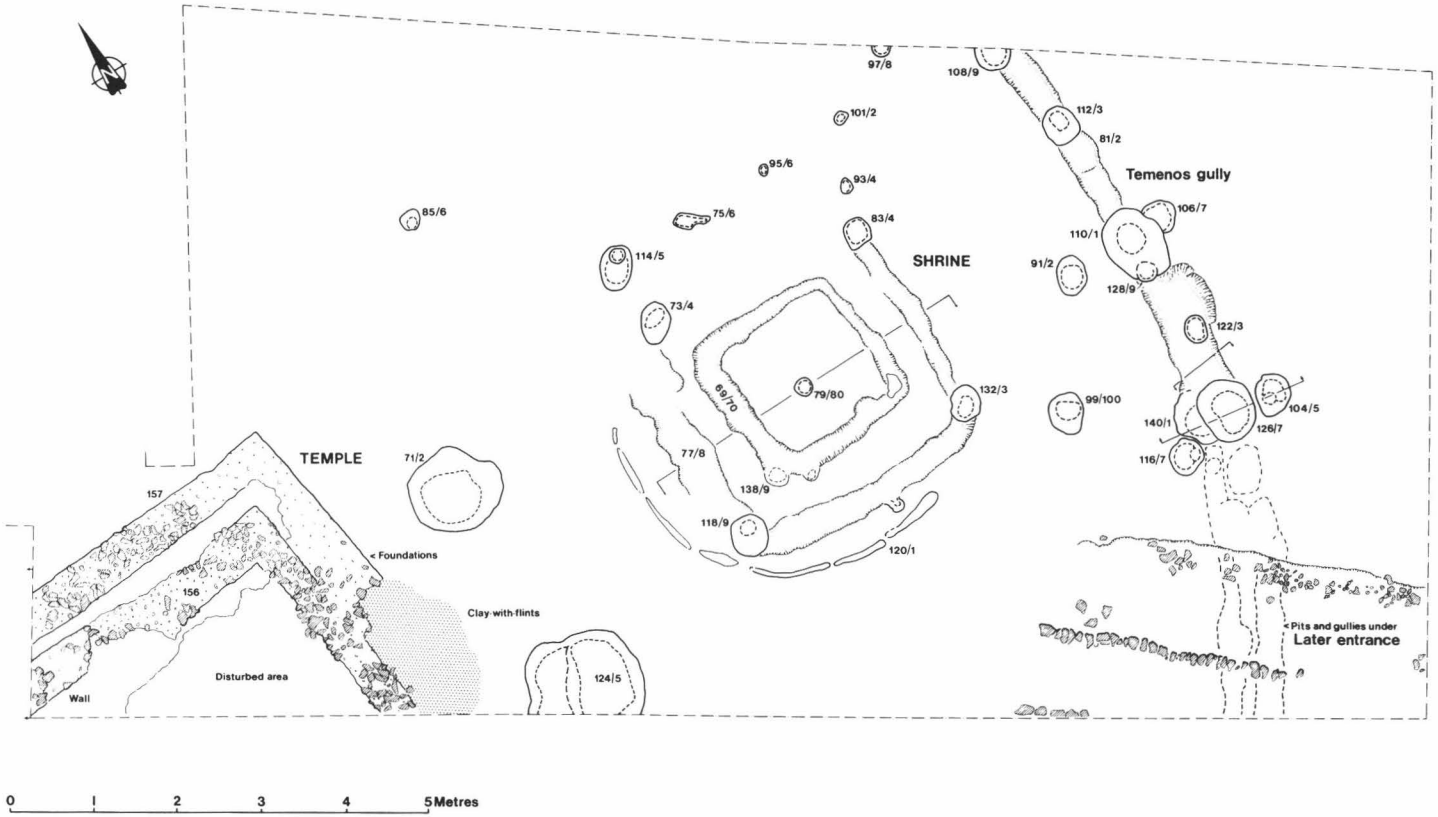


Fig. 3. Lancing Down 1980. Detailed plan of the south-east end of trench A, showing remains of small shrine, corner of temple masonry and temenos gully.

LANCING DOWN

TEMENOS GULLY

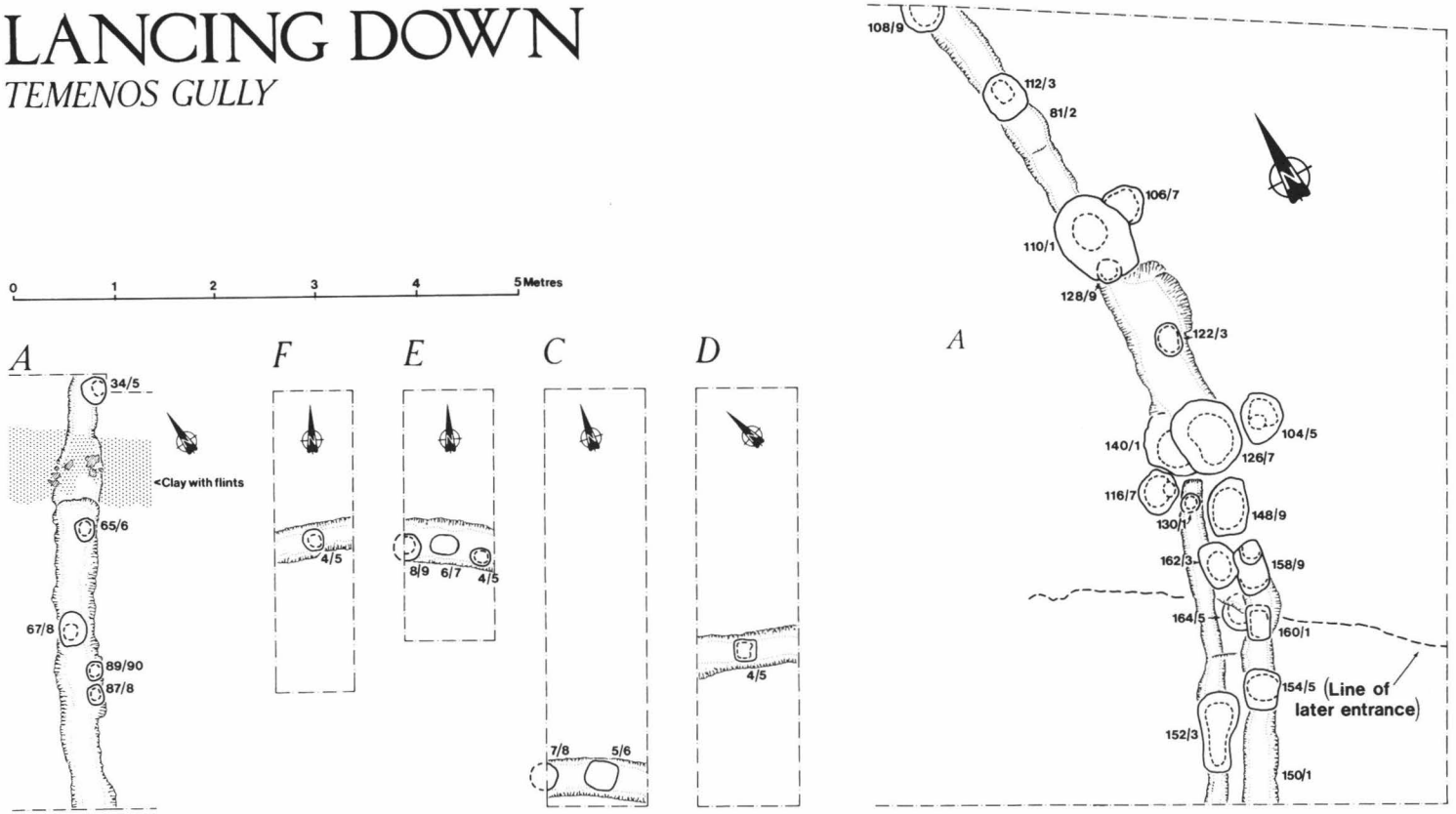


Fig. 4. Lancing Down 1980. Detailed plan of various stretches of temenos gully.

only a handful of metal objects, the bulk of which were poorly preserved iron nails. The overall date range covers the late Iron Age and Roman period, although there were a few sherds of early Iron Age pottery. About 90 rough sandstone tesserae were also recovered from the topsoil, and some rotary quern fragments from three of the post holes. In general, there was little to indicate the religious nature of the site.

It is worth remembering that following the temple's discovery, and subsequent grubbing out by the farmer, it was re-covered with soil, which may not originally have come from the site. Consequently, any association of topsoil finds with the temple site must be made with caution.

DISCUSSION

The most interesting discovery of the 1980 excavation was the identification of the small square shrine. Its ground plan and proximity to the masonry temple are powerful arguments in favour of a religious significance. The few potsherds found in shrine contexts do not of themselves provide any evidence as to function, but fortunately do strongly support an immediately pre-Conquest date (e.g. sherds of terra rubra, discussed in the pottery report below). As to the appearance of the shrine above ground, we can only speculate.

This late Iron Age shrine, the first of its kind to be found in Sussex, joins the small but heterogenous group of square structures of religious significance known from Iron Age contexts in southern Britain. Most of these have been found inside late Iron Age hill forts. The nearest example in size to the Lancing structure is the smallest of the four reported square structures inside Danebury, Hampshire (Cunliffe 1976, Fig. 10); these were all single square structures, from 3 m across to 9 m across. Other examples are known from the early Iron Age settlement at Heathrow, Middlesex (10 m across, square-within-a-square; Grimes 1961), from the hill fort at South Cadbury, Somerset (5 m by 4 m, single square, with a 'porch'; Alcock 1970), and from Winchester (a setting of four post holes 4 m across, inside a circular gully, 10 m across; Biddle 1965, Plate LXVIII). The Lancing shrine is therefore one of the smallest of the group, and the only one with evidence of an enclosing circular structure (only partly preserved) immediately around it. Much of the Lancing shrine is remarkably shallow and, with ploughing a little deeper, only the four outermost post holes would survive, leaving a four-post-hole structure, 3 m across.

The poor survival of the temple masonry was disappointing though not unexpected. The small area exposed does nevertheless raise questions about the reliability of the nineteenth-century plan of the site. The absence of buttresses in the 1980 excavation has already been commented on, but the two parallel lines of masonry, which form the single outer wall on the nineteenth-century plan, appear to have two separate shallow footings (Fig. 6) and could perhaps represent different building phases.

The pottery report (below) shows no sign of a break within the late Iron Age/early Roman sequence, and David Rudling suggests, on the basis of the pottery, that the masonry temple at Lancing was built rather earlier than the temple at Chanctonbury, 5 km away (Bedwin 1980), and also went out of use earlier. An early post-Conquest date for the construction of the Lancing temple may also imply that the wooden shrine was relatively short-lived.

The temenos, with its sequence of post holes, followed by a final gully, proved surprisingly complex. In the section on excavation (above), evidence is presented for at least two post-hole phases; it is unfortunate that the initial phase, represented by the small post holes, cannot be dated, and therefore no association with the shrine can be demonstrated.

LANCING DOWN

Sections through temenos gully (81/2) and associated post holes

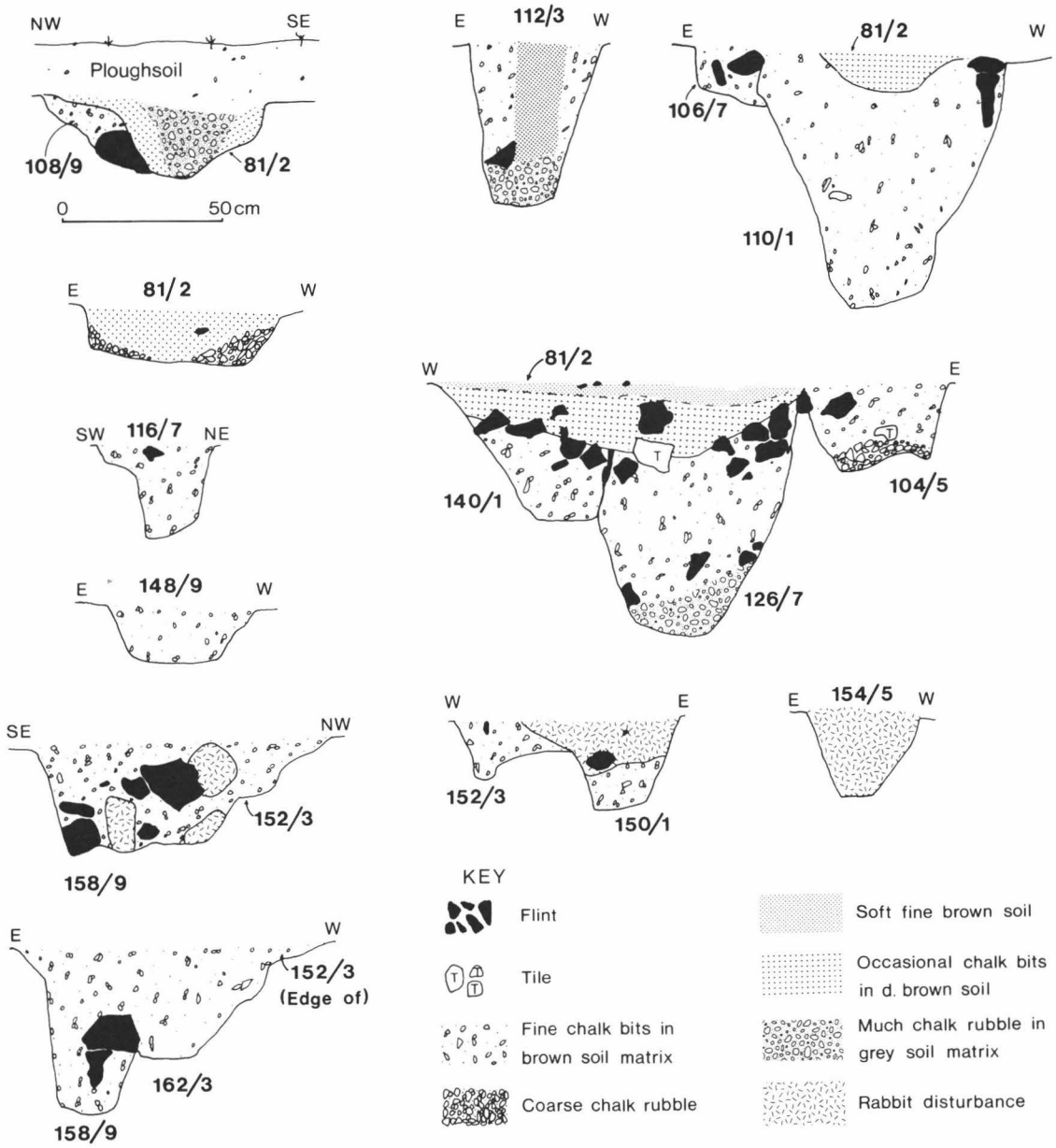
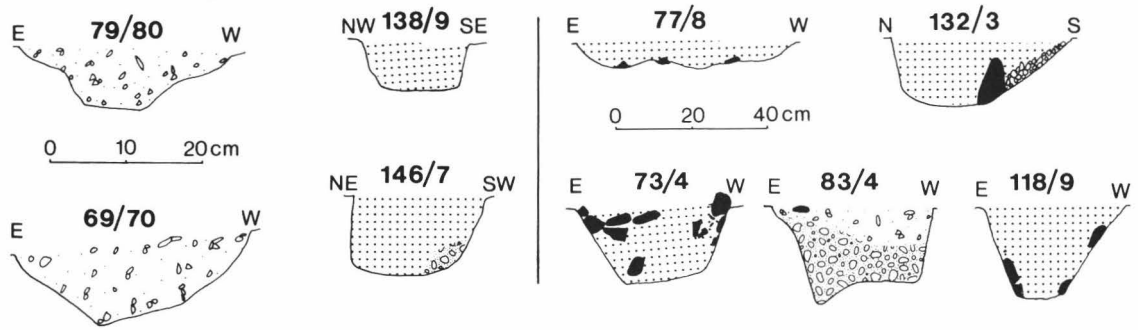


Fig. 5. Lancing Down 1980. Sections through temenos gully. Post holes sectioned centrally.

LANCING DOWN

Sections through shrine



Sections through temple masonry and nearby pit

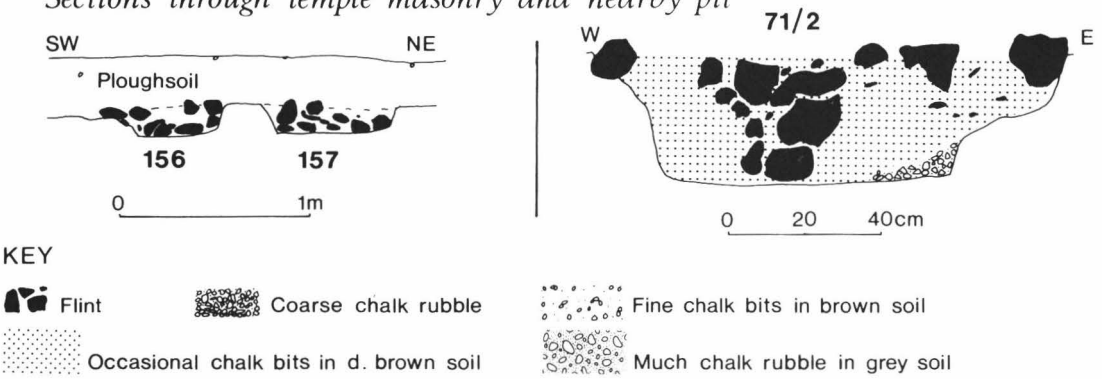


Fig. 6. Lancing Down 1980. Sections through shrine and temple masonry. Note different scales.

The relationship between the temple and the temenos on the southern side is worth consideration. Here, the aerial photograph is less useful as the line of the soil-mark becomes blurred (Plate 1). It is interesting that a number of the cremations found in the nineteenth century were apparently in line with the temenos (D, E, F, G in Fig. 2): were these burials in a ditch, or does the temenos disappear at this point? Only further excavation can settle this question.

There remains to be considered the settlements of those who used this site in the late Iron Age and early Roman period. Evidence for contemporary settlement nearby is scanty. Frere (1940) mentions Roman finds (though not precisely dated) in North Lancing, near the Manor, just over 1 km south-east of the site, and there are two known late second-century cremations, one from Sompting (Ainsworth and Ratcliffe-Densham 1974) and Crabtree Lane, North Lancing (Kelly and Dudley forthcoming). To the north of the temple site, faint traces of lynchets can be seen on the slopes of Cowbottom, and these could be Romano-British and/or prehistoric. To the east of the temple, there could have been settlement on the edge of the Adur

valley, now perhaps covered by alluvium from river flooding. In short, although there are hints of Roman occupation in the area, especially to the south of the temple, the main focus (or foci) has yet to be precisely located.

SPECIALIST REPORTS

The pottery (by D. R. Rudling)

Introduction

The excavation yielded 1,723 sherds, most of which were very fragmented and abraded. Unfortunately, the infilling of the site in the nineteenth century, perhaps with soil from elsewhere, means that there is a possibility of intrusive material in unstratified layers which may not relate to the temple site at all.

Aims of this report

1. The provision of a general date range for the site.
2. A study of the fabric proportions present in all contexts.
3. A more detailed analysis of the pottery (with a particular emphasis on dating) from specific 'groups' of contexts.

Method used

1. The pottery from all contexts was sorted into groups of wares on the basis of a visual assessment of the fabric.
2. The fabric groups were quantified by weight and sherd count and details of forms and decoration recorded. This level of data forms the Archive Report (stored at the Institute of Archaeology, London).
3. A representative selection of the material is described and drawn where appropriate.

Fabric types

Late Bronze Age—Iron Age

1. Flint-gritted Wares

Variations in the size and numerical presence of these grits was continuous rather than discrete and no attempt at subdivision was undertaken. (For discussions on such wares see Hamilton 1980 and forthcoming).

2. Sandy Wares

Reduced buff/black ware dominated by coarse and medium quartz sand. A few sherds contain small pieces of flint. It is possible that some of the sherds listed in Table I as belonging to fabric type 12 may in fact belong to this category since unfortunately the small size and abraded nature of many of the sherds made precise identification very difficult.

Late Iron Age—Roman

3. Hand-made grog-tempered Wares

This was the most common fabric at Lancing and detailed fabric descriptions are not given for individual pots in the catalogue. The fabric, which has a soapy feel, is soft to hard, grey or brown to black and primarily filled with coarse grog. Other inclusions were flint, siltstone, ironstone and sometimes shell. The fabric first appears in Sussex before the conquest and seems to have been continuously made, particularly in East Sussex, until the end of the Romano-British period at least. The early varieties of this fabric are generally more highly fired, and often contain more flint than Romano-British examples. Such early varieties are associated with Eastern Atrebatic types, including South-Eastern 'B' storage vessels and necked bowls or jars (Hamilton 1977, 97). The Romano-British varieties are of the type defined as 'East Sussex Ware' (Green 1977, 154).

4. Terra Rubra.
5. Terra Nigra.
6. Gallo-Belgic 'Camulodunum' Ware.
7. Samian Ware or Terra Sigillata.
8. Amphorae.
9. Light, self-coloured Wares.

Mainly white, buff, orange or pink, and of varying textures from very well levigated to medium sandy. Such fabrics are usually dated to the late first second century. (For possible sources see Rudling 1980, 204 5).

10. Fine textured grey Wares.
11. Fine to medium textured sandy wares with smooth micaceous surfaces.
12. Medium textured sandy, mainly 'grey' wares.

For discussion on the 'grey' wares see Green (1977, 156) and Fulford (1978, 119 20).

13. Black Burnished Ware, Category 1 (BB1).
14. Mortaria.
15. Central Gaulish Colour-Coated Ware.
16. New Forest or Argonne Red Colour-Coated Ware.

Post-Medieval

17. Various nineteenth/twentieth-century wares.

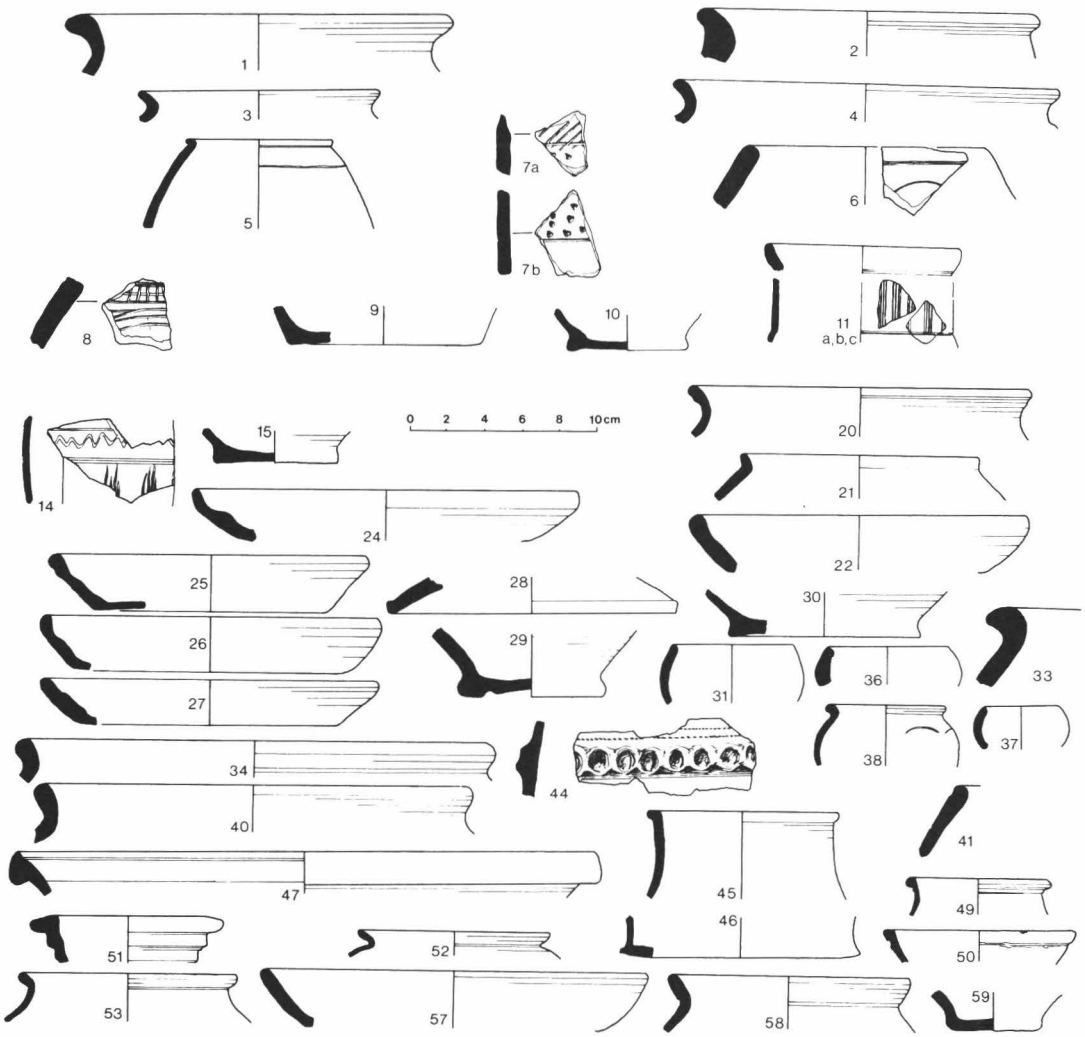


Fig. 7 Lancing Down 1980. Pottery.

Group A: The 'shrine'. First century, possibly pre-Conquest.
Nos. 1–10 are in grog-tempered ware (Fig. 7).

1—3	Jars with everted rims. Context 69.
4	Jar with everted rim. Context 73.
5	Ovoid jar with bead rim (cf. Bishopstone 84). Late first century? Adjoining sherds from contexts 69 and 77.
6	Jar with simple rim beneath which is an incised groove. Below the groove is an incised 'eyebrow'. (For details of 'eyebrow' pottery see Green 1980). First century. Context 77.
7a + b	Body sherds from a pot decorated with a band of stamped triangles in between two grooves. Above are incised oblique strokes. Late Iron Age. Context 69.
8	Body sherd with incised decoration. Context 69.
9—10	Base sherds. Context 69.
11a + b + c	Girth-beaker in fine orange Terra Rubra (cf. Camulodunum 84). Decoration in the form of a band of groups of vertical combed lines. Claudian at the latest. Small sherds of this vessel came from several contexts in the shrine complex (69, 73 and 77) and elsewhere (81, 114 and the ploughsoil).

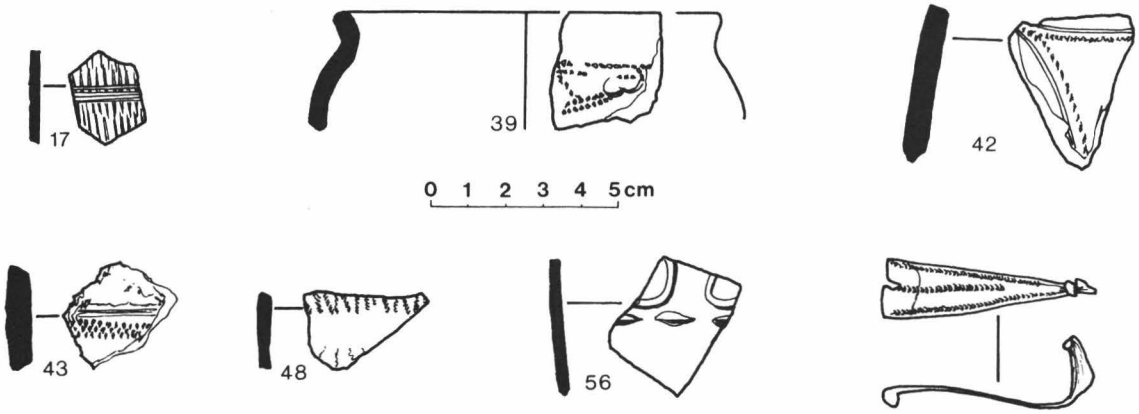


Fig. 8. Lancing Down 1980. Pottery and bronze fibula.

Group B: The temple foundations. ?First century.
Unfortunately, only 48 sherds were recovered from contexts 156 and 157, and almost all of these are undiagnostic.
12 Not illustrated. Jar with everted rim. Grog-tempered ware. Context 157.

Group C: The two very large post holes, 110 and 126, in the temenos boundary system.
13 Not illustrated. Small body sherd of South Gaulish Samian Ware. Flavian—early second century. Context 126.
14 Upright beaker with bands of incised decoration. Fine textured micaceous fabric with orange exterior, buff interior and grey external surface. Late first—early second century. Context 110.
15 Base sherd. Micaceous sandy fabric with grey core, buff exterior and grey surfaces. Context 110.
16 Not illustrated. Two rilled body sherds of sandy grey ware. Context 110.

Group D: The temenos gully (Trench A, 81).
17 Body sherd from an imported, rouletted beaker. A fine, grey-black Terra Nigra type fabric. First century, could be pre-Flavian. Fig. 8.
18 Not illustrated. Body sherd from a flagon in a fine textured ware with cream-coloured external surface and orange-buff interior.
19 Not illustrated. Two small body sherds from a beaker decorated with applied pellets. Fine textured grey ware. First century.
20 Necked jar. Sandy grey ware.

Group E: The temenos gully (Trench C, 2).
21 Jar. Grog-tempered ware.
22 Platter. Gallo-Belgic derivative. Medium sandy grey fabric with light brown untreated surfaces (cf. Slonk Hill Fig. 19.27). First century.

Group G: The temenos gully (Trench F, 3).
23 Not illustrated. Body sherd with incised eyebrow decoration. Grog-tempered ware. First century.

Group J: Post holes in trench A to the south of contexts 104/126/140.
24 Platter. Gallo-Belgic derivative. Sandy grey ware with smooth micaceous surfaces. Fishbourne Type 14. First century. Context 116.

Group K: Contexts 150 and 152, sealed by the later entrance.
25—27 Platters. Gallo-Belgic derivatives. Fine/medium sandy wares with smooth micaceous surfaces. First century. Context 150.
28 Lid; medium sandy grey ware. First-second century. Context 150.
29 Footring base, probably from a flagon. Burnt. Sandy buff ware. First-second century. Context 150.

Group L: Post holes 91, 114, near the shrine.
30 Base sherd; micaceous sandy orange-buff fabric. Burnt. Context 91.

Group M: (?) Disturbed pits (2, 71, 124) and post hole (12).
31 Bowl with simple rim. Flint-gritted ware with reduced core and oxidised orange surfaces. Iron Age. Context 12.
32 Not illustrated. Body sherd from a flagon, perhaps Camulodunum 163. Gallo-Belgic fine white ware with red 'grog' streaks. Pre-Flavian. Context 124.

Group N: The ploughsoil.

Some of this soil is likely to have been brought to the site when the remains of the temple were grubbed up and the surrounding area covered over again during the nineteenth century. Nos. 33 5 are in Iron Age flint-gritted wares.

33 Shoulder jar with flaring, flattened rim.

34 Round shouldered jar or bowl with upturned, flattened rim.

35 Not illustrated. Body sherd with fingernail impressions.

36 Bowl with folded-over rim. Coarse sand-tempered grey ware. Iron Age.

Nos. 37 45 are in grog-tempered ware.

37 Bowl with simple rim.

38 Round-shouldered bowl/jar.

39 'S' shaped bowl with rouletted and stamped decoration. Late Iron Age. Fig. 8.

40 Jar with upright simple rim.

41 Ovoid jar with bead rim and groove. First century.

42 Body sherd with incised and rouletted eyebrow decoration (cf. Cunliffe 1975, 344;4). Fig. 8.

43 Body sherd with groove and rouletted or combed decoration. Fig. 8.

44 Jar with thumbed raised band and rouletted decoration. On account of the rouletting, this sherd is probably late Iron Age. Thumbed raised bands, however, may well survive as late as the third century (Green 1980).

45 Imitation of a Belgic butt-beaker (cf. Frere 1940, Fig. 14.29). First century.

46 Base sherd from a pedestal beaker. (cf. Camulodunum 74). Terra Rubra. Sandy orange paste, with traces of a red slip on the exterior. Possibly from Rheims. Late Augustan Tiberian.

47 (Note by V. Rigby) Rim sherd from a large platter, one of the several forms included in Camulodunum form 6 (Fig. 46,6), in TR 1 (A)—pale pink, sandy textured ware, with very worn coral slip on the upper surface. The detail of the moulding suggests that it is from the same source, if not from the same vessel as a sherd found during previous excavations (Frere 1940, 158 69). This platter form is always in TR1(A), although no stamped examples have been found, Rheims (Marne) is the most likely area and *c.* 10 B.C. to A.D. 20 the most likely period for its manufacture. Comparatively rare in Britain, its distribution is a restricted and a somewhat unusual one for early Gallo-Belgic imports, in that besides Camulodunum and Braughing-Puckeridge, Herts., it includes Leicester, Baldock, Herts., and Burgh-by-Woodbridge, Suffolk. This group of sites has so far produced only restricted ranges of G-B forms and fabrics, including only small numbers of other late Augustan vessels. At Lancing, the range of imported forms is even more restricted, with 3 beakers in TR from the recent excavations, and from previous ones, a plain platter, probably in micaceous terra nigra rather than T.N., and so Camulodunum form 1, imported from Central Gaul and late Augustan in date. There seems to be no likely explanation for this distribution, other than that the sites were sufficiently wealthy to want imported fine wares, and had the necessary trading connections to obtain them.

48 Body sherd from a butt-beaker with rouletted decoration. cf. Camulodunum 112/115. Fine, white Terra Rubra. (?) Rheims area. Late Augustan. Fig. 8.

49 Butt-beaker. Fine, white Gallo-Belgic 'Camulodunum' ware with red 'grog' streaks. cf. Camulodunum 113. Claudian at the latest.

50 Flagon with multiple-ringed neck. Fine white ware. cf. Fishbourne Type 109. Pre-Flavian.

51 Flagon with multiple-ringed neck in a sandy white fabric. Perhaps a Wiggonholt product? cf. Wiggonholt 26. First early second century.

52 Beaker with everted rim. Fine grey ware.

53 Globular jar. Sandy ware exhibiting a 'sandwich' effect of grey surfaces, then orange and finally a grey core.

54 Not illustrated. Body sherd from an amphora. A fairly fine buff fabric with some quartz and shell inclusions. Possibly Dressel 1 or Camulodunum 186. First century.

55 Not illustrated. Mortarium with hooked flange. Fairly fine, cream-coloured fabric with grey core. Possibly a local product. Second century.

56 Beaker with applied barbotine decoration. A fine, hard, grey fabric with a black slip. A (?) Central Gaul product. *c.* 190 250. Fig. 8.

57 Dish. Black Burnished Ware Category 1. Third fourth century.

58 Jar with everted rim. Sandy grey ware (imitation BB1). Third fourth century.

59 Base sherd with groove on the underside. Sandy orange ware with red colour-coat. New Forest or Argonne Ware. Late third fourth century.

Groups F, H and I consist of very few sherds, none being worth describing in detail in this report (but see Table I).

Group F: The temenos gully, trench D, 2.

Group H: Post hole 112 cutting the temenos gully in trench A.

Group I: Post holes 104 and 140 possibly associated with the (?) original temenos entrance.

Discussion

On the basis of the small quantities of pottery tabled and described above, it is clear that the main period of activity at the site was during the late Iron Age and early Romano-British periods, with very little evidence for later use, a fact already noted by Professor Frere (1940, 167). Most of the pottery associated with the shrine/temple complex belongs to the first and early second century, after which there are only odd sherds, most of which come from the ploughsoil and could therefore be intrusive (as discussed above). The very small quantity of Samian Ware is interesting and perhaps hints at a decline in the use of the site during the second century. On the basis of the 1980 finds, there is no real reason to suspect that the temple complex remained in regular use during the third or fourth centuries. It is

interesting to compare these findings with those from the nearby temple at Chanctonbury (Bedwin 1980), and it is clear that the sanctuary at Lancing is much the earlier and also went out of regular use first.

The finds from the shrine complex suggest that this is probably of late Iron Age date and certainly Claudian at the latest. The scarcity and nature of the finds from the temple foundations make the dating of its construction a problem, but the pottery that was found is consistent with the theory that after the conquest, an existing Iron Age sanctuary was modernised as a Romano-Celtic temple of normal type (Frere 1940, 167). There is no dating evidence for the first phase of the temenos boundary (the fence line of small post holes) and what there is for the second and third phases (plus post hole 112) is not particularly helpful, but note that phases (ii) and (iii) both contain material dating to the first–early second century.

TABLE I

Proportions of pottery fabrics by sherd count

Context Groups	*Fabric Types*																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
A	4	9	167	12					6		3	19						220
B	9	2	30						1		1	15						48
C	2		12				1				7	25						47
D	3		32	1	1				8	1	7	35						88
E	2		8									1						11
F			4															4
G			3															3
H									1			3						4
I										1	2	1						4
J			19						1		1	15						36
K			10						3		5	18						36
L			2	1							1	1						5
M	29	3	177			1			2		1	57	3					273
N	72	3	531	12		1	10	1	19	4	23	247	5	1	1	1	13	994
Totals	121	17	995	26	1	2	11	1	41	6	51	427	8	1	1	1	13	1723

From Table I, it can be seen that the grog-tempered wares form the largest category of pottery from the site (57.7% of the total number of sherds). This is a very different picture from that obtained at Chanctonbury (Rudling 1980), where grog-tempered wares were a relatively minor component of the total *Roman* pottery assemblage, which was dominated by medium sandy wares. This difference might be due to chronological factors, with grog-tempered wares being predominant in the first century but losing this status during the second century. Possibly it increased in importance again later on, and it has been dated at nearby Slonk Hill from the beginning of the third century to the end of the fourth (Fulford 1978, 119). It is interesting, however, to note that at Slonk Hill grog-tempered wares were 'found in almost every feature to yield pottery' (Fulford 1978, 119).

Compared with Chanctonbury, there is a much larger proportion of platters at Lancing, with a consequently reduced predominance of the jar as the major functional type. Beakers are another fairly common functional type, with a few flagons and bowls. There is one example only of a lid, mortarium and amphora.

Acknowledgements

I wish to thank Sue Hamilton, B.A., and Valery Rigby, B.A., for their help and advice on the Iron Age and Roman pottery respectively.

The coins (by D. R. Rudling)

1. Illegible fragment of a third century antoninianus. Possibly Gallienus (A.D. 253–68).
2. Post-medieval (?Eighteenth/nineteenth century). Illegible Ae. 22 mm.

(Both coins came from the topsoil in trench A).

Metalwork

A. Bronze

1. Fibula, bow part only. 54 mm long, by 15 mm wide (maximum), with single zig-zag decoration down the centre (Fig. 8). First century. Trench A, topsoil.
2. Piece of thin bronze sheet, folded over. 59 mm long by 8 mm wide. No decoration. Trench A, context 5.
3. Fragment of pin, probably from a fibula. 28 mm long, by 1 mm diameter. Undecorated, and tapering to a point at one end. Trench A, context 25.
4. Fragment of bronze loop. 3 mm wide by 1 mm thick, and *c.* 60 mm long. Undecorated. ?Part of bracelet. Trench A, topsoil.

B. Iron

Most of the iron finds were badly corroded iron nails, some with the head missing. In all, 28 nails, whole or fragmentary, were recovered. Where the head survived, it was invariably flat and round. Most nails were small, e.g.

30–35 mm long, with heads 10–13 mm in diameter. There were, however, two larger nails, 54 mm long, diameter of head 19 mm (trench A, context 111). The only exception to the nails were two iron rings from trench A, context 78. One was 13 mm in diameter, 6 mm wide and 1 mm thick (complete), and the other was 16 mm across, 6 mm wide and 1 mm thick (incomplete).

Building materials

Tile A total of 84 fragments (mostly small) were recovered, weighing 3.55 kg. There were no decorated pieces, and only one showed faint traces of whitish mortar adhering. Where it was possible to establish the fact, all fragments were flat. Thicknesses were 35–45 mm.

Tesserae A total of 89 roughly shaped stone tesserae were found, mostly in the topsoil. These presumably derive from the floor of the temple. Maximum size was 4 cm cube. They were identified by Caroline Cartwright as being calcareous Wealden siltstone.

Painted wall plaster Three small fragments were found, all Pompeian red.

Flintwork

A small amount of flintwork was found during the excavation, mostly in the topsoil. This was catalogued by Caroline Cartwright, who lists 37 waste flakes, 8 retouched flakes, 2 notched flakes, 3 cores (one of which had been used as a hammerstone), 2 side scrapers and a hammerstone (full details in archive). It is impossible to give a precise date or date range for such an assemblage.

Foreign stone

A number of sandstone fragments were found. Apart from the tesserae already referred to, there were six fragments of rotary quernstone, from contexts 111 (this piece contained the socket for the handle), 151 and 156. These fragments were identified by Caroline Cartwright as being of a Wealden sandstone. (Full details in archive).

Animal bone

The site was not rich in bone; a total of only 48 fragments of animal bone and teeth were identified from nine contexts, all in trench A (70, 82, 100, 111, 125, 127, 131, 151, 156). Almost all fragments were severely abraded, with the exception of a few from contexts 111 and 151. There were 36 fragments of *Ovis,* 6 of *Bos* and 6 of *Sus.* Of the 36 *Ovis* fragments, 19 were either teeth or jaw. With such small numbers, this observation has little statistical significance, but attention is drawn to the marked preponderance of mandibles among *Ovis* remains at Chanctonbury (Bedwin 1980).

Marine shell

These far outnumbered the animal bone remains. A total of 897 marine shells (fragmentary or complete) were identified, although 472 were from the topsoil. Among the 425 fragments from sealed contexts, 72.5% were oyster (*Ostrea edulis*), 24.8% were mussel (*Mytilus edulis*), and 2.7% cockle (*Cardium edule*). The most prolific contexts were 82 (temenos gully), with 169 shells, 111, with 66, and 151, with 61. Concentrations of marine shells are frequently met with on Romano-British temple sites and are therefore thought to be linked with the ritual(s) carried out there.

Archived material

The site archive consists of the context record sheets, drawings of those pit and post hole sections not published in this report, pottery record sheets, bone record, and flint, charcoal and foreign stone catalogues. A copy of this archive is stored with the finds, and another copy is held by the Institute of Archaeology, London.

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The finds have been placed in Lancing College Museum.

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WEALDEN BLOOMERY IRON SMELTING FURNACES

by C. F. Tebbutt, F.S.A.,

on behalf of the Wealden Iron Research Group

(with a pottery report by C. M. Green)

A field walking project by the Wealden Iron Research Group to assess the situation and density of bloomery furnace sites in a given study area in the Weald is described. This was followed by the simple excavation of a number of selected bloomery slag heaps in the hope of recovering dateable pottery. The majority of the sampled sites turned out to be Romano-British.

INTRODUCTION

In 1976 the field study section of the Wealden Iron Research Group undertook a project concerning bloomery furnace sites in the Weald. Research was organised to answer the following questions:

1. How widespread were these sites and where did they mainly occur.
2. What was their date.

1. DENSITY AND DISTRIBUTION

In an attempt to assess the density and situation of bloomery furnaces, a study area of 182 km^2 was selected, comprising both high and low Weald (Fig. 1). Within this area a number of sites had already been recorded by the Group, and others by Straker (1931), Money (1971, 1974) and Cattell (1970). Field walking was based on stream valleys, where initially it was thought that most bloomeries were to be found. The majority probably are so situated, but it was soon noted that they also occur on springs, hillsides and even hilltops. The area selected has Wadhurst Clay on most of its high ground, capping Ashdown Sand, and at the junction of these strata the iron ore occurs *in situ*. Pockets of derived ore may, however, occur on pure Ashdown Sand and some bloomeries are undoubtedly based on these.

Essentials to the bloomery process are iron ore, clay and charcoal and it would have been advantageous if the first two, being difficult to transport, were to hand. A supply of water was also desirable. The surface of the Ashdown Sand itself often forms a silty clay-like substance suitable for furnace construction. It was noted that what might be called the typical bloomery site, of which many were found, was situated on the banks of a small stream which had cut a deep channel through the base of the Wadhurst Clay, thus exposing the ore to the prospecting bloomery worker. Having located this ore stratum, all that was necessary was to quarry back from the stream until the overburden became too great to make further quarrying economic, or the lens of high grade nodular ore ran out. Numerous so-called 'bell pits' were seen near bloomeries, but in no case could a direct link with the furnace site be shown. A probable link is however described by Money (1971) in the medieval period.

The finding of these stream-side sites is not difficult; some slag is inevitably washed into the stream and carried down to be deposited in shingle beds. By following the slag trail

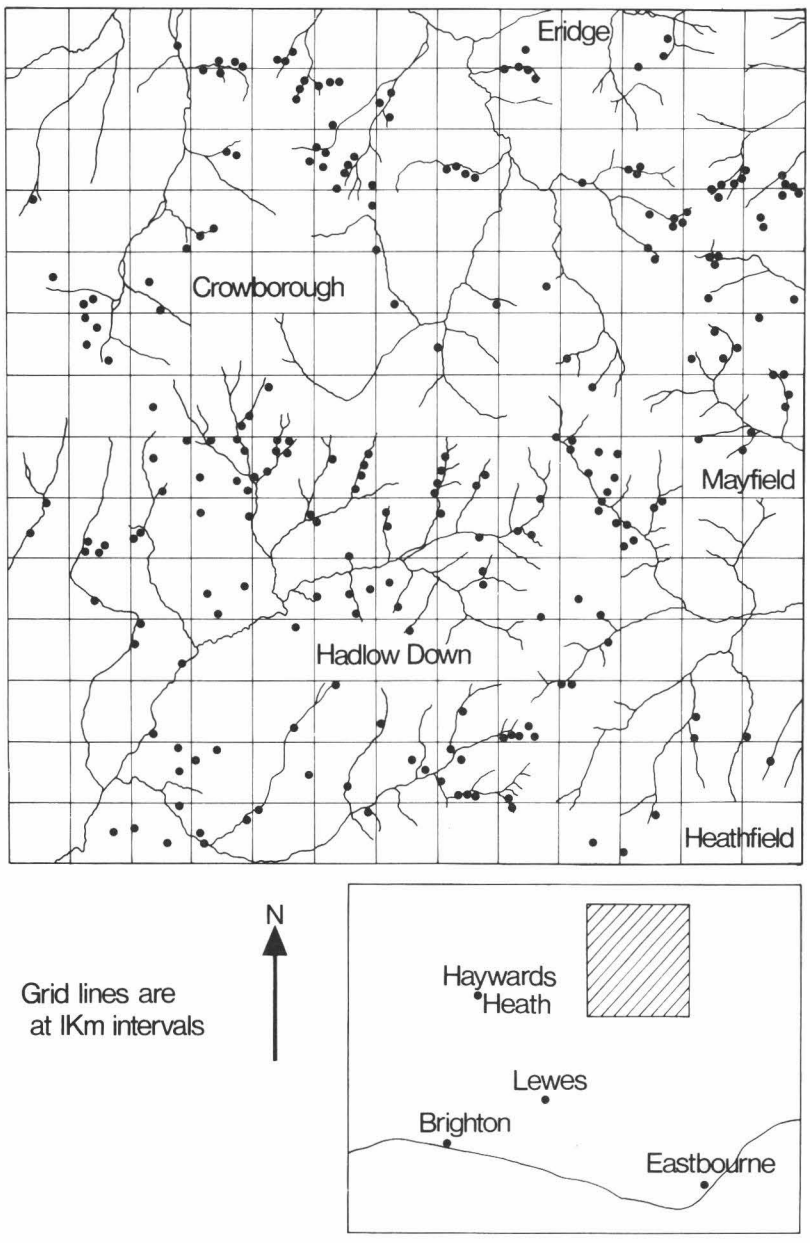

Fig. 1. Sketch plan of study area showing bloomery furnace sites.

upstream the site can usually be located. It was found to be worth following even the smallest streams to their source, especially if the geological conditions were favourable.

It is probable that few sites were missed on the smaller streams, but the larger main valley streams did not prove very productive. It is possible that accumulated alluvium had covered some sites, but it is not considered likely that many furnaces were in fact situated on these large

streams as sources of ore are lacking. The chances of finding sites away from streams were not very good. Present day woodland cover over the whole of Sussex is believed to be 18%, and is probably greater in the Weald. Of the cultivated ground, much is ley or permanent pasture, and the arable is only temporarily available for walking, during which time as much as possible was covered. Thus the density of bloomery sites away from the vicinity of streams remains an uncertain factor, probably significant but not great. In spite of the above limitations the results, when plotted on the map, are impressive (Fig. 1). When the previously recorded sites are added, the total number of bloomeries discovered in the area is 246, giving a density of 1.4 per km^2.

2. DATING

Given the fact that the date of the furnaces could range over as much as 1500 years, and that as yet no satisfactory method has been devised to distinguish medieval from prehistoric bloomery slag, dating seemed a formidable task. Even if it had been practicable to locate and excavate a significant number of actual furnaces, apart from their slag heaps, it is not possible to make definite distinction between the Wealden medieval and prehistoric furnace types. Thus the only solution was a quick method of excavation, to discover dateable artefacts, i.e. pottery. Although there is no evidence that bloomery workers lived on the sites, they had to spend long hours there, and at the few Wealden furnaces excavated (Money 1971, 1974; Cleere 1970; Tebbutt and Cleere 1973; Tebbutt 1979), pottery had been found in the slag heaps.

It was therefore determined to carry out a number of simple excavations on slag heaps in the study area, where trenches 1 m wide would be unlikely to affect the furnaces themselves which are usually to be found at some distance from the slag heap. Sites were selected on the grounds of favourable access, absence of tree roots and farm crops, and willingness of owner (see list of sites below). In most cases this method proved successful and pottery was found in small quantities. Unsuccessful digs included those where the site had been cultivated and the slag scattered and spread by ploughing. It appears likely that some prehistoric native pottery is quickly disintegrated by weathering, but is well preserved if undisturbed.

By including the few sites where pottery sherds had previously been found on the surface it was possible to date 33 sites, and by adding to these a further seven already recorded (Straker 1931; Money 1971, 1974; Cattell 1970), to make a total of 40. Thus a dating of 16% of recorded bloomery furnaces was achieved, considered to be a significantly large sample from which to draw conclusions as to the dates of the remainder. It should be noted that the two dated by Cattell were by radiocarbon determination, which has yet to be proved a reliable method on bloomery sites. By this method, one of Cattell's sites was possibly of the pre-Roman Iron Age. In the table below, Money's Iron Age and Romano-British sites represent two phases of use of a single site. The results are as under:

Source	*Method*	*Iron Age*	*Romano-British*	*Medieval*
Wealden Iron Research Group	Excavation and surface finds		29	4
Straker	Surface finds		2	
Money	Excavation	1	1	1
Cattell	Radiocarbon	1	1	
		2 (5%)	33 (82%)	5 (13%)

CONCLUSIONS

The density of sites (Fig. 1) is obviously very great, especially as the numbers recorded certainly fall far short of the actual total. Slag heaps are known to have been removed for road making in both Roman (Margary 1965) and modern times (Straker 1931, 395).

The results of dating are of the greatest interest, highlighting a large and intensive Roman industry geared, no doubt, to export from the district, in contrast to a small medieval enterprise mainly satisfying local needs. The likely organisation of this Roman industry in the eastern Weald by the *Classis Britannica* has already been discussed by Cleere (1974) with the suggestion of a quite different type of organization further west in the study area. The role of regional administrative centres in this area may be much clearer when J. H. Money's unfinished excavation at Garden Hill, Hartfield is published. At the extreme western edge of the study area, Oldlands (Straker 1931) was almost certainly an administrative centre, and a single hypocaust tile from Morphews bloomery (TQ 509 256) might indicate the presence there of a regional administrator's headquarters. The results also throw a revealing light on the occupation and exploitation of the Weald in Roman times, which must have included clearing and cultivation for food production.

APPENDIX

List of dated sites in study area, recorded by Wealden Iron Research Group unless otherwise stated. All grid numbers refer to National Grid square TQ.

Buxted	506 273 (R.T.M. 1957)	Romano-British
	494 284	Romano-British
	507 272	Romano-British
	490 246	Romano-British
	495 271	Romano-British
	485 298	Romano-British
	509 256	Romano-British
	498 225	Medieval
	504 251	Medieval
Frant	578 345 eight sites	Romano-British
	578 343	Romano-British
	575 339 (Money 1979)	Romano-British
Framfield	490 216	Romano-British
Hadlow Down	552 220	Romano-British
	545 222	Romano-British
	552 231	Romano-British
	525 220	Romano-British
Heathfield (Waldron)	583 235	Romano-British
Mayfield	585 303	Romano-British
	559 280 (Cattell 1971)	Romano-British
	586 309 (Cattell 1972)	Iron Age
Maresfield	476 269 (Straker)	Romano-British
Rotherfield	527 326	Romano-British
	523 277	Romano-British
	532 332	Romano-British
	540 271 (Straker)	Romano-British
	523 338 (Money 1974)	Romano-British
	526 324	Medieval
	509 277	Medieval
	523 338 (Money 1971)	Medieval
	523 338 (Money 1974)	Iron Age
Wadhurst	590 323	Romano-British
Withyham	507 340	Romano-British

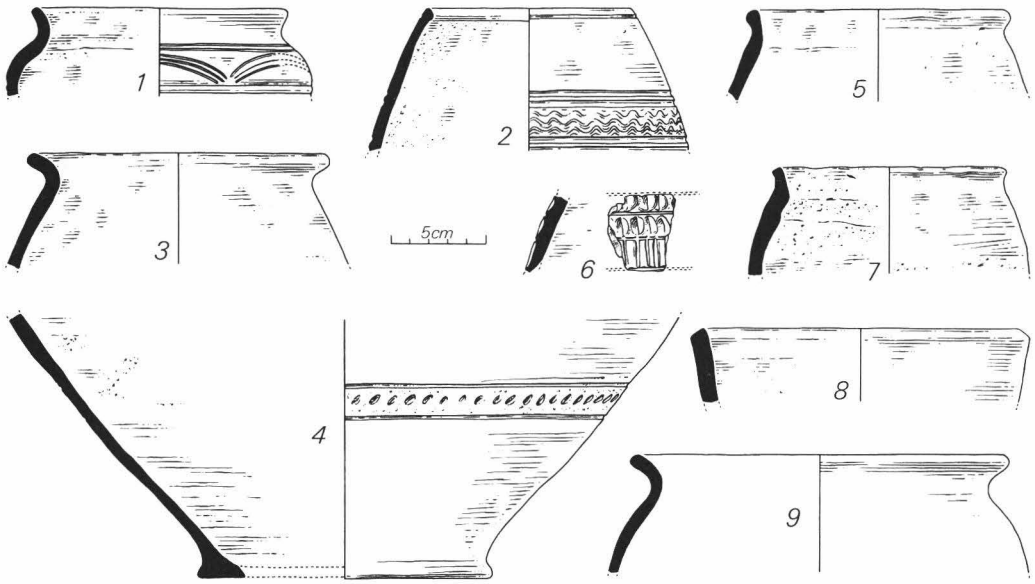

Fig. 2. Pottery from bloomery furnace sites in study area.

POTTERY REPORT (by C. M. Green)

Material from nineteen sites was examined, together comprising 77 sherds. As ten of these sites produced single sherds, and none of them as many as twenty, the greatest caution is needed in interpreting the results. Nevertheless it is probably significant that, with one possible exception, none of the sherds need be later than the second century A.D., and, where identifiable, first century material is predominant.

With the exception of two samian sherds and two other finewares, all the pottery is of the handmade local 'East Sussex Ware' type (Green 1980 for general description and a selection of types). Unless there are analogues in finer wares made elsewhere, such material is very difficult to date, and in many cases need not, in such small quantities, accurately reflect the date of a particular site; more extensive collection is required for this purpose. However, none of the handmade material here suggested a late Roman date. All illustrated pottery is shown in Fig. 2.

Scaland Wood TQ 523 277

1. An 'eyebrow' vessel whose squat form and marked 'S' profile suggest a pre-conquest date. This is not a matter for certainty, as the firmest evidence is negative: such pots do not seem to occur on sites known to be post-conquest in origin (although other 'eyebrow' forms were made throughout the first century), but are conspicuous in groups with little Roman material (Green 1980). The sherd is of great interest, as it is the strongest contender for a pre-conquest date yet seen by the author from an ironworking context. Unfortunately it is the only sherd from this site.

Renby Grange TQ 532 332

2. A local copy of a fineware beaker in a 'Belgic' style; combed decoration between grooves. Presumably A.D. 50–100. Four other East Sussex Ware sherds (from jars) were collected.

Bingles Farm TQ 507 340

3,4. Rim and base from two jars of similar form, both probably A.D. 50–100. The diameter of the base sherd (4) is not certain. Three other East Sussex Ware sherds were found.

Mayfield TQ 583 235

5. A single jar sherd, likely to be of first century date on analogy with pottery from Newhaven (Green 1976) and Bishopstone (Green 1977).

Oaky Wood TQ 507 272

6. Sherds of an unusually heavily decorated East Sussex Ware vessel with grooves and thumbnail decoration.

7. Comments as for (5) above. Twelve other East Sussex Ware sherds were found, one of them fused to a piece of iron slag.

Front Wood, High Hurstwood TQ 490 246

8. A very basic bowl form, first or second century, and five other East Sussex Ware sherds.

Stilehouse Wood TQ 585 303

9. An 'S-profile' jar, probably first century, and three other East Sussex Ware sherds. A single 'fineware' sherd was also found: very fine brown fabric with dark grey/black surfaces, probably in the widely practised 'London Ware' style. Probably *not* from a West Sussex source, unlike those found at Newhaven (Green 1976) and other East Sussex sites, but almost certainly Flavian.

Greystones Farm TQ 495 271

Sherds of a large East Sussex Ware jar with a splayed foot as in (4) above—a feature typical of the second half of the first century A.D.

Poundesley TQ 525 222

Rimsherd of a samian Drag. 37 decorated bowl, probably Central Gaulish, second century. Also an East Sussex Ware sherd.

Scocus Farm TQ 552 231

Ten body sherds of East Sussex Ware jars, one possibly with traces of 'eyebrow' decoration, and two base sherds with splayed foot (see 4 above). First century.

Newnham Park TQ 494 284

A single much abraded sherd of Central Gaulish samian; probably second century.

Frankham, Mark Cross TQ 590 323

A single sherd, form uncertain, possibly of a late Roman colour-coated ware; if this *is* a late third or fourth century colour coat, an Oxfordshire source can be ruled out on the grounds of the fabric, but a more local ('Pevensey') source cannot (Fulford 1973; Green 1977). However, it may be from another, unrecognised source, or be altogether earlier (e.g. from a first or second century flagon).

Flat Farm, Hadlow Down TQ 552 220
Hodges Wood, Crowborough TQ 527 326
Hempstead Wood, Framfield TQ 490 216
Eridge Old Park 1 TQ 578 345, and 2 TQ 578 343
Bosmere Farm, Hadlow Down TQ 545 222

These remaining sites produced from one to five bodysherds each of East Sussex Ware (mainly jars). As far as can be told, the fabric suggests 1st or 2nd century, rather than later material.

ACKNOWLEDGEMENTS

We must first acknowledge the help and co-operation of the many tenants and landowners who have willingly allowed the field walking and excavation that has made this study possible. In most cases they have given the pottery finds to the Group. Vital encouragement and advice was given by H. Cleere. C. M. Green's dating study and drawings of the pottery has added the dimension that lifted the results beyond the iron industry, to throw new light on the Weald in the early Roman period. For the map we are grateful to M. Tebbutt.

DESTINATION OF FINDS

The greater part of the pottery finds, and a few other interesting items of iron working technique found, will be deposited with the Sussex Archaeological Society. Pottery from Greystones Farm remains with Mrs. J. Adams (Greystones Farm, High Hurstwood) and from Renby Grange with Crowborough Field Society.

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TWO ROMANO-BRITISH BURIALS

by Elizabeth Kelly and Caroline Dudley

At much the same time, the museums at Brighton and Worthing were each presented with items from two Romano-British grave groups from Preston Road, Brighton, and Crabtree Lane, North Lancing respectively.

It was thought worthwhile to publish the two groups together in view of the similarities between them. Both groups appeared to be from fairly rich female burials, in which the grave goods were contained in boxes, one a bronze casket, the other a wooden chest. There are also parallels between the Samian ware, in fabric, style and date, as well as the buff ware flagons, which were possibly locally produced at Wiggonholt.

A GRAVE GROUP FROM CRABTREE LANE, NORTH LANCING

(by Elizabeth Kelly)

This grave group was discovered about 40 years ago in the garden of 92 Crabtree Lane (TQ 1818 0499) when the finder was digging out a fishpond. It was subsequently kept by him until 1975 when it was given to Worthing Museum. No detailed record was made at the time of discovery, but the finder recalled that the objects were lying about three to four feet below the ground and appeared to have been enclosed in the remains of a wooden chest. A small amount of calcined bone contained in the glass vessel was re-buried.

The site is now occupied by a block of flats, but no more finds occurred during re-development in 1975.

The Pottery (Fig. 1)

1. Colour-coated folded beaker, with black slip over buff fabric. New Forest ware, late third to fourth century.
2. Miniature jug with trefoil mouth, and horizontally ridged sides, in a pinky brown fabric. A puzzling item, first thought to be modern and mistakenly added to the grave group by the finder. Subsequent examination by a Roman pottery expert led to a suggestion that there could be connections with late Roman to Merovingian contexts on the Continent. No firm opinions have been formed.
3. Small flask with narrow neck and bulbous body, in gritty ochre coloured fabric, with a small hole bored in body. Probably second century.
4. Dish in buff-coloured sandy fabric, with quartz inclusions. There is evidence that the whole pot has been burnt. The flaring rim has a simple rouletted decoration.
5. Flagon with double ribbed handle, in fine buff fabric. (Possibly made at Wiggonholt).
6. Pottery lamp holder in pinkish fabric, with ribbed handle: a moulded and knife trimmed example.

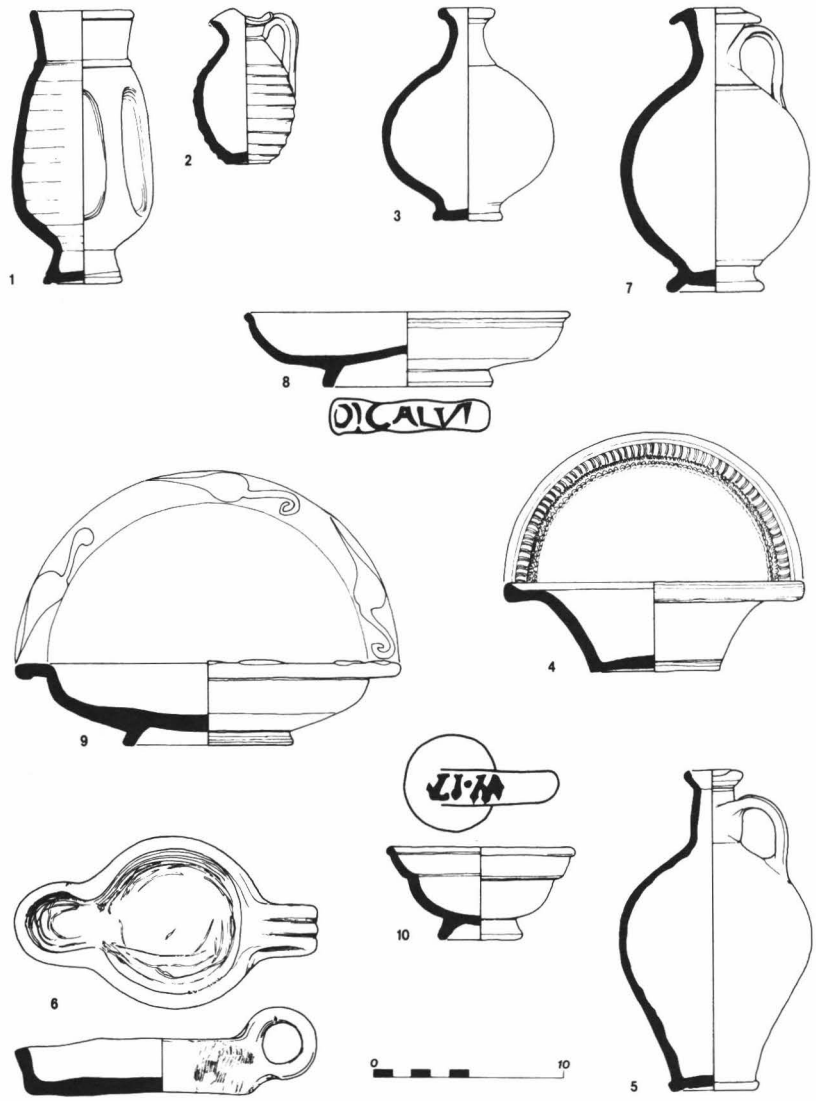

Fig. 1. Crabtree Lane, North Lancing. Pottery (note potters' stamps at enlarged scale).

The Samian

Catherine Johns of the British Museum has briefly examined the four pieces of Samian, and I am grateful to her for the following information:

7. Unusual flagon form, parallel to a jug from Dymchurch, Kent in the British Museum. Central Gaulish fabric, with an Antonine date of the mid second century, and with striking similarities in fabric to the Samian flagon from Preston Road, Brighton.
8. Dish, form Dr 18 with stamp DI CALVI. South Gaulish fabric with a Flavian date of the first century.

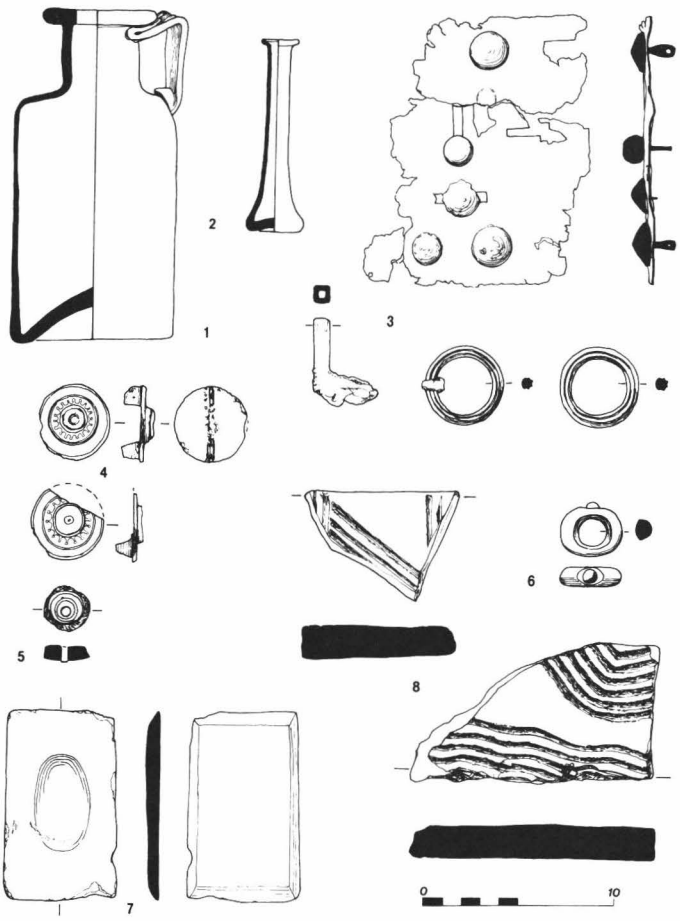

Fig. 2. Crabtree Lane, North Lancing. Glass, metalwork, worked bone and stone objects, and tile.

9. Dish, form Dr 36 with barbotine decoration. Central Gaulish fabric with an Antonine date of mid to late second century.
10. Cup, form Dr 27 with stamp VI M. Central Gaulish fabric, a noticeably late example of this particular form, mid to late second century.

Glass, Metalwork and Other (Fig. 2)

1. Square vessel in deep bluish green glass with angular fluted handle. This vessel contained the cremated bones.
2. Slender phial or unguent bottle, in bluish green glass.
3. Bronze lock plate with locking mechanisms still remaining and traces of iron and wood on reverse. There is also an iron key and two bronze loops, presumably once attached to the wooden chest.
4. Pair of disc brooches of gilt bronze, with fine incised decoration. The one complete example has a central boss of dark blue glass.

5. Bone gaming counter with hole in centre and concentric grooves.
6. Finger ring of a milky white translucent stone, possibly an agate or chalcedony, with an inset of dark blue glass.
7. Rectangular slab of greenstone with bevelled edge, and a concave depression on one face. This was probably used as a palette for mixing cosmetics.
8. Two fragments of combed flue tile.

Accession Number 1975/254

Conclusion

In brief, there have been few Romano-British finds made in the Lancing area, and the only comparable isolated find of importance is the cremation from the 'Marquis of Granby' Inn at Sompting (Ainsworth and Ratcliffe-Densham 1974), a short distance west of Crabtree Lane. It was thought that the grave goods in that burial were also contained in a wooden chest, and the Samian from both groups can be placed within a similar Antonine date range.

The Crabtree Lane coarse pottery can be placed more or less in the late second century, although the inclusion of the colour-coated New Forest beaker (Fig. 1,1) is inconsistent with this, being either third or fourth century. Evidence for a late second-century date continues with the pair of disc brooches (Fig. 2,4). This style, with the central glass boss, must have been a kind of costume jewellery imitation of more expensive examples with insets of semi-precious stones. The small jug with a trefoil mouth (Fig. 1,2) presents the biggest dating problem, assuming it was actually part of the group, as the finder has described. It is certainly a most unusual example, both in style and fabric.

A RE-APPRAISAL OF THE EVIDENCE FOR A ROMAN VILLA IN SPRINGFIELD ROAD, BRIGHTON, FOLLOWING FURTHER DISCOVERIES ON THE SITE

(by Caroline Dudley)

During the severe winter of 1962–63, development was scheduled to take place on the property of the Endeavour Motor Company, Brighton, very close to the site of a known Roman homestead. One of the company's directors, Mr. Jack Whitehead, was a keen amateur archaeologist and took the responsibility of keeping watch on the contractors' excavations. His enthusiasm was rewarded with the discovery of a well-furnished grave and numerous other finds of the Roman period. For many years these items remained in the possession of the Endeavour Garage, but in 1978, when Mr. Whitehead was due to retire, he very kindly advised the company to deposit the finds with Brighton Museum.

Although the excavation was carried out nearly twenty years ago, only two of the objects found have been published, so despite the lapse in time it was decided to report on the new material, and, at the same time, to re-examine the context in which it was found.

Previous excavations on the site

Much of the evidence for a Roman settlement on the site of the Endeavour Garage, a piece of land now bounded by Stanford Avenue to the north, Preston Road (west) and Springfield Road (south), was summarised by H. S. Toms and George Herbert in volume three of the

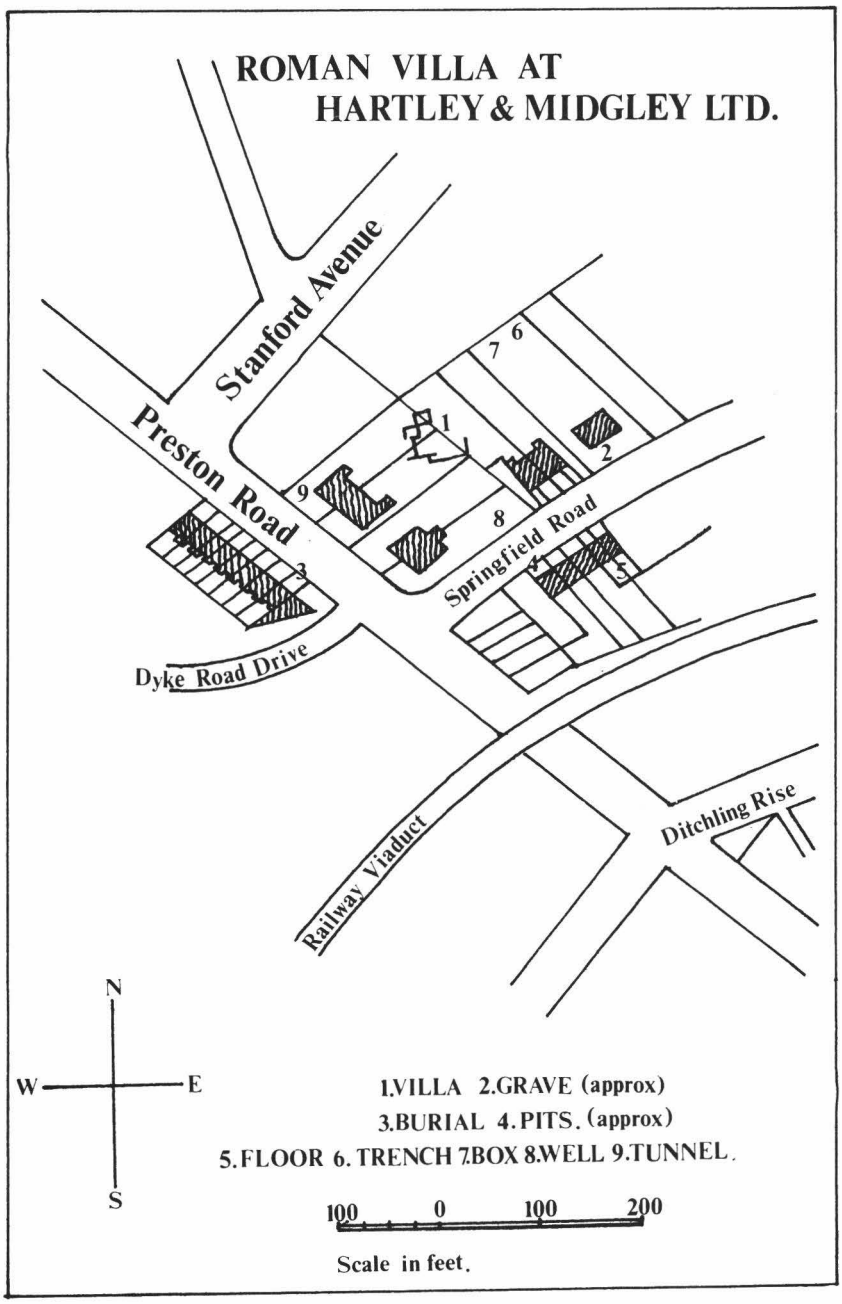

Fig. 3. Springfield Road villa. Site location.

Brighton and Hove Archaeologist (Toms 1926). However, not all the information given is entirely accurate, nor are all of the finds illustrated, so we have considered it useful to recap briefly on the various stages of discovery.

June 1876

Workmen employed by Alderman Ireland and Councillor Savage, owners of the land, were digging flints on the ground scheduled for building the houses now fronting onto Springfield Road where it joins Preston Road. In the course of this work they uncovered seven pits, arranged in an approximate semi-circle east to west. The pits went down six to seven feet into the underlying Coombe Rock, and were filled with unrolled flints, broken chalk and dark earth, covering, at the bottom of the pits, pieces of five or six Roman pots, animal bones, glass, burnt clay and charcoal. Observers remarked on the similarity of the pottery to that from Hardham. Other finds included a coin of the Empress Lucilla, one of Hadrian and another illegible specimen. Part of a wall was also observed at a depth of five to six feet, made of flint and mortar, and two secondary human burials were uncovered at a depth of *c.* 3′ in the fill of the pits. These discoveries were reported in the local paper (BH 1876a, BH 1876b) and a fuller account was given at a meeting of the Brighton & Sussex Natural History Society (Wonfor 1876). The material from these pits was ordered to be placed in the Pavilion Museum (the forerunner of Brighton Museum) by the landowners.

August 1877

Workmen employed by the building firm of Gates and Son were digging flints on land adjoining that of Messrs. Savage and Ireland, *c.* 50 yards north of the pits found in 1876, preparatory to building Nos. 90–96 Preston Road, when they came across a line of large flints about twelve feet south of the boundary wall of the building plot. Further investigation revealed the lines of a building about two feet below the surface of the ground. The building covered an area of *c.* 50 square feet, but only the north and west external walls were found—those to the south and east continuing beyond the boundaries of the building plot. These main walls were built of flint and mortar, covered with plaster painted in bands of various 'fresh and bright' colours, yellow, red, purple, crimson and blue. The foundations consisted of a loose layer of large boulder flints, about two feet in depth, apparently for drainage, and the observers noted that these flints were washed free from soil. Beneath the main walls to the north and west, this layer of flints was capped with a layer of very hard 'cement'—presumably acting as a damp course. Toms suggests that the 'cement' was rock chalk, or clunch, (Toms 1926) but it seems unlikely that the Gates', as nineteenth-century builders, would confuse the two materials, and the original reports all describe it as 'cement'. The initial plan of this building was illustrated in the Brighton Herald (BH 1877c) with measurements. The earliest report (BH 1877a) describes the floor of each room as having been laid with mosaic work, and remarks that already hundreds of the tesserae had been collected from the disturbed ground. However, Mr. Gates later managed to preserve some areas of this flooring measuring more than a yard square, and it was noted that the pattern was a geometric one in white and grey mosaics. Smaller quantities of red and black tesserae were also found.

Seven or eight Roman coins were found (unspecified), some iron nails, charcoal, a piece of tile, pieces of pottery 'all of excellent moulding and varying in size' and one unbroken jar of red fabric, between 5″ and 6″ high. Some of the pottery was plain, other pieces 'marked with cuneiform ornament'. What was meant by this description is not known, but it might refer to a kind of rouletting, or possibly to a potter's mark.

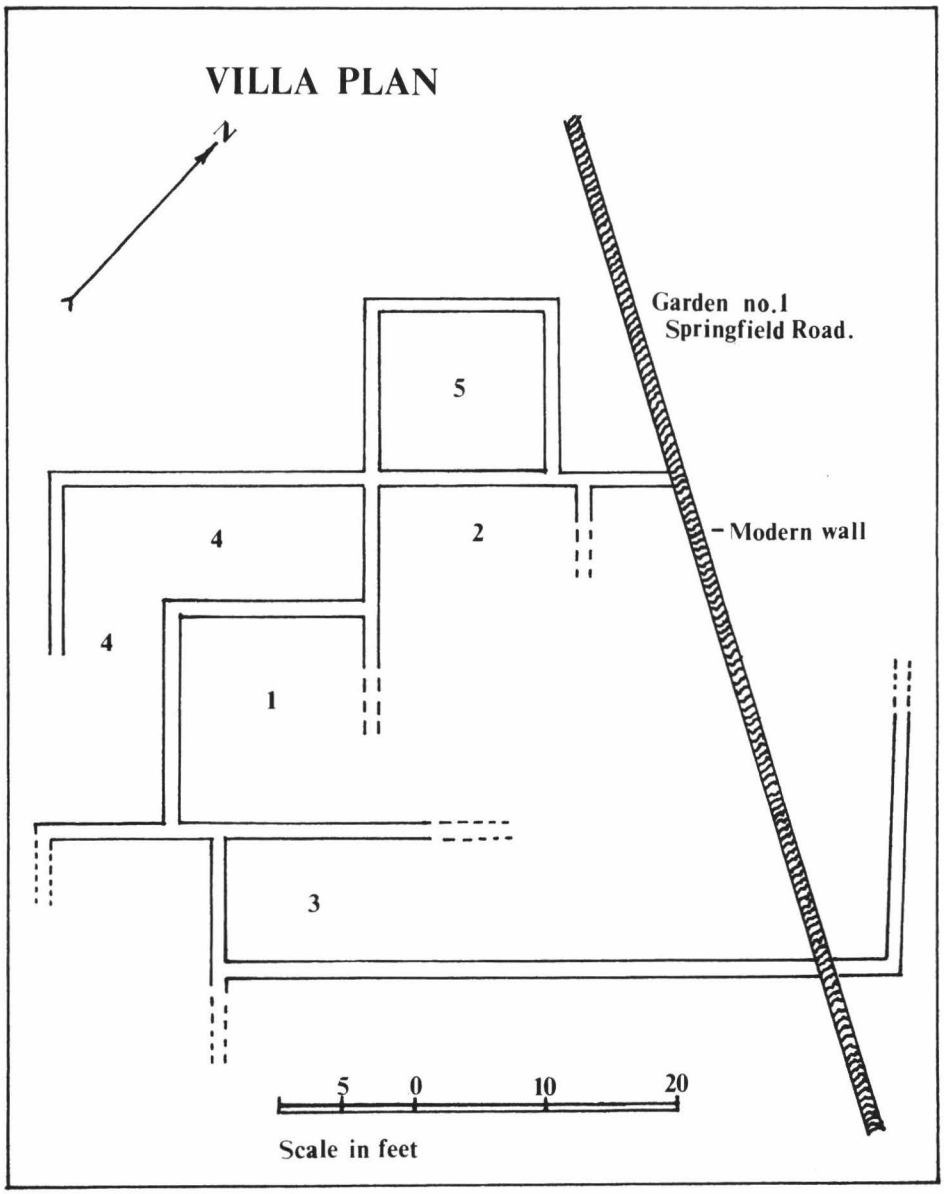

Fig. 4. Springfield Road villa. General plan of site.

In a further article in the Brighton Herald on 25 August 1877 (BH 1877b) additional finds mentioned are a coin of Claudius Gothicus, and more tiles and pottery sherds 'including portions of some composed of a clay of much fineness'. More mosaics came to light, apparently differing from those found earlier, which are now remarked to have been *c.* 1″ square, while the new ones are said to be 'no larger than ordinary dice red, grey and white in colour'. The walls are described as *c.* 2′ thick. Other finds were small pieces of metal, too thin to be armour, but probably 'parts of ornaments'. Two of the pieces were joined by a small pin.

The most complete report on the villa is given by Joseph Stevens, M.R.C.P., in the *Journal of the British Archaeological Association* (Stevens 1877). He was staying in Brighton for a few weeks while the site was being dug. His observations, with some amplifications, were in line with the newspaper reports (which, incidentally, were probably written by John George Bishop, local historian, editor of the Brighton Herald, and author of *Brighton—a Peep into the Past*). His version disproves Toms' theory that the damp course was clunch; he describes it as a conglomerate 'exceedingly hard, made up of a limy cement incorporating pebbles and sub-angular flints'. According to him the tesselated floor with the smaller mosaics was in Room 1 (Fig. 4), while the rooms to the east contained the larger size tesserae. He could not identify any pattern in any of the floors. He confirms the bright colours of the wall plaster, and compares the pottery to that from kilns in the New Forest, particularly Crockle (Crock Hill) and Islands Thorn. He notes examples of a 'better form of pottery, in bright red, with exterior crimson glaze, which appeared to be a kind of British Samian'. Stevens confirms that the only pot rescued whole was the small red vase, which Mr. Gates himself kept. There is no suggestion at this stage that any of the finds from the villa were given to the museum.

Other finds noted by Stevens include 'cross-lined' slabs, which he thought might be floor tiles or flue-bricks, but there was no sign of a hypocaust or of a fireplace. The signs of burning were rather an indication that the whole building had been burnt down.

The final contemporary contribution on the villa is from F. H. Willett, who was the Local Secretary for the Society of Antiquaries in Sussex (Willett 1877). He describes the tesserae as being made from white rock chalk and dark grey Hastings sandstone, and also notes small cubes of oolite and an 'ochrous-coloured brick'. He states that the floor itself rested on a bed of concrete about 5″ thick.

September 1877

While still engaged in building work, a further Roman feature was uncovered by workmen in the last week of September 1877, about 40 yards east of the villa site. It was a grave, 4′6″ below the surface of the ground, 2′ deep, 5′ long, 3′ wide and oval. The bottom was paved with large flat stones, some of which were flints. The grave was packed with pots and small finds (Stevens 1877). Stevens reports these as follows: Several jars and vessels, a piece of iridescent glass, a buckle, the hasp of a lock, an iron nail, some Samian ware and a piece of blue glass with a yellow spiral round it 'which the workmen had thrown aside as a broken toy'. A bone pin and a piece of deer antler were found nearby. F. H. Willett reported the same discovery to the Society of Antiquaries some months later (Willett 1877) with a slightly different list, which appears to represent the finds as they were deposited with the Pavilion Museum. Most of these pieces still exist in the Museum's collections, except for the following which cannot be traced:

One narrow-necked urn of coarse brown 'sun-dried pottery', 9″ high (See catalogue of finds, AE 20)
One small urn, similar
Bronze lock and staple
Small glass cup
One Samian dish with ivy leaf decoration
One bottle of light fawn-coloured clay.

1878

A beaten clay floor was found in 1878 by Mr. Andrews in the garden of his house, 10

Springfield Road, about 200 ft S.E. of the villa, at a depth of about 3′ (Toms 1926). It covered an area of *c.* 6′ – 8′ x 10′. There were also a considerable number of tiles found, some 'ochrous' in colour, others of a darker 'grey-violet' shade. Toms suggests these darker tiles may have been discoloured by fire.

1880

Another cremation in an urn was found during building work less than 60 yards S.W. of the villa. The exact spot now lies in the front garden of 115 Preston Road. The urn was not preserved (Toms 1926).

1915 January

The boundary wall which prevented Mr. Gates' men from digging up the eastern limits of the villa belonged to No. 1 Springfield Road, and in January 1915 a small piece of foundation, some oyster shells and a pot sherd were uncovered in the garden in line with the S.E. wall of the villa. The foundation was formed of large flints and rough mortar (Toms 1926).

January 1926

Toms himself supervised a small excavation (three trenches) which confirmed the position of the S.E. corner of the house, and revealed about 16 ft of the N.E. wall. These additional finds were added to the original Gates/Bishop plan (Fig. 4). The final dimensions of the house, without the projecting rooms, were about 64′ x 41′ (Toms 1926).

Finds from this excavation were mainly pieces of tile, slag and brick, two pieces of iron, about a dozen pot sherds and a limpet shell. They are now in Brighton Museum. However, the main feature of interest was left in situ—an angle-block of very hard chalk (clunch again ?) at the S.E. corner of the foundations. It was 5–6″ thick, squared on its two external faces and rough and uneven internally, measuring about 1′6″ x 1′5″. It probably represented the floor level of the villa, in Toms' opinion. The wall itself appeared to be 18″ thick above the foundations.

In the two southerly trenches the composition of the foundations was flint and mortar, as before, but in the northern-most trench the foundations were made of 'large squareish lumps of chalk, some of which resembled bricks.' Clay in the trench suggested broken-down daub and plaster to Toms, and it is possible that at this point the wall was no longer external.

November 1953

Sherds of a small plain beaker in a hard thick light grey sandy fabric were found at the S.E. corner of Stanford Avenue and Preston Road while digging foundations for a block of flats (*c.* 25 yards north of the main part of the villa). These are now in Brighton Museum.

December/January 1962/1963: Account by Mr. J. Whitehead

The houses and gardens of 90–96 Preston Road and 1–7 Springfield Road, Nos. 90 and 92 Preston Road were acquired by the writer's company in 1934. The houses were altered into showrooms and offices and a workshop was erected in the old gardens. Nothing was reported at the time this work was carried out. During the post-World War II period, 94 and 96 Preston Road were acquired and lightly built workshops were erected on the gardens of these two houses. The writer, who had joined the company in 1935, followed this work with interest, but owing to the fact that the site had to be levelled with masses of hard core and that very little digging was done only a few minute sherds of pottery were found, although it was possible to

verify the line of some of the walls of the villa. The writer made a plan of the finds for his own personal interest, and there the matter rested. In 1955 the company, who are the Ford Distributors for Brighton, changed hands, and its title changed from Hartley and Midgeley Ltd., to Endeavour Motor Co. Ltd. Coincidentally with this change, a major reconstruction programme was planned and the present discoveries were a direct result of this.

The trench

The demolition of Nos. 1, 3 and 5 Springfield Road commenced in the summer of 1962. The site had then to be levelled and a large quantity of earth was moved from the vicinity of the N.W. boundary wall. Parallel with this wall a deep trench was started to provide pits for the workshop. The writer had briefed all concerned on the subject of finds but it is regrettable to say that he had not done this as effectively as he might. The excavating machinery unearthed some pots at the east side of the site, but as these were broken no value was set upon them and they were dumped in Sheepcote Valley along with the spoils from the excavation. It is impossible to say how much was lost, but it is believed that the number was three or four, including a funerary urn.

After this initially bad start things progressed more favourably. The digger first brought up a complete funerary urn, some nine or ten feet from the east end of the trench. This was quickly followed by a bone pin, a square glass bottle (smashed) and some sherds of Samian ware and other pottery together with a glass handle of snake-like design. Intensive search failed to unearth the receptacle from which this latter item had broken.

The box

By this time the trench was nearing completion and the writer noticed that the strata of Coombe Rock, which was clearly visible, had been disturbed at a point some forty feet from the east end of the trench. He felt that it was imperative that this area be investigated with no loss of time, because the wall of the trench was due to be concreted immediately after the weekend. This left only the Sunday free to carry out this project. In view of this the assistance of a colleague, Mr. T. Potter, was sought, and this was readily forthcoming. Mr. Potter, like the writer, had no experience of digging, but was reasonably well versed in the art from a theoretical point of view. On the last Sunday in August, which was a hot dry day, the team consisting of the writer, Mr. Potter, John Potter (Mr. Potter's son) and John Taylor (nephew of the writer) started operations. Both lads were aged 13 and were of the utmost assistance, particularly in the sometimes soul-destroying job of sieving.

John Potter started to dig into the face of the trench at the spot previously chosen and within minutes reported green earth stains. He was immediately supplanted by his father who soon uncovered portions of a bronze plate which was in a vertical position. These were so fragile that it was decided to enlarge the hole laterally on each side with a view to extracting the plate intact. All soil thus removed was being sieved by the boys, who were using a coarse meshed sieve and sieving into a very fine meshed sieve. The bronze plate was eventually freed and removed. As earth on the right hand side of the dig was removed the head of a figurine was revealed and was removed with ease. A minute or two later the base of this figure was found.

Meanwhile the sieving party were finding scraps of bronze, bronze tacks and a little later as more earth was removed, quantities of iron nails.

The hole which had been enlarged laterally to about three feet in width now revealed the necks of pots on the left hand side but these were so firmly imbedded that they appeared

permanently fixed in position. Rather than risk breakage, operations were transferred to the right hand side where a glass flask was uncovered. A puzzling feature was that the flask neck penetrated by an iron spike which ran back into the hole in the direction of the boundary wall.

A second figurine was soon recovered, this time intact, but still the spike seemed to have no end. Time was becoming important and by this time the hot sun pouring into the narrow confines of the trench made working off the side of a ladder uncomfortable in the extreme. By mutual consent it was decided not to stop for food, and indeed none of the party stopped for rest or refreshment until the job was completed about 6 o'clock in the evening—some eight hours of non-stop activity.

At long last it became possible to remove both flask and spike intact and when this was accomplished, to separate the two items. These in fact literally separated as they were removed. A minimum of cleaning revealed that the mystery object was in fact an iron lamp in amazingly good state of preservation.

The necks of more pots had been observed while this particular job had been under way, all of them to the left hand side of the hole. In fact the line of the lamp delineated the demarcation line of the finds on the right hand side. During all of this toil the sieving party were still finding iron nails but human bones were turning up in ever increasing quantities and were more numerous the nearer one dug to the centre of the excavation.

Work again started on the left hand side of the hole. This became more and more exasperating because while in almost full view the pots were locked together so tightly that only brute force would have moved them.

Nevertheless, the 'key' pot eventually was prised loose and the remainder were just lifted out with the greatest of ease. A halt was now called, although two other spots showed signs of disturbance in the Coombe Rock. No building will cover these two spots and digging will take place eventually with plenty of time in hand to investigate thoroughly.

During the days which followed all the finds were carefully cleaned and the two glass flasks were mended. The whole find was placed in a showcase in the writer's office and there the matter rested for a few weeks. He felt that the finds should be photographed and documented in case of possible loss or damage and this he duly carried out.

Further discoveries

In due course the excavation was continued in the direction of the Preston Road with no finds or encouraging signs at all. The deep excavations for the petrol tanks which were dug on the site of 94 and 96 Preston Road yielded nothing. The appalling winter of 1962/63 had now set in and interest flagged a little until January 1963. One afternoon the operator of the mechanical digger was excavating near the western end of the trench, when his bucket broke through a crust of the Coombe rock at a depth of some twelve feet. Like the rest of the contractors he was by now an ardent archaeologist and he proceeded with caution. Removal of the loose earth disclosed a small cave in the North face of the trench. This was just large enough to crawl into. Upon doing so it was observed that the cave opened out into two tunnels like the arms of a letter Y. These branches petered out after a few feet. The whole cave was a complete blank as far as human occupancy was concerned. Almost opposite this find it was observed that a narrow shaft had been dug at sometime into the Rock and was filled with top loam. Although the ground was frozen solid to a great depth digging could not ascertain how deep the hole had been or its real purpose. The shaft was 18″ across and perfectly symmetrical.

Owing to lack of time during the first dig some spoil from the excavation had been put into

cartons for future sieving. The writer suddenly remembered these cartons and duly sieved them with a fine mesh sieve. To his delight he found intact a bronze brooch and a piece of silver wire which had been inlayed for decorative purposes.

The contractors were now operating on the actual site of the villa, and this was most unrewarding. Very few signs of the old walls were revealed, probably because of the earlier building operations mentioned above. While digging footings for a ramp an old well was uncovered and had to be bridged with concrete. The well was lined with neatly cut chalk blocks and had an internal diameter of 3 ft 6 in. Some of the loam was dug out but time did not allow real investigation. A photograph was taken of the well but this was not very good because of adverse weather conditions.

Conclusions

None of the features on the site can be proved to have intersected any other so no conclusions can be drawn as to the exact relationship between them. On grounds of date and function, connections are possible.

Burial seems to have been a distinct function of the site over at least a century; the earliest urn pre-dates the two main grave groups by at least 75 years. The pots discarded by the contractors in 1962 may have formed another grave group, or more than one, while we know the urn found in the garden of 115 Preston Road also contained a cremation. The 1877 grave is dated to the late second century by the Samian jug (Ae 67), perhaps even slightly later, and much the same date applies to the 1962 grave group. The potters' marks on the Samian in the 1962 group suggest a date between A.D. 165 and A.D. 200, as does the form of the flagon *250153*, which has a rim very similar to that of the Samian jug from Crabtree Lane, but not paralleled among other local flagons. The pipe-clay figurines are probably earlier, but being an imported luxury and ornamental rather than handled daily, it is feasible that they should have survived fifty years or so.

The relationship of the burials to the pits and structures is still not clear, partly because of the difficulty in assigning definite dates to the individual features. The finds from the 1962/63 trench, which were not in any particular relationship to one another, range in date from the first century A.D. to the third, the latest forms being the BB1 vessels and the Colchester and Rhenish ware.

Two widely separated dates exist for the villa, taken from the two coins identified from the site; Claudius I, struck A.D. 41 but very worn, and Claudius Gothicus (post-270 A.D. consecration coin, now lost). Other evidence from the site can be used to support either of these dates. For example, the pottery from the villa extension seems to be from the earlier period, i.e. late first century A.D. On the other hand, the 'British Samian' noticed by Stevens while the villa was being dug reminded him of pottery from Crock Hill and Islands Thorn in the New Forest (Stevens 1877). It is described as 'bright red with exterior crimson glaze'. If this really was New Forest red slip ware, it would date from *c.* 260 A.D. at the earliest. Unfortunately, none of this pottery was saved.

On the evidence of the villa site alone, therefore, one has to accept the possibility of two separate phases of occupation, or continuous occupation over the whole period, assuming that evidence for the intervening years was overlooked at the time of the excavations.

The pits contained at least one coin which agrees with the date of the 1877 and 1962 graves; an issue of Lucilla, struck at some time between A.D. 151 and 180. A coin of Hadrian was also found 'in or near the pits' (Toms 1926 p. 21), issued between A.D. 117 and 138. Neither of these

coins has survived. Pottery evidence from the pits rests on the provenance of vessels *Ae 29* and *Ae 12*. If they did come from the pits, and not from the villa, they suggest that the pits were already in use in the first or early second century. There is no material later than the second century from the pits, although the secondary burials in the fill prove there was some later activity on the site.

Whether or not the pits represent the rubbish pits belonging to the villa, as Toms suggested, is not clear; if one accepts the view that there was continuous occupation of the villa site from the first to the late third century, the connection is not impossible.

Finally, the suggestion has been made that the building may not have been a dwelling house, but a mortuary chapel. There seems to be no way of proving or disproving this; the evidence, such as it is, suggests that the building could well have been a farmhouse. The site seems to have returned the normal sort of occupation debris, while the ground plan, assuming it represents a single phase of building, seems quite unexceptional for a small rural homestead, but would surely be rather surprisingly elaborate as a chapel attached to a very small burial ground. Moreover, the fact remains that there is no hard evidence to prove that the building was in existence at the time of the two most elaborate burials. It may be, of course, that other significant buildings existed nearby and remain undiscovered; traces of at least two others of Roman date were found, represented by the beaten clay floor and the wall found with the pits. It was not possible to establish the date of either, however, nor their connection with the main building. There is ground in the area which has not been explored, and future excavations may well provide the answers to these problems left unsolved.

CATALOGUE OF FINDS SURVIVING

(Numbers in italics are Brighton Museum catalogue numbers).

PITS 1876

Pottery These two pots were assigned by Toms to the villa, but the museum registers suggest instead that they originally came from the pits. This seems likely, as there is no record of the material from the 1877 villa excavation being given to the Museum at the time.

Ae 12 (Toms No. 6). Wide-mouthed bowl, dark grey smoothed fabric. East Sussex Ware. Uneven everted rim, slight cordon below neck, rounded carination above mid point. Derived from local Iron Age types. First–second century A.D. Fig. 5.1.

Ae 29 (Toms No. 7). Poppy head beaker, fine grey sandy fabric, smooth burnished dark grey finish, scorched in places. Barbotine dots in groups, tooled band around girth, slight cordon below neck, incised line defining lower edge of band decoration. First–second century A.D. Fig. 5.2.

GRAVE 1877

Pottery

Ae 19 (Toms No. 1). Cinerary urn, light grey fabric, bead rim. Local wheel-made grey ware, very similar to Hassocks forms. Cf. Hassocks grave groups, *S.A.C.* LXVI, Plate 1, especially for similar association of grey ware, Samian dishes and cups. Fig. 5.3.

Ae 65 (Toms No. 3). Samian dish, Drag. 36, with ivy leaf barbotine decoration round the rim. No potter's stamp. First–second century A.D.

Ae 66 (Toms No. 2). Samian dish, Drag. 35. First–second century A.D. No form 35 or 36 found at Hassocks, but both found at other Sussex sites, e.g. Alfoldean, Bishopstone, High Dole.

Ae 67 (Toms No. 4). Samian jug, handle and most of neck missing. Central Gaulish ware, Lezoux. Fragments of a similar jug were found at High Dole (Telscombe), and a complete but larger example comes from Crabtree Lane, Worthing. The British Museum has a similar jug from Dymchurch, Kent, and Oswald and Pryce illustrate another from York (Oswald and Pryce 1920, Pl LXXXIII No. 2). Late second century A.D. Fig. 5.4.

Ae 20 This pot was omitted by Toms when he identified the pottery from the grave in the museum's collections, but the museum register suggests it may be the one referred to by Willett (1877) as being 'sundried', 9″ high, with a narrow neck. It is almost identical to Hassocks No. 72 (Barbican House Museum) which was found with a Hadrianic coin (A.D. 117–138). East Sussex Ware. Fig. 5.5.

Ae 15 (Toms No. 5). Water bottle, fine soft chalky fabric, pale creamy-buff, decorated with vertical bands of fine incised lines running from neck to base. Toms suggests these bottles were made in Worthing; alternatively they may have been made in Wiggonholt. Fig. 5.6.

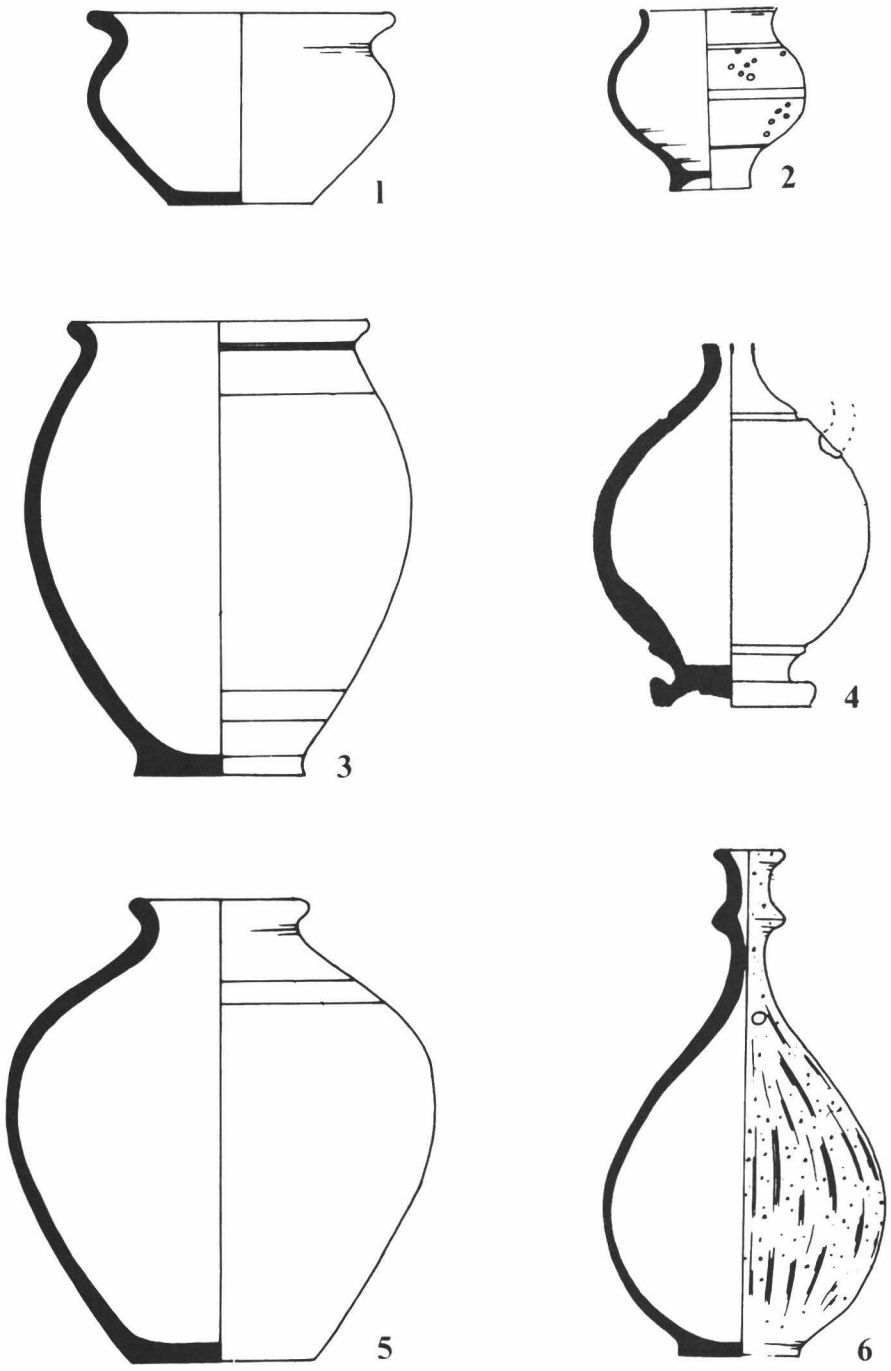

Fig. 5. Springfield Road villa. Pottery from the pits and the 1877 grave (1:4).

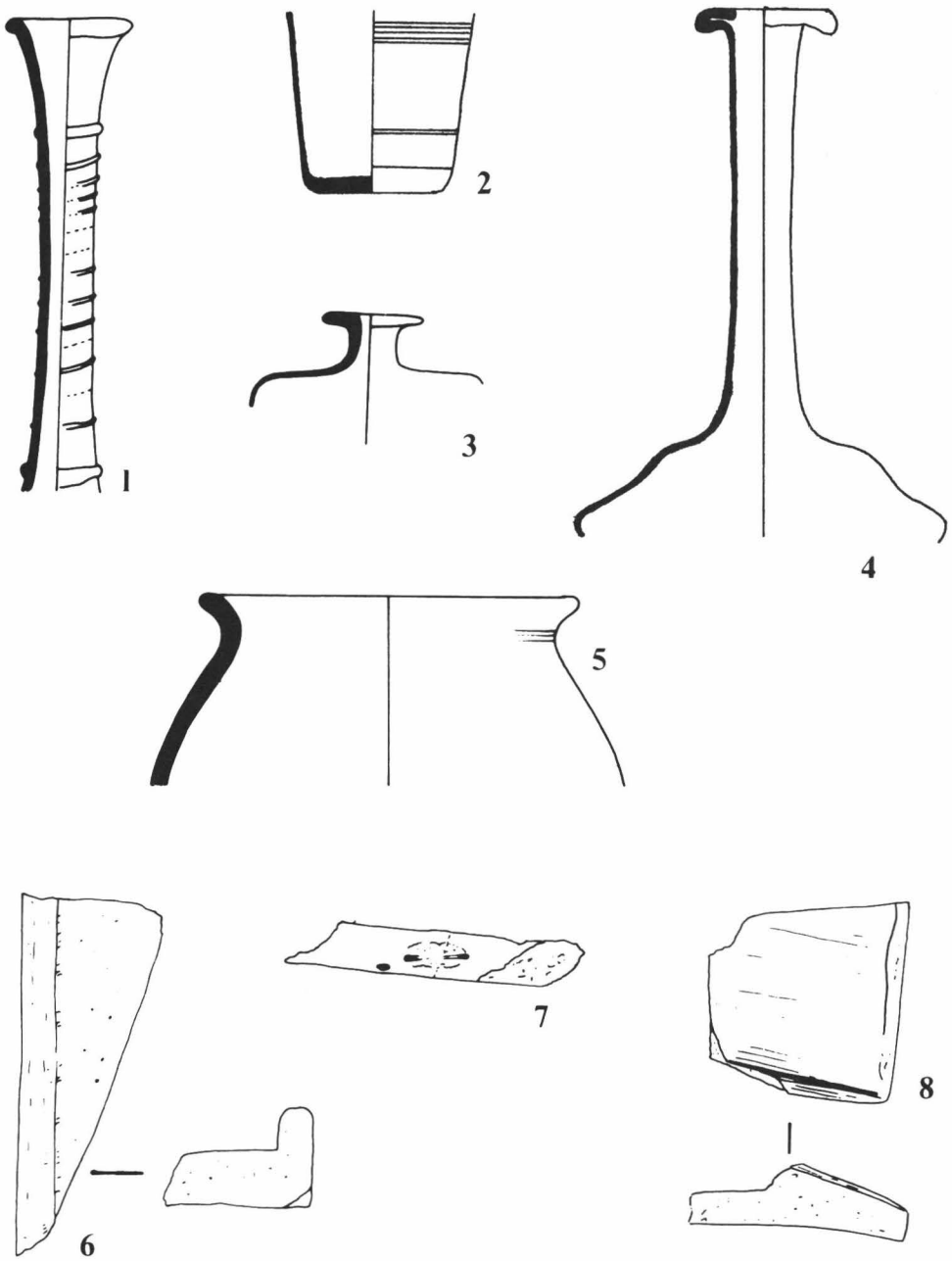

Fig. 6. Springfield Road villa. Glass from the 1877 grave (1:2); pottery and tiles (1:4) from the villa extension.

Glass

Ae 102 Two joining tubular pieces of thick opaque dark blue glass ornamented with bright yellow spiral threads. Apparently the neck of a tall jar or a tubular container. Origin unidentified so far, but possibly first century or even earlier (cf. Barag 1975) in which case its presence is suspicious. Fig. 6.1.

Ae 100 Base and sides of a small circular bottle; thin clear glass. Fig. 6.2.

Ae 101a Neck and part of the shoulder of a small circular bottle; thin olive green glass. Fig. 6.3.

Ae 101b Neck and part of body of a long-necked unguentarium; thin clear pale green glass. Fig. 6.4.

VILLA 1877

No finds have survived.

VILLA EXTENSION 1915/1926

Pottery

R2800/2a. Sherds of a large coarse E. Sx. Ware cooking pot, hand-built, narrow neck, everted rim. Dark grey fabric core with reddish exterior surface and lumpy buff interior. Very abraded, large grit and grog inclusions, sooty patches. Cf. Newhaven report (*S.A.C.* 114), Fig. 21, no.1. First century A.D. Fig. 6.5.

R28002b. Base of cooking pot similar to R2800/2a, flat.

R2800/2c. Three body sherds of cooking pot, smoother exterior surface than *R2800/2a.*

R2800/2d. Two sherds from the same vessel showing the beginnings of a flared rim; orange/buff gritty fabric, pale grey core.

R1669. Body sherd of fine hard sandy micaceous fabric, buff core, dark grey surfaces with reddish/buff patches. Apparently part of a large vessel.

Tiles

R2800/1a–c. Pieces of Roman tile (tegulae): (a) pinky orange exterior, lighter orange core, (b) creamy buff exterior pink core, (c) even pinky orange, dark red grog filler, (d) similar, (e) moulded section of straight tapering tile. Fig. 6.7.

2800/1h–l. Tiles: (h) part of a wedge shaped tile with tapered flange on one edge (narrow end broken off) Fig. 6.8, (j) tile with high flange, rounded moulding, Fig. 6.6 (l) thick brick with one sloping edge.

Miscellaneous

2800/1f. Sub-cylindrical lump of squeezed unbaked dried clay/chalk mixture.

2800/1g. Lump of iron slag.

2800/3. Lump of 'cement' or mortar with small flint pebble and chip inclusions.

2800/5. Lumps of rock chalk from foundation block.

2800/9. Jawbone of sheep.

2800/10. Limpet shell.

2800/6. Piece of olive green glass slag studded with chips of flint with area of dark crust adhering.

TRENCH 1962/63

Pottery

250137 Cinerary urn, local wheel made grey ware. Pale grey fine hard sandy fabric, wide mouth, everted rim, single low cordon immediately below neck, double cordon round girth. Narrow pedestal foot, slightly concave base. Cf. similar examples from West Blatchington, Angmering, Hassocks and Hardham. Late first century A.D. Fig. 7.1.

250138 Part of a E. Sx. Ware urn, dark grey gritty fabric with black inclusion, patchy burnished exterior surface, abraded interior. Smoothly everted rim, two widely separated shallow grooves on shoulder forming shallow corrugation. Chevron design on shoulder. E. Sx Ware. Late first/early second century A.D. Fig. 7.2.

250139 Body sherd of fine sandy dark grey fabric, most of rim missing but enough remains to show burnishing of inner surface of rim down to neck. Groove below rim followed by band of dense black burnishing, above a panel of obtuse angled lattice decoration on an unburnished ground. Dorset BBI. Late second/third century A.D. Fig. 7.3.

250148 Small base sherd of fine sandy grey fabric, well burnished dark grey inside, burnished lighter grey/buff on exterior. Dorset BBI bowl; post-120 A.D.

250145 Rim sherd, everted rim above narrow cordon below neck, burnished dark grey surface, fine grey gritty fabric core with red outer layer. E. Sx. Ware. Late first century A.D. Fig. 7.4.

250147 Rim sherd, bead rim on upright neck, fine hard sandy grey core sandwiched with red, black slip with micaceous finish inside and out. Local wheel-made grey ware. Fig. 7.5.

250141 Base and body sherd, light grey gritty fabric with black and buff sandy inclusions, smooth surface, slightly soot marked. E. Sx. Ware jar. Fig. 7.6.

250140 Two joining body sherds, fine hard sandy fabric, light grey/orange sandwich, orange interior surface, dark grey exterior, gritty micaceous finish. Small globular vessel. Local wheel made grey ware.

250142 Base and body sherds of small plain colour-coated beaker: hard red fabric, black slip, thin walls. Colchester ware, mid second/third century A.D.

250151 Body sherd, fine hard sandy pinky/orange fabric with a few larger red/brown flint inclusions. External surface shows traces of black slip and a band of incised obtuse-angled lattice decoration.
Dorset BBI jar, burnt after breakage; third century A.D.

250184 Base of vessel decorated with rouletting; fine hard white fabric with a purplish-brown colour coat with small orange patches.
Rhenish ware, late second/early third century A.D. Fig. 7.7.

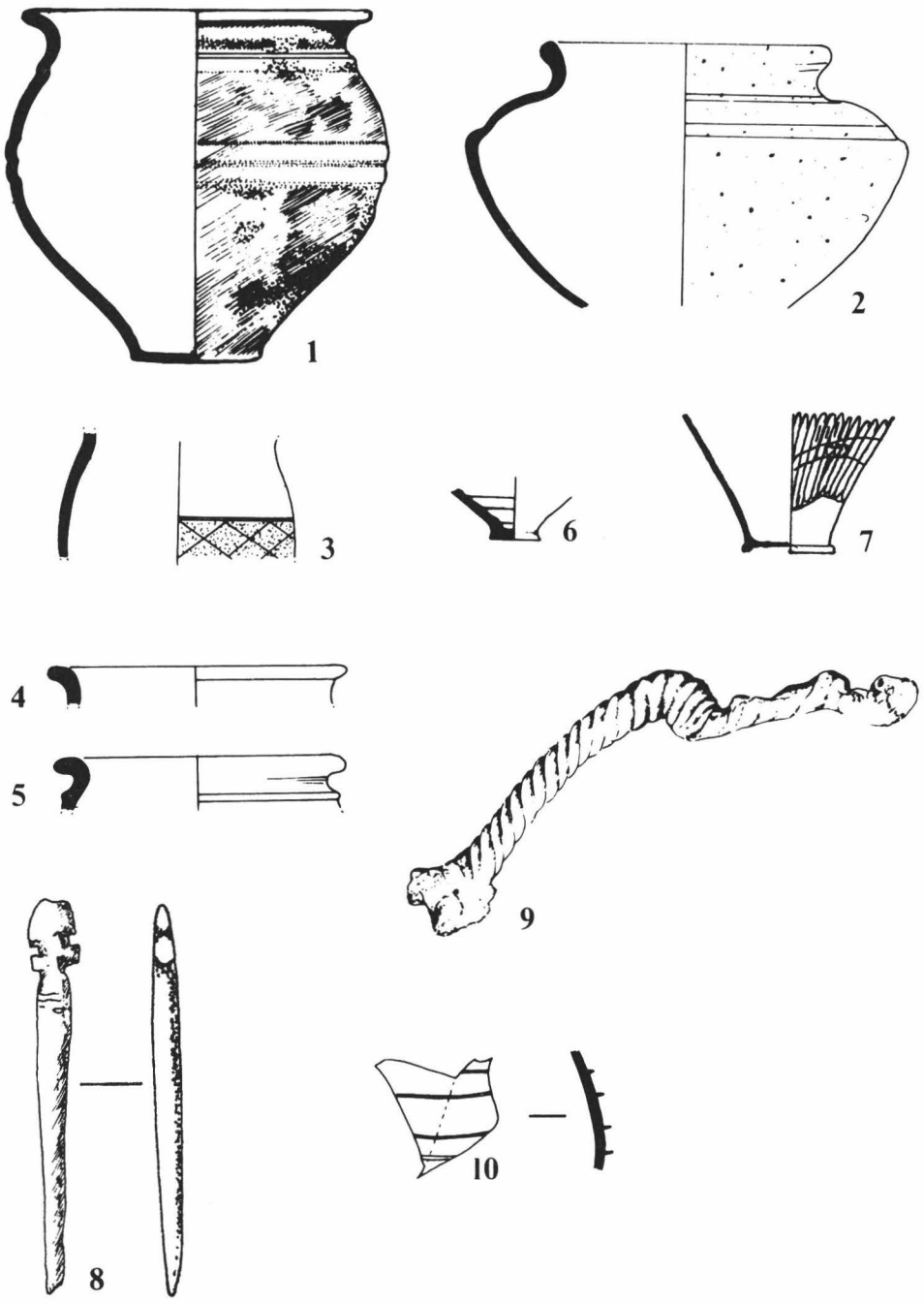

Fig. 7. Springfield Road villa. Finds from the 1962/3 excavations; pottery nos. 1 and 2 (1:4), nos. 3—7 (1:2); glass (1:2); bone pin (1:1).

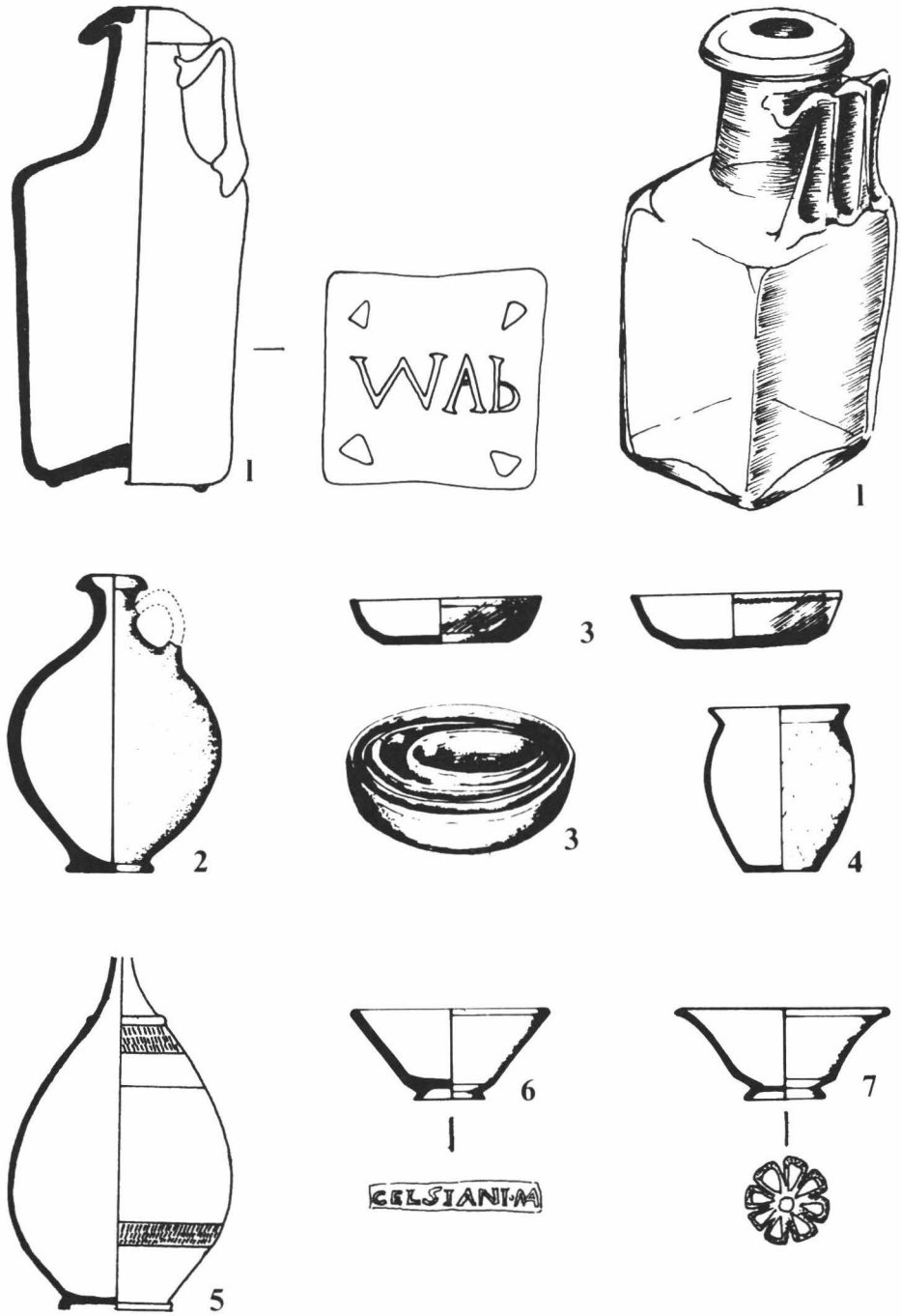

Fig. 8. Springfield Road villa. Finds from the 1962/3 excavations; glass (1:2); pottery (1:4). Potter's stamps at 1:1.

Bone

250173 Bone pin, simple carved head. Fig. 7.8.

Glass

250177 Square moulded glass flask, bluish/green, flat reeded handle, four triangular nibs, one in each corner or the base to stand on. Moulded lettering across the base. Fig. 8.1.

250170 Twisted green glass rod, possibly a stirring rod, partially melted. Fig. 7.9.

250150 Three fragments of glass, two joining, from body of small curved vessel; thin milky white semi-opaque glass with pinched-out decoration of parallel curved ribs slanting across the body. Fig. 7.10.

CONTENTS OF BOX 1962/63

Pottery

250153 Small flagon, pale orange gritty fabric with medium grit and large dark red grog filler. Rod handle, funnel mouth with single flange. Cf. flagon of similar fabric and size but different lip from Slonk Hill. (*R1587/2* Brighton Museum). Fig. 8.2.

250179–83 Five wheel-made saucers with a chamfered edge where the base joins the sides, and a horizontal tooled groove inside and outside just below the rim. Very fine hard sandy fabric, dark reddish/brown to black surface, burnished black inside, red grog filler. Fabric cracked and discoloured by heat in antiquity. Micaceous surface. In BB2 style but source unknown. Fig. 8.3.

250155 Small black burnished ware jar with actue-angle lattice, no girth grooves, groove at junction of neck and body. Fine sandy dark grey fabric, burnished below panel of lattice and on base, wheel made. NB2, second century A.D. Possible source: local or Thames estuary, e.g. Kent. Fig. 8.4.

250154 Flagon, soft pinkish/cream fabric with sparse red grog filler, decorated with bands of rouletting at base of neck and round the body. Once coated with a soft pinky/red slip which has almost all rubbed off, except for one large patch and traces caught in the rouletting. The mouth and part of the neck are missing. Fig. 8.5.

250157 Drag. 33. CELSIANUS Potter of Lezoux, Central Gaul, A.D. 165–200. Fig. 8.6.

250156 Drag. 46, eight-petalled rosette centre base (interior) in ring, with further concentric ring at junction of base and side wall. Potters' stamps rare on this form and usually occur only on the latter examples. Current A.D. 100–175. Fig. 8.7.

250158 Drag. 31. SATURNINUS Potter of Lezoux, Central Gaul, A.D. 165–200. Fig. 9.1.

250169 Drag. 36, ivy-leaf barbotine decoration. Second century A.D. Fig. 9.2.

250178 Pair of white pipe-clay portrait-busts, manufactured in quantity in the Allier district of Central Gaul in the later first and second centuries A.D. Some may have been portraits of living people, others may represent goddesses. As imports to Britain they would obviously have no significance as portraits to local people, but may nevertheless have been regarded as ornaments rather than devotional figures. Many similar examples are illustrated in 'Collection de Figurines en Argile' (Tudot 1860). Cf. also a similar head from Chichester (Down 1978, p. 289, fig. 10.47) dated A.D. 80–120. Fig. 9.3 & Plate 1.

Plate 1A. Springfield Road villa. Pipeclay figurines from 1962 grave group. Front view.

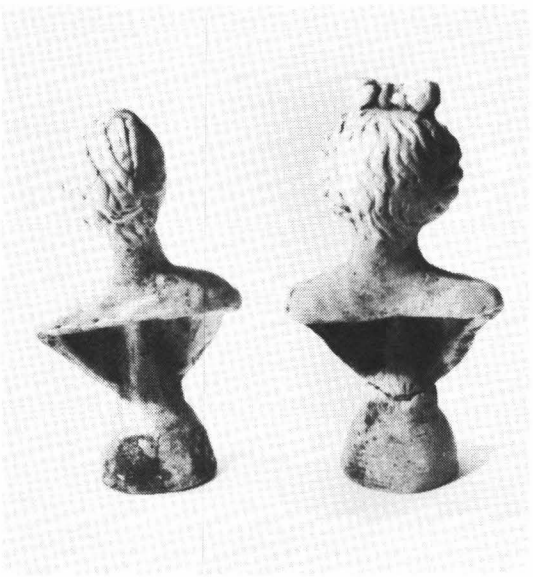

Plate 1B. Springfield Road villa. Pipeclay figurines from 1962 grave group. Rear view.

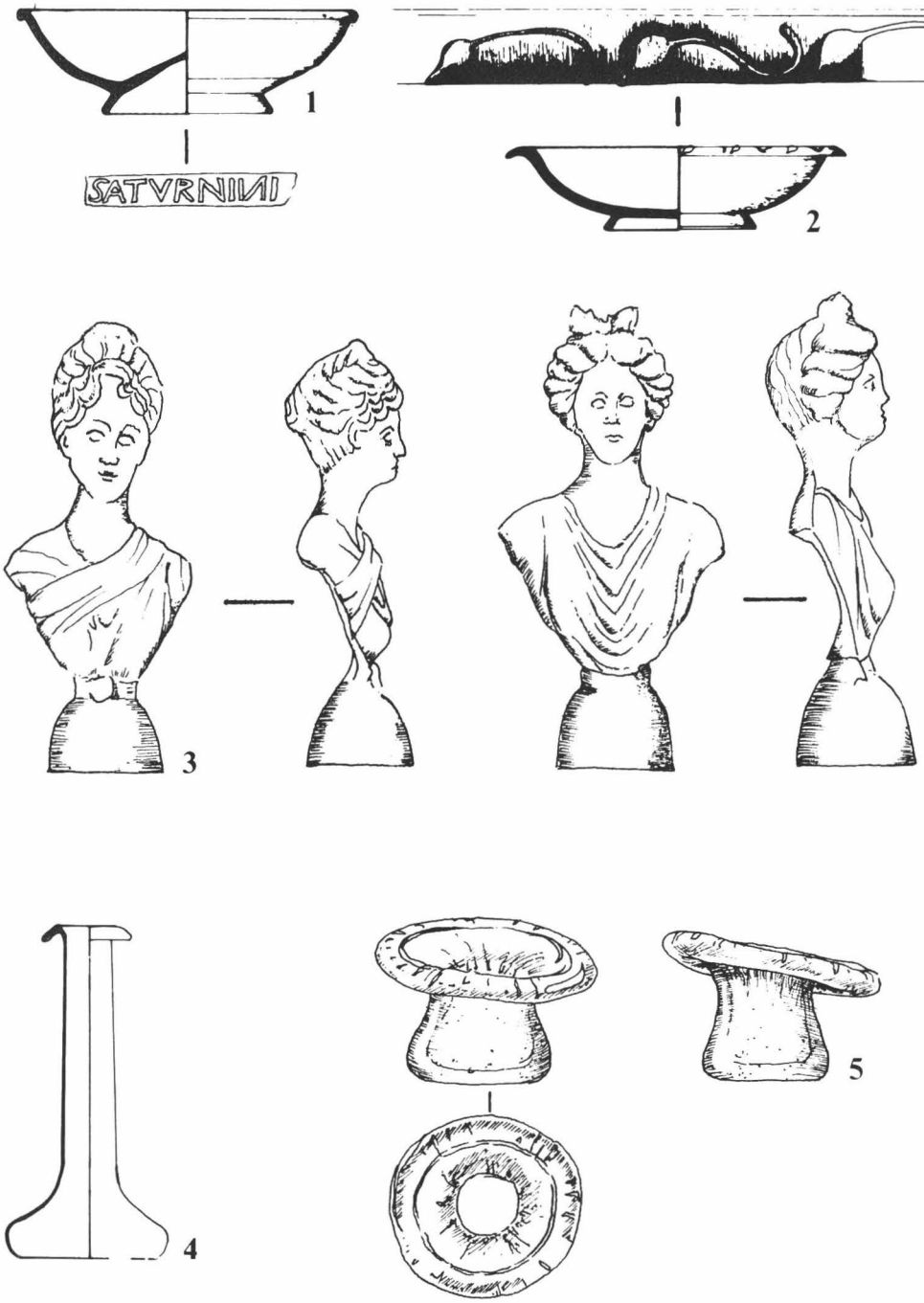

Fig. 9. Springfield Road villa. Finds from the 1961/3 excavations; nos. 1, 2, and 4 (1:4); no. 3 (1:2); no.5 (1:1). Note potter's stamp at 1:1 also.

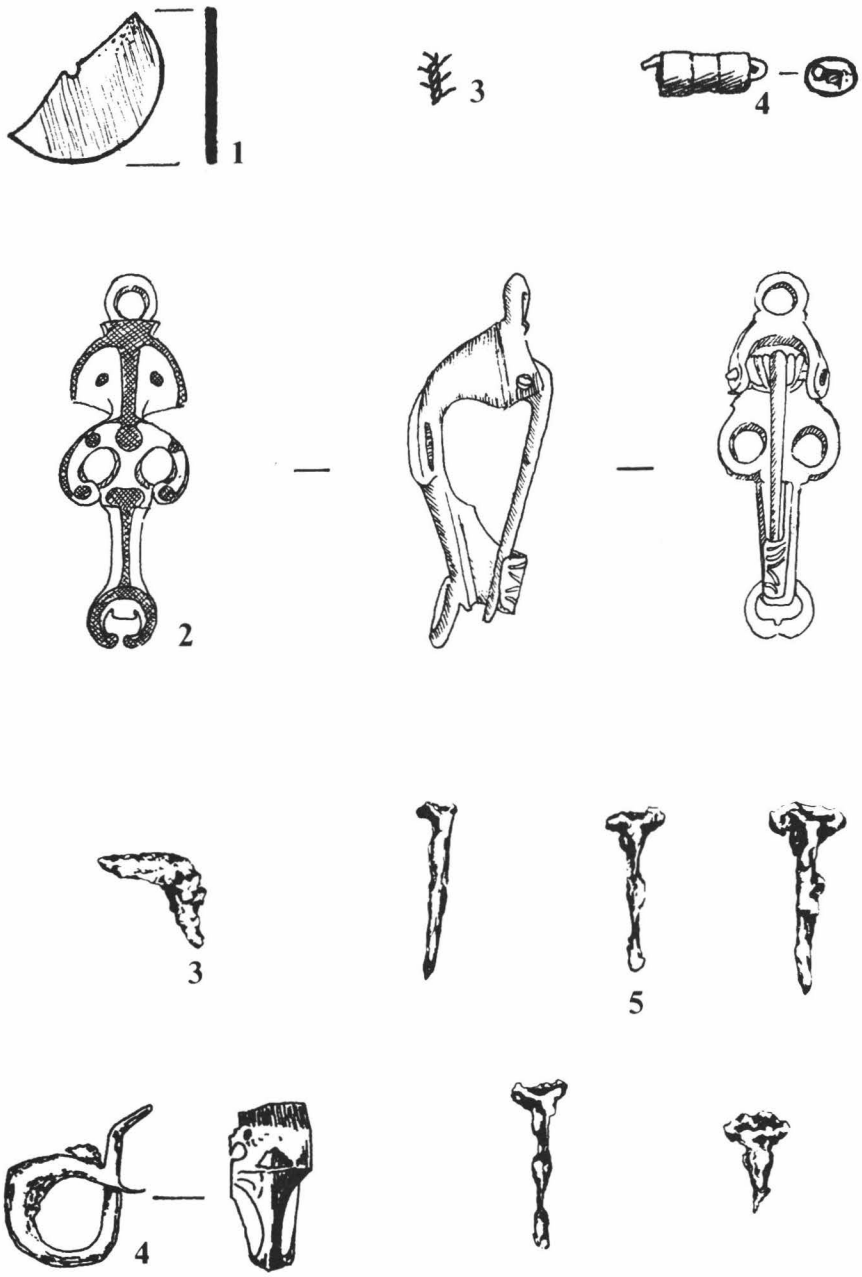

Fig. 10. Springfield Road villa. Finds from the 1962/3 excavations; nos. 1—4 (1:1); nos. 3—5 (1:2).

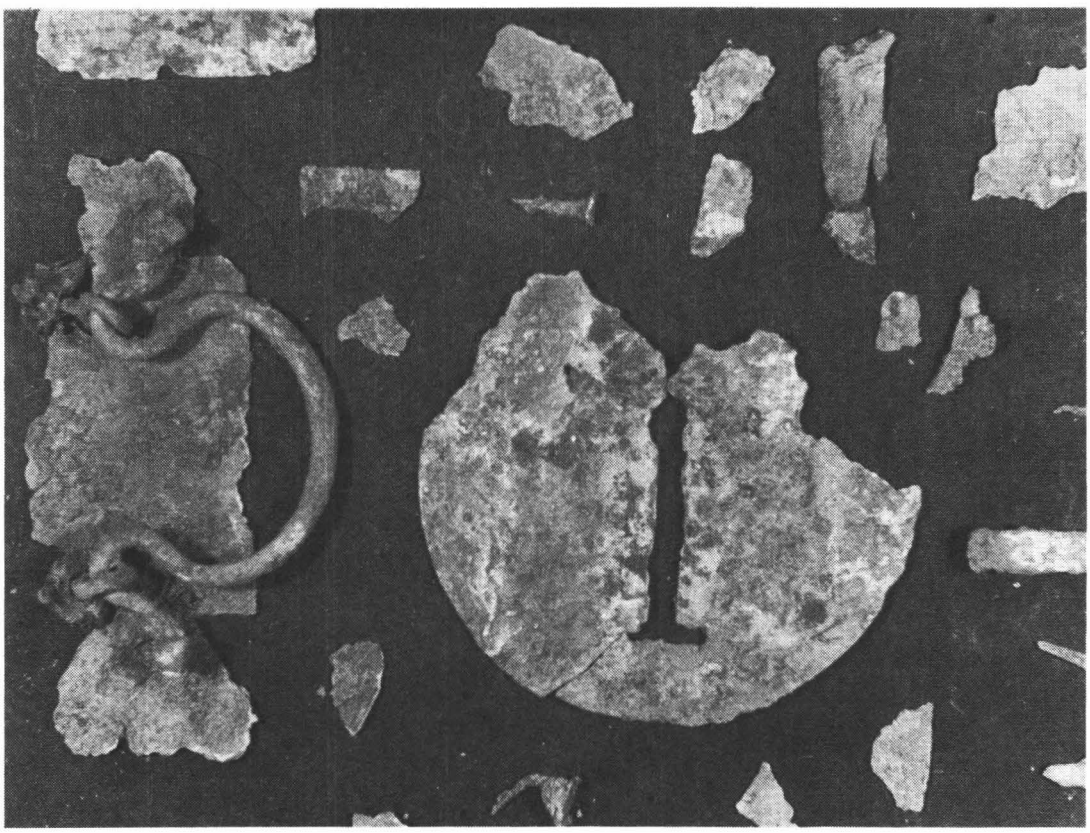

Plate 2. Springfield Road villa. Bronze fittings from the funerary box.

Glass

250159 Long necked flask, clear glass, rolled rim. Fig. 9.4.

250176 Glass 'hat' container, almost certainly used for unguents or cosmetics. Later first/second century A.D. Cf. a similar example from York (Harden 1962, p. 180, fig. 89 (HG2)). For continental examples see Clasinga Isings, *Roman Glass from dated finds.* (Isings 1957) Form 68.
More recent finds include three examples from Tongres and two from Trier, (Vanderhoeven 1962, Goethert-Polaschek 1977). Fig. 9.5.

Wood

250172 Half of a thin wooden disc, perforated in the centre. ?Button. Fig. 10.1.

Bronze

250161 Bronze box fittings, including an external lock plate, and a circular plate with incised concentric ring ornament through which the drop handle was rivetted to the wood of the box. See Plate 2 for an attempt at reconstruction. The fittings were held in place with bronze tacks of triangular section.

250175 Bronze brooch, trumpet form, with traces of enamel inlay. Late first/second century A.D. Fig. 10.2.

250171 Pieces of plaited bronze wire. Cf. Fig. 10.38 p. 304, Chichester Excavations Vol 3 (Down 1978) Period 4: second/early third cent. Fig. 10.3.

250174 Bronze cylinder, perhaps part of fastener or bronze pin head. Cf. numerous bronze pins from Chichester excavations. Fig. 10.4.

Iron

250160 Iron oil-lamp holder suspended from an iron spike. Found embedded in the glass flask (above *250159*). Plate 3.

250162 Iron hook, hollow, with fragments of glass embedded in the corrosion; probably belongs to the lamp (above *250160*). Fig. 10.3.

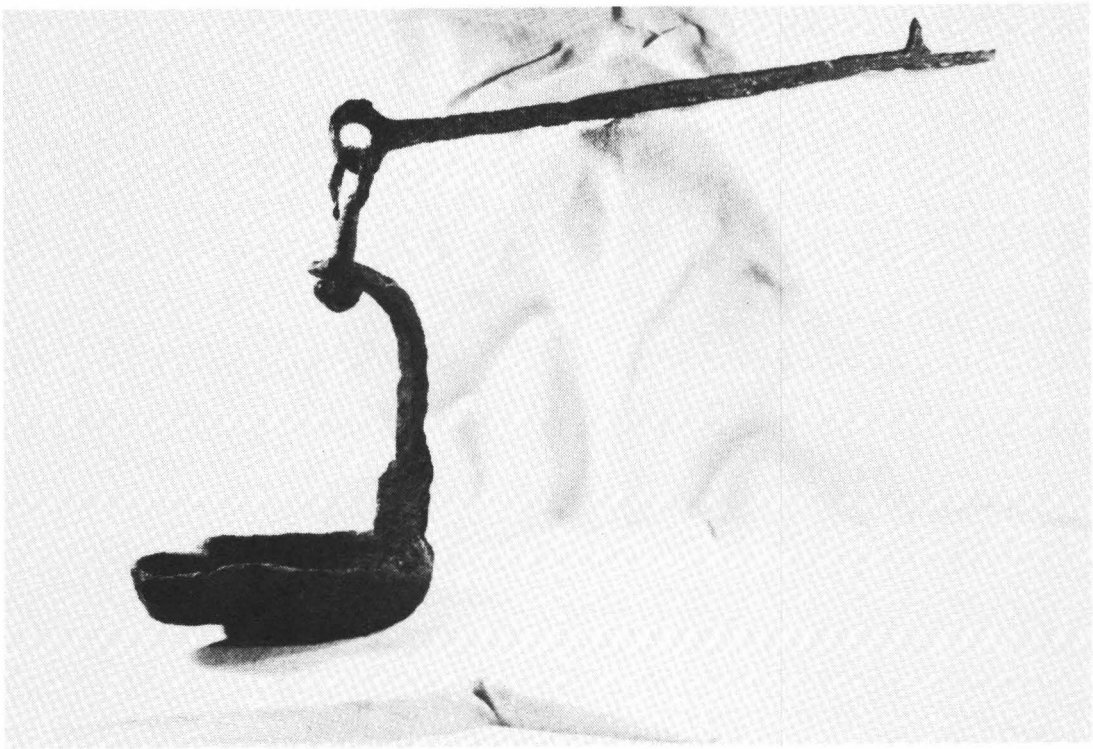

Plate 3. Springfield Road villa. Iron oil-lamp holder from 1962 grave group.

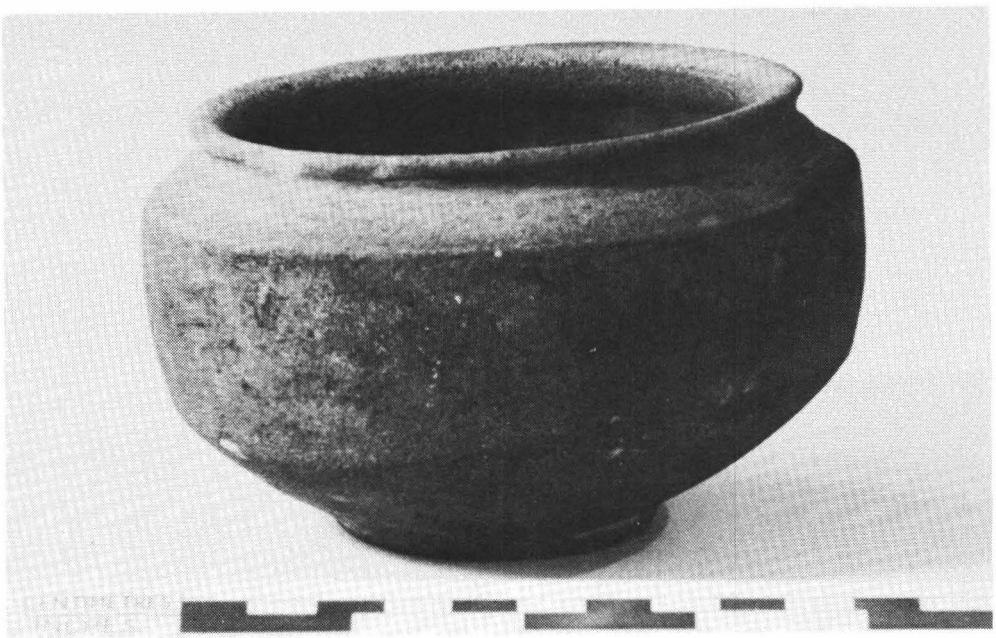

Plate 4. Springfield Road villa. Small pot from the funerary box; now lost.

250163 Iron ring handle, probably from the box. Fig. 10.4.
250164 Small iron hook.
250165 Iron nails. Fig. 10.5.
250166 Iron spike with bronze fragment adhering.
250167 Iron angle (two pieces) still showing traces of attachment to wood.
250168 Miscellaneous pieces of iron.

One pot from the funerary box has been lost since 1962, but fortunately a photograph of it survives, and is reproduced here by kind permission of the Sussex Archaeological Society Museum (Plate 4).

Acknowledgements

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Authors: Elizabeth Kelly, Worthing Museum, Chapel Road, Worthing.
Caroline Dudley, Brighton Museum and Art Gallery, Church Road, Brighton.

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Sussex Archaeological Collections **119** (1981), 89–106

THE EXCAVATION OF A MEDIEVAL KILN AT BARNETT'S MEAD, RINGMER, EAST SUSSEX

by J. I. Hadfield

Ringmer had a large pottery industry in the medieval period and when the opportunity arose, it was decided one of the known kilns, revealed by plough damage, should be excavated. The whole range of pottery was analysed using a simple sampling procedure. The kiln itself was Musty Type 2a with a semi-permanent wattle and daub dome. Attempts have been made to establish a market area but identification of this type of ware outside a full-time programme devoted to the problem cannot be conclusive. What may however be more important is the date, earlier than was at first thought.

INTRODUCTION

Ringmer lies across the narrow band of Gault Clay just north of the South Downs. The Gault is bounded both north and south by Greensand. There is good historical evidence for potters in the Broyle, the common east of the village, but none for potters in the village. At least two other kilns roughly contemporary with this one are however known. From 1312 there was a fine of 9d. a year to dig clay (Le Patourel 1968) which shows that in 1349 there were six potters, in 1388 there were three and in 1396 only one. After this the number remains at six or seven until 1457 when there were none until 1485. It is unusual in being the only place where the fine for extracting clay remained static for at least 200 years. (Le Patourel 1968, 115).

In the area there are many field and house names bearing the elements Crock- or Potter-. Whether these testify to a pottery industry, and of course its date, is not certain but certainly some of the fields do contain wasters. (Le Patourel 1968, 102–3). The nearest town is Lewes, about 3 km away and from there the villages of Denton, Rodmell and so forth in the Ouse valley, including perhaps Seaford, are within easy reach.

The clay is exceptionally plastic in this area and something has to be added to shorten it. Temperatures of 1000°C may have been reached by the kiln (Mr. K. Richardson, pers. comm.).

EXCAVATION (Fig. 1)

Much of the area around Ringmer is covered with wasters and the field, in which this kiln lies, is no exception. The kiln was isolated first by field walking and then with a proton magnetometer survey undertaken by Mr. A. Clark of the Ancient Monuments Laboratory. A trench 5 m by 4 m was opened up directly above the kiln. All the soil was removed by hand, and all the pottery was kept, revealing a very damaged kiln structure (Fig. 2). The kiln was of Musty's Type 2a (Musty 1974) with no internal structure. The kiln wall (Context 50) survived some 20 cm in height in places although it was frequently less than 10 cm. The floor (Context 59) was highly fired clay; at the northern end tiles were found in the clay, these were either used specifically at the flue entrance or right through the whole kiln. At each end were two chimney

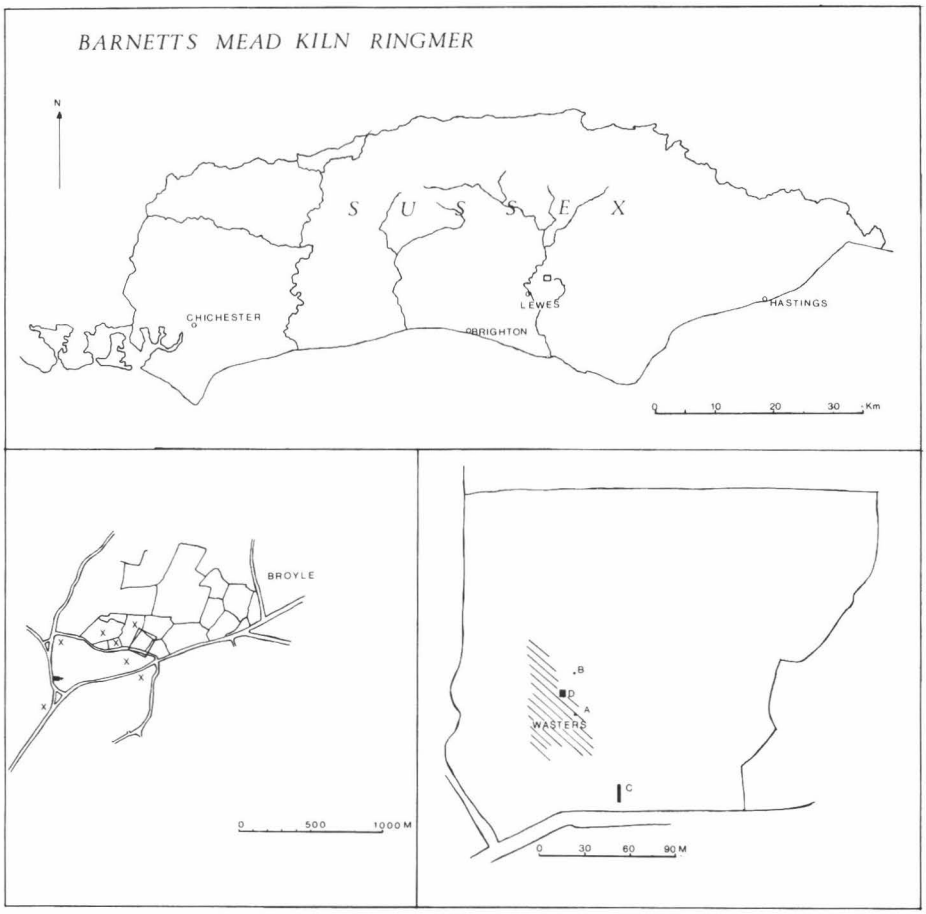

Fig. 1. Ringmer. Site Location. (X marks places where large quantities of pot have been found, possibly being kiln sites, and areas associated with the word pot.

pots. These formed part of the stoke pit arch, being used to give more strength to the structure. Fragments of tile were also found in the wall. The whole was filled with broken burnt clay (Context 51) which retained impressions of wattle, this was presumably the superstructure.

At either end was a heap of ashes (Contexts 55 and 56). The Kiln measured 2 m by 1 m. C-14 samples were taken from the ash heaps.

Other Features

The main features associated with the kiln were the waster heaps. One being at the south (Context 18), the other at the north (Context 37) end of the kiln. The latter is more disturbed and it looks as if part of the feature has been pushed into the hollow, that must have existed, in order to level off the area (e.g. Context 38) (Fig. 3).

Two shallow gulleys were also found (Contexts 27 and 33) north-west of the kiln. Their function and date is not clear, except that they may well be contemporary with the kiln as they end close to the top of the clay bank behind the kiln.

The latest feature on the site (Contexts 15 and 29) is a large pit dug through the waster heap

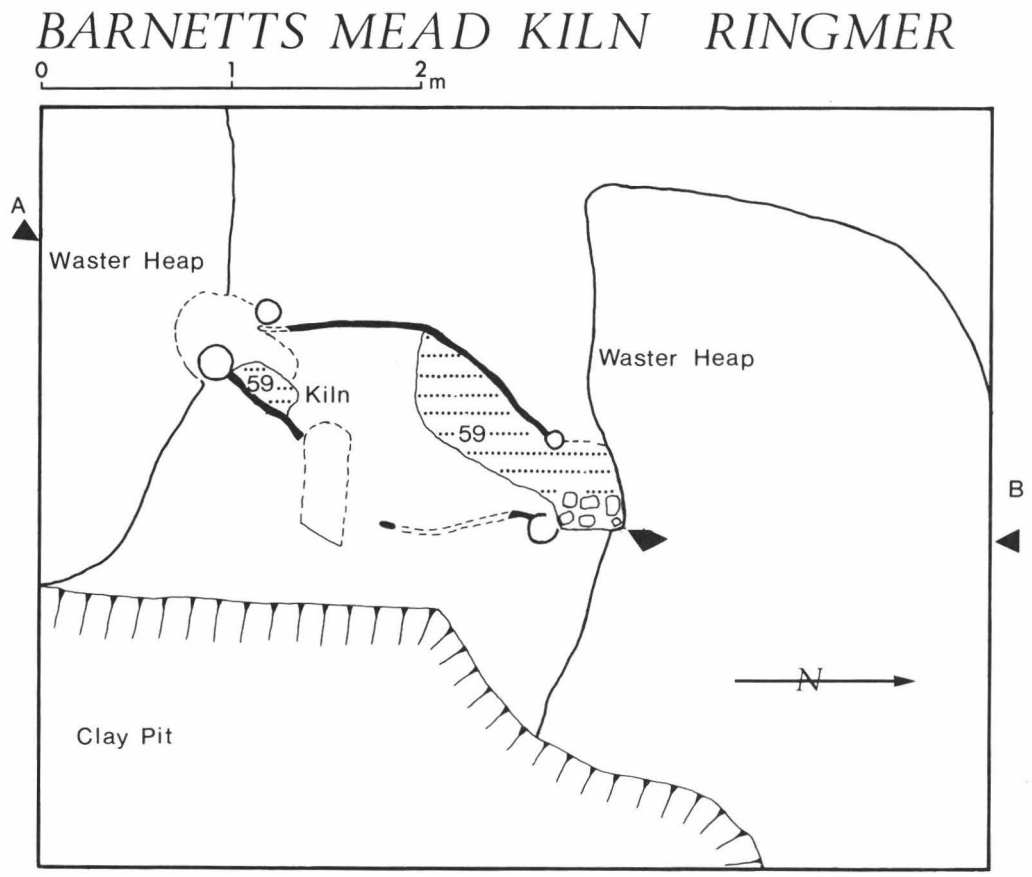

Fig. 2. Ringmer. Plan.

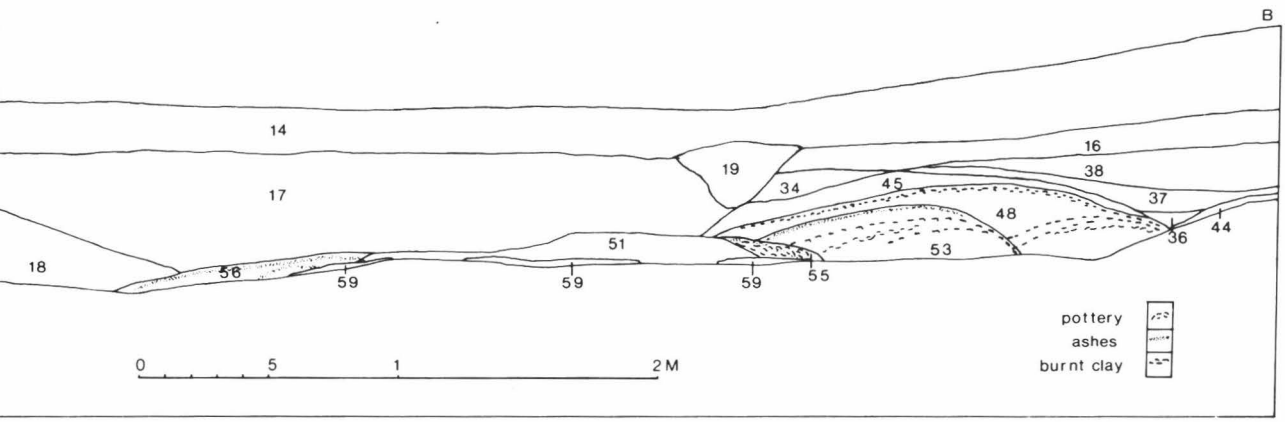

Fig. 3. Ringmer. Section, N-S.

(Context 18) and other post-kiln layers (Context 41, 42, 43). This appears to be a clay pit of later, probably eighteenth century date, which extends further east into Trenches A, B and C. It contained an eighteenth-century coin.

THE PRODUCT

Method

Very little of the pottery survived in any appreciable size; there were no complete vessels, and the coarse nature of the ware produced made classification into types such as jugs, bowls etc. difficult and dangerous. So, after division into three fabric types, the wares were identified with regard to rim form as a geometrical shape. This is to say, square sections, triangular and so forth, using a decimal system (Freke *et al.* 1979). The shapes are listed below:

1. Rectangular
2. Simple inverted rims
3. Inclined
4. Flanged
5. Square
6. Vertical sided
7. Triangular
8. Miscellaneous

When completed some of the forms could be extracted as they formed a small sub-group which might normally be called jugs, bowls etc. These were given numbers in the series as follows:

9. Bowls (flanged) including skillets
10. Jugs (square)
11. Jugs (triangular)

The bases were dealt with similarly but are much simpler in form; Type 1 being thumbed, Type 2 being plain. There are internal variations within these groups.

All the body sherds were counted and weighed if they were decorated, and decorative types noted. Due to the small quantity of such sherds the sample came from all the material found, whereas for rims and bases only five contexts were sampled. Again all the handles were examined for form, decoration and size. The body sherds were weighed and only those in the sample layers were counted. The sample was made in 5% units of the total number excavated in that layer. The number of new forms was recorded and the sample repeated until only one or less new forms was recorded. This saved considerable time and on average some 20–25% of each layer was examined. Faults were recorded where identifiable in every sample.

Sampled Contexts:

16. Black, loamy layer, very friable. This layer lies directly beneath plough soil and covers the northern part of the site.
18. Dark black clayer layer, becoming ashier towards the east. It is filled with pottery and burnt clay and is undoubtedly a waster heap.
19. Light brown, loamy layer containing a large quantity of pottery. This layer lies beneath the plough soil, but is probably much later than the kiln as it overlies several post-kiln layers. The section gives the impression of a pit of some sort.
37. Dark brown loamy clay, friable with much pot. A waster tip.

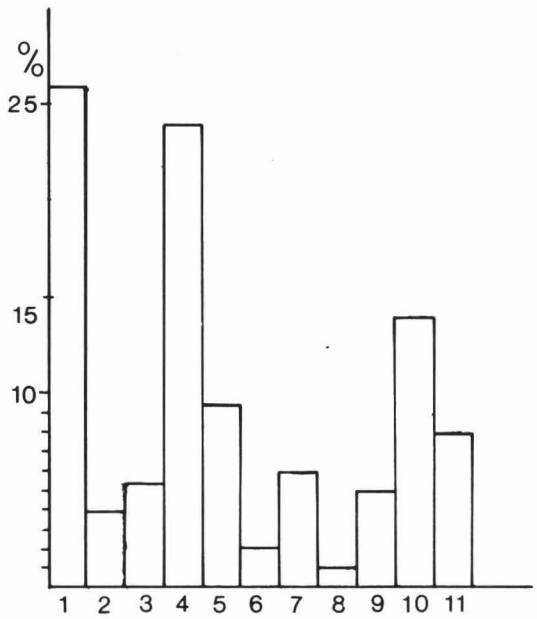

Fig. 4. Ringmer. Proportion of rim forms.

38. Black silty clay-loam, friable with much burnt clay. It is possibly the waster heap from further north which has been levelled off.

FORMS

Rims

The proportion of forms within each context is close (Fig. 4) and may be considered to show that the kiln was loaded with roughly similar wares. The only exception to this is Context 18, which has fewer rare forms, but this may reflect the smaller quantity available for sampling. The most common form is the cooking pot (Form 1), the least common, except for the miscellaneous types, is the jug form (Form 6). This is true both by number of rim fragments and by vessel equivalent percentage.

Form Variability

Each form may vary as to its radius and differences in shape. It is possible that these two may be related, but in no case here can this be proven. Fabric may also play a role in nature of a vessel's shape and size, for fabric may well be determined by function.

Form 1. (Cooking pots) Fig. 5

This group constitutes about 25% of the rims found and sampled. The majority of this number are between 16 cm and 18 cm in diameter and confined to Form 1.11–1.21. The rest are predominantly this size, although a group, 1.71–1.74, is perhaps slightly larger. Six are strapped, as much a functional device as decorative (while only three others are decorated), only two being on pots less than 20 cm in diameter. The few examples in Fabric 1 are all

Fig. 5. Ringmer. Rim Forms.

concentrated in the 1.11–1.21 group and spread into a much smaller diameter, as low as 12 cm. There are 12 in Fabric 1 and 15 in Fabric 3.

Form 2. (Small cooking pots) Fig. 5

This group forms only 4% of the sampled group. The F.1 examples are all of type 2.11 and very small in diameter (8–12 cm) possibly being table ware, while the rest again centre on the 16–18 cm range, except for one type, 2.12, which is mainly 24 cm in diameter. All undecorated.

Form 5. (Cooking pots) Fig. 5

This group forms about 9% of the sample. It is generally made up of larger vessels from 18–24 cm in diameter, mainly at the larger end of that scale. There are two F.1 vessels, both falling into the range above, and one F.3 vessel. Of the four decorated vessels, one is strapped, two are thumbed and one is slipped.

Form 7. (Cooking pots) Fig. 5

This group forms about 6% of the total sample. It is concentrated in the 16–22 cm diameter range with only a few outliers. One of these is as much as 36 cm in diameter. There are two F.1 and one F.3 vessels. Only two decorated examples are recorded, one of thumbing, the other a slip.

Form 4. (Cooking pots with flanged rims for lids) Fig. 6

This is a more specialized form of pot, easily recognized by the flange for a lid to sit on and the convex body. It forms 19% of the sample. While the majority are in the 16–26 cm diameter range, some types do seem to be specialised in one or other end of this range. For example 4.11 is mainly 16–20 cm with a small group constricted to 26 cm. 4.51, 4.12 and 4.61 are mainly, if not entirely, below 22 cm; 4.71, 4.41, 4.31 and 4.32 are at the higher end. There are seven vessels of F.1 and one in F.3. The decoration is mainly thumb impressions.

It may be remarked that as a group these are mainly in the Fabric 2, with the exception of Type 1. In Type 1 there is a cluster of F.1 and 3 vessels around the 12–20 cm area in types 1.11–1.21. The significance of this is not readily apparent, but it may be a group with a specialized function.

Form 3. (Bowls) Fig. 6

All these forms are based on the inclined body wall, making the mouth larger than the base and, being shallow, bowls of some description. They constitute some 5.5% of the sample, they vary widely in size between 12–40 cm and are fairly evenly spread within this range. Most forms have only one or two representatives and so are very variable, as is the decoration. All fabrics are represented.

Form 9. (Bowls with flanged lid seating) Fig. 6

These are similar to Form 3, except they have flanged rims for a lid. They comprise about 5% of the sample. Most of the examples are concentrated in Type 9.11 and within 14–22 cm diameter range. There is one in Fabric 1.

Form 6. (Jugs) Fig. 7

This group forms about 2% of the total sample and, although the few examples make it

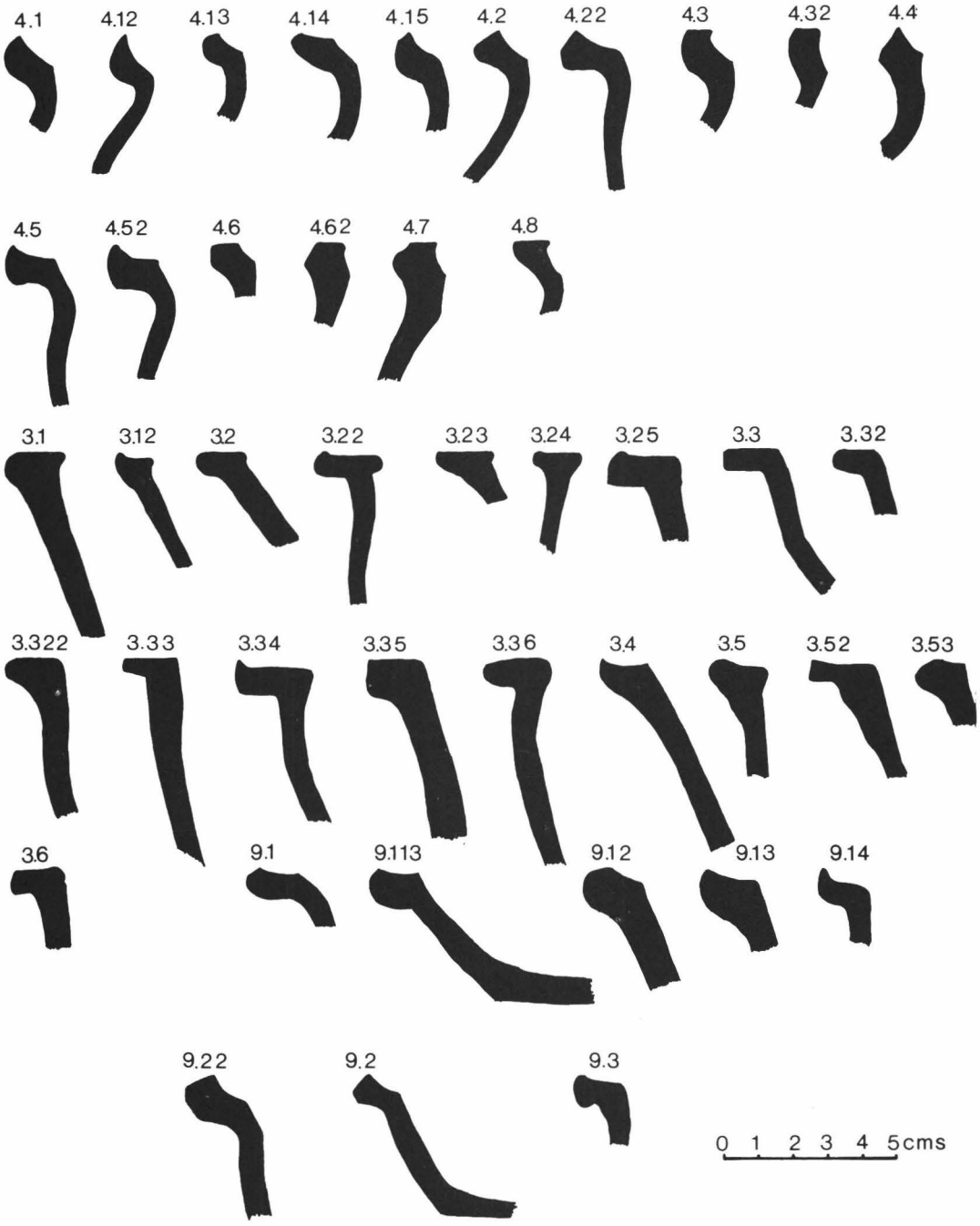

Fig. 6. Ringmer. Rim Forms.

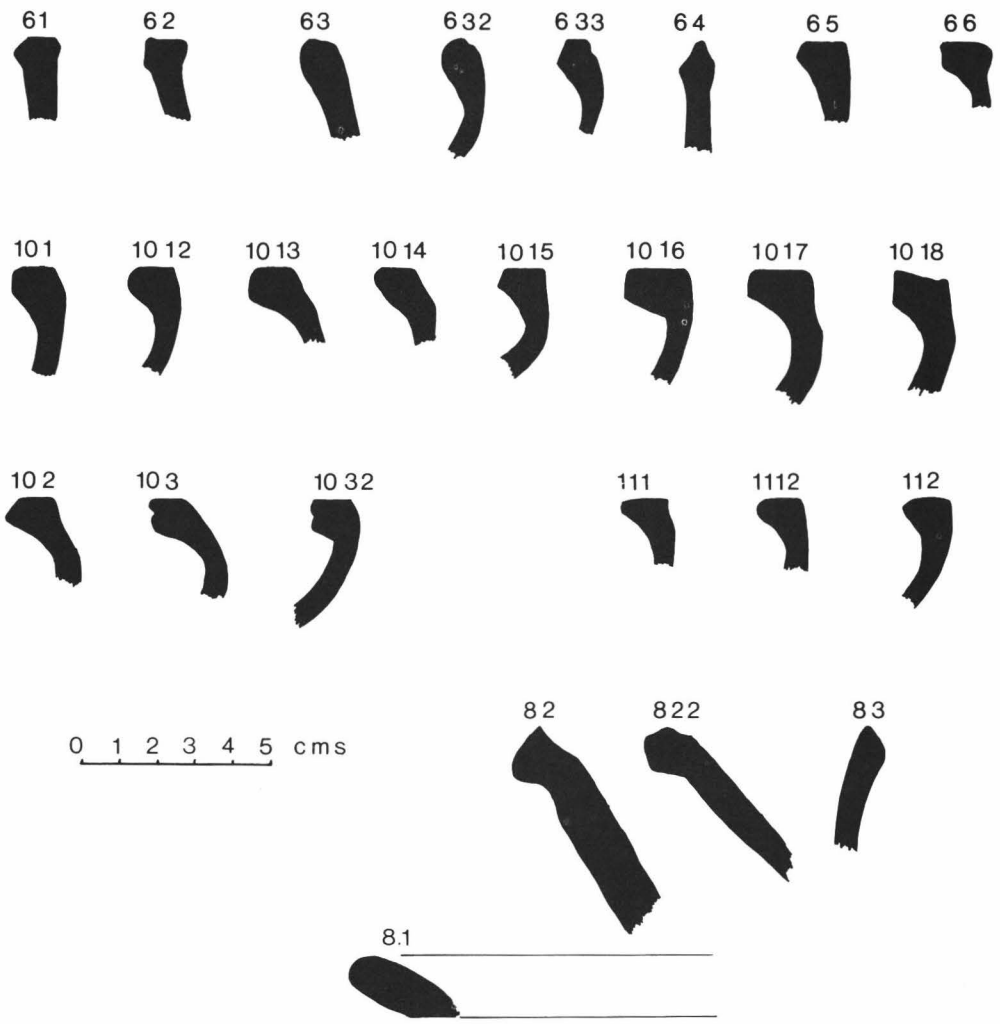

Fig. 7. Ringmer. Rim Forms.

dangerous to speculate, it seems that the majority are 16 cm or smaller in diameter. The two F.1 are 8 and 10 cm respectively, making it possible that they are a specialized table ware.

Form 10. (Jugs) Fig. 7

This type is the largest group of jugs, making up 14% of the total sample, that is more than the other two groups combined. The Fabric 1 types are all, except in two cases, 18 cm in diameter. In fact this diameter is the predominant one for the entire type, 37% being of that size. The rest lie close to this measurement and mainly confined to Types 10.11–10.15.

Form 11. (Jugs) Fig. 7

This type forms 8% of the sample. The majority are of 16–18 cm in diameter with a smaller group at the 24 cm mark. All except two are confined to two types, 11.11 and 11.12, including the F.1 and 3 vessels. None of these is decorated.

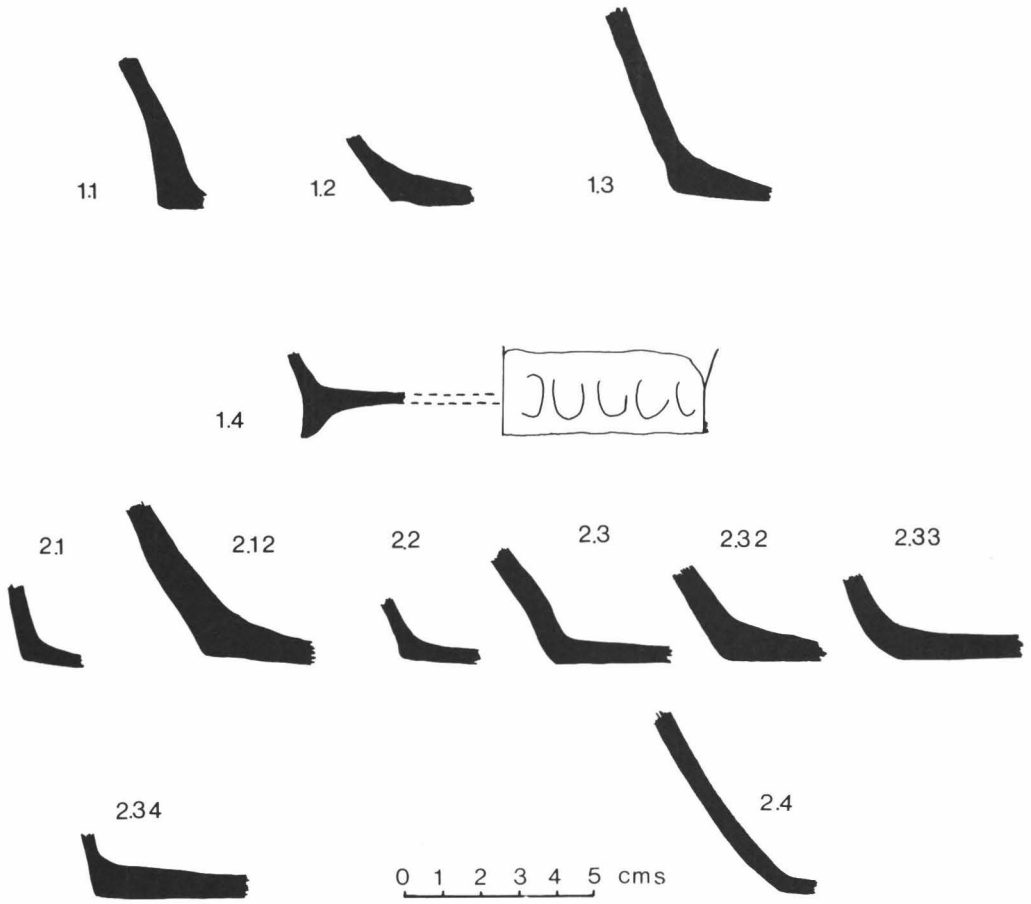

Fig. 8. Ringmer. Base Forms.

Form 8. Fig. 7

Comprising less than 1% of the total, this group is difficult to deal with statistically. 8.1 is probably a lid, 16 cm in diameter and in F.2; 8.2 is a very crude form, 40 cm in diameter in F.2; 8.22 is similar but smaller (22 cm in diameter) and more finely made, it too is in F.2. 8.3 is quite finely made and small. There are two examples, one in F.2 12 cm in diameter, the other in F.3 and 10 cm in diameter. It is an almost globular pot, perhaps for table use.

Bases

Four hundred and eighty-eight fragments of base were found and all were examined. They were divided into two main groups; B.1 being those that are thumbed and B.2 those that are not. A list below gives the sub-groups and their distinguishing features (Fig. 8).

B.1.1 Almost vertical body, flat base with pronounced thumbing.
1.2 Rounded body and base with fairly pronounced thumbing.
1.3 Almost vertical body, curved base, thumbing small.
1.4 Almost vertical body, thumbed pedestal base.

B.2.1 Sagging base, vertical body.
2.12 Sagging base, angular external corner and rounded internal corner.
2.2 Similar to B.2.12 but has a small beaded ridge on the external corner.
2.3 Flat base with body which curves in slightly towards base.
2.32 Flat base with angular external corner.
2.33 Flat base with rounded corners leading to almost vertical wall.
2.34 Flat, thick base with angular, thin wall.
2.4 Flat base with rounded body.

As Fig. 8 shows, most of the base fragments belong to Form B.2.12. This form is almost exclusively made in F.2 (except a very small proportion of the F.3 sherds are in this form). They account for 56% of the bases while the next highest group, B.2.1, is only 14% of the group. There was only one decorated fragment in the entire type and so it does not seem too unreasonable to assume this was a general purpose type. The smallest is only 8 cm in diameter, while the largest is 28 cm. The bulk of them lie in the 14–24 cm range.

Form B.2.1 can be divided into two groups. Those in the 22–24 cm range and those in the 16–20 cm range. The latter are predominantly F.1. This type is a form which is quite frequently decorated in comparison with others, including two glazed fragments.

The next most common form is B.2.2, forming 10%, once again predominantly F.2 and divisible into two groups. This time the larger group, 20–22 cm, is F.1 while the smaller, 12–18 cm, is F.2. The only case of decoration is strapping but it would be dangerous to say what this smaller group was for.

Type B.2.32, 9%, is mainly confined to the 14–22 cm range with the few F.1 and 3 forms in the smaller end. There is no evidence for decoration.

B.2.4 is almost exclusively confined to Contexts 37 and 38, the only sign that there may be the wasters from at least two separate firings. It forms 5% of the base sherds, is all in F.3 and covers a broad range from 12–28 cm in diameter.

The most common of the thumbed types is B.1.1, 2%, for which there is one decorated example, a glazed sherd. In the 12–16 cm range they are all F.1 and in the 24–28 cm range they are F.2. Next comes B.1.2, 1.5%, which are thinly scattered in the general 14–24 cm range.

B.2.3 is exclusively in F.2 and in the 16–24 cm range.

As there are so few of the other types, it is difficult to say anything about their size, decoration and fabric. It might perhaps be important that, apart from all being medium sized, two (B.2.33 and 34) are in F.2, while the other (B.1.4) is in F.1.

In general it is impossible to suggest uses for the various forms, except that the thumbed types are probably jug bases. Most of the F.1 sherds are in the 14–20 cm range; those in F.3 are in the 16–18 cm range; the F.2 are spread over the 14–28 cm range fairly evenly. This may be of no significance.

Handles

One hundred handles were found and all of them examined. They were divided into fabric, type, width and decoration. The basic types are listed below with a brief description:

H.1a Straight, pulled handle.
1b Curved, pulled handle.
1c Curved, pulled handle with hook.
H.2a Solid, cylindrical handle. Wheel turned.
2b Hollow, cylindrical handle. Wheel turned.

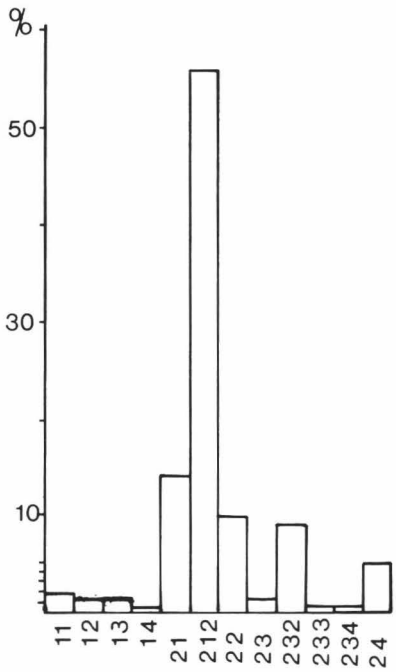

Fig. 9. Ringmer. Proportion of Base Forms.

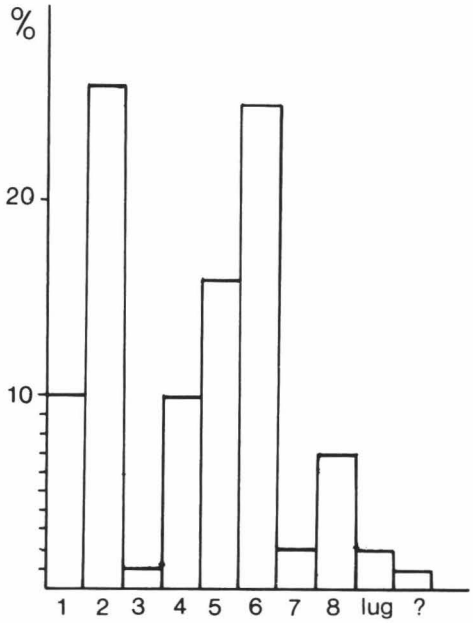

Fig. 10. Ringmer. Proportion of Handle Types.

H.3 Rod section.
H.4 Oval section.
H.5 Simple strap.
H.6 Grooved strap.
H.7 Sub-rectangular handle, rectangular section.
H.8 Strap handle with hole at base of strap.

Proportion of forms

As Fig. 10 shows, the majority of the handles are either skillet handles (H.1 and 2) or grooved strap handles for jugs (H.6). The latter, when combined with H.5, probably represent the coarser jugs for there are few of these types in either Fabrics 1 or 3. The slightly smaller H.4 handles are evenly split between F.1 and 2 and may represent the better quality jugs. This is borne out by comparing handle width and type. H.4 is consistently thinner than either H.5 or 6, except for a small group in H.6. So far as decoration goes within this group, there is very little difference except that more H.4 handles are undecorated. A closer analysis of the H.6 handles showed there was very little relation between width and decoration. Wider handles were more likely to be stabbed or slashed, thumbing was indiscriminate, while glazing was too rare to be meaningful (only two cases) (Fig. 11).

Barton has suggested that hollowed forms of H.2 handle are to be mainly associated with the Hastings Kiln, but may be also of Ringmer origin. Certainly this suggestion (Barton 1979) is confirmed here. Ten of the identifiable handles are hollowed, three are tubular, two are indented and only one is solid. All of them are in F.2 and none is decorated. They are all

cms \ type	1	2	3	4	5	6	7	8
exp							2	
5.0					1			2
4.5				1	1	2		2
4.0	1	4			3	9		2
3.5		5			4			1
3.0		13		4	6	4		
2.5	4			4		3		
2.0	3			1				
?	1	4	1		1	7		

Fig. 11. Ringmer. Handle Width against Type.

between 3 and 4 cm in width. Type H.1 are smaller, being either 2 or 2.5 cm in width. One is F.2 and two are F.3. One of them is splash glazed. Together these two types are to be considered as pipkin and skillet handles.

Of the remainder, type H.8 is the most significant. These handles, being largely grooved with one exception, have at their bases a round hole. This identifies them as 'couvre de feu', or fire covers, as found at Hangleton (Hurst 1963) and elsewhere. Seven handles were found, one in F.1, and all were stabbed, slashed or incised. The handles are also wide, from 4.0 to 5.0 cm, indeed the widest on the site. H.7 is an interesting type being fairly solid and with an expanding handle as much as 7.0 cm wide at the top. Its use is not clear. There is only one example of H.3 and because it was found in the plough soil, the manufacture of both rod and strap handles at the same time here should not be taken as proven. However, the fabric is that identified as F.2. It is also the only pricked handle.

It may be observed that where decoration appears to be related to handle type (H.4–8) it is primarily a function in that it allows the handle to be fired properly. Width and handle type may be related as to the type of jug they are fixed to.

Chimney Pots (Table 1)

There was very little in the way of roof furniture and other non-domestic wares and the most significant group was a collection of complete and almost complete chimney pots from the four corners of the kiln, as well as other fragments in other contexts. Apart from those found in the kiln some 3,270 g of chimney pot were found, a total of 46 pieces. Most were plain, eleven were decorated. Of these one was a body sherd with thick strapping and the others were parts of the top of the chimney. The thickness of the walls at this point necessitated stabbing (five examples), slashing (two), and pricking (three). There is quite a variety of different marks but from the one complete example it does seem that one mark was used on each pot rather than a combination; this would give a total of seven pots excluding those in the structure.

Six had serious cracks in the body which may well be the result of differential drying and firing, a major hazard with objects such as these. Of the four found in the kiln only one had any

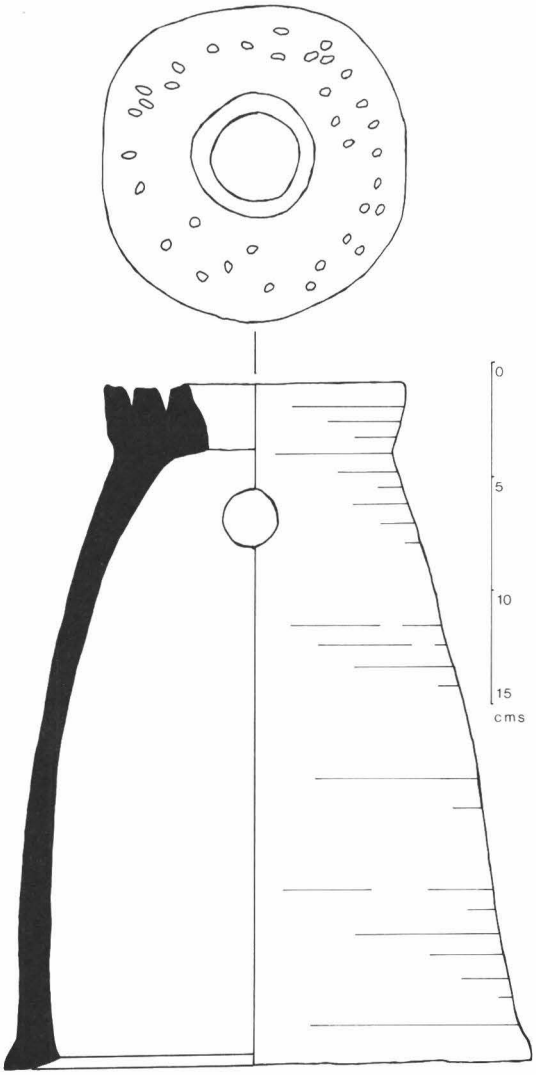

Fig. 12. Ringmer. Chimney Pot.

obvious fault and that was the south-east chimney which was distorted. Four of the sherds (south-west pot, Fig. 12) were stabbed and two were stabbed with a triangular ended stick (north-west).

The table shows the diameter of the base and the top if there, the height and weight of each example. There is a definite uniformity amongst all these examples and the total number must show that they are common in this area and perhaps date to the late thirteenth century (Dunning 1961). They conform to Dunning's types in that paper. The fabric is sandy with flint grits mainly in the 0.5 mm range.

TABLE 1

Position	*Base Diameter*	*Rim Diameter*	*Height*	*Weight*
South-east	23 cm	16 cm?	—	2,900 gm
North-east	22 cm	?	—	1,450 gm
North-west	22 cm	14 cm	27 cm	2,850 gm
South-west	23 cm	14 cm	30 cm	4,350 gm

DECORATION

There were 654 decorated body sherds and, as they were generally distributed through all the sample contexts, they are treated as one group here. Sixteen different forms of decoration were noted, four of which do not appear on body sherds. Seven were found in combinations of different decorative motifs. The most common is strapping, which occurs mainly on F.2 wares, accounting for 55.7% of the decorated material. Strapping was occasionally combined with regular incised lines, 0.2%, and grooving and thumb-printing, 0.2%. In these cases they only occur on F.2.

The next most common type was glazing, 9.6%, occurring mainly on F.1 sherds. This was combined with combing in 1.5% cases. Next come regular incised lines, and combing which each account for 6.6%; the latter is exclusively on F.2. Grooving, 6.0%, is combined with combing sometimes, 0.2%, and this combination occurs on F.3 only; when combined with thumbing, 5.2%, it is mainly on F.3. With a splash glaze, combing is only to be found on F.1 wares, 0.2%. Splash glazing, 4.9%, occurs on all fabrics except with combing. Thumbing is to be found on F.2 wares, 1.7%, except when with regular incised lines, 0.2%, when it is only to be found with F.1 pottery. Herring-bone patterns, 0.5%, are only on F.2, as is irregular scratching, 0.2%, and trimming marks, 0.5%; slipping of the inside is confined to F.1, 0.5%, and the outside to F.1 and 3, 0.8%.

FAULTS (Table 2)

The same range and means of identification of faults was used as in the analysis of the Lower Parrock Kiln (Freke 1979). The table below shows that the greatest problem was with cracking, probably the result of pots drying unevenly. The large number of glaze faults compared with the number actually found glazed shows that this technique was perhaps not really mastered, although some of the faults are quite minimal and may not have prohibited the sale of the vessel.

TABLE 2
Faults by percentage

Fault	*%*
Overfired	3.7
Cracks	58.9
Underfired	5.6
Glaze faults	6.5
Failed joints	1.9
Distortion	14.0
Foreign bodies in fabric	9.4

DISTRIBUTION

As the Ringmer products are not particularly distinctive either in fabric or form from other wares of the same date in this area the distribution of these wares must be treated with some caution. Finds deposited in Barbican House, Lewes were examined and several places seem to have been supplied by Ringmer potters. The most notable, and perhaps obvious, is Lewes itself. However there is not very much evidence partly due no doubt to the fact that most excavations have been slightly later. Lewes is only 3 km away from Ringmer (Freke 1975 and 1976).

The main market seems to have followed the Ouse southwards right down to Seaford (Freke 1978) which is about 16 km away. In between it has been found at Newhaven (Bell 1976), about 13 km away and at Denton (O'Shea 1979), some 11 km. In an easterly direction it has also been found at Selmeston, 8 km, while it does not appear at all to the north.

It is perhaps worth noting that there are several fragments some 23 km away at Hangleton (Holden 1963; Hurst 1963). They are mainly Fabrics 1 and 3 but not exclusively so. This may demonstrate how similar wares are at this period, or it may show that reasonably large industries were capable of trading this far.

Coin Report by D. R. Rudling
Context D.15
Extremely worn copper farthing. Bust right. Probably George III. First issue, 1771–1775.

Glass by J. D. Shepherd
Context C.13
Fragment from the rim, neck and shoulder of a small flask or bottle. Blown; rim thickened and knocked off, possibly fire-smoothed, and slightly outsplayed. Greenish-colourless glass with deep surface composition.
Dating: Twelfth–fourteenth century(?).

Alien Pottery
Seven fragments of alien pottery were found, six fragments being of the same vessel. The other, Context 18, is a well-fired, hard fabric, grey inside and pink outside. It is evenly gritted with rounded filler, less than 0.25 mm in size. The glaze is a purplish-green.

The other fragments are all of a fine, light grey fabric with a fine, sandy filler. They are glazed with a light green glaze. They may be Rye ware. They were found in Contexts 14, 16, 19 and 38.

Charcoal Report by C. R. Cartwright
Most of the charcoal represented presumably derives from fuel for firing the kiln and thus represents a wide variety of timbers selected from the immediate environment. Oak (*Quercus* sp.) is the largest type represented (by weight) followed by beech (*Fagus* sp.), Table 3. Both grow readily on the chalk downlands within easy reach of the site at Ringmer. The other trees represented in small quantities—the sweet chestnut (*Castanea sativa*), and birch (*Betula* sp.) probably occur as fuel from gathering of any locally available timber. Oak and beech burn as well and relatively slowly with a 'solid' flame and would be suitable for constant kiln firings.

TABLE 3
Charcoal, by weight. 1980 I.D.

	16	17	18	23	33	34	37	38	42	45	48	51	58	Total wt
Quercus	6	10	47	14	5	—	9	50	—	22	40	12	75	290 g
Fagus	19	11	30	30	5	33	—	1	3	—	40	2	—	174 g
Castanea sativa	5	—	—	—	—	—	—	—	6	—	—	—	—	11 g
Betula	—	3	—	—	—	—	—	—	—	—	—	—	—	3 g
														478 g

Trenches A, B and C

Three additional trenches were excavated to determine the spread of pottery to the East (A and B) and examine what appeared to be an enclosure (C). The first two were both in the area excavated for clay in the eighteenth century and very little mediaeval pottery was found. Trench C showed that the apparent enclosure was a combination of land drainage ditches and field ditches. A few modern bones were found and the report has been archived.

Carbon 14 Dates

Three samples were taken initially, all being charcoal. The results below show that the kiln was in use during the late twelfth to early thirteenth century.

Sample	*Context*	*Date b.p.*	*Date a.d.*	*Ref. No.*
1	D48	860 ± 60	1090	HAR-3616
2	D23	880 ± 70	1070	HAR-3617
3	D17	740 ± 70	1210	HAR-3618

The mean calibrated date is A.D. 1193.
I am grateful to Mr. A. Clark for this information.

Fabric analysis by C. R. Cartwright

Fabric 1

A hard, well-fired fabric (oxidised), with small to medium-sized rounded and sub-rounded quartz grains forming the bulk of the inclusions. There are some iron mineral inclusions, some felspars and the occasional small patch of grog, but there is virtually no deliberately added flint filler.

Fabric 2

Also hard and well-fired, but this fabric contains larger and more numerous rounded, sub-rounded and angular quartz grains and slivers than those of Fabric 1. There are a few angular flint fragments, some felspars, some iron mineral inclusions and some patches of grog (also all larger than in Fabric 1).

Fabric 3

Again, a hard, well-fired, compact fabric but with only sparse quartz inclusions—mainly smaller than those of Fabric 2—mainly rounded and sub-rounded but with the occasional large angular inclusion. Also sparsely represented in this fabric are iron mineral inclusions, grog and felspars, but there is virtually no flint.

'Foreign' fabric (Dec. glazed, body sherd from D18)

Sherd glazed on outside with grooved decoration. Compact fabric with average scatter of mainly small rounded quartz inclusions. Also present in small rounded patches are traces of organic filler in the form of very small carbonaceous inclusions. A few iron minerals are also present.

It would seem likely that locally occurring clay has been used for much of the pottery fired at Ringmer, and that the minerals represented occur to a great extent within the clay raw material selected. Some extra quartz sand of various sizes may well have also been added as a filler for the various fabrics represented and there certainly seems to have been a concerted effort to keep the larger flint inclusions out of their fabrics (for obvious reasons). The 'foreign' sherd unfortunately does not contain sufficient diagnostic elements for pin-pointing a likely source, but is obviously an unusual fabric and filler in comparison with the other Ringmer fabrics, although its constituents as such could also be available locally.

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A DESERTED MEDIEVAL FARM SETTLEMENT AT FAULKNERS FARM, HARTFIELD

by C. F. Tebbutt F.S.A.

(pottery report by Anthony D. F. Streeten)

Apparent house platforms, often terraced, have been noticed in many parts of the Weald, and were suspected of being the sites of deserted medieval farm settlements. One such site was studied and one platform excavated. Foundations of a building and dating evidence were found. Suggestions are made as to the type of farming practised.

INTRODUCTION

In the course of extensive field walking in the central Weald, much of it by the Wealden Iron Research Group in search of iron working sites, a number of apparent house platforms were noted. These were often terraced into steep valley sides on grassland which had escaped ploughing, and were usually remote from modern farms and villages. It was surmised that these sites might represent some of the original medieval, or even Saxon, Wealden farm settlements of which little is known (Appendix 1).

To test this theory it was decided to study one such site discovered at Faulkners Farm, Hartfield (centred on TQ 476384, Fig. 1). It is known that Faulkners Farm has a medieval origin i.e. as Folkeneshest 1199, Folkenshurst 1287, Folkynesherst 1296, Folkenhurst 1316, Folkenehurst 1334,[1] and the Borough of Falkenurst 1745.[2]

At this site four small streams unite to flow south towards the upper Medway, and on four small grass fields forming their valleys are at least nineteen terraced platforms. Both at the present day and on the Hartfield Tithe Award they are known collectively as the 'Runaway Fields' (Fig. 2). It was decided to survey the whole area to plot the positions of the platforms, but to do a more detailed study of the southeastern field. Here it was proposed to plot the contours (Fig. 3) and to make a total excavation of one platform. It was hoped that in the course of these operations pottery might be found (few artifacts other than pottery survive in the acid Wealden soil) which would provide dating evidence for the site. It was also decided to field walk the adjoining fields, now farmed as arable, and to take sample shrub species counts on their dividing hedgerows. Nature Conservancy had already made a flora survey of the Runaway Fields.

THE PRESENT FAULKNERS FARM

The present farm is of about 50 acres (20 ha), almost the same as in 1844 (Hartfield Tithe Award). It is grade three land, and all farmed as arable except for the four steep valley 'Runaway Fields' which are practically abandoned agriculturally. Further waste are abandoned quarries, now wooded, to the north-east and south-east of the four fields. Their date is

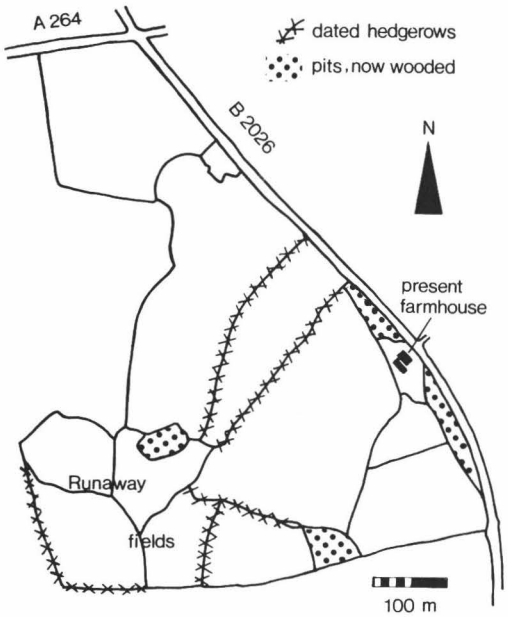

Fig. 1. Sketch plan of Faulkners Farm.

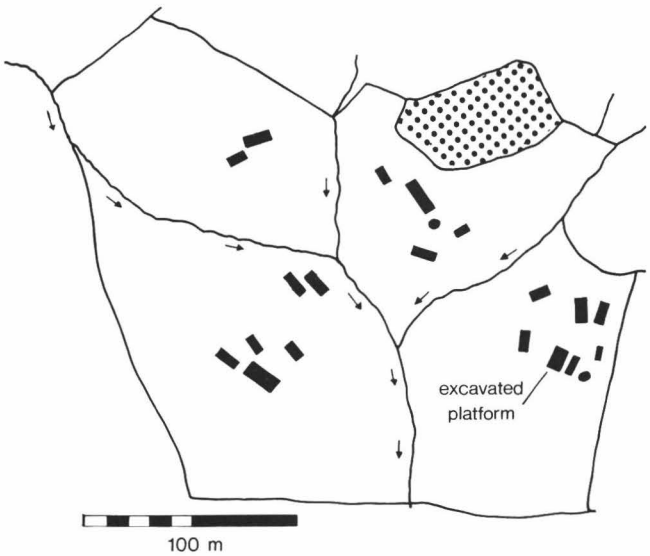

Fig. 2. Sketch plan of Runaway Fields showing platforms.

unknown and their purpose might be for stone, clay (marl) or even iron ore.

Field boundary hedges are nowhere straight. Those dividing arable fields have been kept trimmed, but only on the arable side where they adjoin the abandoned grass fields. It is between 20 and 30 years since they were trimmed on the grass field sides, and they are already colonising the grass up to 30 m out from their original line. With the protection of the bramble from the colonising hedgerow, and even without it in some cases, ash, oak and hornbeam are now

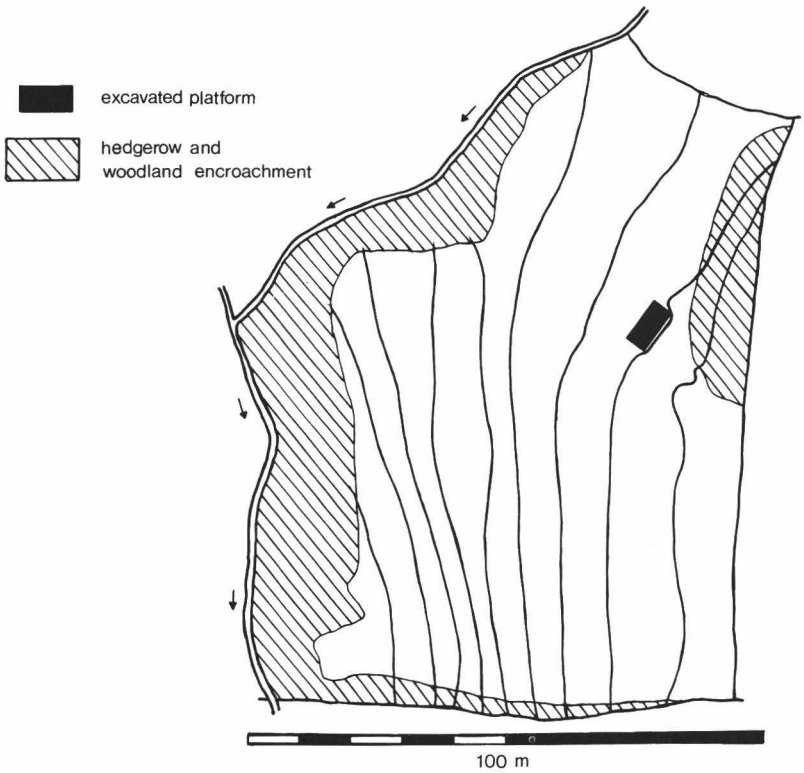

Fig. 3. Contour plan of southeastern field. Contours at 1 m vertical intervals (not related to Ordnance Datum).

growing on the former grass. Some have already gained a height beyond the reach of farm animals to damage their leading shoots. The remaining grass has a rich wild flora and the presence of rock only just below the surface indicates that it has never been ploughed.

The farmhouse, now owned separately, is of many periods but has a smoke bay and is considered by Mr. R. T. Mason to date from the second half of the sixteenth century (personal letter to the writer).

FIELD WALKING

The four arable fields to the north-east and east of the site were walked. There was an even scatter of post-medieval pottery over all the fields, but only two small sherds of medieval were found. In five areas there was a scatter of bloomery tap slag, but nothing to suggest whether the iron working was of medieval or Roman date or had any connection with the settlement. No slag was found in the course of the excavation.

HEDGEROW DATING

Lists of hedgerow shrub species were made from 30 m sample lengths according to the method advocated by Pollard, Hooper and Moore.[3] Those from hedges separating the arable fields were found to have an average of seven species, with the same for the grass fields and

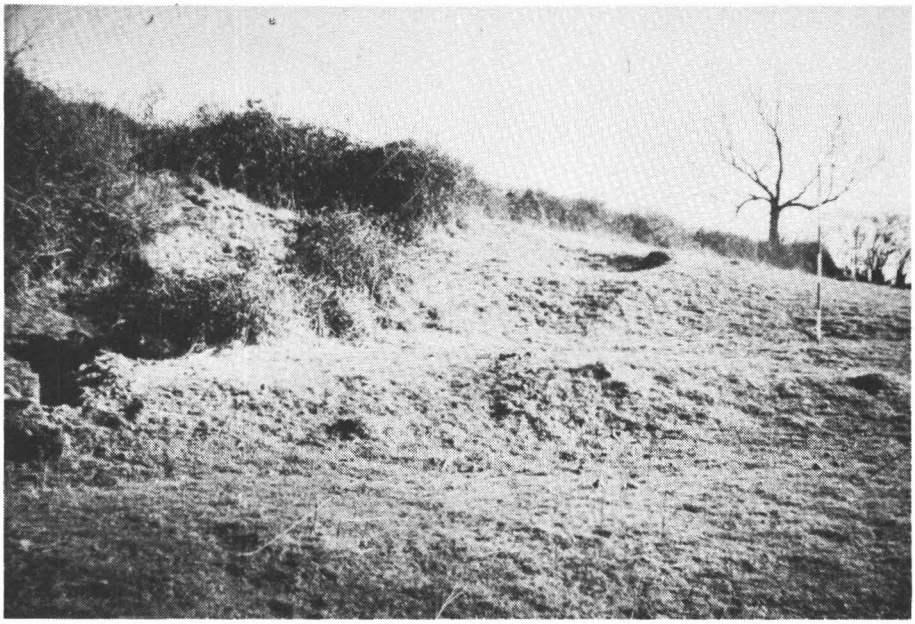

Plate 1. Platform before excavation.

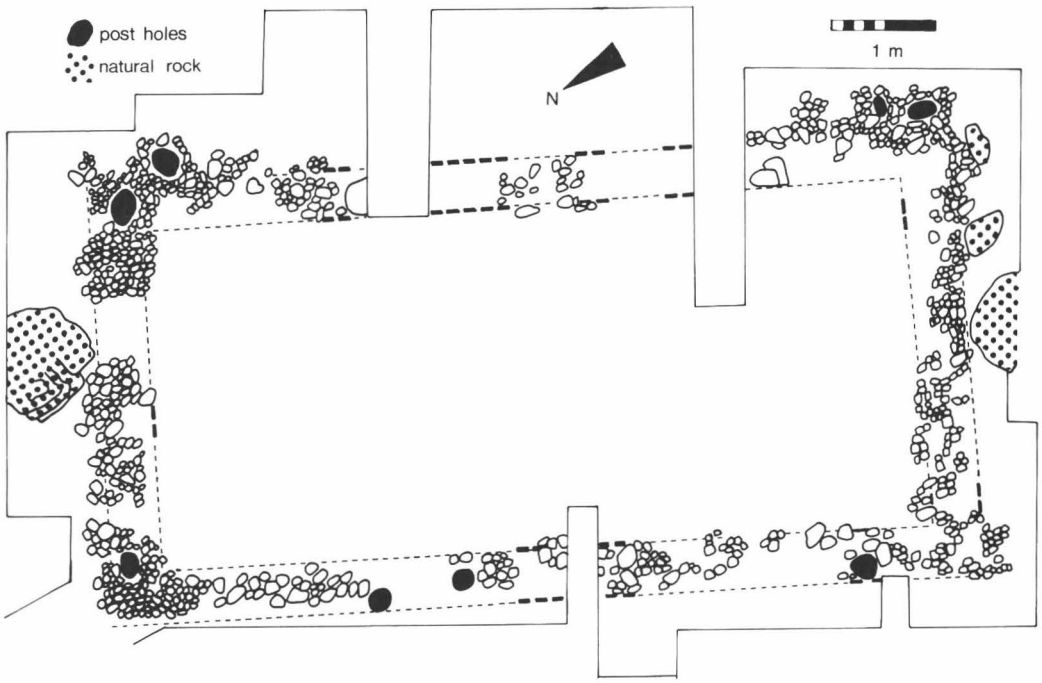

Fig. 4. The excavation.

Plate 2. Post holes at south corner of building.

their boundary hedges on the south and west. The species included birch, holly, hawthorn, oak, maple, ash, alder, hornbeam, hazel, elder, rose, crab, cherry and blackthorn. No dog's mercury or bluebell were seen. These results would indicate that the hedges were ancient and probably 600 to 700 years old.

THE EXCAVATION OF THE PLATFORM (Fig. 4)

The platform selected for total excavation (with baulks) was one of a group of at least six such platforms in this south eastern meadow (Fig. 2). Just above it was a smaller platform, and above that a circular depression of unknown use. When the platform was stripped of turf it was found to be covered by a scatter of stones, some of which had formed the foundations of sub-walls but others merely lodged there after rolling down from above. The platform itself was found only to rest directly on unmoved subsoil on its upper side; soil derived from cutting into the hillside had been used to level the lower side.

The lines of stones forming the sub-walls were in some cases discontinuous and it was evident that there had been robbing and removal. However when a number of narrow sections (indicated by heavy dotted line on the plan) were cut across the supposed wall lines their position was easy to determine by the presence of a shallow foundation trench, *c.* 45 cm wide, in which the lowest stone layer was set. It was noticed also that the undressed sub-wall stones had been set in clay, and while this had usually been replaced by loam (by worm action) in the upper layers it was still preserved lower down.

It was thus possible to distinguish and remove the extraneous stones that had rolled down from above, leaving the shape of a rectangular building of 8.3 m x 4.4 m outside measurement.

Only at the north east corner, where the sub-wall was 30 cm high, did it appear to have survived to its full original height. Here it consisted of large stones at the bottom with smaller ones above. Double shallow post holes were found at two of the corners (Plate 2), and single ones at the others. Doorway post holes occurred near the middle of the long side assumed to be the front. The building was found to occupy the full available length of the platform, extending at each end to two large rocks *in situ.*

The floor level in the building was very difficult to determine and it is probable that it had been entirely eroded by hill wash. It was noticeable that the sub-walls of the two long sides had suffered in a similar way.

During the course of the excavation a small number of sherds of medieval pottery were found, some among the wall foundation stones where they had apparently been washed. In the south west half of the building was a scatter of badly rusted iron nails and clay plaintile fragments, and in the northern corner a small quantity of chalk.

THE BUILDING

From this scanty evidence it seems unlikely that the building was a house, although it is possible that all traces of a hearth had been deliberately removed or washed away. No apparently burnt stones were found. It seems certain that the building was of timber framing with a roof of thatch or shingle. Support for the suggestion of walls of wattle and daub (or, more likely in the Weald, of rent lath and daub) was provided in a section of baulk above one wall line. Here it was noticed that in a certain stage of drying out, after heavy rain, an area above the wall dried out more quickly and stood out in light contrast to its surroundings. This was interpreted as collapsed daub.

The corner posts are of great interest. They are too small and shallow based to have supported the building. When the plan was shown to the late S. E. Rigold he replied in a letter to the writer:

> "Is it a hall, or just a farm building, or an industrial one? As for the holes, not post holes I would have thought, though you do get interrupted plates, usually with stylobates for posts. But they are so grotty and irregular. Possibly short piles to carry a plate as at Brooklands (Surrey)[4] and Ellington (Huntingdonshire)[5]."

This suggests a timber framed building with a plate resting on a low stone sub-wall, the plate secured and stabilized by short piles at the corners. The only doorway, a narrow one not more than 75 cm wide, was in the long front side. There was no sign of an opposite doorway at the back, and indeed this would probably not have been possible as the wall was tight against the steep slope to the next platform above.

Little can be surmised from the position of the nails and roof tiles, as it seems that everything in the building had been washed from its original position. The use of the few roof tiles is puzzling; they were far too few to have been part of a roof covering. A similar feature was noticed at Hangleton medieval village, where Hurst suggested that they might have been used to form smoke louvres.[6]

It is interesting as evidence of local building practice that in A.D. 1520 the tenants of Duddleswell Manor claimed the right to take from Ashdown Forest

> "hethe (heather) to thatch our houses, loam to dab our walls and stone to underpin our houses."[7]

DISCUSSION

1. *Origin and farming practice*

In any discussion of this site it can, I think, be accepted from the results described that it represents a small farming community, perhaps consisting only of an extended family, with houses and farm buildings on a site chosen as having good drainage and water supply but unsuitable for ploughing. The pottery evidence points to the settlement being established in the late twelfth or early thirteenth century A.D. and surviving until the fourteenth century. The hedgerow evidence suggests that when the land was assarted and cleared it was divided into fields corresponding to, but not necessarily as large as, the present ones.

The type of farming must have been such as would supply nearly all the community needs. Pottery vessels were certainly imported from as far away as Surrey, but probably through local markets or pedlars. Contemporary iron smelting was being carried on less than 1 Km away,[8] but there is no evidence to connect this settlement with the industry.

Difficulties and uncertainties begin when one tries to guess at the type of farming practiced. It was noted above that, from the evidence of field walking, the practice of spreading farmyard manure does not appear to have been followed until the post-medieval period. This is inferred from the absence of medieval pottery on the fields. This evidence is not confined to Faulkners, but has been found by the writer to be true in other parts of the Weald[9] and by D. Freke in his study of Wadhurst parish (personal communication to the writer). It would seem to imply that cattle were not kept housed at the farms during the winter, and indeed the house platforms at Faulkners do not suggest long-houses with cattle sheds at one end. The possibility of cattle having been kept out all winter has been considered, but here present Wealden farming experience can help and one is consistently told that if cattle are out to grass during winter the grassland is destroyed by the trampling of the surface in wet weather, and fields become seas of mud.

There is perhaps as yet too little evidence to support a conclusion that cattle were not kept in any great numbers but that their place, in a part dairy economy, was taken by sheep and goats. It is well known that in many parts of the country, in medieval times, sheep were kept as dairy animals. Those who have tasted the delicious semi-hard Italian *pecorino* sheep-milk cheese will know that it is certainly not to be despised. If this suggestion is correct the problem of manuring the arable land could have been solved by penning the sheep there at night as the Downland farmers did. Feeding sheep on the grassland in winter would not have harmed it.

2. *The abandonment of the site and after*

The pottery evidence points to the abandonment of the site about mid-fourteenth century, the period of the Black Death, deteriorating weather conditions, and shrinkage of cultivation on marginal land. Here we are on firm ground, through the valuable researches of Dr. P. F. Brandon in his thesis 'Common Lands and Wastes of Sussex'.[10] During the fourteenth and fifteenth centuries, on manors near Faulkners, assarting practically ceased and on the nearby Duddleswell Manor one third of former assarts were unlet in 1380. Much land of marginal quality fell out of cultivation. Elsewhere, as at Shipley in 1359, former arable was valued only as pasture and at Ore, in 1360, 60 acres of rundown arable is declared only fit for sheep. Brandon further records that, after a shortlived improvement about 1400, lands near Ashdown Forest went out of cultivation for long periods, but little was actually untenanted. In 1500, Brandon says, the Weald was a land of neglected pasture overrun with furze and wood, with arable shrunk to the lowest for centuries.

To suggest what happened to Faulkners Farm after the abandonment of the settlement it is necessary to look at the hedges. We have seen that the present hedges are ancient and likely to date from the time when the settlement was occupied. What happened to them when the land went out of cultivation? I have shown that the present hedges, when neglected for only 20 or 30 years, begin to encroach far over the land they enclose, and it therefore seems certain that, had the land been completely abandoned, in less than 100 years it would have become scrub forest with the hedgerows indistinguishable from it. It is likely therefore that when the settlement was abandoned the land was taken over by someone whose interest it was to preserve and control the former occupiers' hedges. I think Brandon provides the clue in his documentary references to arable reverting to rough grazing. At the present day it is advantageous to sheep farmers to have their grazings divided into closed fields, and the same must have been the case then. If ranching with sheep (or cattle in summer) replaced the older subsistance farming economy, in the fourteenth century, the hedges might well have survived.

Brandon has shown that it was not until the sixteenth century that, with rising population and land hunger, marginal Wealden land came once more under cultivation. The new Tudor farmers had different ideas from their medieval predecessors as to where to site a farmhouse; perhaps at Faulkners they preferred to be near a main road.

MEDIEVAL POTTERY FROM FAULKNERS FARM, HARTFIELD (by Anthony D. F. Streeten)

A small quantity of pottery was recovered from excavation of the building, and two fragments were found on the surface of adjacent fields. Detailed conclusions cannot be drawn from these 25 abraded sherds, but the pottery, some of which was found among the wall-footings provides the only, albeit unreliable, dating evidence for the structure. If the source of manufacture can be identified, then it may also be possible to obtain some indication of the area from which this small Wealden community obtained simple domestic items.

Fabric Classification

The pottery fabrics are generally akin to the published series from Upper Parrock, some 5 km from Faulkners, and the same system of classification has been adopted to avoid repetition of the descriptions (Streeten 1979).

A. Shell/sand-tempered wares

The quantity of finds from Upper Parrock was small, and this type is not represented at Faulkners Farm.

B. Flint-tempered wares

Two sherds tempered with abundant fine flint, compared with the coarser texture of the Upper Parrock examples, were associated with the building, one coming from the north-east corner.

C. Red and grey sand-tempered wares

As at Upper Parrock, this forms the largest group. Some sherds are soot-blackened indicating use on a fire, and 8 fragments probably came from jugs.

Oxidised wares, some with white slip and an eroded green glaze, are visually identical to samples from Upper Parrock (Ci) which were shown by thin-section analysis to be products of the Earlswood Kiln near Reigate, Surrey (23 km) (Turner 1974a).

Other oxidised fabrics are not exactly paralleled at Upper Parrock, but the 2 sherds from fields adjacent to Faulkners (TQ 478387 and TQ 479386) contain large colourless grains of quartz up to 2 mm and the fabrics are visually similar to certain twelfth century vessels at Reigate (Turner 1974b). Large quartz grains are also found in the temper of the Earlswood products, and, although the rim-profile appears earlier than the thirteenth/fourteenth century kiln wasters, the same distinctive materials were almost certainly used in manufacture of the Faulkners cooking pot.

A fragment from the shoulder of a green-glazed jug has a brighter red colour than the coarser Earlswood fabric, and is similar, although not identical, to sherds from Upper Parrock (Cii) and from Castle Field, Hartfield (Tebbutt 1980). The quality of the glaze is akin to products of the Rye kilns, but the sherd has not been thin-sectioned for objective comparison, and a Surrey source seems more probable. The same fine sand-temper is found in the base of an unglazed vessel with a pale grey core, and both these sherds are probably fourteenth century.

Reduced sand-tempered wares are represented by a single sherd which is paralleled at Upper Parrock (Ciii). Again, a Surrey source seems probable, but thin-section analysis of samples from Upper Parrock did not offer conclusive proof that products of the Limpsfield kilns reached this part of the Sussex Weald (Prendergast 1974).

D. White sand-tempered wares

The so-called Surrey white wares, which formed a small proportion of the Upper Parrock assemblage, have so far not been found at Faulkners Farm. Other wares

A single sherd of black sand-tempered ware has a very smooth surface which is not characteristic of known medieval types. It may therefore be Roman.

Conclusions

Isolated sherds of flint-tempered pottery have been found at a few other medieval sites in the Weald, and these are conventionally dated earlier than the thirteenth century. The finer flint in the Faulkners fabric might, however, indicate a slightly later date, but, quite apart from their chronological significance, these sherds are certainly non-local products, the nearest sources of flint being in Surrey or South Sussex. A late twelfth or early thirteenth century date is also suggested by analogy with finds from Reigate for the cooking pot rim found on the surface of an adjacent field, but it may be significant that no sherds of this fabric were found in association with the building.

The bulk of the pottery from among the wall-footings can be attributed to the Earlswood kiln, near Reigate, dating from the thirteenth/fourteenth century. The glazed jug is probably fourteenth century, but the absence of the coarse sand-tempered white 'Surrey' wares, which belong principally to this century and which were found at Upper Parrock, may help to define the chronology. There are certainly none of the hard-fired late medieval wares, and, although identification of later fourteenth and fifteenth century vessels is notoriously difficult, the range of material does not appear to extend beyond the mid-fourteenth century.

Marketed pottery from the Earlswood kiln suggests contact with centres to the west rather than to the east. If these utensils were purchased in a market rather than obtained direct from the potter, the market at East Grinstead would have been easily accessible from Faulkners and was almost certainly within reach of the potters at Earlswood.

The paucity of the evidence does not permit positive conclusions, but the finds give some insight into the economy of the settlement and do permit tenative dating of the occupation. Independent corroborative evidence from hedgerow analysis appears to indicate that the landscape reached its present form at about the same date as suggested by the pottery for occupation of the building.

ACKNOWLEDGEMENTS

My greatest thanks are due to Giles and Sue Swift, owners of the land, for permission to dig, advice on farming matters, and other help including work on the excavation. David Combes contributed photography and surveying, and John Upton photography, and valuable help in digging was given by many members of Wealden Iron Research Group. My wife took over the burden of plan drawing and typing. Expert reports came from Anthony D. F. Streeten, R. T. Mason and Nature Conservancy, and helpful advice from Eric Holden, David Freke and Dr. Peter Brandon. The East Sussex County Council generously contributed towards the cost of photography and surveying.

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APPENDIX 1

Probable Wealden medieval farm settlement sites.

Ashburnham TQ 679133 Terraces on valley side. Part of Kitchenham Farm, which may preserve name of settlement.

Crowborough TQ 525319 Hourne Farm. Terraces on steep valley side. Also probably on opposite side of stream at TQ 524320

East Grinstead TQ 361389 House platforms and hollow way on opposite side of stream to moat. On line of London-Brighton Roman road (Margary 6)

Fletching TQ 407241 Old pasture with hollow way and 'humps and bumps'. Roman and post-medieval pottery found on pipeline course (Sussex Archaeol. Collect. **116**, 402–5.)

Fletching TQ 438216 Barkham Manor. Faint 'humps and bumps' in field called The Plat (Tithe Award). Next field to east is Church Field (Tithe Award). (Sussex Archaeol. Collect. **116**, 402–5.)

Hadlow Down TQ 552236 Scocus Farm. Terraces on valley side, near spring. Hollow way on south side.

Heathfield TQ 613241 House terraces on valley side immediately south of site of Pottens Mill.

Mayfield TQ 578277 Terraces on valley side near spring. Adjoining field across stream is Little Town Field (Tithe Award).

Newick TQ 433201 Stiances (Tithe Award). At least four platforms, and possible small moated enclosure. Scatter of medieval pottery. Cottage survived until recently.

Rotherfield TQ 511269 Terraces on valley slope, recently much levelled by ploughing. Adjoining Wilding Wood may preserve name of settlement.

Rotherfield TQ 507278 Terraces on grassland. Medieval pottery occurs on arable at TQ 509277. Adjoining Piping Wood may preserve name of settlement.

Turners Hill TQ 341355 Terraces on steep hill adjoining village.

Wadhurst TQ 593318 Frankham. Terraces, perhaps relating to original 'ham'.

Withyham TQ 514373 Ham Farm. At least three terraces on arable just below hilltop, overlooking Medway valley. Scatter of medieval pottery.

Withyham TQ 508341 Bingles Farm, Lye Green. Terraces on slope to stream. Medieval pottery stratified above Roman near stream.

Wivelsfield Green TQ 340206 'Humps and bumps' and crop marks just west of moat.

Notes

[1]A. Mawer and F. M. Stenton, *The Place Names of Sussex,* (Cambridge, 1930), 367.

[2]*Hartfield Parish Rate Book* 1745, East Sussex Record Office, 360/12/1/1.

[3]E. Pollard, M. D. Hooper and N. W. Moore, *Hedges,* (1974). I am also indebted to M. D. Hooper for advice by correspondence.

[4]R. Hanworth and D. J. Tomalin, 'Brooklands, Weybridge: The Excavation of an Iron Age and Medieval Site', *Surrey Archaeol. Soc. Research Volume* 4.

[5]C. F. Tebbutt, G. T. Rudd and S. Moorhouse, 'Excavation of a Moated Site at Ellington, Huntingdonshire', Cambridge Antiq. Soc. **63,** 33–73.

[6]J. G. and D. G. Hurst, 'Excavations at the Deserted Medieval Village of Hangleton, part 2', *S(ussex) A(rchaeological) C(ollections),* **111,** 120.

[7]Copies of Court Rolls in possession of the Conservators of Ashdown Forest.

[8]C. F. Tebbutt, 'Two dated Bloomery Sites in the Weald', *Sussex Notes and Queries,* **17,** 167–8.

[9]C. F. Tebbutt, 'Mid-Sussex Water Company Pipelines', *S.A.C.* **116,** 402–3.

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SALT-MAKING IN THE ADUR VALLEY, SUSSEX

by E. W. Holden, F.S.A. and T. P. Hudson, M.A., Ph.D.

The extraction of salt from sea water by washing salt-impregnated sand to concentrate the brine, followed by boiling, resulted in the formation of mounds flanking the estuary of the Adur. Removal of most of these mounds for agricultural purposes prompted the investigations which are the subject of this paper. Salt-making was conducted as a part-time occupation by some of the inhabitants of the Adur valley from later Saxon times. After c. *1350 it suffered a decline, chiefly because of climatic and economic factors, especially rising sea level and cheap imports of salt from the Bay of Biscay. Gradual inning of the estuary and embanking of the mainstream hastened the demise of the activity. Salt-making lingered on in a small way during the fifteenth century and may still have been carried on at Bramber in the early sixteenth. Most of the salt made was for local needs, especially those of the noble and ecclesiastical landlords who were paid rent in kind. There is little evidence of trading. The historical background is investigated as far as the somewhat meagre records permit. Earlier and later methods of salt-making are discussed. Some comparative material, archaeological and documentary, from other parts of Sussex is considered.*

INTRODUCTION

'It [salt] provokes the appetite, strengthens the stomach, promotes digestion and concoction of the aliment, resists putrefaction, prevents unnatural concretions of the humours, and is most friendly and agreeable to the human body.' So said William Brownrigg M.D., F.R.S., in his book *The Art of Making Common Salt* (Brownrigg 1748, 157–8).

Salt has been an important raw material for a very long time, especially for use in cooking, as a condiment, for preserving meat and fish, making butter and cheese and as an essential ingredient of numerous industrial processes. During the hunter/gatherer stage of human evolution the body obtained salt naturally through eating meat, either raw, or roasted; but with the consumption of cereals and the practice of boiling meat a need appeared for salt as an additive to food. Judging from references to salt in the Bible and in ethnography it seemed to become a necessity of life and an important requirement for human health and welfare. Medical opinion, however, is that there is no need to add extra salt to the normal balanced diet, except in the most exceptional circumstances (Carter 1975).

The study of saltworks in general in Sussex might have had an earlier beginning if the challenge set by a writer in 1867 had been taken up. A question was asked in our *Collections:* 'Information is requested respecting salt-works in Sussex; also about encroachments of the sea or retrogressions, and concerning internal navigation in ancient times. Scraps of remarks scattered throughout the volumes of the Sussex Archaeological Society, indicate that very important changes have taken place in the physical geography of the County within the historic period' (L.D. 1867).

The present study of the salt industry in the Adur valley began with the removal in 1960, for farming purposes, of several mounds west of the railway line at Botolphs, which is situated

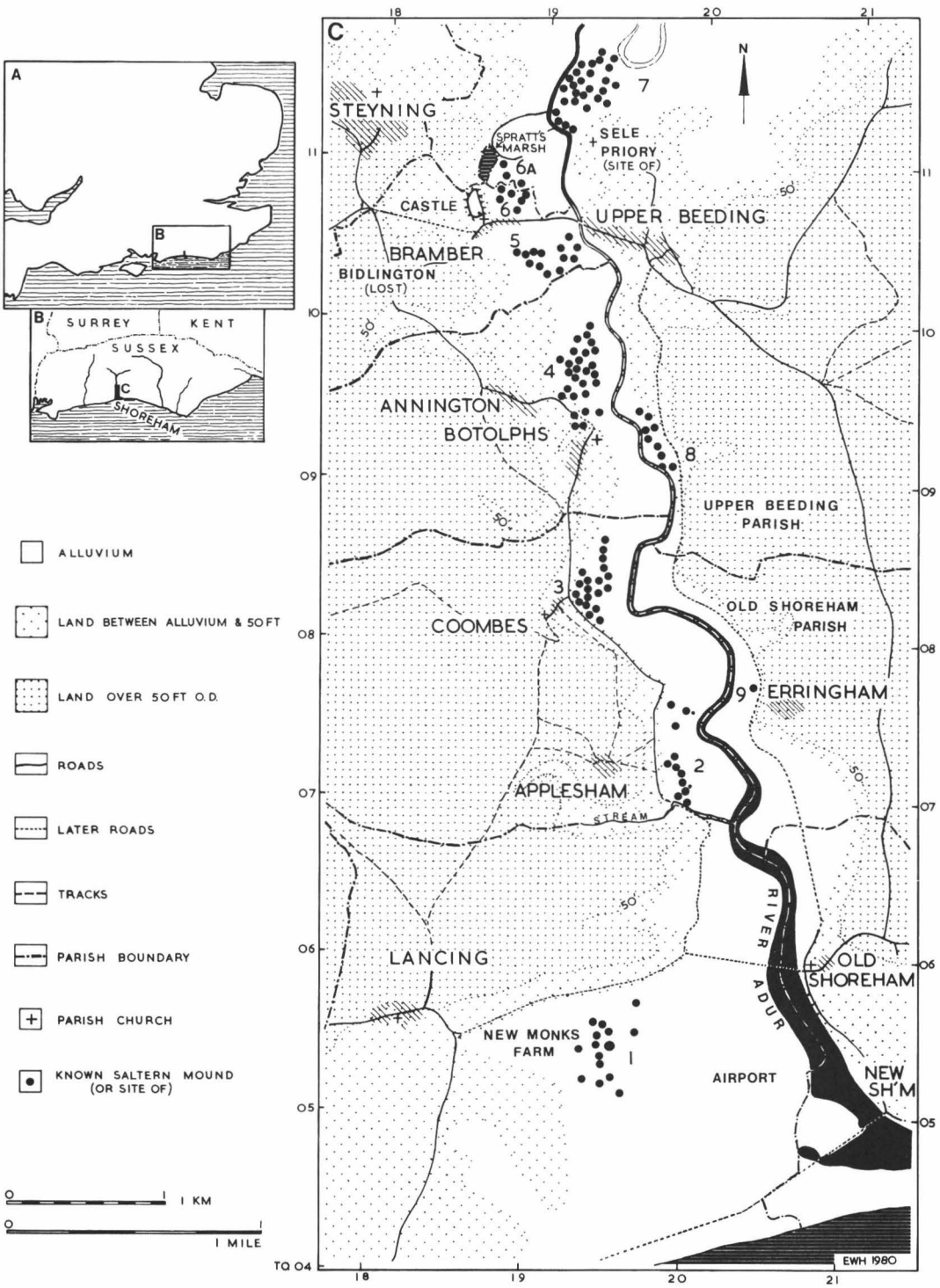

Fig. 1. The Adur valley between Shoreham and Upper Beeding; showing the saltern mounds groups; drainage ditches and modern features excluded. (Based upon the Ordnance Survey maps of 1914 and the National Grid).

on the western side of the river. No local archaeologist knew the exact purpose of the mounds, except that, in some vague way, they were connected with salt-making, probably of the medieval period. The archaeological literature was searched and the reason for the mounds became clearer, yet except for a paper on an excavation at Seasalter (Thompson 1956) and one or two others, little had been written about the archaeology of medieval salt-works and their technology before the publication of papers on the medieval salterns of Lincolnshire (Rudkin *et al.* 1959–60; Hallam 1959–60). References in those works to earlier writers broadened the picture considerably. A. R. Bridbury's study of the English salt trade in the later Middle Ages was also of much assistance. Subsequently, E. W. Holden, ably assisted by Mrs. H. G. Holden, traced various mound groups on the ground, later field-walking the sites whenever possible after mounds had been destroyed. A report on the Adur salt-works needed evidence from excavation, but owing to other commitments a full-scale excavation was not undertaken. However, a machine-cut trench through one mound in 1966 provided useful information. Short notes on aspects of salt-making were published by E. W. H. (Holden 1962a, 1967, 1975b). Finally, in 1977 T. P. Hudson, of the Victoria County History, who had been working on the history of parishes in the Adur valley for a new volume of *V.C.H. Sussex* (Hudson 1980), contributed the section on the documentary background and other historical references which have been woven into the archaeological text.

In this paper the word *saltpan* has been avoided as far as possible. It is a favourite of many writers because they are aware of French or Mediterranean open-air evaporating 'pans' (sun-works) and they assume, mistakenly, that all salt, other than that from rock salt in Cheshire, was produced in this way (e.g. Ballard 1910, 15). The preferred word for a place where salt is or was made, by any process, is *saltern,* which is better than salt *pit,* or salt *house* as pits or houses are not always involved. A salt *pan* is what it says: a receptacle, usually of metal with a flattish bottom, of any size, in which brine is heated to produce salt. It is important also not to confuse salterns with *saltings.* The latter are lands regularly covered by the tide and the term is used by geographers (Stamp 1963). There may well have been salterns operating on saltings, but they did not have to be there.

THE ADUR VALLEY

Topography (Fig. 1)

The topography and geomorphology of the Adur valley have received some attention (Ballard 1910; Bull 1936, 121–2; Kirkaldy *et al.* 1940; Brookfield 1951–52; Brandon 1974a, 111–18); that of Bramber has also been noted briefly (Holden 1975a; Barton *et al.* 1977, 1–2). We are concerned with the section from the sea to about three-quarters of a mile (1.2 km) north of Beeding bridge (incorrectly called Bramber bridge by Brookfield in Fig. 2) which crosses the Adur between the villages of Bramber on the west and Upper Beeding to the east—a total distance of nearly five miles (8 km). The strongly tidal river Adur, now restricted by high man-made banks raised above the alluvium, flows through a gap in the chalk of the South Downs which rise to a height of some 700 feet (213 m) on either side. The width of the floodplain averages one-third of a mile (0.52 km) between Bramber and Applesham Farm, south of Coombes, where it widens gradually and then expands to one and a half miles (2.4 km) towards Lancing south of Old Shoreham bridge a mile (1.6 km) from the sea shore.

The entrance to the estuary was probably at Shoreham in earlier times (Brookfield 1951–52), but now the river turns east for more than a mile (1.6 km) to debouch at Kingston

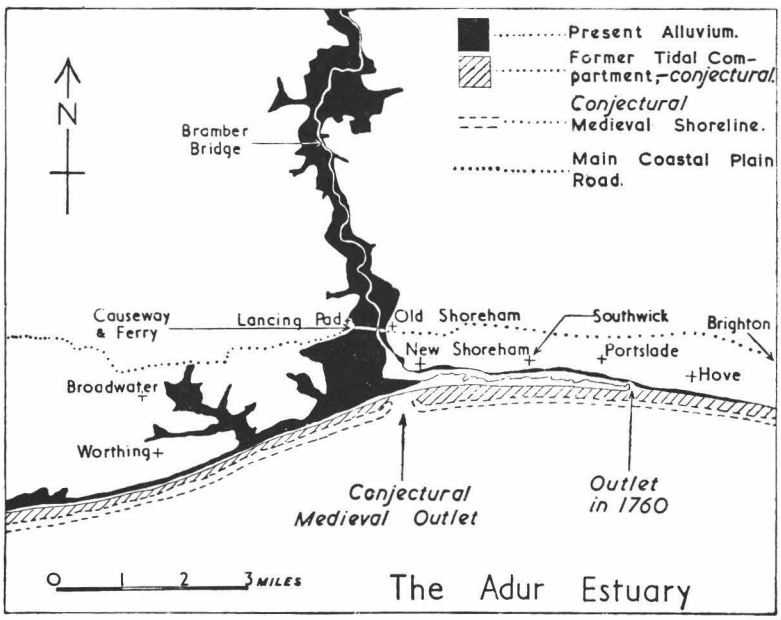

Fig. 2. The Adur estuary (after Brookfield).

Buci. North of Beeding bridge the tidal compartment exceeds one mile (1.6 km) wide before narrowing again in the upper reaches of the river. Four miles (6.44 km) north of this bridge the river bifurcates, one branch going north-east and the other north-west.

The downland on both sides of the valley is intensively farmed, as are the alluvial meadows between the river and the foot of the Downs wherever this is possible. There are fewer obstacles on the west side, apart from the new by-pass road just south of Bramber, whereas the eastern floodplain is narrower, divided by a railway embankment (part still in use), a cement works complex and recent bridge construction. South of Old Shoreham bridge housing and light industry occupy the land near the river and a large area to the west is taken up by Shoreham Airport. Farming is continuing at New Monks Farm, west of the airfield, despite housing development encroaching eastwards from Lancing.

Gradual inning of the marshes, especially during the thirteenth century, and other physiographical factors throughout the medieval period, caused much deposition of silt, sand and clay, thus reducing the tidal compartment of the estuary, the original extent of which would equate, more or less, with the area of alluvium shown in Figs. 1 and 2. Post-medieval reclamation finally embanked the river, and there followed until modern times frequent overflowing of the river on to the brooks each side during rainy seasons with the consequent deposition of yet more silt (Kirkaldy *et al.* 1940, 116). A sewer trench dug in 1974 north to south through Bramber village showed a deposit of marsh clay (alluvium) exceeding 10 ft (3 m) in thickness which had overwhelmed the stone bridge of Bramber (Holden 1975). Three miles (4.82 km) downstream an undated cobbled track, 9 ft (2.7 m) wide and 4 ft (1.2 m) below the present surface of the alluvium, was revealed about 100 yards (91 m) east of the Sussex Pad Inn during excavations for the new road and bridge (Evans 1967). Another sewer trench on the Upper Beeding side, a little west of the site of Sele Priory and close to the edge of the alluvium, was seen by E.W.H. to expose four feet (1.22 m) of silt above an unknown depth of valley

gravel. These examples are sufficient to demonstrate the enormous amount of deposition that has taken place in the Adur valley at various times during the last millenium.

The marshes subject to flooding made excellent grazing lands, but between 1967–72 drainage in parts of the western alluvial meadows lowered the water-table sufficiently to permit a change to arable farming. Four groups of large, low mounds of marsh clay on the newly-drained land at Applesham Farm, Coombes, Botolphs and south of Bramber village were obstacles to the plough and were levelled, several mounds at Botolphs having already been destroyed between 1960–63. Similar mounds on the east side of the river near the cement works were lost in 1966 when chalk for raising the river banks was stockpiled in the meadow in which they were situated. As explained below, all these mounds were associated with medieval salt-making.

The Settlements

The pre-nineteenth-century road between Shoreham and Upper Beeding crossed the Downs, whereas the modern road keeps close to the eastern edge of the floodplain. Late Saxon Shoreham was centred on Old Shoreham church, but later settlement was concentrated in the new town of New Shoreham (Hudson 1980, 144). A small settlement at Erringham in later Saxon and medieval times was reduced to little more than a farm by the latter half of the fourteenth century (Holden 1976, 1980).

The village of Beeding (now 'Upper' to distinguish it from Lower Beeding) had a substantial Domesday population, doubtless receiving impetus from the founding of Sele priory, *c.* 1080, by William de Braose I, the builder of Bramber castle (Salzman 1923). The village declined later, but never became depopulated.

In the late eleventh century, ships were able to sail up the estuary to the port of St Cuthman at Steyning, passing through a bridge (which had a lifting or otherwise removable section, Medland 1852, 124, n.23) over a deep channel which existed on the eastern side of the estuary, possibly where Beeding bridge is now situated. A causeway probably crossed the remainder of the estuary, possibly on piles to permit tidal flow. A shallower, western channel, that would be visible at low tide, was crossed by a stone bridge by the late twelfth century, or 1230 at the latest, with causeways both east and west. The greater part of this bridge stood partly in the present street and partly in the car park east of the house known at St. Mary's (Holden 1975a; Hudson 1980, 201).

Bramber is a post-Conquest new town linked with the establishment of the castle soon after the Conquest. It took its name from that of the mainstream of the estuary which was known in late Saxon times as the *Bremre* (or Bramber) (Barker 1949, 80–81), not the Adur, which appears to have been a name first mentioned early in the seventeenth century (Haverfield 1892). A sixteenth-century reference is to the *Brember water* (Haverfield 1892, 220, quoting Harrison in Holinshed). No archaeological remains of houses earlier than the thirteenth/fourteenth century have yet been found in The Street.

The nearest Saxon settlement to Bramber, apart from Steyning, was Bidlington (or Maudlin), now lost, which lay on higher ground to the south-west of the castle. The cross-roads and the name Maudlin (Farm) are all that remain (Barker 1949, 79–80; Hudson 1980, 201; Lewis 1964).

On the western side of the river a minor road runs from between Bramber and Steyning through the site of Bidlington southwards towards Shoreham and Lancing. This road follows an ancient route where it traverses elevated land well above the highest sea level, but since

reclamation of the marshes other stretches are now only a short distance above the floodplain. Annington is the next Domesday settlement to the south, now only a farm of that name. It was one of two settlements in the later parish of Botolphs, the other being Botolphs itself, a name first recorded in the mid thirteenth century (Salzman 1923, 70). By the fourteenth century Annington and Botolphs were considered as one vill and by the mid-fifteenth century Botolphs had established itself as the name of the parish (Hudson 1980, 195). Both settlements shrank and became virtually depopulated probably during the fifteenth century. Coombes, a short distance to the south, is another deserted medieval village (Holden 1962b). Both Botolphs and Coombes possess churches with Saxo-Norman features. Applesham, now only a farm, is mentioned in Domesday Book and was a secondary settlement, without a church, in Coombes. Lancing (North) was a D.B. settlement west of the Adur valley.

EARLY SALTERNS

Before describing the Adur valley salterns it may be helpful to discuss the technological aspect of producing salt from sea water. Earlier methods differed from those of more recent date.

Rock pools and coastal lagoons under certain conditions make small quantities of salt available for the collecting, but an adequate supply would rarely form in our climate. In some areas there are naturally occurring brine springs, as in Worcestershire and Cheshire, but not in south-eastern England. By the Iron Age salt was being made in many coastal areas of Britain and the Continent and had become an important item of trade (Nenquin 1961, 137–54). The local monopoly of salt production from mined rock salt held by the rulers of Hallstatt, in what is now Austria, made them rich, powerful and a dominating force over a large domain. The Romans, too, were aware of the importance of the mineral, and the *salarium,* originally for salt, has come down to us as *salary.*

The majority of British sea-water sites were situated in estuaries and creeks because the water is more saline in shallower tidal waters than in the open sea (Sorby 1906). Working conditions are more sheltered and fuel supplies easier to obtain than on exposed coasts. Many Sussex sites of different periods, however, have been lost because the coastline has changed extensively since Roman times by erosion and accretion. There has also been much deposition of silt in estuaries and havens caused by reclamation and other factors, with the consequent burial of some sites.

Iron Age and Romano-British

Estuarine sea water was concentrated by sun and wind in very small irregularly-shaped pools adjacent to a boiling place, the resulting brine then being heated in clay containers kept up above the fires by clay props, or on clay firebars over trenches (de Brisay, 1975; Gouletquer 1974). The salt so produced then had to be dried by more heat, usually in baked clay moulds producing what some consider to be cakes of a standard measure. Most of the baked clay used for containers and supports was porous and expendable; thus large quantities of broken pottery and fired clay accumulated, while burnt clay from hearths added to the debris. This material is known as 'briquetage' and over long periods huge mounds were formed which, because of their colour when dug into, in Essex are called 'Red Hills'.

There are no visible remains of prehistoric or Romano-British salterns in the Adur valley, but it seems probable that salt was made there, if only in a small way, briquetage having been

found at Mill Hill, at *c.* 150 ft (46 m) O.D. on the Downs north-east of Old Shoreham church: associated pottery is of middle Iron Age date (ex inf. F. Witten and R. Bradley).

The Anglo-Saxon period

There are Domesday entries for Sussex referring to salterns (King 1962, 455–57; Darby 1962, 607–8, 615; and see Gazetteer below), but little was known until recently about the technology of salt-making in Britain at that time. What seems certain, however, is that a change in the extraction process had evolved in north-west Europe by the beginning of our Anglo-Saxon period, and the knowledge was probably brought here by immigrants.

The new system superseded the direct use of sea water: instead, salt-impregnated sand or silt was washed through with water, producing a strong brine, which was then heated to make salt. Pliny possibly mentions this method (Nenquin 1961, 105) and there are hints about it in charters during the eighth and ninth centuries in Kent and other parts, such as 'land suitable for the cooking of salt', or 'ground on which salt was made' (Loyn 1962, 106). The use of leaden pans, well known by the end of the Saxon period (Loyn 1962, 102), is another pointer to the new technology, as they are the most commonly-used vessel for heating the brine in the succeeding medieval period. Yet the use of lead is not entirely unknown in Romano-British times as droplets of lead associated with briquetage have been noted at Funton Creek, Lower Halstow, Kent (Miles 1975, 28). The sand-washing method results in mounds of waste sand or silt. These heaps are not red in colour as were the earlier mounds composed of briquetage, but are yellowish with only very small amounts of burnt clay in them.

MEDIEVAL METHODS OF SALT EXTRACTION

Despite the vagaries of our climate, under very favourable conditions total evaporation of sea water by the sun and wind is possible in southern Britain, as an eighteenth-century experiment accidentally proved (Brownrigg 1748, 32, 46–7). In Suffolk during the reign of Charles I salt was made 'without fewell' (Atkinson 1880), although a commentator at the time said: 'there is not one summer in ten that brings drought and sun enough' (Hughes 1934, 7). It is possible that there were salterns at Winchelsea making salt by this method during the later Middle Ages (Lovegrove 1966; Holden 1967). Brownrigg, however, considered that it was exceptional and that 'coction' (boiling of the brine) would probably continue to be practised in Britain.

All salt made without boiling was known as Bay salt even though it did not come from the salterns of Bourgneuf Bay in the Bay of Biscay, where the name originated. Salt made by boiling was usually called white salt, whether or not some preliminary concentration was effected either by (1) exposing sea water to sun and wind; (2) obtaining concentrated brine by filtering water through sand gathered from the margins of estuaries and creeks (sand-washing); or (3) the collection of salt-impregnated peat followed by burning, prior to washing the ashes and boiling, which was another practice well known in the Low Countries (Bridbury 1955, 10–15; Nenquin 1961, 106). The sand-washing method was also known as 'salt-upon-salt' in post-medieval times to differentiate it from the more efficient method of partial evaporation and concentration in sun-works followed by boiling in large iron pans inside boiling houses (Hughes 1934, 83).

Sand-washing was the standard method during the Middle Ages and it even continued in Lancashire and the Solway Firth until the eighteenth and nineteenth centuries (Singer 1912, 527;

Monypenny 1818, 138; Taylor 1975). A similar method in principle, passing water through salt-impregnated sands and earths, followed by boiling the strong brine so produced, was employed in India by some of Gandhi's followers (Hughes 1934, 4), also in Central America in the sixteenth century (Collins 1682) and in various parts of Africa, as at Manga, Niger, today (Gouletquer 1975).

The three essentials for making white salt are: (a) the preliminary concentration of sea water into strong brine; (b) evaporation by artificial heat, and (c) the drying of the product. The reason for (a) is an economic one because sea water contains less than three per cent of sodium chloride (common salt), so by concentrating it (the maximum is *c.* 26%) a substantial saving of fuel is effected when boiling to remove the surplus water.

Each saltern needed an area of land bordering the estuary between ordinary and spring high tides, the latter occurring for two or three days before and three or four days after the full and the new moon. Given suitable weather—hence, salt-making was a summer occupation—this stretch of sand would regularly be overflowed by the sea, and when followed by sunshine and wind much of the water content would evaporate leaving a concentration of salt on and near the surface. (To avoid repetition the terms 'sand' and 'silt' are synonymous for the material covered by the tide, the only difference being in grain size, sand grains being larger than those of silt, while the particle size of clay is still smaller).

The surface sand had to be collected and conveyed to above the high spring tide line and near to the boiling place. John Leland observed of Lancashire salterns, *c.* 1535–43: 'At the ende of the sandes I saw divers salte cootes wher were divers hepes of sandys taken of salt strondys owt of wich by often wettyng with water they pyke owt the saltines and so the water is derived into a pit and after sodde' (boiled) (Toulmin Smith 1907–10, 10). John Lucas writing of salterns in the same county seen by him in the early eighteenth century refers to: 'harrowing with a thorn or such like thing, the flats that are always overflowed by the spring tides and then with a proper instrument, skim or scrape into ridges, the surface of them, which they lead away in caups (*sic*) and preserve it under cover. This sand so provided they put into troughs or pits lined with fine blue clay, with holes at the bottom, and pour fresh water thereon, which draining through the sand carries the salt therein contained, down with it into the vessels placed under to receive it. So long as this liquor is strong enough to bear an egg, they pour on more water, and as soon as the egg begins to sink, they cast the sand out of the long pits or troughs (which may be seen in vast heaps near the salt cotes) and replenish them again. They here . . . make use of leaden pans . . .' (Ford et *al.* 1931, 139). Brownrigg (1748, 136) mentions a similar process, adding that filtration material, such as rushes or straw, was placed in the bottom of the pit or trough. He describes sea water being poured on the sand which was derived from a pond or sump at spring tides. It is clear from the above that either fresh or salt water could be utilised for producing concentrated brine.

Singer (1812, 527–9) writing of Solway Firth salterns in the early nineteenth century, refers to the sand (there known as 'sleech') being scraped up 'by an implement known as a "hap", a kind of sledge drag, furnished with a sharp edge at that part which touches the ground, and drawn by a single horse. By this operation, the whole of the *salt-bed,* as it is technically called, is deprived of its surface to the depth of about the eighth part of an inch, and the impregnated sleech thus scraped together, is afterwards carried in carts to a station on the beach near the salt-cot, where it is put up in a large heap ready for use'. The rest of the process was as described above. Despite local variation it is probable that the Adur valley salters used similar methods.

Two medieval salterns at Hullbridge and one at Tolleshunt Darcy, Essex, have 'tanks' or sumps near their mounds, which Reader thought were for the evaporation of sea water prior to boiling (Miller Christy *et al.* 1928, 49–50, Figs. 2, 3 and 7), but in none of the post-medieval eye-witness accounts of the 'salt-upon-salt' process is there any claim for solar evaporation of sea water as a preliminary to salt-making. Brownrigg (1748, 137) is the only old writer to mention a pond or sump for collecting sea water and he says nothing about the water being left to evaporate for any length of time before use in washing through the sand. No sumps or 'tanks' have been recorded in the Adur valley, but if there had been any their remains are likely to be buried below later silt. Some of the Adur salterns could have used fresh water from wells, or from small fresh-water streams emerging from the chalk, as at Applesham and Botolphs.

The strong brine had to be boiled, the process usually taking place nearby to avoid lengthy transport of the liquor. When a spoil heap had reached a suitable vertical height above sea level it could be utilised as a boiling place relatively dry and close to the place of work, which, whether on top of a mound within the tide range, or at a little distance beyond, needed some form of shelter. There is no direct evidence for structures on any of the Adur valley mounds, but in Lincolnshire and elsewhere there are records of cottages or 'cotes' on the mounds (Rudkin *et al.* 1959–60, 82; Thompson 1956, 45). A typical Lincolnshire saltcote had mud or pisé walls, a timbered roof covered with reed thatch which was secured by rush ropes, and possessed wooden doors and windows (Hallam 1959–60, 98). Nearer home, at Lancing, 71 saltcotes were lost to the sea between 1291 and 1341 (see below). It is probable that most of them would have been on mounds.

Rectangular boiling hearths or kilns, about 4 ft 6 in by 1 ft 6 in (1.37 m by 0.46 m), each with a stokehole at one end, have been found well down in a medieval mound, together with traces of a turf-built shelter or hut, and a pit, at Bicker Haven, Lincs. (Healey 1975, 1977). Each kiln was surrounded by a wall of clay 1 ft 3 in (.38 m) high; firing was by peat fuel and fragments of lead were found. More hearths were discovered at lower levels.

A salt cottage or cote (*cotagium salinum*) with its appurtenances in Bramber is referred to in a deed of 1403. It is clear that it occupied the same site as the surviving mounds (see below, Gazetteer), and so it seems probable that the cotes would be on mounds so as to be well above the highest water level.

Boiling was commonly done in smallish shallow leaden pans, though large earthenware cooking pots and similar vessels are known to have been used (see below). Even by the eighteenth century the process, using leaden pans, might make only about two gallons of salt at a time in four hours. There could, of course, be several lead pans to each saltcote (Taylor 1975, 15). Scum had to be removed while the salt was graining, and stirring and topping-up with liquor was often practised. Brownrigg (1748, 56–60, 109, 112) states that various substances were usually added to the liquor during the boiling process to assist with the coagulation of scum which rose to the surface and needed to be skimmed off. Included amongst these were sheep or cattle blood, white of egg, wheat flour, rosin, butter, tallow, ale, bottoms of lees of ale, beer or wine, and alum. At some works dog fat was especially esteemed. Although Brownrigg had little faith in any of the additives it is probable that the widespread practice was traditional and that medieval salters also had their own recipes for scum removal.

Care had to be taken to prevent undue crystallisation of ingredients more soluble than sodium chloride—hence boiling demanded considerable skill—otherwise the finished product became deliquescent (damp in the presence of air), bitter to the taste, and unsuitable for certain processes such as curing meat. These unwanted salts remained as a bitter liquid after the true

salt had been extracted from the pan and were known in post-medieval times as 'bittern'. This liquor was often thrown away, but it could be reboiled to produce magnesium sulphate (Epsom salts), potash, bromine and magnesium chloride. Fresh water had the advantage over sea water of making less bittern in the final product (Nenquin 1961, 109). A calcareous crust formed in the lead pan which was removed by beating with a wooden mallet from time to time after use (Brownrigg 1748, 62, 137–8). One may reasonably postulate a similar practice in medieval times.

The wet salt removed from the pan next had to be drained of any remaining bittern and then dried, which could be done in the boiling house. A sixteenth-century illustration depicts the wet salt in conical baskets suspended from the roof of a boiling house close to the hearths and pans, thus utilising the surplus heat without further expenditure of fuel (Bridbury 1955, 3–6; Agricola 1556, 546–55). There is no direct evidence for this during the Middle Ages, but maybe salters followed this practice when the saltcotes were substantial enough or when circumstances permitted. Loyn (1962, 107) mentions 'barrows' holding two bushels made of twigs and willow in connection with Anglo-Saxon salterns, and Brownrigg (1748, 102) tells us that 'barrows' are drying baskets [and are not to be confused with wheelbarrows]. Salt was still being made by sand-washing in parts of the Normandy coast in 1707, the liquor being stirred frequently during the boiling process and when crystallised it had a 'reddish-white' appearance (Nenquin 1961, 108–9).

The fuel required for the fires would be whatever was most readily available. In East Anglia the main source was peat, but in the Adur valley surface peat is lacking and the only fuel available was wood. Large quantities were required and would have to be paid for. At Droitwich in the sixteenth century salt boilers had to fetch their fuel from 12 miles away, 'small cleft wood' being selected. The heat from coal (had this been available) was too fierce for lead pans (Taylor 1936, 350). Apart from any nearby local supplies wood for the Adur salterns was presumably brought down river from the Weald, as timber is known to have been both in the Middle Ages and later (Hudson 1980, 209, 234). In Normandy the wood fuel was in the form of faggots and sticks (Nenquin 1961, 109).

THE DOCUMENTARY BACKGROUND TO THE MEDIEVAL INDUSTRY

Many documentary references have been found to medieval salt-making in the Adur valley. While an exhaustive survey of all possible sources might provide further information, it is unlikely that it would approximate to the wealth of published evidence for salt-making in Lincolnshire (Hallam 1959–60; Rudkin *et al.* 1959–60). In particular, the fact that salt-making in the Adur valley ceased when it did rules out the occurrence of the more informative sixteenth-century and later documents, such as probate inventories, available not only for Lincolnshire, but also for salt-working at Droitwich, or in Cumberland (de Brisay *et al.* 1975).

At least 309 salterns were recorded in Sussex in Domesday Book, the largest number in any English county (King 1962, 457; Brandon 1974a). The Adur valley had by no means the greatest concentration, viz. at least 58 and possibly *c.* 78. The total seems to have increased in later centuries; for instance, the number of salterns at Lancing apparently grew greatly between 1086 and 1291 (see below). At Botolphs no salterns were recorded in Domesday Book, though there were salterns there later; however, this evidence in inconclusive, since the Domesday record need not be complete. A reliable estimate of the total number of salterns at any later date is impossible to make.

References to individual places are discussed in the Gazetteer of the Saltern Mound Groups below. The information can also be analysed by ownership. By far the largest number of salterns recorded in the Adur valley after the time of Domesday Book belonged to religious houses, though this dominance reflects the fact that monastic records are more likely to have survived than the records of lay owners. Battle and Durford abbeys and Sele and Lewes priories all received grants of salterns from members of the Braose family, lords of Bramber rape. The five which Sele priory (in Upper Beeding) had in Bramber at the end of the twelfth century of the Braoses' gift may well have been part of its original endowment of a century before, since the priory was a Braose foundation. Sele also received grants of single salterns from other lords in Botolphs and apparently Lancing, and not surprisingly had salterns in Beeding itself. Three of its salterns in Bramber were presumably still working in 1526. William de Braose I (d. between 1093 and 1096) endowed Battle abbey with salterns apparently in Shoreham[1] and also with an annual render of 100 ambers of salt from other sites in the rape of Bramber (Searle 1980, 88–9). Philip de Braose before 1121 granted four salterns at Bramber to Lewes priory. Durford abbey near Petersfield, apparently at or soon after its foundation *c.* 1160, received grants from the Braoses and others in Bramber, and still had property there at the Dissolution (Caley 1810, 321). Boxgrove priory received grants of single salterns in Coombes and Lancing *c.* 1180, and still had property at Lancing in 1535 (Caley 1810, 307). Cokeham hospital in Sompting received two salterns in Lancing at its foundation *c.* 1278. The Templars were granted a saltern at Shoreham in the late twelfth century. A striking point is the distance of some of the houses mentioned from the Adur valley; Battle and Boxgrove at least would have had sources of salt much nearer at hand. No record has been found of salterns in the area belonging to religious houses outside the county. Among the lay owners recorded after the time of Domesday Book, besides the Braoses, were the lords of Wiston manor, who seem to have had salterns at Lancing.

It was apparently usual for monastic owners, and perhaps for lay ones too, to lease out their salterns (e.g. Fleming 1960, 161; Salzman 1923, 61–2, 68, 74). Rents were naturally wholly or partly in kind. In 1423, for instance, Lewes priory leased out a saltcote at Bramber for seven years at an annual rent of ten bushels of salt[2]. The bushel occurs as a measure elsewhere too (Salzmann 1916, 56, 130, 133). Other measures used were the 'seam' (*summa*), mentioned at Beeding and Lancing (Salzmann 1916, 28; Salzman 1923, 61–2, 68), and the 'amber', a measure recorded in the late eleventh century (e.g. Searle 1980, 88–9). The size of the seam is uncertain, according to the Oxford English Dictionary, but in a deed of 1236 it was to be assessed 'according to the measure of South Lancing' (Salzmann 1903, 88). The amber was equal to four bushels, and at Washington manor in 1086 was worth 1*d.* (King 1962, 456). Two documents mention the date for the payment of salt rents: at Lancing *c.* 1247 the tenant was to pay five seams on the feast day of St. James the Apostle (25 July) (Fleming 1960, 161), and *c.* 1300 three tenants of Wiston manor in the same place were to pay between three and twenty loads at Martinmas (11 November). The suggestion that the latter date was chosen to allow for the winter salting of meat (Hudson 1910, 170) is probably erroneous, since archaeology is gradually disproving the idea of the traditional wholesale Martinmas slaughter (e.g. Holden 1980, 294).

Salterns did not last indefinitely, however; as the mounds of debris became too large sites would be abandoned for new ones further into the estuary (Thompson 1965, 45 note; de Brisay *et al.* 1975, 37), and would be turned over to pasture—there are references to such former salterns[3] (Fleming 1960, 171). Lessors might therefore stipulate that a salt rent should continue to be paid even if a saltern ceased to produce salt (Fleming 1960, 161). Thus several properties

in Lancing which paid salt rents in the thirteenth and fourteenth centuries, including the holdings of Wiston manor already mentioned, are not called salterns, but must nevertheless be former ones (Salzmann 1903, 88; Salzmann 1916, 28, 130, 133); and salt rents were still paid in Lancing in the sixteenth century after all salt-making had ceased. In the same way a mid-thirteenth-century tenant of one saltern owed half a seam to Sele priory, his immediate lord, and two seams to the lord of Bramber rape, who had evidently intended thus to secure a supply of salt in perpetuity when granting the saltern to the priory (Salzman 1923, 74).

Tithes of salt were also naturally payable, as of any other product. Sele priory was confirmed as rector of Botolphs parish in tithes of salt there *c.* 1200, and was similarly confirmed in Upper Beeding in 1234. Salt tithes were paid in both parishes, and also in Bramber, in 1341 (Vanderzee 1807, 351, 386, 389).

Unfortunately there is little evidence for the economic structure of the industry. We know from other places that salt-making was a summertime activity, and we may assume that in the Adur valley too it was practised part-time by small farmers (Bradley 1975); it would have well complemented the mixed farming carried on on the downland that flanked the estuary. A smith at Beeding leased a saltern from Sele priory in the mid-thirteenth century (Salzman 1923, 68). Town-dwellers too might be involved, according to a reference of 1266–67 at Bramber (see below), though Bramber was then really hardly more than a village. Similarly, only one reference has been found to the distribution of Adur salt: in 1345 an estate in Leigh near Reigate in Surrey had four bushels brought yearly in autumn by two bondmen from Bramber[4]. Salt also travelled almost to the Hampshire and Kent borders—the sites of Durford and Battle abbeys. For the most part, however, its distribution seems to have been local only; there is no indication of anything like the network of 'saltways' that centred on Droitwich in Worcestershire (Mawer *et al.* 1927, 4–9). Nor is there anything to show that the Adur valley shared with other areas of Sussex in sending salt abroad (Pelham 1930; Salzmann 1907, 232); sampled Shoreham customs accounts of the late thirteenth and early fourteenth centuries have no mention of salt[5].

The possible reasons for the decline of the industry are discussed below. Only at Bramber and Steyning is there certain evidence, documentary or archaeological, of salt-making after *c.* 1350. The salt that was brought from Pende in Lancing to Offington House in Broadwater in 1444–45[6] seems to have been imported salt, since Pende was a port trading with the continent (Hudson 1980, 47), rather than salt made in Lancing. It is possible, however, that salt-making did continue at Lancing until that time or later; in 1592 a local witness aged 79 knew that the mounds in the marsh there were connected with the activity (see below)—a fact which would be more easily explained if production had ceased not very long before. At Bramber salt-making was certainly carried on in the early fifteenth century, and apparently in the early sixteenth century too, and a saltcote was mentioned at Spratt's marsh in Steyning in 1477 (Gazetteer, 6A).

THE SALTERN MOUNDS

There were until a few years ago eight groups of medieval saltern mounds in the Adur valley, of which the majority have since disappeared (Fig. 1). It is not possible to describe a 'typical' mound as they vary so much in shape and size. They may be round, oval, kidney-shaped, or incapable of being defined as a specific shape; they may be as small as 20 ft (6 m) diameter, or up to *c.* 180 ft by 130 ft (55 m by 40 m). Some mounds, such as those of kidney

shape, have an embayment or scalloped effect suggesting that the used sand had been disposed on either side. The height of mounds above the present surface of the alluvium varies, but most mounds (excluding those at New Monks Farm, which were barely discernible) were between 2 ft and 4½ ft (0.6–1.38 m) high, with flattish or undulating tops and gently sloping sides; sometimes there are one or two pronounced humps. One mound of a group of three to the south-west of Beeding bridge attained a height of *c.* 7 ft (2.13 m), the other two being 6½ ft (2 m) and 6 ft (1.82 m) respectively. In no instance is it known how far below the alluvium the mounds penetrate to reach the original strand on which they were formed, but all would have been higher than they appeared recently, some considerably so. At Seasalter, Kent, two mounds exceeded 15 ft (4.57 m) in height (Thompson 1956, 47), while in parts of the Lincolnshire coastal marshes some are between 16 ft and 20 ft (4.8–6.1 m) high (Rudkin *et al.* 1959–60, 76).

Mounds in a group are unlikely to be all of the same age, especially as it is known that salt-making was conducted for several centuries in some of the locations. Theoretically, those of a group closest to the edge of the alluvium and thus furthest inland when estuarine conditions prevailed should be of greater age than mounds nearer to the centre of the valley. With the retreat of the sea, caused by gradual reclamation and inning of the marshes, the process followed the tide mark (Phillips 1961, 133–4). Conversely, mounds formed at a time when the relative level of the land to the sea might have been somewhat lower than that of today would have been washed away when the sea level gradually rose. The result would then be that medieval mounds had a greater chance of survival than Saxo-Norman ones.

Catt (1908 and see below) reported 21 out of 27 mounds at Botolphs having shallow ditches around them. E. W. H. recalls seeing some of these so-called ditches, but they are unlikely to have been man-made, and are interpreted as natural hollows caused by water run-off from the mounds over the centuries. The 'ditches' were very shallow and generally connected with other natural meandering hollows which eventually joined deeper drainage ditches.

A description of each group of mounds will follow, to which will be coupled such details of any excavations or investigations and historical references as are available, starting from the south with those on the west side of the Adur, crossing to the left bank north of Bramber to Upper Beeding and then proceeding southwards.

GAZETTEER OF THE SALTERN MOUND GROUPS

1. NEW MONKS FARM, LANCING (Fig. 1)

A group of ten very degraded low mounds exist west of Shoreham Airport and slighter traces of another six in the same area. They lie in one-time marsh intersected by drainage ditches, now devoted to agriculture, between TQ 193-198(east) and 051-058(north). Field walking by C. Ainsworth and others in 1971 found signs of more ploughed-out mounds over a large tract of the surrounding land. It would appear that the silting-up and formation of the marsh ceased when the tops of some mounds had been almost reached by the rising silt, while others were submerged. The mounds are of yellowish sandy silt/clay, the same colour as the alluvium.

A small excavation was conducted by Mr. Ainsworth within the mound group on what appeared to be an area of occupation (shown as a larger black dot in Fig. 1). This was probably a large ploughed-out mound, the top of which was once higher and likely to have been above the spring tide level. Pits and places where fires had been were discovered and there were

numerous small stake holes making no coherent pattern, but which could possibly represent a windbreak. Pottery found in these excavations and also during the field-walking, was unglazed and of Saxo-Norman or early medieval character. One rim and a joining body sherd, however, were of Portchester ware, dating to the tenth century A.D. A scale-like deposit found on one sherd was analysed by D. Shelverton and found to contain substances demonstrating that the pottery vessel had been used for boiling concentrated brine (see also Group 8 for a sherd with a somewhat similar incrustation, and Appendix 2).

Twenty-three salterns were recorded at Lancing manor and at two sub-manors of it in Domesday Book (1086), and at the same date six more salterns were recorded at Hoecourt manor in the same parish (TQ 191 061) (Salzmann 1905, 449). The total is the largest of any parish in the Adur valley. Three religious houses later owned salterns in Lancing: Boxgrove priory was granted *c.* 1180 by Robert of Ashington a saltern called 'Oxeneput' (Fleming 1960, 74), Cokeham hospital in Sompting was granted two salterns in its founding endowment of *c.* 1278 (Peckham 1946, 170–71), and the saltern 'on the sand' (*super la sonde*) which John de Colevile gave to Sele priory apparently in the thirteenth century seems to have been in Lancing.[7] In addition the lord of Wiston manor apparently at one time owned salterns there, since tenants of Wiston in Lancing are found paying salt rents on their properties *c.* 1300 (Hudson 1910, 164). The area of salterns apparently extended further south than the surviving mounds reveal (see Fig. 1), for in a deed of 1236 the 'seam' was stipulated to be assessed 'according to the measure of South Lancing' (Salzmann 1903, 88). The number of salterns seems to have increased greatly, since between 1291 and 1341 seventy saltcotes (*dom' salinaru'*), whose tithes had been worth the large sum of 23*s.* 4*d.*, were said to have been destroyed by the sea (Vanderzee 1807, 389). The latest certain reference to salt-making in Lancing is of 1323–24 (Salzmann 1916, 53), but it probably continued later, since salt rents were still paid at some time in the sixteenth century, and a local witness aged 79 in 1592 was aware that the mounds in the marsh represented the remains of the industry.[8]

2. APPLESHAM FARM, COOMBES (Fig. 1)

Ten mounds situated between TQ 198-200 (east) and 069-077 (north), were visible before removal. They lay on the landward side of a disused meandering protective bank that travels north-south and which must be later than the mounds. This bank probably represents a later medieval or post-medieval inning. Mr. C. Passmore collected pottery sherds and a fragment of lead from the sites of several mounds after they were bulldozed. One mound, at the southern end of the group, yielded broken roof tiles. These, according to present knowledge, are unlikely to be earlier than thirteenth-century. The pottery, however, all unglazed, resembled Saxo-Norman/early medieval wares.

Two salterns were recorded at Applesham manor in 1086 yielding 5*s.* a year (Salzmann 1905, 446), but there are no later references to the industry there.

3. COOMBES (Fig. 1)

There were a minimum of eighteen mounds before recent destruction, nineteen if a small one of *c.* 20 ft (6 m) diameter is included; six had been truncated by later drainage ditches. They are all relatively close to the farm buildings and the parish church of Coombes which, with two or three ancient houses, are all that remain of a once populous medieval village. The mounds lay between TQ 192-194 (east) and 081-087 (north). As their removal was not watched no finds

have been recorded. Allowing for doubtful examples there is a total of 32 mounds for Applesham and Coombes combined, but in 1910, C. W. Catt and W. J. Passmore, the grandfather of the present owners, counted 38, plus 'more rises in two brooks nearer the river', so it would appear that more than six have vanished since that time.[9]

An unstated number of salterns existed at Coombes manor at the time of Domesday Book, yielding 50*s.* 5*d.* rent (Salzmann 1905, 446); by comparison with the yield of salterns elsewhere this sum suggests a total of perhaps 20 (Salzmann 1907, 232). John of Coombes gave a saltern at Coombes to Boxgrove priory *c.* 1180 (Fleming 1960, 73–4).

4. ANNINGTON/BOTOLPHS (Figs. 1, 3; Plate I)

Before removal 27 mounds could be seen in this area, spread on each side of the now defunct railway line, between TQ 191-194 (east) and 093-100 (north). A number of mounds had traces of ploughing around and over them, resembling ridge and furrow (Pl. I), probably to be associated with eighteenth-century 'improvement' of the alluvial meadows (Brandon 1971d, 117, n.2).

The Botolphs mounds were subjected to some investigations by the Brighton and Hove Archaeological Club (later re-named 'Society'), directed by C. W. Catt of Steyning, as long ago as 1908 (Catt 1908). Twenty-five mounds are plotted on the 1914 edition of the 6 in O.S. maps 51 SE and 52 SW, the Club being responsible for having these mounds recognised by the Ordnance Survey. Trenches were dug into three mounds, one in 1908 (Fig. 3, no. 1) and two in 1909 (Fig. 3, nos. 2 and 3) by members of the Club led by Catt, assisted or advised by H. S. Toms. The latter was curator of Brighton Museum and had been an assistant to General Pitt-Rivers, the well known late nineteenth-century archaeologist. Plans and sections of mounds 2 and 3 excavations, dated Aug.–Sep. 1909, have been traced to the Society's library at Barbican House, Lewes (Portfolio 1, no. 27). They are in pencil on both sides of a single sheet of card and are unsigned. The Club *Minutes* mention plans and sections by Toms, which these must be; they are competently drawn. Photographs by D. Montgomerie, also noted in the *Minutes,* have not been traced.

In 1909 Catt also excavated at Bramber in connection with a southward extension of the castle outworks (Barton *et al.* 1977, 17) again in cooperation with Toms, and a letter exists from Montgomerie to Harold Sands, a well known antiquary (Sands correspondence held by the Society of Antiquaries, London), in which he mentions Toms and Catt having worked together on the Botolphs excavation in 1908, with the comment: 'The diggings might nearly be described as TOMCAT ones'!

The Club *Minutes* record a lecture given by Catt on 7 December 1908 in which he mentions the 27 mounds as 'lying between Botolphs and Bramber' [though apparently he did not include the Group 5 mounds close to Bramber]. The limited excavations that year consisted of an interrupted section and some trial holes in one mound (Fig. 3, no. 1). Catt gave details of the theories that had been advanced for the mounds, e.g. 'remains of prehistoric dwellings; refuges for cattle in time of flood; outposts to guard the supposed Roman bridge which was believed by some [erroneously] to have crossed the estuary at Botolphs [Arnold 1932]; domestic sites of refugees driven from the Low Countries between 1567–73 and who [might have] settled in the neighbourhood of Steyning'. The last suggestion probably was made because the Botolphs mounds resembled some of the *terpen* found in certain low-lying parts of the Netherlands and Germany where it is essential for houses, and indeed whole villages, to be built on artificial mounds (Thompson 1970). The thought, no doubt, was that the refugees would have felt more

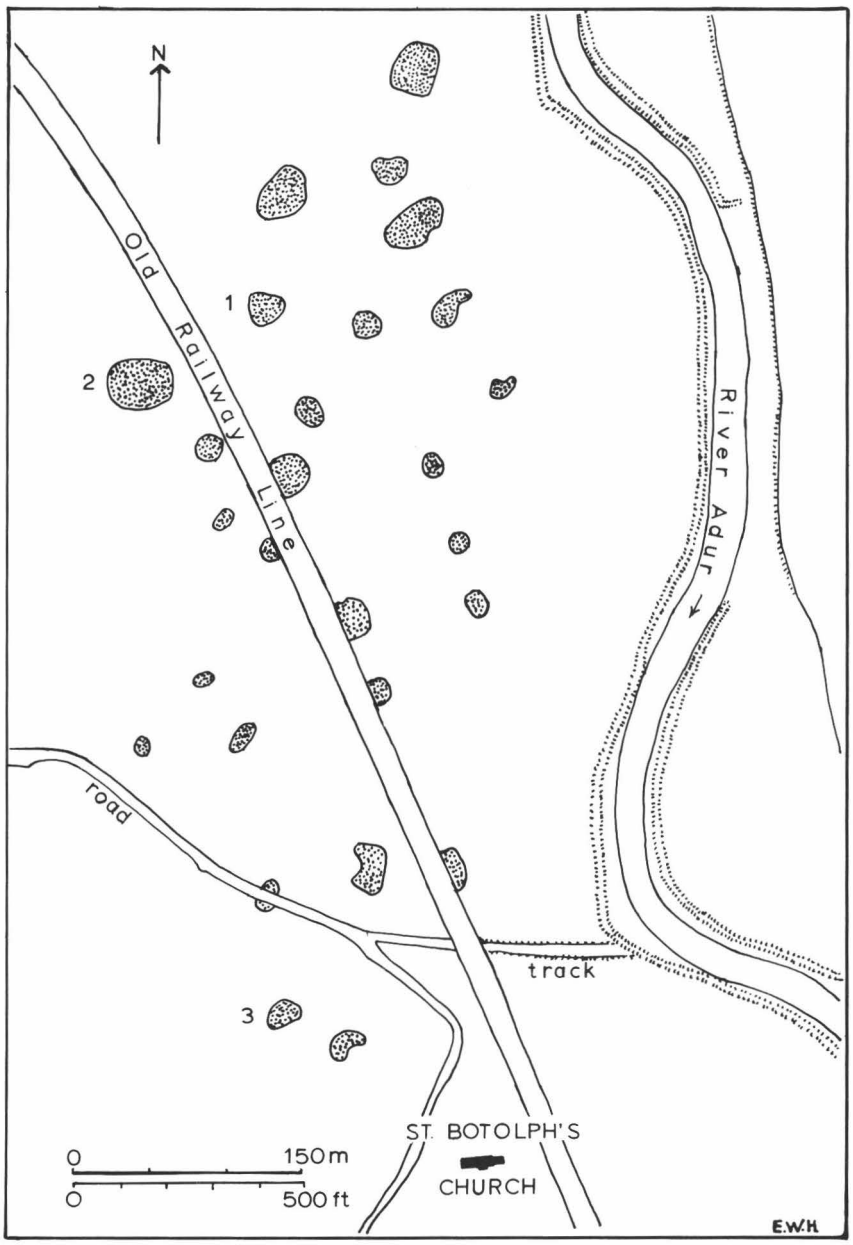

Fig. 3. Group 4 saltern mounds (shown dotted) at Annington/Botolphs; drainage ditches, stream and some modern features excluded. (Based upon the Ordnance Survey maps of 1914).

at home! Other suggestions were 'sites of potteries', and finally, 'the remains of saltpans'. Catt concluded his lecture by saying that the result did not carry the Club much beyond the upsetting of all theories so far advanced to account for the mounds. Finds included medieval pottery, some with green or yellow glaze, and a piece of lead. Catt thought that some pottery was glazed

with lead and that the internally-glazed sherds were the remains of a pot for melting the lead [this was incorrect]. Other finds were fragments of burnt clay, animal bones, carbonised wood and some pebbles from the sea shore. He dismissed all the theories, including salterns as, in his own words, 'these were supposed to have been situated close to Bramber castle', a somewhat enigmatic remark as there were numerous mounds similar to those at Botolphs to be seen close to the castle.

Catt lectured on the 1909 excavations, which were more exhaustive than those of the previous year[10] and he described a visit to the excavations by Harold Sands, Horace Wilmer and Francis W. Reader, the two latter being members of the Red Hills Exploration Committee and authors of reports in 1907 and 1908 which gave results of their investigations into some of the Iron Age/Romano-British saltern mounds in Essex (de Brisay *et al.* 1975, 91, for references to their separate and joint papers). Their thoughts on the Botolphs mounds are not recorded, but they must have found the yellow clay of which the latter were formed very different from the Red Hills of Essex. The visiting antiquaries apparently did not produce any new ideas, for Catt was reported as still in doubt regarding the purpose of the mounds. It was stated, however, that the pottery sherds recovered (and now lost) were of twelfth- and thirteenth-century date [a good estimate then when little was known about medieval pottery]. A medieval knife and animal bones were also found.

The Essex Red Hills continued to be a mystery until R. A. Smith was able to show that they were Iron Age or Romano-British saltern mounds (Smith 1917–18). It was not until 1925 that Essex archaeologists discovered that the yellow mounds without masses of briquetage were of medieval date, thus refuting an 1867 suggestion that the mounds were defensive gun emplacements (Miller Christy *et al.* 1928).

Toms' drawings are not reproduced here as the sections show nothing that is not depicted in the Group 8 excavated mound (Fig. 4). Mound 2 was 3 ft (0.9 m) high, the main trench, 133 ft (40.5 m) long, crossing its centre; two other shorter trenches and two test holes lay on either side. None went lower than the meadow level outside the mound, all showing in section 'sandy clay' or 'stiff clay', with some tip lines. Medieval pottery, burnt earth, bivalves and shells occur throughout. Lead is noted associated with medieval pottery just below the topsoil in a subsidiary trench. All trenches stopped at a depth where the colour of the clay is recorded as changing from yellow to blue, which is indicative of the level to which the water table rose.

Mound 3 was 4 ft (1.2 m) high and had one north-south trench, 48 ft (14.6 m) long by 3 ft (0.9 m) wide, dug to a depth of $4\frac{1}{2}$ ft (1.37 m) (Fig. 3). Below the topsoil was 'yellow sandy clay' containing medieval pottery, burnt earth and charcoal. At 3 ft (0.9 m) down the soil is described as 'undisturbed valley clay', but in one-third of the trench length 'charcoal and burnt earth' is mixed with it. It is suggested that the so-called 'undisturbed' material is the same 'sandy yellow clay' rendered 'stiff' by compaction. It appears that trenches in both mounds had to cease when the blue clay level was reached because of percolating ground-water, as was experienced in the Group 8 trench.

Further researches into the Botolphs mounds ceased until 1960 (Holden 1962a). Dr. M. W. Thompson, the excavator of Seasalter, Kent, kindly visited the area in that year and confirmed that the remaining mounds resembled those found at medieval salterns elsewhere.

Finds from the sites of the mounds following their removal included medieval sherds, some with green glaze, convex (sagging) bases of cooking pots and other wares typical of the medieval period, but which cannot safely be dated closer than to between the twelfth and fourteenth centuries. As in 1908 a number of animal bones had survived, mostly showing signs of burning,

probably the remains of meals, as were a number of oyster shells. Several mounds left behind them a cluster of some 30 to 40 large flints or sea boulders and occasional lumps of hard chalk, some of each being burnt. These may be remains of hearth surrounds, while some hard fragments of burnt clay could have come from the floors of the hearths themselves. Something was necessary to prop up lead boiling pans or clay pots above the fires and, in the absence of local building stone, flints were the next best material, although they may splinter when heated. As was noted at Group 8 (below) the burnt areas occurred at various levels as a mound grew in height and were not necessarily specially prepared. The material used for brine extraction, being a sandy silt, baked hard wherever there was a fire. The salters had occasion to sharpen their knives, as several pieces of whetstone were found. One piece of a hone resembling schist (not examined petrographically) is a typical medieval find as such hones have been recovered from many excavations of the period. While sandstone hones may have a local provenance, it is of interest to note evidence of foreign trade, as some of the schist hones are considered to come from southern Norway (Ellis 1969).

Though no salterns are mentioned at Botolphs in Domesday Book (1086), that fact is not conclusive proof that none existed there then. The first documentary reference is of 1153, when Ralph St. Owen, lord of Clapham manor near Worthing, gave to Sele priory his saltern 'near Annington', the alternative name for Botolphs (Salzman 1923, 82–3). Another saltern had ceased to be active before its site was granted *c.* 1160 to Durford abbey near Petersfield.[11] Tithes of salt at Botolphs were confirmed to Sele priory *c.* 1200 (Salzman 1923, 75), and the vicar received salt tithes in 1341 (Vanderzee 1807, 351).

5. BRAMBER (SOUTH) (Fig. 1, Plate II)

Fourteen mounds south of the village street survived until 1971–72, but the group was not surveyed, the positions of the mounds on the plan being taken from sketches and an air photograph (RAF 541/220: 31 December 1948, no.3155). It is possible that two or three more mounds existed before the formation of St. Mary's caravan park. As previously mentioned the three mounds nearest Beeding bridge were up to 7 ft (2.13 m) in height. The northern high mound was seen during removal, an old soil line being noted *c.* 1 ft 6 in (0.45 m) above field level. This showed that there had been a hiatus at this mound, sufficiently long to permit the formation of a soil, before salt-making was resumed on it. The highest mound of all likewise had a buried soil line visible about half-way down its height. Objects picked up were a few sherds of medieval pottery, some fragments of flat Wealden sandstone, a number of large sea boulders, oyster shells, burnt clay and a sheep horn-core.

A road leading from Bidlington (Fig. 1) to the salterns was mentioned *c.* 1260 (Salzman 1923, 86). The salterns concerned may have occupied the land described in 1698 as the 'salt slip or slips' which apparently lay south of the village street;[12] for the meaning of the name see Appendix 3. For other possible references to the salterns in this area see the next entry.

6. BRAMBER (NORTH) (Fig. 1, Plate II)

North of the village street beyond the row of houses and back gardens are alluvial meadows divided by sundry drainage ditches. Following the line of the garden fences is another water-containing ditch running from the south-eastern corner of Bramber castle to join a north-south watercourse, which is the parish boundary between Bramber and Upper Beeding. That this section of the modern boundary to Upper Beeding is west of the river Adur is evidence of considerable changes in the course of the river in its later stages. This insignificant watercourse

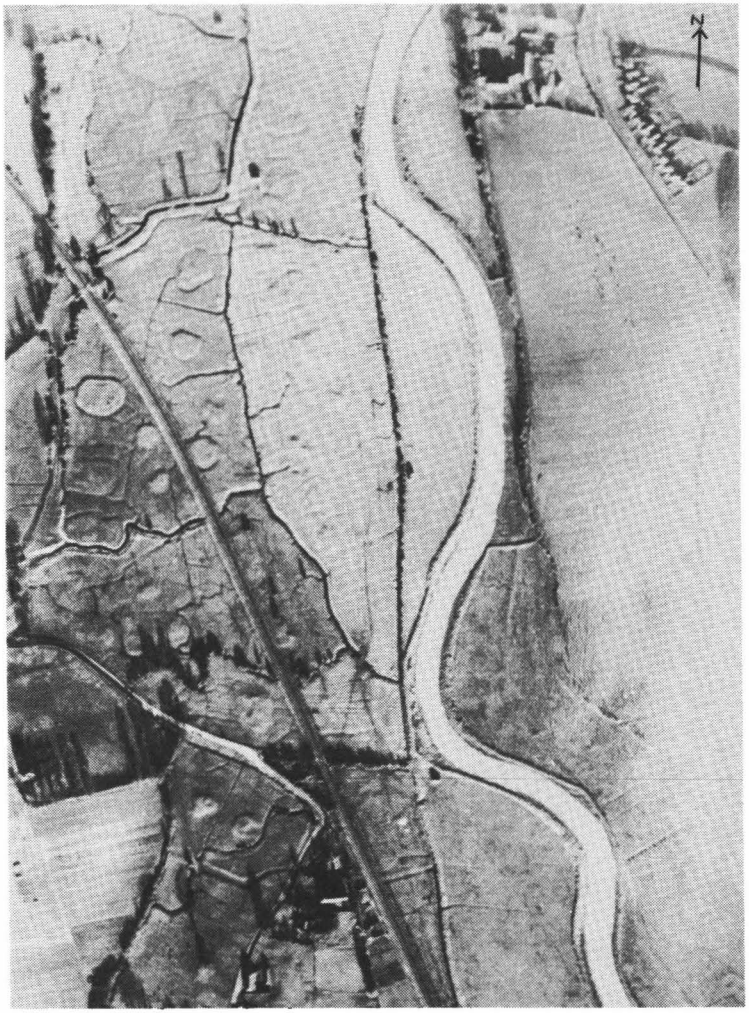

Plate I. Air photograph of Annington/Botolphs Group 4 saltern mounds (cf. Fig. 3). (Part of 541/220, 31 Dec. 1948, 3108: *Crown copyright/DOE photograph.* Copies of this flight are no longer available, ex inf. DOE).

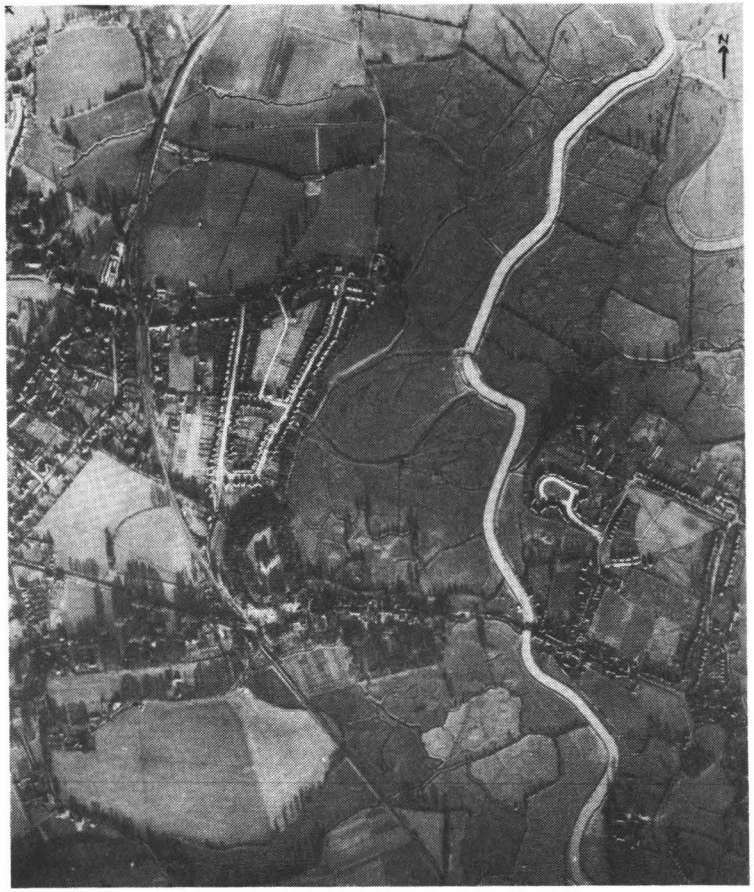

Plate II. Air photograph of Bramber/Upper Beeding area, Groups 5—7 (Part of 541/220, 3155; *Crown copyright/DOE photograph).*

appears to be all that remains of the mainstream which flowed under the stone bridge of Bramber during the Middle Ages.

The east-west ditch (which can be seen best from alongside the northern boundary of the main car park) is probably the one recorded in 1266–67 (see below). It would appear that an earlier ditch, possibly on the same line, had already been cut in 1086 to make a watercourse to the castle and had been filled up by the order of King William.

The (old mainstream) drainage ditch turns westwards towards the northern end of the castle mound, and is still the parish boundary between Bramber and Upper Beeding. Within this rectangle of ditches are six saltern mounds of varying shapes and sizes. Two of them have horseshoe-shaped 'working areas' at low level, the one with its mound to the south and east having an overall height of *c.* 6 ft (1.8 m). The surface of the alluvium between some of the mounds is intersected by faint banks and hollows which may relate to the final stages of the salterns. The 1973 sewer trench passed to the east of the mounds without disturbing any and nothing was found on that occasion, but in 1972 several glazed and unglazed sherds of medieval pottery and fragments of burnt clay came from molehills on two mounds. The centre of the group is about TQ 188 108. These six mounds, with three more to the north on the other side of the parish boundary, have been declared a Scheduled Ancient Monument (Sussex No. 391) about which a note has been published (Holden 1975b).

There were salterns at Bramber in the late eleventh century (Round 1899, 38). Some were apparently on the site of the village street, for the houses in his newly-planted borough which William de Braose I (d. between 1093 and 1096) granted to Battle abbey were described as having been built 'in the land of the saltern' (Hudson 1980, 201). The five salterns recorded in Domesday Book at the Braose demesne manor of Washington north of Worthing also probably lay in the future Bramber parish, since Bramber castle itself was built on an outlying hide of Washington manor (Salzmann 1905, 444). There were also salterns at the same date at another Braose demesne manor which was described as lying in Steyning (Salzmann 1905, 445); since that manor corresponded to what were later the manors of King's Barns in Upper Beeding and Bidlington in Bramber, it is possible that some of its salterns too lay in Bramber (Hudson 1980, 208, 210).

Three religious houses were granted salterns in Bramber by the Braoses and others. Before *c.* 1190 William de Braose (probably William de Braose I, mentioned above) gave five to Sele priory, which passed in the mid-fifteenth century, with the priory's other estates, to Magdalen College, Oxford (Salzman 1923, 17). Lewes priory meanwhile had received another five before 1121: four from Philip de Braose, son of William, and one from Ralph of Grinstead (Round 1888, 12–13). One saltcote at least belonging to Lewes was still active in 1423[13]. Durford abbey near Petersfield, apparently at or soon after its foundation *c.* 1160, was granted by William de Braose II a saltern lying 'under' Bramber castle and 2*s.* rent from another in the same place; at the same time Aubrey of Durrington and Hugh son of Buci each gave a quarter of a saltern nearby[14].

It seems highly probable that the salterns that lay 'under' Bramber castle were on the site occupied by the existing mounds. Two further references can also be linked to them. In 1266–67 a new cut was made north of Bramber street to bring boats with building materials to the castle at high tide; the burgesses of Bramber complained that it impeded their accustomed access with waggons and carts to their salterns in the marsh (Salzman 1941, 28–9). The second reference is more specific. In 1403 the two daughters of John Herberd of Bramber granted to John Haycock, also of Bramber, a saltcote lying south of the 'tidal water descending in its course

from Sprottesmersh to the bridge of Brembre', and bounded to the west and east respectively by marshland of Durford abbey and by another saltcote in the occupation of John Haycock, and to the south by marshland belonging to the duke of Norfolk[15]. Since Spratt's marsh was the detached portion of Steyning parish which lay north-east of Bramber castle (Hudson 1980, 235; cf. Fig. 1), and the Bramber bridge mentioned was the medieval one which lay just east of the house called St. Mary's in Bramber village street (Holden 1975a), the 'tidal water' concerned was that followed by the Upper Beeding/Bramber parish boundary, mentioned above. The marshland of Durford abbey and of the duke of Norfolk evidently represented the sites of former salterns, the duke being the Braoses' successor as lord of the rape.

Bramber also has what is apparently the last reference to salt-making in the Adur valley, for the three salterns listed in 1526 among Magdalen College's estates in the parish were described as lying outside the sea wall, and would therefore still have been capable of being worked (*pace* Hudson 1980, 210 n.99).

6A. UPPER BEEDING (WEST OF R. ADUR) (Fig. I, Plate II)

Three mounds north of the parish boundary ditch, lying between TQ 1860-1884 (east) and 1083-1097 (north), although in the parish of Upper Beeding, geographically belong to the Bramber group 6. A further three degraded mounds may be seen in an air photograph (RAF 541/220, 31 December 1948, no. 3155), but are difficult to recognise on the ground, so in this sub-group are three certain and three probable mounds.

Documentary references to salterns in Upper Beeding parish are discussed under the next entry. The mounds described above, however, adjoin a site recorded in documents, but for which there is no archaeological record. In 1477 there was a saltcote on the detached portion of Steyning parish north-east of Bramber castle which was called Spratt's marsh (Hudson 1980, 235; cf. the previous entry and Fig. 1); evidently the existence of the saltcote was the reason for the attachment of this small piece of land to Steyning parish. It is possible that Spratt's marsh also represents the site of the saltern or salterns from which Wappingthorn manor in Steyning received 20*d.* rent in 1086 (Salzmann 1905, 445).

7. UPPER BEEDING (NORTH) (Fig. I, Plate II)

North of the parish church and remains of Sele priory is a group of 24 mounds. They cover an area between TQ 191-194 (east) and 111-116 (north). Three others of this group were destroyed by sewer trenching in 1972, making a total of 27. Nineteen were surveyed in 1973 and a further five, mostly very low, have been recognised from the air photograph (as 6A, above). They form the most northerly group of salterns discovered in the Adur valley.

No salterns were mentioned at Beeding in Domesday Book, unless those of the Braose demesne estate described as lying in Steyning were in Beeding parish (cf. above, under Bramber). The first certain reference found is of 1234, when Sele priory as rector of the parish was confirmed in tithes from the salterns of the men of Beeding[16]. The priory retained those tithes in 1341 (Vanderzee 1807, 386). In the mid thirteenth century it also had salterns of its own in the parish (Salzman 1923, 61–2, 68); one which was described as 'on the north towards the small bridge of Bramber' (i.e. the modern, eastern, bridge) presumably represents an eastern extension of the group of salterns lying north of Bramber car park. In 1298 Broadbridge manor in the detached part of Sullington parish near Horsham was receiving as income nine quarters of salt from Beeding[17]. Field names recorded in the parish in later centuries included the

Saltcotes[18], as well as Saltbrook, the Salts, the Saltmarsh, and the Saltmead, which may only refer to uninclosed pasture (Osborne 1967, 40–1, 46).

8. UPPER BEEDING (SOUTH) (Figs. 1, 4; Plates III, IV)

Just over half a mile (1 km) south of the village, opposite Botolphs, lay a group of mounds flanking the east side of the river Adur, close to Lock Barn and Lock Barn cottages, north of the Cement Works. They lay between TQ 196-199 (east) and 091-095 (north). A survey of four of the mounds (A-D) was made in 1966. A fifth mound (E) had been truncated by the river bank west of mound A. The map reference covers more mounds in the adjacent field to the north-west, all being low and hard to distinguish. The total came to eight certain and three possible sites. The southernmost in the group were destroyed in 1966, while the more northerly mounds have been degraded still further by ploughing. In November 1960 flooding allowed the southern mounds A-E to show their tops above the water (Pl. IV).

Mr. E. G. Porter of the then Sussex River Authority kindly arranged for a machine to cut a 4 ft (1.22 m) wide trench through mound A (Fig. 4). This mound was composed of yellowish silty clay with up to a foot (0.3 m) of dark topsoil above. At the lowest level the clay was more compact (through natural compression), speckled brown and becoming grey-blue in colour through intermittent waterlogging. There were also fragments of crushed marine shells in the clay at the bottom of the trench. It is possible that the base of the man-made mound had been reached, but percolating ground water prevented digging deeper than 2 ft (0.6 m) below general marsh level. The section revealed tip-lines marked by charcoal and burnt clay, but there were no tip lines at the very bottom of the trench. Numbers of large flints and beach cobbles, chalk and a lump of burnt sandstone were found. The mound yielded Saxo-Norman pottery sherds, but no glazed sherds, also a fragment of lead, the latter from the north-west end of the trench. This lead, like the piece from Applesham, would be from a boiling pan, melted by allowing the pan to boil dry. Some sherds are from large cooking pots and one piece of rim (Fig. 5, no. 2) had a spot of incrustation on the inside which was analysed and found to contain minerals present in sea water (Appendix 2).

The pottery is probably not earlier than twelfth-century, which is included in the broad dating of Saxo-Norman (Barton 1979).

For possible documentary references to these salterns see the previous entry.

9. ERRINGHAM (Fig. 1)

One certain low mound is visible in the narrow strip of pasture between the railway line and the main road about 180 yards (165 m) west of Old Erringham manor house, at TQ 204 077. There are one or two slight rises nearby which may possibly be associated with salt-making activities, but they are too vague to be claimed as mounds. Erringham lies in the parish of Old Shoreham and has known occupation from later Saxon times to the end of the medieval period and beyond (Holden 1976 and 1980). As a settlement it was never large, nor a parish in its own right.

10. SHOREHAM

In the late eleventh century William de Braose I granted to Battle abbey two salterns apparently in Shoreham.[19] A century later Alan Trenchmare gave to the Templars a selion of land—a long narrow strip of indeterminate area according to Cheal—extending from the front door of his house at New Shoreham to the sea[20] (Cheal 1921, 84; Hudson 1980, 153). This was

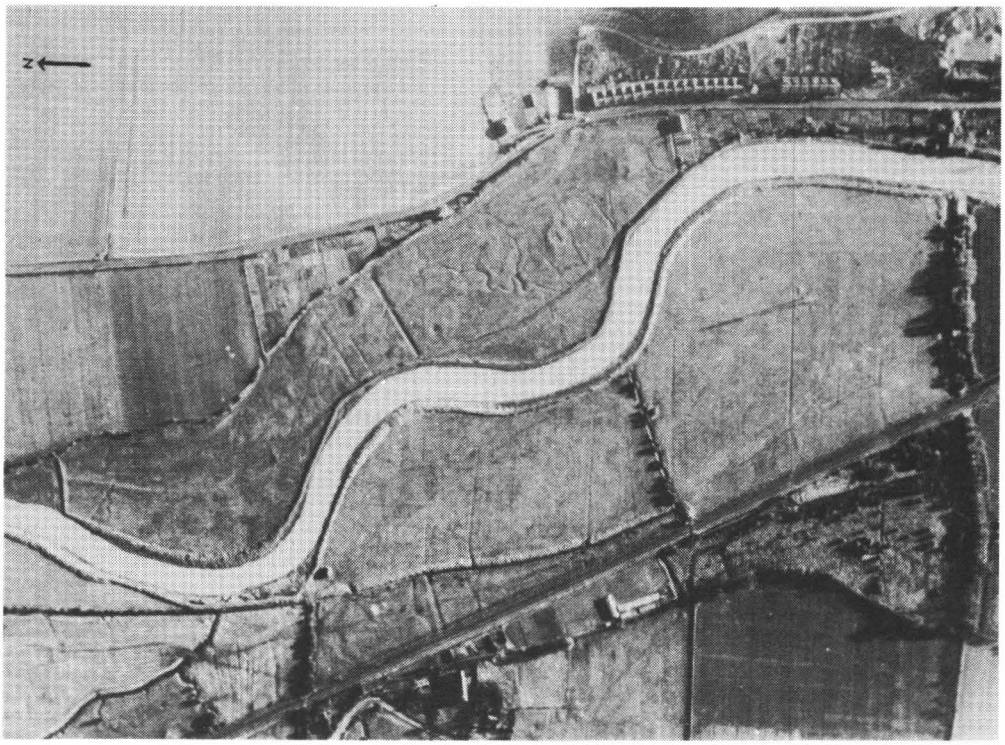

Plate III. Air photograph of Upper Beeding Group 8 saltern mounds (cf. Fig. 4). St. Botolph's church is centre, left. (Part of 541/220, 3108; *Crown copyright/DOE photograph*).

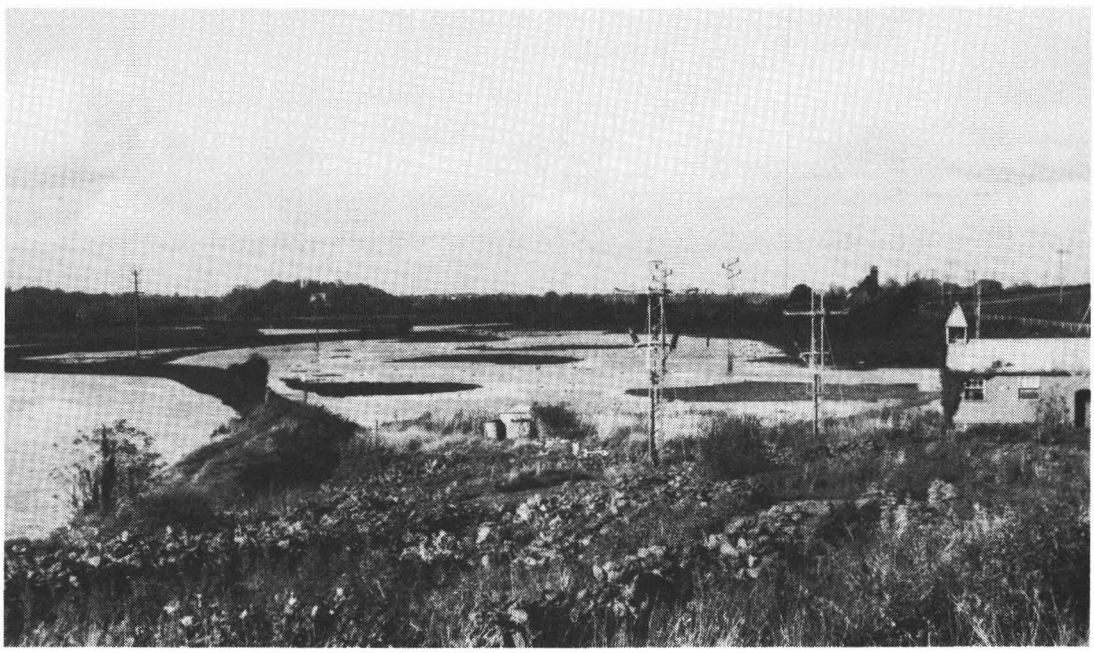

Plate IV. Group 8 mounds A—E showing under flood conditions, Nov. 1960, looking north-west. *Photo E. W. Holden.*

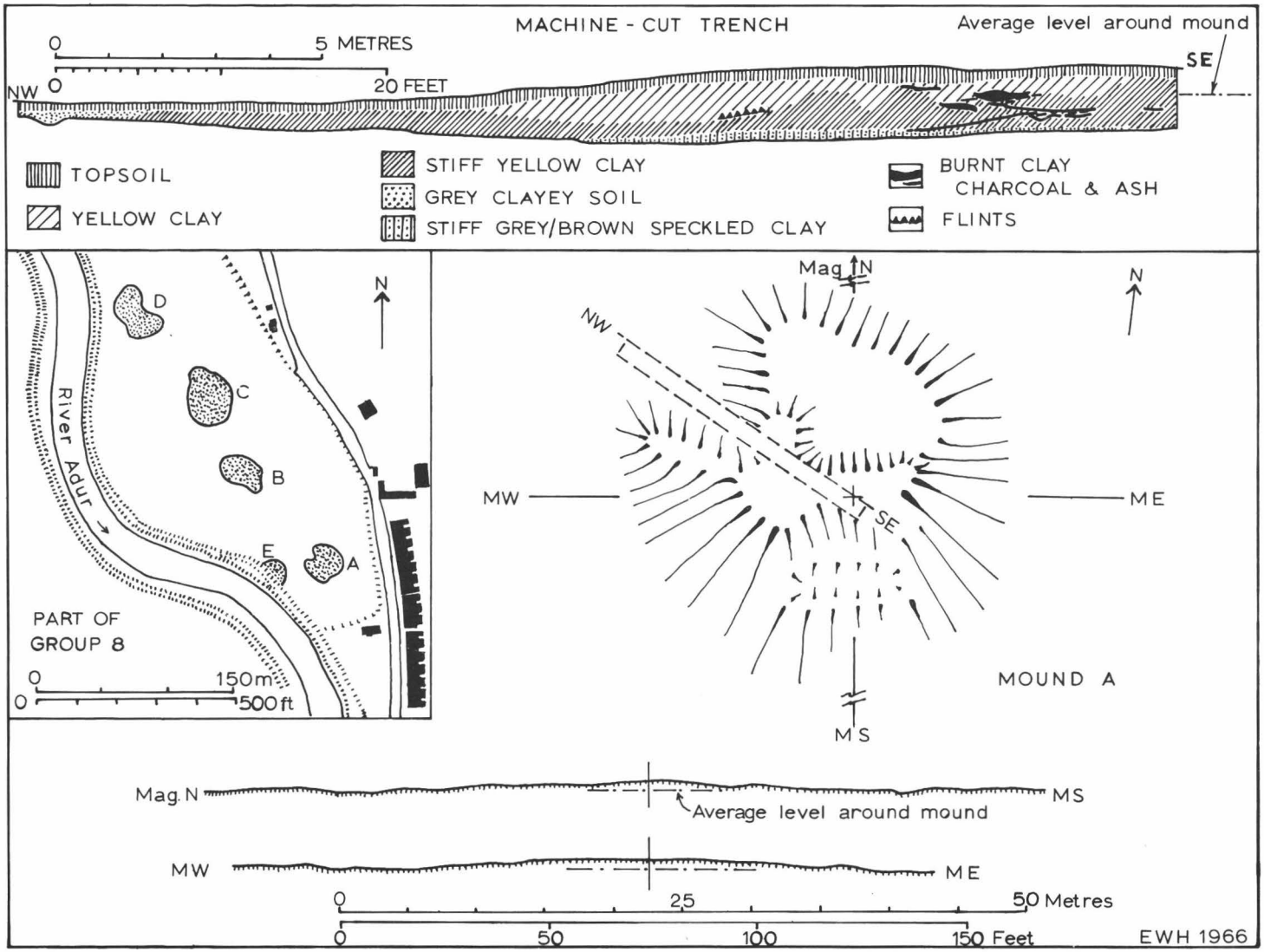

Fig. 4. Southern part of Group 8 saltern mounds, Upper Beeding; drainage ditches excluded. (Based upon the Ordnance Survey map of 1914).

evidently a saltern holding, the 'land' being necessary for the scraping up of the sand for the extraction process. The 'sea' would be the estuary, not the open sea.

11. KINGSTON AND SOUTHWICK

Six salterns yielding 20*s.* and 10 ambers of salt were recorded at Kingston in Domesday Book; another three salterns yielding 22*d.* at the same date were apparently in Southwick (Salzmann 1905, 447 and note). Income from salt was received from an estate in Kingston and elsewhere in 1324–25, which may indicate that salterns were still active there then (Salzmann 1916, 56).

THE DECLINE OF SALT-MAKING

As indicated above (p. 128), salt-making in the Adur valley virtually ceased during the fourteenth century. It is probable that this was due to several adverse circumstances, viz:

(1) An early-medieval warm epoch was succeeded after *c.* 1300 by a deterioration in the climate of Great Britain (Lamb 1967).

(2) At the same time there was apparently a rise in the relative level of the sea to the land (Appendix 1). Pelham refers to the 'ravages of tempests' along the Sussex coast in the fourteenth century and their consequent effect on the local salt industry (Pelham 1930, 183–84, Table VI, and see p. 129). A possible local confirmation of rising sea level comes from Stretham moated site, 2½ miles (4 km) upstream from Upper Beeding, which was apparently abandoned *c.* 1350 owing to flooding (info. kindly provided by Mr. A. Barr-Hamilton in advance of his own publication; for other evidence of floods, see Brandon 1971a, 4–6). A rising sea level would gradually reduce the width of the sand-floor between ordinary and spring high tides, until so little margin, if any, was left at the edges of the estuary that a good salt harvest would be difficult to achieve. Another factor reducing the size of the tidal compartment was probably the greater deposition of silt within the estuary caused by the rising sea level and the continued deflection of the mainstream from Shoreham eastwards (Brandon 1974a, 163; Brookfield 1951–52). The inning and embanking which we know to have gone on in the thirteenth century (Hudson 1980, 35, 201) may not have curtailed it seriously, but their effect would in any case have been reversed by late medieval changes in the relative levels of land and sea (see Appendix 1). The late sixteenth and early seventeenth centuries, however, were the second great period of reclamation of the Adur valley marshes (Hudson 1980, 35, 217), and there is no indication of any salt-making thereafter.

(3) In the second half of the fourteenth century salt from Bourgneuf Bay in France became the cheapest in Northern Europe, undercutting the English industry generally (Bridbury 1955, 66–70, 94). Many who had engaged in salt-making now found cloth-making a more profitable undertaking (Bridbury 1955, 33). Salt was being imported at Shoreham in 1357 (Salzmann 1907, 233), and also apparently in 1369–70 (Searle *et al.* 1967, 62).

(4) The Black Death of 1348 is known to have been severe in Sussex and it is unlikely that the occupiers of the Adur valley escaped the catastrophe (Holden 1963, 67–68).

It is during the second half of the fourteenth and the early fifteenth centuries that some formerly thriving Sussex villages shrank substantially or even became depopulated (Burleigh 1973) and it seems that the villages of Botolphs and Coombes and the hamlet of Erringham were likewise victims of circumstances beyond their control, both economic and physical. The absence of fifteenth-century pottery from the admittedly limited number of finds from sites of

demolished mounds suggests that, south of Bramber, salt-making virtually ceased in the fourteenth rather than the fifteenth century.

CONCLUSION

The question might be asked: why was there part-time salt-making in the Adur valley during the Middle Ages? The answer appears to be that: (1) the estuary between Shoreham and Bramber/Beeding was ideal for providing the raw material of salt-impregnated sand; (2) wood for fuel was apparently not difficult to obtain; and (3) the end product was a useful commodity, considered to be a necessity of life, required by many people for a multitude of purposes, and therefore eminently marketable. The output was sufficient for local consumption and the hinterland's needs. The majority of the salters were farmers and peasants normally working on the land flanking the valley, producing food and wool. To them salt was probably just another crop to be harvested in due season; it would be a welcome addition to the means of subsistence for them and their families. The situation, however, was not to last indefinitely: the changing circumstances outlined above brought about the demise of salt production in the Adur valley which gave another setback to an area already feeling the effects of a deteriorating local economy.

THE FINDS

The Pottery Fig. 5.

1. Group 1. Two joining sherds of tenth century Portchester ware (Cunliffe 1976). This appears to be the first example of this ware found east of Chichester. The vessel was wheel-thrown, of a pale brown colour, with a filler of flint grit, some grog and chalk. The rilling is a distinctive feature of this ware.

2–10. Group 8. Red/brown or buff sherds tempered with coarse flint and some chalk. No. 2 had an incrustation (see Appendix 2), analysis of which showed had been caused by the boiling of brine in the pot. Nos. 2 and 3 are cooking pots; 4 and 5 convex (sagging) bases common to such vessels; 6 and 7 are sherds with simple applied decorative strapping. Nos. 8–10 are from large vessels decorated on the outside with incised lines scratched probably with a stick and with indentations made by the end of a stick. This decoration, coupled with the coarse fabrics, suggests a Saxo-Norman date, not later than early twelfth century.

11–14. Group 2. Somewhat coarse sherds of similar fabric to Group 8 from cooking pots and storage jars.

15–18. Group 4 (east of the defunct railway line). Coarse to medium/coarse fabric, none of those illustrated having any glaze. Possibly twelfth–thirteenth centuries. Also recovered as stray finds from sites of mounds were some green-glazed sherds, including thumbed jug bases, probably thirteenth–fourteenth centuries.

19–20. Group 4 (as last). Fine red or pink wares from large vessels.

21. Group 4 (as last). Fine buff fabric from a bowl.

Not illustrated. Group 4 (as last). One glazed sherd of West Sussex ware, Binsted type (Barton 1979, 18–21, 93–94). Fourteenth century.

The only stratified pottery comes from the Group 8 trench and that roughly excavated by a bulldozer. Sherds nos. 2, 5 and 7 were about 2 ft (0.6 m); no. 9, 3 ft (0.91 m); no. 3, 3 ft 6 in (1.07 m); nos. 4, 8, and 10, 3 ft 9 in (1.14 m) below the surface of the mound. Practically all other finds were from the surface of the fields from the sites of the bulldozed mounds, or after ploughing.

To sum up: the earliest pottery is the Portchester ware of tenth century date from Group 1. Groups 2 and 8 yielded sherds probably not later than twelfth century. The two Group 4 mounds which lay in the re-entrant north-west of Botolphs church, on the south side of the present road, had twelfth and thirteenth century sherds. Elsewhere, the pottery, such as it is, ranges from twelfth to fourteenth century, with a very small number of later sherds. The latter finds could have come from the topsoil of mounds, having been dropped when the mounds were unused and covered with turf. The generally unstratified nature of the pottery prevents any attempt at detailed analysis. It may be said, however, that more later medieval pottery came from mounds closer to the present course of the river than earlier sherds.

Miscellaneous Finds

Pieces of roof tile, whetstones, sea boulders and fragments of lead have been mentioned in the text.

Animal bones

A small number of bones was recovered when mounds east of the railway were bulldozed (Group 4) and which were kindly identified by Mrs. B. Westley. Some appear to be food remains.

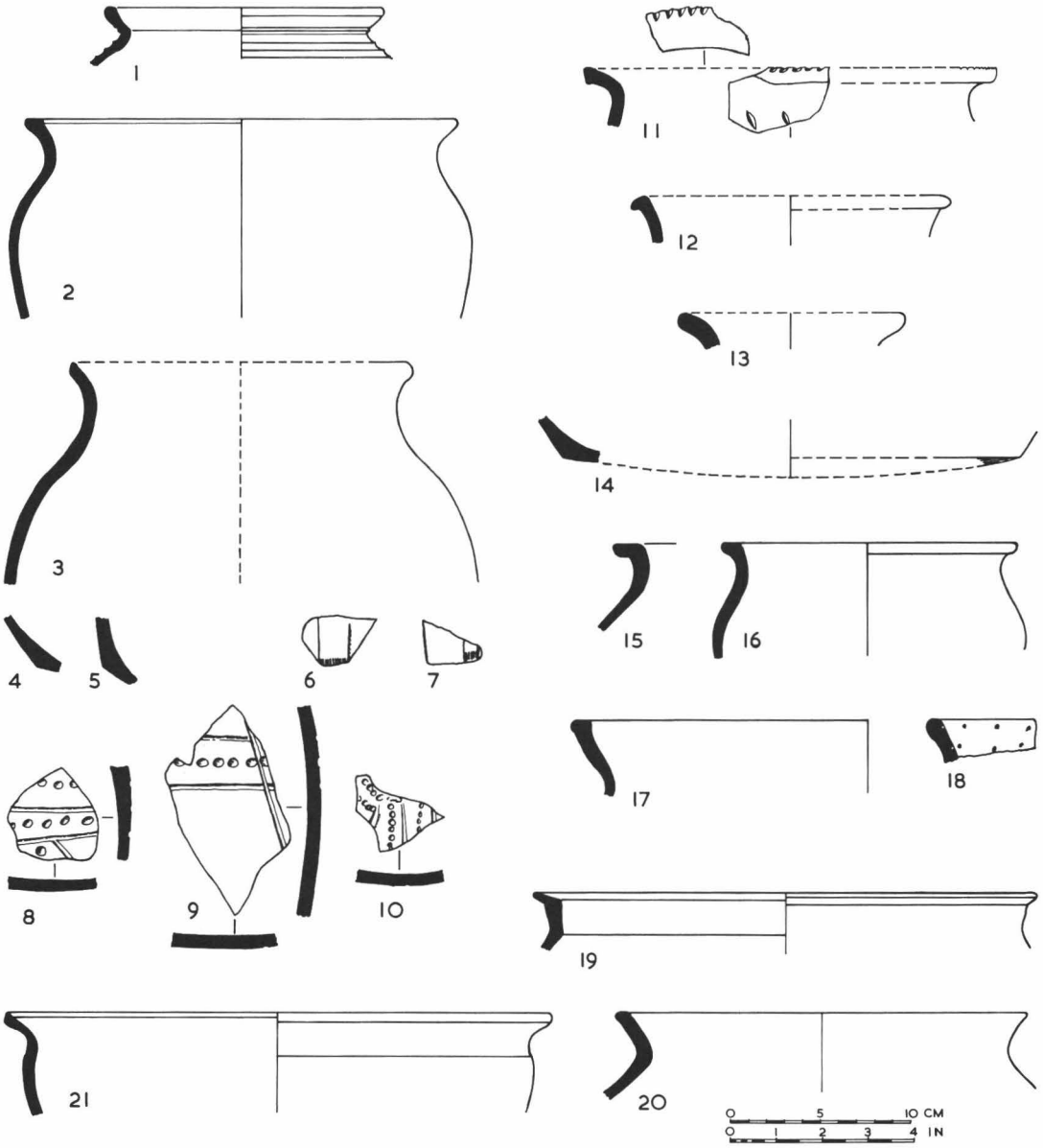

Fig. 5. Pottery. Late Saxon Portchester ware, Group 1, 1. Saxo-Norman coarse wares: Group 8, 2—10; Group 2, 11—14. Medieval pottery, Group 4, 15—21.

Artiodactyla

Pig (*Sus scrofa* L.). Mandibular fragment of a rather small animal with M_1 and P_4.

Sheep (*Ovis aries* L.). Horncore of ewe. A small animal.

Sheep/goat. Femur, 3 fragmentary radii and 4 fragmentary tibiae. One of the latter is much distorted, having been broken and healed. One metapodial fragment, immature. One tooth, young.

Cattle (*Bos* sp.) Rib, vertebral epiphysis and a vertebral fragment consisting of a centrum chopped in half, as for butchering. One femur shaft fragment.

APPENDIX 1 SEA LEVELS

Ballard (1910, 5–7) pointed out that the coastline of Sussex 900 years ago would have been indented with creeks and estuaries because there were areas of land (which would include the Adur valley) lying lower than mean high water spring tides level (MHWS). From modern Admiralty tide tables (1979) it is found that MHWS at Shoreham is 6.2 m above Chart Datum, or 2.93 m above Ordnance Datum (Newlyn).

If we test but one area of the Adur valley, viz., the water meadows east of Bramber castle, the surface of the alluvium there is 2.90 m (9 ft 6 in) O.D. (Barton *et al.* 1977, Fig. 3), so these meadows would be just covered at MHWS if there were no high banks confining the river to its present channel. Two or three times a year certain tides, known as astronomical tides, rise even higher than the highest spring tides. Ignoring abnormal conditions which might produce even greater values, such as tidal surges or low atmospheric pressure, the highest astronomical tide (HAT) is 6.7 m above Chart Datum, or 0.53 m higher than the alluvium at Bramber. Thus it is plain to see that much of the land in Bramber and Upper Beeding would be flooded when HAT occurred and that there must have been an estuary in the valley before any embanking or other protective works were undertaken. Any saltern mound that had its top 0.61 m (2 ft) above the present alluvium level (remembering that the greater part of the alluvium was not there when the mounds were forming) would be above the highest sea level, except perhaps for abnormal conditions.

Ballard, however, assumed that the relative levels of land and sea had remained constant. It is now known that around the south-east coast of England there has been a fall in the relative level of land to sea which led to a submergence, particularly marked in the fourteenth and early fifteenth centuries (Brandon 1971a, 5; 1971b, 80; 1971c, 96; Baker 1966, 5). Despite the complexities of sea level fluctuations in past times (Akeroyd 1972; Thompson 1980) it seems that from the late Saxon period to some time in the fourteenth century the level of the sea relative to the land was somewhat lower than now. The difference may not have been very much, but whatever it was, saltern mounds which would now be submerged at HWMS or HAT could have had their tops above water, providing reasonably dry working areas throughout high water periods. During formation, mounds would be submerged at HWMS until they had reached a sufficient height, but as much of the salt-boiling would be carried out during neap tide conditions sea level then would present no problems.

The estuary undoubtedly decreased in area as piecemeal reclamation and inning were conducted during the Middle Ages, but it would increase again as the sea level rose, overwhelming some of the weaker defences. Estuarine conditions continued until the whole of the main channel was fully embanked and when this occurred salt production by sand-washing would have to cease, if it had not already died out. As has been previously suggested the estuary changed to a river probably towards the end of the sixteenth century and this may well be the reason why the name *River Adur* is not heard of before the early seventeenth century (Mawer *et al.* 1929, 3).

APPENDIX 2

The incrustation on the inside of a pottery sherd from Group 8 salterns (Fig. 5, no. 2) was analysed at the laboratory of the Sussex River Authority (now part of the Southern Water Authority) in 1969. We are much indebted to Mr. C. H. H. Mercer, Chief Technical Officer, and to P. J. Long, who carried out the analysis, and for the following report:

The analysis was carried out on a Unicam S.P.90 Absorption Spectrophotometer using the absorption mode for calcium and magnesium and the emission method for potassium and sodium.

The sample was given an abbreviated analysis and cations were not specifically determined but there was obviously a lot of carbonate present. However, the significant quantities of calcium and its predominance over the other metals coupled with the large amount of silty material suggests that scale resulting from the boiling of saline water could be present.

Weight of sample	43.8 milligrams
Matter insoluble in dilute acid	60%
Non-volatile portion of insoluble matter at 550°C	90%
Calcium as calcium carbonate	8.25%
Magnesium as magnesium carbonate	0.55%
Potassium as potassium chloride	0.2%
Sodium as sodium chloride	0.3%

APPENDIX 3 SALTERN SITES IN SUSSEX OTHER THAN IN THE ADUR VALLEY

Research for the Adur valley, both fieldwork (by E.W.H.) and documentary (by T.P.H.) produced evidence and references regarding other parts of Sussex where salterns operated in the past. The following notes do not claim to be exhaustive. A number of other supplementary references are filed with the records.

Iron Age/Romano-British

In addition to Shoreham (p. 123) there are references to briquetage at Eastbourne, Bishopstone, Newhaven and Chidham (Bradley 1975; Bell 1977, 122–4; Bedwin 1980). There was also a claim for a 'Roman saltpan' at the head of the estuary of the Cuckmere, near Seaford, without any supporting evidence being given (Price 1882, 184) and this is unlikely to be correct. Dulley (1966, 28) has noted an isolated mound north-west of Boreham bridge, now well inland, but connected with Pevensey Levels, which is described as being composed of bright ferruginous or burnt material contrasting vividly with the normal marsh clay. This sounds as if it might be a 'red hill', but it has not been tested by excavation.

Romano-British or later

To the south and south-east of Becket's Barn, Pagham, at SU 885 974, was formerly a small area of land known in

1575 as the 'Salte Slipes', or the 'Slipe Ground' (Collins *et al.* 1958, 136, 138). 'Slipe' means 'long narrow field' or 'slimy place' (ex inf. Dr. R. Coates), the latter being more appropriate in this instance. The situation is within Pagham harbour, which has been subject to much physical change over the centuries. The site is, however, one where salt-making could have flourished at some unknown time. In 1963 a pipe trench through one of the low banks there was seen by J. Knight of the Inspectorate of Ancient Monuments. For a distance of 70 ft (21 m) there was a layer of burnt material containing much charcoal and burnt flint to a depth of 15 in (0.38 m) immediately above the natural sand, covered in turn by just over 3 ft (1 m) of topsoil. No datable or occupational material was recovered. Owing to severe snow conditions investigations were impossible. Mr. Knight informed E.W.H. at the time that, in his opinion, the burnt material represented the debris of salt-working.

Saxon/Medieval

West of the river Adur and south of the Downs, the alluvium extends towards Broadwater, north of Worthing. Ten D.B. salterns are recorded at Sompting and Cokeham which lie between Lancing and Broadwater. This area is now largely built over. One holding at Worthing paid rent in salt on St. John the Baptist's day (presumably 24 June) in the early thirteenth century (Salzmann 1903, 38). The Arun valley, so far, has failed to produce any visible mounds, but the chances there are less, as only two salterns are mentioned in Domesday Book (King 1962, 456).

A number of mounds near South Mundham and Pagham Rife covering an area of *c.* 2 acres (0.81 ha) were bulldozed in 1974 (ex inf. M. Reed). They were centred around SU 889 004 and were well away from the present sea coast. These mounds were composed of yellowish silty clay; no finds were made, but in the absence of briquetage they are probably of medieval date. Saltham Farm, a little to the north, was known in the thirteenth century, and apparently means *hamm* where salt was worked (Mawer *et al.* 1929, 75).

A *lityl saltmill* is recorded in 1460 at Fishbourne (Mawer *et al.* 1929, 71), though this may refer to the means of power by sea water acting on a wheel rather than the mineral itself. The present name, 'Salthill Road', in Fishbourne, recorded from 1806 (Steer and Venables 1970, 32), if ancient, is suggestive of the medieval industry, though no mounds have yet been traced alongside Chichester harbour.

Groups of mounds resembling those in the Adur valley have been noted in Pevensey Levels, all seemingly partly buried by the alluvium (Dulley 1966, 28–30; King 1962, 457). Certain eighth-century Anglo-Saxon charters show that salterns existed in the Pevensey area (Barker 1948, 118–22; 1949, 61), and there are numerous medieval references. Salterns near Barnhorne in the eastern part of Pevensey Levels still survived in the early thirteenth century (Brandon 1971b, 78).

There should be some in the Ouse and Cuckmere valleys where D.B. records salterns, but only a little fieldwork has been done in those places. E.W.H. has looked casually south of Lewes and Alfriston, but without discovering any mounds, while Moore (1965, 34) found no 'saltpans' near Laughton in Glynde Reach. It is probable that any remains are buried below the alluvium and this applies also to the marshes near Asham, south-east of Lewes where there may have been medieval salterns (Moore 1965, 34; Jones 1971).

The 100 D.B. salterns at or near Rye (King 1962, 457) at the eastern end of the county have also eluded detection, possibly because they have been washed away by inundations of the sea, or are totally buried under later deposits. It is known that many Winchelsea salterns were lost to the sea in the second half of the thirteenth century (Holden 1967, 303). Possible sun-works at Winchelsea have already been mentioned (p. 123), and for more references to Winchelsea see Bridbury (1955).

Post-Medieval

Salt was being produced on a large scale during the early nineteenth century in Chichester harbour, the site of the salterns covering several acres lying between Birdham and Appledram (or Apuldram) at SU 832 012, where there is now a yachting marina. An inlet of the estuary had been dammed so that sea water could be admitted through a sluice. This sea water proceeded through a number of ponds of decreasing depth and size over a period of four to five days in summer, by which time it had become strong brine. The liquor was pumped into cisterns at high level and then flowed by gravity through pipes into boiling houses of brick construction. At Lymington, Hants., small windmills 12–14 ft (3.6–4.3 m) high performed the pumping operations (Cross 1965, 87; Lloyd 1967, Fig. 18). The brine then passed to large iron boiling pans for the final processing which took eight hours. The fuel was coal, brought by sea from the north-east of England. A full description of the process is given by Dallaway *et al.* (1819, 98) and Arnold (1866, 85). This method was being adopted in the south by the early seventeenth century, for in 1621 there was a Commons bill 'to restrain the abusive making of salt commonly called salt-upon-salt'. A survey was conducted at Lymington with a view to requiring proprietors to adopt the 'new waye' of production, i.e. 'floore pans' instead of sand mounds, and iron pans instead of lead pans (Hughes 1934, 83–84; Lloyd 1967, 3). Lead pans would not have been able to withstand the heat from coal.

The Appledram/Birdham salterns are shown on Yeakell and Gardner's map of 1778, also on the 1813 O.S. map, but are not on Budgen's map of 1724. They were certainly flourishing in Dallaway's time, but had ceased production by *c.* 1840, according to Arnold. No mention is made of seaborne trade in salt from Chichester between 1720 and 1845 (Farrant 1976, 117), so it seems that none was shipped out and that the salt made was disposed of locally and inland. The same writer shows that from the early nineteenth century the south coast salt was being supplanted by Cheshire's brine and rock salt. This is confirmed at Lymington, whose salterns, like those at Appledram, had declined between 1800 and 1836 almost to extinction (Cross 1965; Lloyd 1967). In 1965 traces of the clay banks between some of the rectangular ponds of the Appledram salterns were seen by E.W.H., but all were later destroyed by the making of the marina. Two early nineteenth-century maps of the Donnington area south of Chichester also show salterns, and another, 'salterns mill', at or near Donnington (Steer 1968, 75, 85, 84).

No imports of salt into Rye are recorded between 1720 and 1845, so presumably salt was still being produced in that area for local use (Farrant 1976, 117). Confirmation comes from a lease by Rye Corporation to a 'saltmaker' of Falley (Fawley), Hants., of five acres called 'The Salts', 'with power to wall in and make works thereon', the Corporation to have power of re-entry if the 'works' are neglected for eighteen months (Dell 1962, 157).

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A number of people have assisted with this study, especially my wife, Mrs. Hilda G. Holden, whose fieldwork has always been impeccable, and who has given me encouragement in many ways. The farmers of the area, Messrs P. Elston, C. Passmore, D. Passmore, D. Vick, F. Starley and F. Grantham afforded every facility, all willingly permitting access to their lands bordering the river Adur: to them I am most grateful. The Sussex River Authority (now part of Southern Water Authority) rendered valuable assistance through their then Chief Technical Officer Mr. C. H. H. Mercer, and Mr. E. G. Porter, then Principal Assistant Engineer. Mr. C. Ainsworth kindly provided details of his research and excavations at New Monks Farm, Lancing. Messrs. F. Witten and R. Hartridge helped survey some of the Group 8 mounds, while Mrs. B. Westley identified animal bones with her customary skill. Professor B. Cunliffe and Mr. M. Bell kindly examined the sherds of Portchester ware. Mr. C. Wardale and other officers of Ordnance Survey (Archaeology Branch) surveyed and recorded several mound groups, while Mr. A. Clarke, of the same branch, was good enough to give advice regarding tide tables and sea levels (though any mistakes in interpretation are mine and not his). Dr. M. W. Thompson gave much practical advice during the early stages of the work.

The small amount of pottery and other relevant finds, as well as site records, have been deposited with Worthing Museum. Mr. C. Passmore retains the pottery and lead recovered from the Applesham Farm mounds.

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THE EFFECTS UPON SCHOOLING IN SUSSEX OF THE LEGISLATION DISSOLVING THE RELIGIOUS HOUSES AND CHANTRIES

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This is a study of the effects of Reformation legislation upon schooling in Sussex. The 'classic' view, advanced by A. F. Leach, that the dissolutions were a catastrophe for education has been brought into question by recent studies. This article re-assesses the evidence for Sussex establishing that here, as elsewhere, the critique of Leach is justified. On the other hand little evidence is found of the educational reconstruction that has been associated with the Edwardian Reformation.

The provision of education in the later middle ages reflected a growing interest at all levels of society, a movement from which Sussex was not immune. The Reformation of course lent added impetus, political and social change combining with religious and ideological pressures to heighten the concern of Reformers and government with education. Emphasis was now placed upon improving the standard of religious life and the importance of the Scriptures and preaching which led to the demands for an improved system of education. As well as altering the direction of education the Reformation altered its organisation and content. The dissolutions, by which ecclesiastical property (first the religious houses and then the chantries) was transferred from church to state, had direct effects upon educational provision though the controversy which has surrounded the latter has tended to attract a disproportionate amount of attention to their fate. The whole issue is a complex and controversial one but it is hoped that a careful study of the dissolutions in Sussex will help show how far the national picture that has been sketched is true for that county at least. Certainly the effects of the policies of the Henrician and Edwardian governments were by no means wholly disastrous. Both were aware of the value of education as a social resource and cement and the Edwardian government in particular was not insensitive to the educational arguments of the Reformers.

The general thesis advanced by A. F. Leach (*English Schools at the Reformation,* 1896) was that the dissolutions were a catastrophe for education in England. Too often historians are given to generalisation, always a danger in such a complex matter as the provision and maintenance of education and especially bearing in mind the heterogeneous nature of sixteenth century England. Leach himself showed the value of investigations into a particular county finding that in Yorkshire most grammar schools survived. There seems little doubt that the contribution to education made by the monasteries and chantries prior to the Reformation has been greatly exaggerated. By the time of the dissolutions the church monopoly had long since ended. Much of the lay demand for schooling in the fifteenth and early sixteenth centuries had been at the church's expense. The church as an institution was in a state of decay, perhaps nowhere more so than in the religious houses—even accepting that Thomas Cromwell's commissioners exaggerated their condition. Few medieval foundations gave lay children

instruction. It would seem that the passing of the religious houses had, in the long term at least, no great effect upon schooling in England and as will be seen virtually none at all upon Sussex.

The schools directly affected by the dissolutions' legislation were either monastic or attached to chantries. The monastic schools included grammar schools which were 'extra-monastic', that is, paradoxically secular yet subject to the oversight of the abbot (crucially, as was the case with the Lewes grammar school, in the appointment of the master); almonry schools in the gate of the monastery but not for novitiates; schools giving purely monastic education for novitiates; and the schools of monastic cathedrals. Chantry schools had grown up in the fourteenth, fifteenth and early sixteenth centuries and were connected, naturally enough, with chantries which were originally endowments in land to ensure masses for the soul of the founder and anyone else he might care to specify. As will be seen by no means all the chantries supported schools, the number doing so actually declining in the period prior to the dissolutions. In some cases the position was reversed with a school having a chantry attached to it though there seems no evidence to support the view that the school at Horsham had its original endowment linked with a chantry or priest's service.[1] It was, in fact, an entirely secular foundation, though rent from the land on which the school stood was owned by the heirs of Richard Collyer towards a chantry.[2]

The only priory in Sussex of which there is any evidence of a school was at Boxgrove. The injunctions following Bishop Sherborne's visitation in 1518 in fact make no reference at all to a school but at the time of the suppression there were eight priests and one novice as well as twenty-eight servants and eight children. The latter reference has been taken as implying the existence of a school and the fall of Boxgrove priory has been cited as a good example of the injury done to education by the dissolution of the religious houses.[3] However, Boxgrove priory was an isolated case since in the inventory of goods for the smaller monasteries no other Sussex priory is recorded as having children. In addition Boxgrove was a relatively unimportant place without a vicar or sequestrator for at least thirty years of the sixteenth century and entirely missed by Camden, travelling the country just after the dissolutions.[4]

It is not only the decay of the religious houses that is significant when attempting to assess their contribution to education but the importance or otherwise of the towns they might have been expected to serve. In Boxgrove's case no town as such existed. Sometimes the town in which the religious house was situated had declined in importance as at New Shoreham and Winchelsea. By the Reformation period both towns had suffered considerable decline from their medieval importance and prosperity, a decline that continued during the sixteenth century.[5]

The wealthy priory at Lewes had made little, if any, impact upon the world of scholarship. From its foundation (probably in 1078) down to its dissolution no one amongst the monks or priors had distinguished himself by any kind of literary production. Some monasteries prior to the dissolutions housed humanist scholars but there is no reason to suppose that Lewes was amongst them. Nor is there evidence that the monks provided any teaching or (as was the case at York) maintained scholars studying elsewhere.

It would seem that Lewes had some grounds to share in the complaints made to the chantry commissioners a decade after the dissolution of its priory. Since the school's endowments were held by lay trustees they naturally retained them.[6] However, the right of the prior to present the master and (if he possessed it) to exercise oversight over the grammar school lapsed to the crown at the dissolution. For some reason—most obviously a failure on the part of the trustees upon whom the prior's function devolved—a schoolmaster was lacking at the time of the

chantry dissolutions. In fairness the priory had supplemented the Lewes schoolmaster's and usher's incomes with meat and drink, the cessation of which threw a heavier burden on the trustees. The chantry certificate records that 'there is now no schoolmaster there but only an usher and for that it is a populous town and much youth the inhabitants do require to have some learned man to be admitted to the same'.[7] The commissioner goes on to recommend a nearby parson for the job.

Still without any doubt the Lewes school continued. Unlike other places where schoolhouses or endowments were lost Lewes had at the most suffered a temporary setback, assuming that the grammar school had a master at the time of the dissolutions. It is clear there was not the 'great discommodity' which the loss of an endowment occasioned Cirencester,[8] nor the 'heavy loss' caused by the closure of the school at Bruton.[9] This is confirmed by a letter written in 1557 by the trustees of the Lewes school asking for clemency in respect of its endowments. While in their view a threat still remained they speak of the school as flourishing and desire its continued maintenance for the 'good and virtuous bringing up of youth'.[10]

The takeover of the greater monasteries was completed in 1540. It was accompanied by the refoundation of cathedral grammar schools. Chichester, as a secular foundation, remained unaffected and its school did not benefit from any re-foundation or re-endowment though this may not have meant any great loss.[11] It may be, of course, that Sussex benefited in a general way from the encouragement given to education by various injunctions and the phrasing of statutes which accompanied and followed the work of the Reformation Parliament. There is no direct evidence of this, however, nor is there any evidence of the onetime monks becoming involved in teaching. On average in Sussex the monks received a pension of £6 a year which was enough to live on and where necessary was eked out by acting as curates or assistant priests.[12]

The monastic dissolutions were followed by the general suppression of the chantries for which the first act was passed in 1545. The brief for the commissioners (those for Surrey, Sussex and Southwark were appointed in February 1546) covered a wide range of religious foundations including the collegiate churches. Three colleges of priests or canons in Sussex surrendered, namely those of Arundel, South Malling and Hastings. Evidence is somewhat scanty. It may be that the majority of collegiate churches in England did not maintain schoolmasters and they were not apparently of much educational or cultural importance by the sixteenth century.[13] Leach argued that without doubt the collegiate church at Arundel had a grammar schoolmaster while admitting that the Valor Ecclesiasticus of 1535 mentions a master of choristers only.[14] It might well be that a school was carried on in the sacristy of the Fitzalan Chapel (connected with the College of the Holy Trinity),[15] but it cannot fail to have reflected something of the condition that the college was in prior to its surrender. Its revenues had fallen considerably during the late fifteenth century, so as to be inadequate even to provide for their ordinary charges.[16] There is evidence of a grammar school existing at Hastings established as part of the original endowment of the collegiate church. The sixth canon of the medieval college of canons had one house and the supervision of the grammar school, and presumably as the college existed from the time of William the Conqueror down to the dissolutions Hastings had the benefit of a grammar school during those years.[17] However, the indications are that the college was in a state of decay so that the disappearance of the school may have been no great loss. It may have continued in the form of the teaching of a few scholars by the retired and aging dean or by one of the priests who had taught in connection with the college but no record of its subsequent history exists, that is until its revival in the early seventeenth century. Though there is no mention of schools as such in the Corporation books for the later sixteenth century

there are two references to schoolmasters before the 'refoundation' of the grammar school in 1619. The first of these (in 1575) is to an Edward Laughton, 'licensed to teach Latin within the town and port' of Hastings.[18] It is difficult to argue with the conclusion that reaction to the closure of the school following the dissolutions was reasonably prompt.[19]

With the death of Henry VIII the Act of 1545 lapsed and a further act was needed in 1547. Its preamble stated the intention of converting chantries 'to good and godly uses, as to erecting grammar schools to the education of youth in virtue and godliness'. The attack upon the chantries sprang, initially, mainly from a desire on the part of the Edwardian government to complete the Reformation. Ostensibly the aim of the Act was to improve the provision of schooling, but as usual the legislative intent and the actual effects of the Act differed and the discrepancies raise a number of issues. While Leach's view of the dissolutions as a catastrophe is hardly tenable in the light of the evidence,[20] there can be no question that whatever Protector Somerset's original intention, his desperate need for money (made acute by the demands of war with Scotland) meant that in the short-term at least many chantry schools simply disappeared.[21] Also where schools were re-endowed by the government it was done with fixed sums of money and not land (the usual endowment originally). In a period of inflation this was not the best of deals.

Mrs. Simon's review[22] of the evidence to show how various counties fared as a result of the dissolutions does not include Sussex but when the situation there is examined in detail her contention that the Edwardian legislation did not have a crippling effect is borne out. There was no decay of learning, certainly not on the scale referred to by Latimer in the Lent of 1550.[23] Sussex was perhaps fortunate in that its schools were founded more for education than salvation. The four main Sussex schools fell outside the provision of the Chantries Act. For example the chantry certificate for Sussex records the Chichester grammar school as 'not thought within the compass of the act'. Far from recommending the closure of the Lewes school the commissioner urged improvement of the existing provision mentioning the lack of a schoolmaster and commending 'one Otley parson of Rype which is very well learned meet to be schoolmaster there if he will take it upon him'.[24] This confirms the view that the commissioners were mostly on the lookout for teachers or the continuation of teaching where it was sufficiently competent.[25]

Cuckfield's school survived without comment though the master was to be a priest and say masses. The school's later history, however, provides an example of the complexity of the chantry story. Perhaps Mrs. Simon's weakest point in refuting Leach's argument lies in the question of the continuation of the schools. Clearly a fixed stipend was not as good as an endowment of land and where land was taken away a school was bound in the long-term to suffer. In Cuckfield's case the endowment of land remained as it was for the time being, but late in the sixteenth century suffered a setback. Some of the land in Cuckfield left as part of the endowment had at one time been given to a chantry in the parish church and had been bought after it should have been confiscated to the Crown under the Chantry Acts. A man named Tipper acted as informer under the Statute of Concealment and in 1592 the occupiers of the land were forced to pay a fine of £100 and hold the land from the royal manor of Greenwich instead of from the school trustees.[26] Eventually an agreement was reached whereby the trustees received a perpetual rent of £8 8s. a year. It would appear to be the trustees rather than the chantry legislation that are to blame for the eventual decline of the school, for in 1589 they sold lands to Thomas Pelham for £80 down and a perpetual rent charge of £20 a year,[27] a state of affairs that naturally proved disastrous.

On the other hand the Horsham school as a purely secular foundation was safe from any such depredations as arose from possession of chantry lands. Its endowment came from the rents of City property lodged in the hands of the Mercers' Company whose wardens were unlikely to be overawed by the chantry commissioners. They even refused to show the founder's will on request.[28]

Considerable methodological problems arise when an attempt is made to assess the impact of the Edwardian legislation upon the teaching activities of the chantry priests. By definition such teaching, often informal and part-time, has left little documentation. It is true that where the stipendiary priest came under the purview of the ecclesiastical authorities some record of any teaching he may have carried on is more likely to have been left. However, the episcopal records for Sussex are sadly incomplete. As a systematic source of evidence they are simply non-existent for the first half of the sixteenth century and those surviving for the 1570's are not helpful. Visitation returns are only available from 1554 though some earlier isolated returns are extant, for example, the bishop's register gives the 1521 returns of Bishop Sherborne's episcopacy. However, these returns give no evidence of any schoolmasters. Churchwardens' presentments start in 1573 (presentments generally in 1571), probate diaries in 1555/6 and detection books (a less valuable source) in 1538, but again for that year no record of schoolmasters is given. Nor do the registers of orders which date from *c.* 1582 appear to include curates and schoolmasters.[29] Finally many of the records suffer from a lack of precision in dating.

There is no evidence of any chantry in Sussex being specially founded to provide teaching as was the case occasionally elsewhere. The return for East Grinstead, made to the chantry commissioners in 1548, makes clear the absence of any grammar school connected with the chantry and guild there.[30] Indeed the only reference to education in the chantry certificate for Sussex is to an incumbent at Sullington who was a student aged thirteen given the chantry income to help towards his schooling.[31] However, although evidence is lacking, tradition might suggest that where priests did exist some teaching went on as it was customary for teachers to be chosen from clergymen. In Staffordshire, for example, ten out of 85 chantry priests were engaged in some form of teaching.[32] The government certainly expected it as during the early sixteenth century a series of injunctions, both royal and diocesan, enjoined on chantries the provision of teaching, the endowment notwithstanding. In the absence of chantry schools, such competent priests as there were quite possibly undertook some teaching. Still, if it is a reasonable deduction from the chantry certificates so far printed that less than 10% of chantry priests were obliged to teach by the terms of their foundation then Sussex's loss cannot have been over great.[33] In any case it appears from later evidence, i.e., the issue of licences in the diocese between 1579 and 1586, that in areas where chantries had been abolished efforts had been made to make good any lost provision.[34] In the archdeaconry of Lewes seven out of seventeen chantry priests had some form of teaching going on—a better record than for the diocese as a whole and further evidence of the lack of permanent damage done to Sussex schooling. If any closure of schools took place it would seem that some effort was made to remedy the situation. At Bexhill the chantry chapel was used as a schoolhouse by Thomas Pye, rector there between 1589 and 1609.[35] In that way at least something was gained from the dissolutions.

All the 49 secular clergy who lost chantry incomes were granted pensions. Thirty-three priests received pensions to the full amount of their previous incomes while the remaining sixteen, whose chantries had a net annual value of over £6 a year, received pensions of two-

thirds of the annual value with a minimum of £6. From a purely financial point of view, in the short-term at least, continuity seems to have been assured since the pensions were in every case formally granted. They ceased of course on the death of the priest.

Given that some chantry priests did teach as injunctions of the pre-Reformation period enjoined on them to do, their contribution was likely to have been limited. The number of children they taught was probably small, perhaps five to ten at the most compared with the sixty pupils of the Horsham grammar school. Furthermore it is questionable just how competent Sussex priests were to engage in teaching had they attempted it. Shock at the ignorance of the Sussex clergy had led Bishop Storey to refound the grammar school at Chichester in 1497. Nor was the only problem unlearned clergy. In the case of some chantries no priest existed at all, being either dead or non-resident. The entry for Horsted Keynes is ambiguous but suggests the absence of an incumbent: 'The incumbent's name not certified because he is not known unto the parishoners for that he hath been there resident'.[36] Maresfield lacked an incumbent for an unspecified reason. At Bignor the chantry was held by George Vaughan 'a serving-man and non priest'.[37] Heene, Tarring and Broadwater all lacked incumbents (the last-named within the memory of man) while at Sullington, as mentioned before, the 'incumbent' was a boy of thirteen. In many cases the chantry had ceased to exist. The chantry of the Holy Trinity in the porch of Horsham church, for example, had been sold about seven years prior to 1548 by the chantry priest to a layman, that of Brambletye had been dissolved some three years before and that of Treyford in 1528.[38]

The geographical location of the chantries in Sussex is also significant. Of the 45 chantries existing at the time of the suppression fifteen were in Chichester cathedral and of those outside Chichester by far the greater number were in West Sussex. This imbalance does not reflect the population distribution since the next two most populous towns after Chichester were Rye and Lewes, both in the eastern portion of the county. Lewes, with Chichester one of the two county towns and having a population of between 1,500 and 1,600, had only one chantry. Eastbourne had 'no more priests to serve the Cure but the vicar'.[39] The chantry records make clear the shortage of priests in East Sussex but even in West Sussex chantry priests tended (apart from Chichester's plethora) to be found in rural areas leaving the towns unserved. The chantry certificate for Sussex records the lack in Horsham: 'This is a great parish and containeth in length V myles and within the same about IX^{c} houslyng people and hath no priest but the parish priest to serve the Cure and minister which is very slender to serve as great a parish'.[40]

It is unlikely that the dissolution of the monasteries and other religious houses made any real difference to the conditions under which education was carried on in Sussex. This was by no means exceptional. The same conclusion was reached about Leicestershire,[41] for example, and no doubt would be equally true of the majority of English counties. As with Leicestershire the number of pupils educated in religious houses in Sussex was probably never large. It may be true that the chantries were much more important than the religious houses in terms of educational provision.[42] However, though the picture may not be fully complete it does appear that so far as Sussex is concerned at least, Leach's view of the chantry legislation as having a seriously damaging effect upon schooling is untenable. The harm done to education by the abolition of the chantries appears to have been far less serious in Sussex than has been suggested for most other counties. All its main schools survived without any permanent injury, in most cases completely unaffected. While in many counties chantry priests may have acted as schoolmasters there is no firm evidence that this was so in Sussex. Were it so then it would appear that any loss was quickly made good, and it is in any case highly questionable whether

the contribution made would have been greatly missed. On the other hand there is little to suggest the educational reconstruction that Mrs. Simon associates with the Edwardian Reformation. The government's aim was undoubtedly to promote education but the reign was short and beset with difficulties. There is anyway no reason to suppose that the enthusiasm and energy of the reforming party at court was transmitted to an isolated county such as Sussex. The main schools continued as before. The chantry priests were given pensions but there is no indication that this was to encourage them in any way to teach. There were no 'well-organised grammar schools . . . established by letters patent as Edward VI schools to serve as an example to the rest'.[43] Nor is there any evidence that revenue from purely religious chantries was diverted to educational purposes as the Chantries Act provided.

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[2]J. E. Ray (ed.), *Sussex Chantry Records,* Sussex Record Society, 36 (1931), 21.
[3]*Victoria County History of Sussex,* 2 (1907), 59.
[4]*Camden's Brittania: Surrey and Sussex, 1586,* ed. G. J. Copley (1977), 44.
[5]For New Shoreham see *V.C.H., Suss.,* 6, pt. 1 (1980), 144; for Winchelsea *V.C.H., Suss.,* 9 (1937), 68.
[6]J. Simon, *Education and Society in Tudor England* (Cambridge, 1966), 180.
[7]*Sussex Chantry Records,* 57-8.
[8]A. F. Leach, *English Schools at the Reformation, 1546-8* (1896), 84-5.
[9]N. Carlisle, *A Concise Description of the Endowed Grammar Schools in England and Wales,* 2 (1818), 610.
[10]*Sussex Chantry Records,* 138.
[11]Simon, 183-7.
[12]L. F. Salzman, 'Sussex Religious at the Dissolution', *Sussex Archaeological Collections,* 92 (1954), 27.
[13]Charlton, 90.
[14]*V.C.H., Suss.,* 2 (1907), 398.
[15]G. W. Eustace, *Arundel: Borough and Castle* (1922), 211.
[16]Eustace, 103-4.
[17]T. H. Cole, *The Antiquities of Hastings* (1884), 102.
[18]British Library, Add. MS. 39, 356 (Dunkin).
[19]J. E. Wadey, 'Schools and Schooling in Sussex, 1548-1607,' *Sussex Notes and Queries,* 14 (1957), 217.
[20]See P. J. Wallis, 'A. F. Leach: Past, Present and Future', *Brit. J. Educ. St.,* 12 (1964), 184-94, for the correspondence on this issue.
[21]N. Wood, *The Reformation and English Education* (1931), 35.
[22]Cf., Simon, 223-44.
[23]*Sermons* (Parker Society, 1844), 269.
[24]*Chantry Records,* 57-8.
[25]Simon, 226-7.
[26]J. H. Cooper, *A History of the Parish of Cuckfield* (Haywards Heath, 1912), 123-38.
[27]*V.C.H. Suss.,* 2 (1907), 419.
[28]*Chantry Records,* 51.
[29]F. W. Steer, *Diocese of Chichester: a catalogue of the records of the Bishop, Archdeacons and former exempt jurisdictions* (Chichester, 1966), 37.
[30]M. J. Leppard, 'The Chantry Commissioners of 1547 and some unpublished Chantry Records for East Grinstead', *Sussex Arch. Colls.,* 109 (1971), 28.
[31]*Chantry Records,* 52.
[32]D. P. J. Fink, *Queen Mary's Grammar School* (Walsall, 1954), 56.
[33]Simon, 235n.
[34]Wadey, 219.
[35]L. J. Bartley, *The Story of Bexhill* (Bexhill, 1971), 62.
[36]*Chantry Records,* 52.
[37]*Chantry Records,* 53.
[38]W. D. Cooper, 'Guild and Chantries in Horsham', *Sussex Arch. Colls.,* 22 (1870), 155.
[39]*Chantry Records,* 53.
[40]*Chantry Records,* 51.
[41]*V.C.H., Leics.,* 3 (1955), 243.
[42]W. K. Jordan, *Philanthropy in England 1480-1660* (1959), 286.
[43]Simon, 244.

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THE FELLOWSHIP OF THE TWELVE IN ELIZABETHAN LEWES

by Jeremy Goring

On some occasion in the middle years of the reign of Elizabeth I the antiquary William Camden journeyed through Sussex in search of material for his *Britannia*. After passing Arundel, where he found 'nothing remarkable besides its castle and earls', and Shoreham, 'which has gradually dwindled into a poor village', he came at length to Lewes, where the picture was altogether more encouraging. The town was evidently thriving: 'for populousness and extent', he wrote, 'it may be ranked among the principal towns in the county.'[1] Had Camden been as interested in recent developments as he was in ancient history he might have given some explanation of the town's prosperity. He might have pointed out that Lewes was a commercial centre of growing importance—a market town with an expanding hinterland and a port which, following the recent improvements in the navigation of the Ouse, was handling an increasing volume of coastal and overseas trade. He might also have noted that Lewes was a 'county town'—the administrative capital, secular and ecclesiastical, of the eastern division of Sussex. Here was the county gaol and a 'sessions house' where county magistrates met to dispense justice and to administer the affairs of the shire. Here too was held the court of the archdeaconry of Lewes, whose jurisdiction extended over most of the eastern half of the diocese of Chichester.[2] Moreover, the town's importance was to be further enhanced (in the years following Camden's visit) by the outbreak of war with Spain. In 1587 Lord Buckhurst, Lord Lieutenant of Sussex, chose Lewes as the location of the county's arsenal of guns and ammunition; and in the next year when, as the Town Book of Lewes prosaically records, 'the Spanish fleet came along by Newhaven', it was from his newly-acquired house at the top of the High Street that his lordship supervised the defence of the Sussex coast. Of all the towns of Sussex, Buckhurst contended, it was Lewes, lying 'in the middle of the shire', which was 'most fittest' to serve as a military and administrative headquarters.[3]

In spite of its growing importance, however, the town's constitutional position remained anomalous. Unlike Arundel, Hastings and Seaford, which all received royal charters of incorporation in the Tudor period, Lewes remained a 'mesne' borough, nominally subordinate to the lords of the town. This meant in theory that the affairs of the town were administered by the manorial courts over which the lords' officials presided. But in practice the situation was rather different; for by the sixteenth century the jury of the court leet had come to have a semi-autonomous existence as the 'society', 'company' or 'fellowship' of the Twelve.[4] The Twelve seem to have enjoyed many of the privileges of ruling bodies in corporate towns: although they apparently did not have the power to plead, and be impleaded against, in the law courts of the realm (the *sine qua non* of a corporation), they did have the right to hold lands, to levy rates, to issue by-laws and to use a common seal.[5] Moreover, from 1542 they had their own 'Town Book' in which they recorded their decisions and entered up summaries of their accounts; and in 1564, 'minding and seeking the advancement and benefit of the . . . borough', they decided to erect their own Town House.[6] The importance of the fellowship is also illustrated by the part they played in parliamentary elections: in 1588 (and probably also in other years) it was they

who, acting on behalf of 'the greatest part of the burgesses and inhabitants', signed the official return of the town's two members of parliament.[7]

In order to attend to the 'service of the Queen' or 'business for the town' members of the Twelve had to be ready at all times upon reasonable warning to assemble in the Town House. The main meetings, however, were at Whitsun, when they met to elect new members of their society and to march in the annual watch, and at Michaelmas, when they came together to approve the accounts of the retiring constables and to choose new ones in their place.[8] The choosing of constables, it could be said, was the primary function of the fellowship: they constituted a kind of electoral college meeting annually to select two of their number who were entrusted with the day-to-day government of the town. Of the two constables the senior had invariably served before while the junior, who was nominated by his senior partner, was chosen 'out of such of that society as were never formerly constables'.[9] Members of the Twelve held the senior office in rotation: when the elder constable died in office in 1597 his place was taken by the member 'next to succeed by course'.[10] In this way an individual could normally expect to be called upon to serve at intervals of between eight and ten years. Constables' duties were many and varied: they were responsible for the maintenance of law and order, for collecting rates and taxes, for administering the town's property, for looking after its arms, ammunition and fire-fighting equipment, and for the provision of poor relief. In this work they were assisted by two headboroughs chosen annually from the less influential inhabitants of the town—never from the ranks of the Twelve.

Who composed the ranks of the Twelve in this period is not immediately apparent, since complete membership lists only survive for the years 1586-7, 1587-8, 1591-2, 1592-3 and 1594-5; and only for the years 1587 and 1596-1604 is there any record of the names of those elected into the fellowship at the Whitsun assemblies.[11] However, the names of the constables are known for every year from 1545-6 to 1602-03, with the single exception of 1573-4.[12] This means that, since all constables were *ipso facto* 'of the fellowship' and all members of the fellowship were obliged to serve as constables, it is possible to identify the great majority of those who belonged to the society at this time. The only names likely to slip through the net are those of men elected to the Twelve who did not remain in membership long enough to take their turn as junior constable; but since the interval between election to the Twelve and appointment as junior constable was normally not more than three or four years, the number of 'lost' names is not likely to be high. In all 62 names have been recovered: they are listed alphabetically in Table I and in approximate order of seniority in Table II. From the second table, where the probable duration of their membership is recorded, it is possible to calculate within a small margin of error who in any given year was a member of the company. What becomes immediately apparent is that the Twelve in fact always numbered more than twelve: in some years there were as many as twenty and in 1595 a maximum was fixed at eighteen; but the mystical number retained some significance, since at all meetings of the fellowship twelve was to constitute a quorum.[13]

Once elected, men usually remained 'of the fellowship' for life; but in certain circumstances their membership could be terminated prematurely. Like the Queen's judges they apparently remained in office *quam diu se bene gesserint*—as long as they behaved themselves; if they neglected their duties or conducted themselves 'stubbornly' or 'frowardly' they could be 'put out of the company'.[14] There is no record of anyone being formally 'put out' but it is possible that this fate befell George Norton, a grocer, who in 1592 was in trouble with his fellow townsmen ostensibly for dealing in wares not proper to his trade. On 14 May in that year

Norton, described in the Town Book as 'one of the company of the XII', promised his brethren that by the end of the month he would cease to sell by retail 'any haberdash ware, mercery ware, silk ware, woollen cloth or linen cloth'.[15] No more is heard of the case but the absence of Norton's name from the list of the Twelve drawn up in October suggests that a failure to abide by his undertaking had led to his expulsion from the fellowship. Norton, who had earlier been accused by another Lewes grocer of seeking to deprive him of his fair share of the profits of their partnership, was perhaps not a very trustworthy character, and his may well have been an isolated case.[16] Normally the cause of premature removal from the list was removal from the town: members of the Twelve were obliged to reside within the bounds of the borough and those who left Lewes apparently had to renounce their membership. This may explain why Thomas Pelland, still a comparatively young man, had ceased to belong to the fellowship by 1587 when, having given up his Lewes house, he was evidently living in Southover. However, if an emigrant returned to the town after a lapse of years he was always eligible for re-election to the Twelve, as the case of Abraham Edwards, considered below, illustrates.

A less common cause of resignation from the fellowship was old age or infirmity. When a man became too old or too ill to take his turn as constable or even to walk in the watch he might decide that his public life was over: this seems to have been the case with Thomas Trayton who evidently withdrew from the fellowship about a year before his death in 1589.[17] But most appear to have soldiered on to the end even though they were barely capable of fulfilling their official functions. In his will made on 13 September 1593 William Burrell described himself as 'sick in body', but two weeks later he duly accepted election as constable: it comes as no surprise to discover that he, like his septuagenarian predecessor Laurence Newton (who, 'somewhat grieved in body by sickness', made his will on 14 September and was reported dead on 1 October), did not live to complete his term of office.[18] The prize for perseverance, however, ought perhaps to go to Thomas Huggins, chosen constable in 1583 when over 80 years of age and, on his own admission, 'a very old and feeble man'. Towards the end of his term it was his misfortune to have to deal with a serious affray in Lewes High Street and understandably found the task too much for him. He died within a year of surrendering his constable's staff.[19]

Although members of the Twelve were wont to refer to themselves as 'ancient townsmen' and were supposed to wear the 'sad, decent and comely apparell' appropriate to their age and dignity,[20] few were as antiquated as Huggins, who was over 60 when elected *junior* constable. Of the 25 whose approximate dates of birth are known the average age on entry to the fellowship was about 40. According to John Rowe, who was about 36 when he joined, the Twelve were recruited from the 'discreeter' inhabitants of the town; but since the new recruits included three men in their twenties and five in their fifties there were clearly no hard and fast rules about what constituted years of discretion.[21] Nor does it seem that those born outside Lewes were expected to have spent many years in the town before becoming eligible for admission to the fellowship. Although most incomers whose date of arrival is known had lived in Lewes for upwards of ten years before being admitted to the Twelve, one or two seem to have been very new to the town: Abraham Edwards, for example, had arrived only two years before his election. The proportion of newcomers to natives in the fellowship can never be known for certain, since not all members' birthplaces can be discovered, but over a quarter of the men in this sample were born outside Lewes. Most of the outsiders hailed from east Sussex, often from places within ten miles of the town, but a surprisingly large minority came from right outside the shire—from Kent or London or from far distant parts like Herefordshire, Cheshire and

TABLE I Alphabetical List of Members of the Twelve 1558-1603

No.	*Name*	*Occupation*	*Parish*	*Birthplace*	*Dates*	
					Birth	*Arrival*
1	Aspten, Edmund		SM	Lancs.	*c.* 1550	*c.* 1587
2	Audley, John					
3	Austin, John		SJ	Benenden, Kent	*c.* 1541	
4	Aware, Robert	Merchant	AS	?Cranbrook, Kent		
5	Batnor, John		AS	?Lewes		
6	Bishop, Richard	Merchant	SM			
7	Brode, John	Customs Off.		Cranbrook, Kent	*c.* 1520	*c.* 1553
8	Burrell, William	Innholder	SJ	?Cuckfield		
9	Butcher, William	Dyer	AS	Lewes	*c.* 1529	—
10	Carew, Thomas	Scrivener	SM	London	*c.* 1553	*c.* 1577
11	Chamber, John de la	Gent.		Litlington	*c.* 1539	*c.* 1597
12	Chatfield, John		SM			
13	Claggett, William	Haberdasher	SM	?W. Malling, Kent		
14	Cockey, George	Saddler	SJ			
15	Colt, John	Merchant				
16	Colt, Thomas	Merchant	AS	Lewes		—
17	Comporte, Ambrose		AS	Battle	*c.* 1555	*c.* 1585
18	Cooke, John	Vintner				
19	Cotmott, John		SM	?Lewes		
20	Covert, William	Gent.	AS	?Cowfold		
21	Dawson, Thomas	Notary public		Leeds, Yorks.	*c.* 1556	*c.* 1580
22	Dopp, Andrew	Goldsmith	SM	?Lewes		
23	Earle, John		SM	?Lewes		
24	Edwards, Abraham	Merchant	SMW	Mayfield	*c.* 1560	*c.* 1580
25	Farmer, William	Merchant	AS	Rotherfield		
26	Freeman, George	Mercer	SM			
27	Hardiman, Jerman		AS			
28	Harman alias Stope, John	Merchant	AS	Lewes	*c.* 1520	—
29	Holmwode, John	Draper	SM	Twineham	*c.* 1530	*c.* 1560
30	Holter, John	Butcher	SM	Lewes	*c.* 1528	—
31	Huggins, Thomas		SM		*c.* 1503	
32	Jeffery, Nicholas	Gent.	AS			
33	Jeffery, Thomas		AS	?Ripe		
34	Kidder, Richard	Wheelwright	AS	?Maresfield		
35	Lane, William	Gent.	SMW	Hampton, Heref.	*c.* 1532	*c.* 1562
36	Langridge, John		SJ			
37	Malle, Richard	Draper				
38	Mantell, Thomas (I)	?Scrivener	SM	?Lewes		
39	Mantell, Thomas (II)	Tailor	SM	?Lewes		
40	Mathew, Thomas	Innholder	SM			
41	Morley, John		SM	Lewes		—
42	Newell, William	Tailor				
43	Newton, Edward	Draper	SM	Lewes		—
44	Newton, Laurence	Draper	SM	Prestbury, Chesh.	*c.* 1520	*c.* 1547
45	Norton, George	Grocer		Kent	*c.* 1555	*c.* 1590
46	Otringham, John	Notary public	AS			
47	Pelland, John	Brewer		Lewes	*c.* 1561	—
48	Pelland, Thomas	Brewer	SMW	Firle	*c.* 1537	*c.* 1560
49	Pemell, Peter	Merchant	SM	Cliffe	*c.* 1537	*c.* 1557
50	Prior, John		AS	?Lewes		
51	Puckell, John	Merchant	AS	Lewes	*c.* 1533	—
52	Reade, William	Glover	AS			
53	Rowe, John	Attorney	SMW	Tonbridge, Kent	1560	
54	Sherman, Thomas	Gent.	SMW	Hamsey		
55	Slutter, Thomas	Capper	SM			
56	Smythe, Thomas					
57	Stempe, John	Gent.	SM	Southover	*c.* 1515	*c.* 1540
58	Stempe, William	Gent.		?Lewes		
59	Sterne, Felix	Vintner	SM	Denston, Suff.	*c.* 1532	*c.* 1571
60	Trayton, Thomas (I)	Carpenter	AS	?Ditchling		
61	Trayton, Thomas (II)	Carpenter	AS	Lewes	1562	—
62	Walter, Samuel	Glover	AS	Kent	*c.* 1539	*c.* 1565

	Dates of holding office				
Death	*Jr. Const.*	*Senr. Const.*	*Ch. Warden of SM*	*Friends and relations*	*No.*
	1588-9	1597	1596-7	26	1
1564/7	?	1553-4, 1560-1		5, 15, 49(b/1)	2
c. 1590					3
1580	1574-5			29, 51	4
1584	1552-3	1559-60, 1568-9, 1579-80		2, 22(b/1)	5
	1591-2	1599-1600	1585-6, 1587-8, 1595-6		6
1592	1580-1				7
1594	1584-5	1593-4		51	8
1603	1575-6	1588-9		38	9
1611	1589-90	1597-8	1583-4, 1597-8	28, 51	10
					11
	?	1552-3, 1558-9	1546-7		12
1625	1592-3	1600-1, 1609-10, etc.	1589-90	24 (f/1)	13
1592	1577-8	1589-90		44, 62	14
	1557-8	1566-7		2, 16(s), 20(s/1)	15
1617	1599-1600	1607-8, 1614-15		61, 15(f), 20(b/1)	16
c. 1613	1601-2			60(f/1), 61(b/1)	17
	1566-7				18
c. 1563	?	1551-2		57	19
1598	1576-7			15(f/1), 16(b/1)	20
c. 1613	1596-7	1605-6		51, 59	21
c. 1571	?	1554-5, 1561-2		5(b/1)	22
	1560-1	1570-1, 1581-2	1558-9, 1569-70		23
1615	1582-3	1608-9		29, 13(s/1)	24
1602	1579-80				25
	1590-1		1587-8	1, 29	26
	1594-5	1612-13			27
1600	1565-6	1575-6, 1587-8		10, 34, 51	28
1586	1570-1	1582-3	1569-70,, 1579-80, 1585-6	4, 24, 26	29
c. 1602	1581-2	1591-2	1570-1, 1573-4		30
c. 1586	1563-4	?1573-4, 1584-5			31
	1603-4				32
1574	1551-2	1557-8			33
1603	1585-6	1594-5		28, 38, 52(s/1)	34
c. 1604	1569-70	1580-1, 1590-1, 1598-9		40	35
1608					36
	1550-1	1556-7, 1564-5			37
1580	1561-2	1571-2	1566-7	9, 34, 58, 39(s)	38
1617	1595-6		1586-7	38(f)	39
c. 1594	1559-60	1569-70	1562-3, 1565-6	35	40
c. 1565	1554-5	1562-3	1553-4		41
	1571-2				42
	1600-1		1595-6	44(f)	43
1593	1572-3	1583-4, 1592-3		14, 43(s), 48(b/1)	44
1620					45
1581/3	1567-8	1577-8			46
	1587-8			48(f)	47
c. 1605	1578-9			44(b/1), 47(s)	48
	1568-9	1578-9	1562-3, 1565-6, 1580-1	2(b/1)	49
	1556-7	1565-6			50
1606	1564-5	1574-5, 1586-7, 1595-6		4, 8, 10, 21, 28, 38	51
1628	1602-3	1611-12, 1618-19, etc.			52
1639	1597-8				53
	1558-9	1567-8, 1576-7		56	54
	1553-4		?1556-7		55
1563	1562-3			54	56
c. 1588	1545-6	1555-6, 1563-4, 1572-3	1547-8	19, 38, 58(s)	57
1617/20	1598-9			57(f)	58
1597	1586-7	1596-7	1578-9	21	59
1589	?1573-4	1585-6		17(s/1), 61(s)	60
1638	1593-4	1602-3, 1610-11, 1616-17		16, 17(b/1), 60(f)	61
c. 1616	1583-4	1601-2		14	62

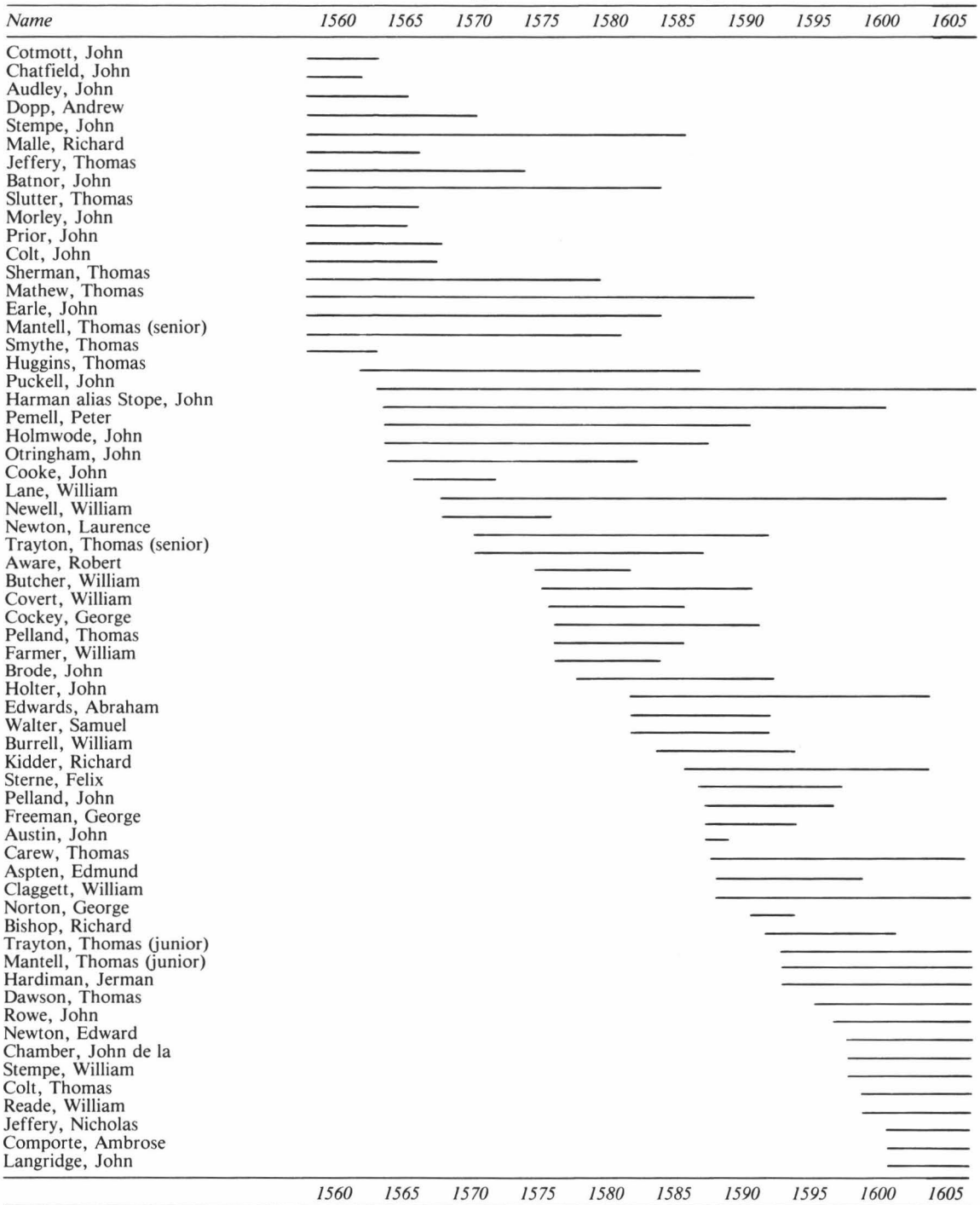
Yorkshire.[22] Then as now people were probably attracted to Lewes by its fine views and salubrious air and by the opportunities it offered for commercial and professional advancement. It was for this reason that George Norton, after spending many years in the grocery trade in London, decided to set up shop in the town in the 1580s.[23] For anyone who wanted to get on in the world Lewes at this time was clearly a good place in which to live and work.

Most of the members of the Twelve in this period were tradesmen of one sort or another, primarily occupied in supplying the people of Lewes and its environs with food, drink, clothing and other necessities of life. But occupational designations can be misleading: some men dealt in wares not normally associated with their trades. Norton the grocer not only traded in grocery and cloth but also in alum, turpentine, hops and gunpowder; Richard Kidder, a wheelwright, dealt in barley and William Claggett, a haberdasher, in iron; while John Harman, originally a glazier, bought and sold anything he could lay his hands on, including salt, wine, malt, glass, lead, canvas, vinegar and red herrings.[24] By the 1570s Harman, who had appropriately changed his occupational designation to 'merchant', was one of a number of members of the Twelve engaged in the import and export of goods in bulk.[25] Of these the most important was probably iron, wrought or cast, brought to Lewes by river from the forges and furnaces of the eastern Weald and shipped out through the port of Meeching. Significantly two of those exporting iron are known to have had personal links with leading Wealden ironmasters: William Burrell was a close friend of Arthur Middleton of Rotherfield and was perhaps an uncle of Ninian Burrell of Cuckfield; Abraham Edwards, who came from the important iron-manufacturing parish of Mayfield, was a cousin of Robert Whitfield of Worth and was connected by marriage with Thomas Stollion of Warbleton, for whose debts he eventually became partly responsible.[26] But Burrell's and Edwards' stake in the business was small compared with that of Harman who, in a report drawn up in 1573, was singled out as the man most responsible for the illegal export of Wealden iron ordnance to France and Flanders.[27]

While trade occupied the energies of most members of the fellowship at this time there were a number whose expertise was professional rather than commercial. Although his name is found in the port books among those exporting wheat and timber to London, Thomas Carew was by profession a scrivener and was apparently much in demand as a drafter of wills and deeds and as a legal adviser to local residents.[28] John Otringham, notary public, practised his profession in the court of the archdeaconry of Lewes; so too did Thomas Dawson, who first came to the town in the service of Hugh Treves, notary public, and whose most cherished possessions included a set of *Statutes at Large* and a copy of Brooke's *Abridgement* of the Year Books.[29] But perhaps the best-known lawyer among the Twelve was John Rowe, who had served his apprenticeship in the town with John Shurley, serjeant-at-law, and later became steward of the manor of Lewes. Rowe's election to the fellowship in 1596, long overlooked because his signature in the Town Book was misread as 'Roogbye', must have represented a considerable accession of strength and wisdom to that body.[30] His legal expertise, his knowledge of constitutional forms and his meticulous record-keeping have also benefited later generations in their attempts to discover what Lewes was like in his day. Another member of the Twelve who deserves praise from historians is John Brode who, as 'controller of the custom house of Meeching and Lewes',[31] kept an eye on the trading activities of Lewes merchants and kept a record of their cargoes in his accounts.

That some members of the Twelve prospered in their business or profession is indicated by their wills, which contain substantial cash bequests: for example, John Morley and William

TABLE II Members of The Twelve in Approximate Order of Seniority 1558-1603



Burrell left over £700, John Holmwode over £800, and Robert Aware over £1800.[32] But for the great majority the only indication of their wealth comes from the few surviving subsidy rolls, and these are notoriously unreliable. They are useful, however, as a guide to *comparative* wealth and seem to confirm Rowe's statement that members of the fellowship were among the 'wealthier' inhabitants of the town.[33] In 1572, for instance, of the 51 people in Lewes deemed wealthy enough to be assessed for the subsidy, 21 can be identified as present or future members of the Twelve. They included thirteen of the fifteen people with goods valued at £4 or above and three of the six with lands valued at £3 or above; together they paid 54% of the tax levied in the town.[34] Apart from paying taxes, how did they spend their money? Here again the evidence is scanty but a number appear to have indulged in that kind of 'conspicuous expenditure' which would enhance their standing in the community, such as building a fine house in Lewes High Street. The elder Thomas Trayton, who was himself in the building trade, carried out extensive (and no doubt prestigious) alterations to the property he had acquired on School Hill.[35] John Holmwode also appears to have spent money on improving his house: his initials and those of his wife Mary are to be seen on a handsome stone fireplace in what is now 'Barbican House'.[36] Further up the High Street the fine Renaissance porch of 'The Vine' (now Shelley's Hotel) bears the initials of Thomas Pelland, who in 1577 rebuilt the former inn in grand style.[37] Conspicuous expenditure also took the form of pew-building: in 1581 Peter Pemell and John Stempe proclaimed their pre-eminence in their parish by erecting (jointly with William Darell) 'the foremost seat in the chancel of St. Michael's'.[38]

Other members of the fellowship were able to enhance their social standing, and at the same time secure a good investment for their capital, by the acquisition of land. Thomas Dawson, John Holter, John Pelland and John Puckell all purchased land in the vicinity of Lewes, while Abraham Edwards went further afield and in 1609 became (jointly with his cousin and namesake of Brightling) lord of the manors of Portslade and Atlingworth.[39] Such acquisitions of land were sometimes accompanied by attempts to acquire gentility. Of the 62 men under consideration only one seems to have come from an established gentry family: this was William Covert, probably a natural son (subsequently legitimised) of John Covert of Slaugham, esquire.[40] Two others, John Stempe and Thomas Sherman, were born into minor landowning families which by the middle of the sixteenth century were in the process of moving up into the gentry: both men were accorded gentle status in a coroner's jury list of 1575. In a similar category came John de la Chamber, who belonged to a prosperous yeoman family of Litlington that had recently moved to Rodmell and added the 'de la' to their name in order to make it sound more aristocratic: he was invariably styled 'gent.' in the later Elizabethan grand jury lists. Others thus designated in the official records of the time were Thomas Dawson, Abraham Edwards and William Lane, while John Rowe's claim to gentility was recognised in the Town Book.[41] In the next reign, with the general debasement of honours, social climbers may have found the going rather easier: Thomas Trayton, whose son had been classified as 'pleb.' on his admission to Christ Church, Oxford in 1604, was designated 'gent.' in a borough court book entry of 1609.[42] Over 20 years later, following his marriage to a lady of quality, he was able to gain formal recognition of his new status by registering a coat of arms and a (probably inaccurate) pedigree with the heralds.[43] Nevertheless it would be misleading to give the impression that in this period all the members of the Lewes fellowship were succumbing to the fashionable cult of gentility: the majority were probably content with the station of life into which they had been born.

In order to maintain the port and style of a gentleman it was by this time becoming essential

for a man to have attained a minimum standard of literacy. Would all members of the Twelve have passed the test? Their surviving wills show that the majority were at least capable of signing their names; and of those who did not sign not all were illiterate. One testator who made his mark instead of signing his name was John Harman: 'being by reason of mine age and other infirmities weak in body', he was presumably not strong enough on his death-bed to do any more than scratch a cross on the document.[44] That Harman in his prime had been well able to sign his name is evident from the Town Book, where his signature stands out firm and clear. But there were at least six of the Twelve who evidently could not write their names: the marks of Laurence Newton, Jerman Hardiman and Samuel Walter can be seen in the Town Book and those of John Holmwode, Thomas Huggins and Thomas Mathew on a deed of 1584.[45] Illiteracy may have been an obstacle to social advance but it clearly did not prevent a man making a success of his business or playing a full part in the public life of his town.

Some members of the fellowship, aware perhaps of the inadequacies of their own schooling, were evidently eager to ensure that their sons received the best education available. A few, responsive to the new concept of the university as a breeding-ground for gentry, sent their sons to Oxford or Cambridge. The younger Thomas Trayton, it has been noted, sent his son to Oxford, and his concern for the boy's academic success is attested by a number of letters that he sent to his tutor Brian Twine, son of a celebrated Lewes physician.[46] Another ambitious father (and aspiring gentleman) was Thomas Colt, who despatched his son to Sidney Sussex College, Cambridge, where he was a near contemporary of Oliver Cromwell.[47] But perhaps the greatest enthusiast for higher education was John Otringham, styled 'yeoman' in a deed of 1573, who acknowledged in his will that the expense of maintaining two sons at university had been a cause of grievous financial embarrassment.[48] Most of the Lewes elders, however, were probably unwilling to ruin themselves in this way: for their sons, it seems, apprenticeship to a trade was thought to be a more fitting preparation for life than a scholarship at Oxford or Cambridge. It is perhaps significant that William Newell's son, who was left money in his uncle's will 'to the finding of him at the university, if he be apt thereto', apparently did not avail himself of the opportunity; perhaps he was not 'apt' or perhaps he was encouraged by his father to follow him in the tailor's trade.[49]

While few members of the fellowship cared much about Oxford or Cambridge it is likely that most of them would have wanted a grammar school education for their sons. There are no stipulations about this in any of their wills, for the few who died leaving children of school age had probably already made the necessary provision. There are in fact very few examples of such provision in any Lewes wills of this period: one of the few was Elizabeth Batnor's bequest of money for the 'bringing up in learning and virtue' of the sons of her stepson John, a prominent member of the Twelve.[50] The 'bringing up in learning' was probably entrusted to the master of the grammar school at Southover which had been founded earlier in the century by Agnes Morley and which seems to have been saved from extinction in Edward VI's reign largely by the efforts of John Stempe.[51] Another member of the fellowship who took a keen interest in the school's welfare was John Morley, probably a kinsman of the foundress, who stipulated in his will that in the event of the death of his two children part of his estate was to be used for 'the augmentation of the schoolmaster's and usher's livings of the free school of Southover, being now as it is most insufficient'.[52] Of more immediate practical value was the rather touching bequest of John Cotmott who, doubtless aware of the deplorable state of the roads and footpaths in Lewes and Southover, left money for the 'making of the high ways for children to go to the school'.[53]

Cotmott, who also made a small bequest to the fellowship for purposes not specified, was one of the few members of that body in this period to leave anything to charity over and above the traditional funeral doles to the local poor. The very generous bequest of John Morley, it has been observed, only became operative in the event of the death of his children. And this provides a pointer to what appears to have been a general rule: it was only those without immediate heirs who left really substantial sums to charity. The great 'charitable impulse', once regarded as characteristic of the English 'merchant class' at this period, is now seen to have been largely confined to a small minority of childless men. Among the 62 men under consideration here the only one known to have left a significant sum to charity was Abraham Edwards, who died without male heirs in 1615. By his will he established a fund, the income from which was to be used 'at the discretion of the society of the Twelve' for 'the helping forward and setting up of four young tradesmen or decayed artificers'. But the total sum bequeathed was only £20—not a large sum for a man like Edwards, rich enough to be able to endow one of his cousins with an income of £50 p.a.[54] It appears that in Elizabethan Lewes charity began, and very often ended, at home.

As well as being notably generous in their charitable giving it is often said that the Elizabethan 'merchant class' were markedly Protestant in their religion, many being strongly attracted to the 'hotter sort' of Protestantism known as puritanism. Certainly the inhabitants of Lewes, who had witnessed the Marian persecution of Protestants and were later to become more conscious than most Elizabethan Englishmen of the threat from Catholic Spain, did have a reputation for being exceptionally 'forward' in religion.[55] But of the personal convictions of the members of the fellowship there are few clear indications. Wills survive for a little over half of them and most of these contain preambles expressing the conventional Protestant belief that their souls would be saved by the merits of Christ alone. In a substantial minority of cases the phraseology is less formal and more indicative of deep conviction. Five men—William Burrell, John Holter, Thomas Mathew, Thomas Pelland and John Puckell—expressed the Calvinistic conviction that in the hereafter they would find a place among the 'elect' or the 'saints' in heaven or would enjoy the 'fruition' of life everlasting.[56] Three others testified in more original fashion to the strength of their religious feelings. George Cockey commended his soul to Christ 'who appeased the wrath of God his father towards me and all mankind'.[57] William Claggett was convinced that his redeemer would assist him at the hour of death 'with his holy spirit, the comforter'.[58] William Stempe devoted over a hundred words to a rehearsal of the whole scheme of man's creation, fall and redemption, and entrusted his children to his wife's 'godly and wise care'.[59] 'Godly' was a favourite puritan adjective and it is found again in the will of Robert Aware, who requested a 'godly sermon' at his burial and stipulated that his children should be brought up to 'godly exercises'.[60]

If these men were puritans it is likely that some of them had come under the influence of one or other of the godly divines who ministered in and around Lewes in the later years of Elizabeth's reign, particularly Samuel Norden (rector of Hamsey 1582-1605), Thomas Underdowne (rector of St. John sub Castro and St. Mary Westout 1580-92) and David Thickpenny (probably curate of St. Michael's from about 1577).[61] Thickpenny came to Lewes from Brighton, where his radical nonconformity had got him into trouble with the authorities; he was in trouble again at Lewes, this time for preaching without a licence, but his cause was championed by powerful friends within the fellowship, about half of whom at this time were former churchwardens of St. Michael's.[62] In 1580 John Stempe, the senior member of the Twelve in years of service and a man of high social standing, was one of those who testified on

the curate's behalf: he described him as 'an honest man and zealous in good religion' and as one who 'led his life so that it might be a spectacle of honest living to others'. His testimony was supported by two other members of the fellowship, Laurence Newton and John Brode, both of whom praised Thickpenny for his honesty. There is little doubt, moreover, that these three would have had the backing of John Batnor, then serving his third term as high constable, whose son of the same name was a noted puritan divine. As it transpired, Thickpenny had the support not only of individual members of the fellowship but of all members collectively: Stempe succeeded in procuring a 'testimonial' to the curate's character 'under the town seal of Lewes' and 'subscribed with the hands of the Twelve of the said town'.[63] Rarely if ever in Elizabethan Sussex had a puritan minister met with such an impressive public demonstration of approval.

It is probable that members of the Twelve favoured the maintenance of a 'godly ministry' not simply out of private conviction but out of concern for the public good; they believed that the puritan emphasis upon honesty, sobriety and orderly behaviour would reinforce their own efforts to maintain order and discipline within the community. The need for such reinforcement became especially urgent in the later years of the Queen's reign when economic conditions were difficult, poverty was rife and the peace of Lewes, like that of many other towns, was threatened by a growing number of vagrants, beggars and other 'disordered persons'. It was partly in response to this threat that in 1595 the leading inhabitants drew up new articles 'for the better ordering and government' of the town and 'for the better increase and continuance of perfect peace and unity'. Although it is possible that many of the articles merely confirmed existing practice, one at least seems to have been new. This was article 16, which laid down

> that the constables or one of them and two of the fellowship (by a certain course and order), and others to aid them, shall once every week at the least . . . from the first of October to the last of March make diligent search in all inns, alehouses and other suspected places where any bad and disordered rule is thought to be kept, for the finding out of lewd persons.

Hitherto members of the Twelve, other than the two serving as constables, had apparently not been called upon regularly to help police the town; that they were now being required to do so is a clear indication of the growing fear of disorder.[64]

But disorderly behaviour was not confined to those at the bottom of the social scale. There are indications that even members of the Twelve were sometimes prepared to aid and abet the disturbers of the town's peace, as the gruesome events of 1585 reveal. One day in August that year Abraham Edwards was dutifully practising archery in the field behind his house in St. Mary Westout when he was allegedly set upon by an armed gang who left him 'very grievously wounded and hurt, with three great cuts in his head and one across his face . . . and some across his hands'. A neighbour, Richard Cheyney, a country gentleman with a town house in Lewes, sent for the high constable, Thomas Huggins, but he was powerless to prevent the malefactors making a second affray in the High Street, where they slew one of Cheyney's servants. This looked like cold-blooded murder, but at the subsequent inquest the verdict was given as manslaughter. This enraged Cheyney, who brought an action in Star Chamber accusing the coroner and jury of corruption on the grounds that only seven of the twelve jurors had been present when the verdict was given. The seven included Thomas Trayton the elder, Richard Kidder, Thomas Mantell and Thomas Luxford, a near kinsman of one of the accused; the remaining five, described as 'the principal and most substantial men of the same jury' and

including Richard Bishop and John Pelland, had been absent. It was further alleged that Bishop's withdrawal from the jury had been 'procured' by 'Mr. Stempe of Lewes'.[65] What lay behind all this one can only conjecture, but it is clear that some people felt considerable animosity towards Edwards and, if there was any substance in Cheyney's allegations, these people were being protected by Kidder and Trayton, two of the Twelve, and by Mantell, the son of a former member and himself a future member of the fellowship. To find these three names linked together is not surprising: Kidder had been a close friend of the elder Mantell and, shortly before the inquest, Trayton had been chosen senior constable with Kidder, presumably his nominee, as his junior partner. If it was their intention to drive Edwards out of the town they seem to have been ultimately successful, for within a few years he left Lewes and did not return until about 1607, by which time Kidder and Trayton were dead and Mantell had apparently moved away.[66] Readmitted to the fellowship Edwards took his turn as senior constable in 1608 and presumably continued in membership of the Twelve until his death in 1615. Shortly before his death he made the bequest mentioned earlier 'in testimony of my love unto the town and townsmen of Lewes': the painful experiences of thirty years before may have scarred his body but they evidently had not embittered his soul.[67]

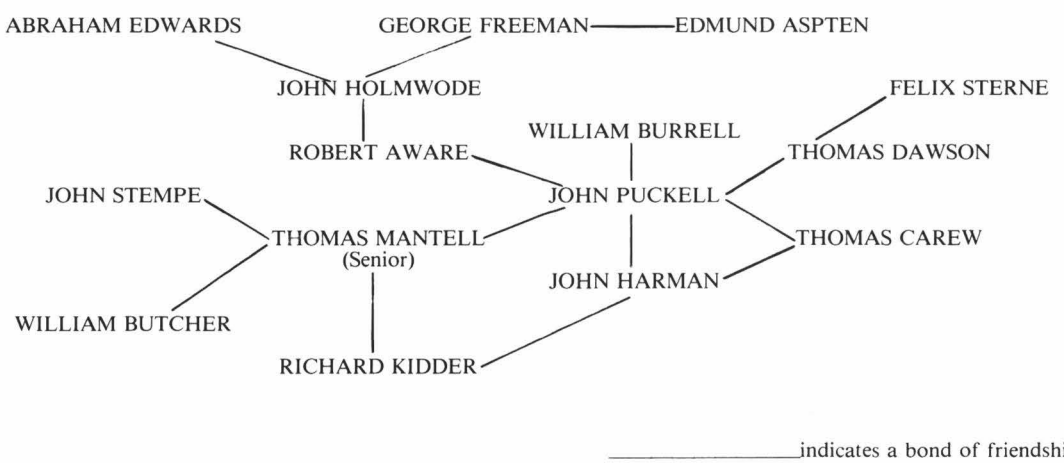
Apart from the curious affair of Abraham Edwards there is no evidence of anything resembling factional strife within the ruling body of the town. Its members cherished the ideal of corporate unity and concord and clearly regarded 'a breach of friendship amongst the fellowship' as a most regrettable occurrence.[68] That individuals were in fact united by close ties of friendship is clear from their wills where one would frequently refer to another as his 'loving', 'faithful' or 'trusty' friend or, if unusually pious, as his 'well-beloved in Christ'. That the leading inhabitants of a small town like Lewes should have been linked together in this way occasions no surprise, but one or two of them do seem to have been exceptionally well-endowed with friends within the fellowship.[69] John Puckell's circle, for example, included six who at one time or another were members of the Twelve; and since some of his friends in their turn had close ties with yet more members, it is likely that a network of friendship extended right across the fellowship.[70] When further ties of kinship and marriage are taken into account it becomes apparent that this 'society of the wealthier and discreeter sort of townsmen' was a decidedly tight-knit and homogeneous body.

In following the history of the Twelve through the long reign of Elizabeth it is possible to detect elements of both continuity and change. Continuity was ensured by a constitution that permitted members once elected to retain their seats for life and enabled some, such as John Harmer, John Puckell and William Lane, to take a leading part in municipal affairs for over 30 years. But although members were at pains to emphasise the importance of proceeding 'according to the ancient custom and order',[71] it seems that the Elizabethan period did witness some important changes in the powers and functions of the Twelve. For one thing their administrative tasks became more numerous and more complex. The long continuance of the war with Spain and the consequent fear of invasion imposed new military burdens upon the town. The constables now became responsible not only for ensuring that people possessed their statutory quantities of arms and armour but also for the safe keeping of the town's store of guns and ammunition—the biggest in the county—and for its proper deployment in the event of a threatened enemy attack.[72] Furthermore, as has been seen, the growing threat of internal disorder led to the involvement of both constables and other members of the fellowship in much additional policework. As might be expected, this increase in responsibility was apparently accompanied by a demand for a corresponding increase in power. The rulers of Lewes did not

TABLE III The Trading Activities of Members of The Twelve 1565-1600

Name	*Imports*	*Port of Origin*	*Exports*	*Destination(s)*
Aspten, Edmund	—	—	Iron ordnance	Plymouth, Southampton
Aware, Robert	Salt	Southampton	—	—
Bishop, Richard	Salt	Chichester	Salt	Hastings
Bishop, Richard			Iron, Malt	London, Weymouth
Bishop, Richard			Barley	St. Malo
Bishop, Richard			Ironware	La Rochelle
Bishop, Richard			Iron ordnance	?
Burrell, William	Wine	Southampton	Iron	Southampton
Carew, Thomas	—	—	Wheat, Timber	London
Chamber, John de la	—	—	Wheat	London
Colt, John	Salt, Walnuts	Southampton	Iron	Weymouth
Cooke, John	Wine	Southampton	—	—
Earle, John	Salt, White Herrings	Dartmouth	Iron, Malt, Barley	Dartmouth
Edwards, Abraham	—	—	Iron, Malt, Wheat	London
Edwards, Abraham			Iron	Poole
Farmer, William	Corn	Chichester	—	—
Freeman, George	—	—	Iron, Oats, Wheat	London
Harman, John	Canvas, Glass, Salt	Southampton	Iron ordnance	Southampton
Harman, John	Wheat, Lead, Alum., Glass	Shoreham	Iron	Poole
Harman, John	Malt, Wheat	Chichester	Iron ordnance	Portsmouth
Harman, John	Salt, Sackcloth, Millstones	Dartmouth		
Harman, John	Pitch, Tar, Hemp, Soap, Hops, Raisins, Red Herrings	London		
Kidder, Richard	—	—	Barley	Dover
Malle, Richard	—	—	Barley	Rye
Norton, George	Hops, Turpentine, Sackcloth, Currants, Candles, Gunpowder	London		
Pemell, Peter	Haberdashery, Soap, Figs, Vinegar, Stone Pots, Red Herrings	London		
Prior, John	Wine	Southampton		
Puckell, John	Cloth	London	Iron, Barrel Boards	London
Sterne, Felix	Groceries	London	Iron	Dieppe

TABLE IV Patterns of Friendship



follow the example of their counterparts in other English towns and seek a charter of incorporation from the Crown, perhaps because they already enjoyed *de facto* self-government:[73] they merely drew up a new set of constitutional 'articles' which were duly 'confirmed and subscribed' at a meeting in the Town House on Whitsunday 1595. Some of the articles, as has already been suggested, may have been merely confirmatory, but others seem to have represented a departure from previous practice. According to the new constitution the society of the Twelve was clearly intended to be a self-perpetuating oligarchy: the existing members were to co-opt new ones from the ranks of the larger body known as the Twenty-Four, whose members were in turn to be nominated by the Twelve.[74] This arrangement, similar to that found in a number of corporate towns in this period, was conveniently circular: the Twelve resembled a House of Lords drawn from a House of Commons which in turn was chosen by the Lords. Any vestiges of popular consent now seem to have disappeared: there was apparently no provision for the kind of 'general assembly for the common weal of the town' that had existed in mid-Tudor times.[75] That such assemblies could prove troublesome is suggested by the requirement that 'for the avoiding of further disorder' the Twenty-Four were to be chosen in the Town House 'and not any more . . . in the Castle'.[76] The Town House, large enough only to accommodate a limited number (meeting if necessary behind closed doors) provided a more convenient setting for 'elections' than the extensive grounds of the Castle, open to all and sundry. The motives of the ruling elite in Lewes were doubtless similar to those of their opposite numbers in Hastings, who in 1603 were to move the mayoral election from the open 'Hundred Place' to the new Court Hall, away from 'the public view of the whole multitude'.[77] Like the rulers of Hastings, Rye and Arundel, in all of which towns oligarchic tendencies are apparent at this time, those who held sway in Lewes were probably convinced that 'democracy' was synonymous with disorder.[78]

Henceforth the political and social structure of Lewes underwent little change for over a century. A small company, composed mainly of the more prosperous merchants and tradesmen, maintained themselves in power and, in the words of T. W. Horsfield, 'ruled the town most magisterially'. Horsfield, writing in the early nineteenth century, saw 'no reason to join the lamentations of the many who deplore the fact that the Fellowship has been permitted to decay'. A staunch champion of civil and religious liberty, he disapproved strongly of oligarchs who 'had in their own hands the means of keeping their body select or . . . of refusing admittance to those who were in any respect obnoxious to the ruling party'.[79] Nor, as a firm opponent of Calvinism, would he have had much sympathy with any notions of divine 'election'. But in the Elizabethan age men saw nothing morally wrong in oligarchy: the turbulence of the times demanded that a tight control be kept over the many by the few; and did not their religion teach them that privileged positions on earth and in heaven were normally reserved for a small minority of men? Thus the rulers of Elizabethan Lewes—those sober, sad, discreet and godly townsmen—saw little reason to doubt the customary contention that weighty affairs were best entrusted to twelve (or at a stretch twenty) good men and true.[80]

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TABLE I
Key to abbreviations:—
Parish of residence: AS = All Saints, SJ = St. John-sub-Castro,
SM = St. Michael, SMW = St. Mary Westout.
Friends and relations: Plain numbers refer to a man's friends and numbers followed by letters (in parenthesis) to his relations, i.e., f = father, s = son, f/l = father-in-law, s/l = son-in-law, b/l = brother-in-law.

The information in this table is derived from the following sources:

1. The Town Book of Lewes 1542-1701, ESRO, LEW C 1/1 (printed with omissions in *TB*). A few names printed in error in *TB* have been excluded, viz. Thomas Marrett (*recte* Mantell), John Horsman (*recte* Harman), Thomas Solte (*recte* Colte) and John Roogbye (*recte* Rowe). One name has been deliberately omitted: John Morley, elected to the fellowship in June 1587 (LEW C 1/1, f. 205v.) but not named in the list of members for 1586-7 (*TB,* 31), perhaps because he never took up his membership.
2. Wills and administrations: ESRO, W/A and W/B (see *Calendar of wills and administrations in the archdeaconry court of Lewes,* British Record Society, 1901); PRO, PROB 11 (see *Index of wills proved in the prerogative court of Canterbury,* British Record Society, 1893-1912).
3. Ecclesiastical court depositions: WSRO, Ep II/5/1-5 (see card index in ESRO search room). Renshaw, 1-9.
4. Marriage licences, printed in E. H. W. Dunkin, ed., *Calendar of Sussex marriage licences 1586-1642,* SRS, 1 (1901).
5. Parish records: ESRO, PAR 410/1/1/1, 415/9/1/1A (partially printed in Whitley), XE1/414/2.
6. Deeds: BL, Add. Ch. 30,524, 30,595, 30,601, 30,630. I owe these references to Mr. John Houghton.
7. Other sources cited in the footnotes of this article.

TABLE II

The information in this table is derived from the sources used for Table I. Since exact dates of commencement and termination of membership of the fellowship are only known in a minority of cases the table may contain a number of chronological errors.

TABLE III

The information in this table is derived from the port books of Meeching and Lewes: PRO, E 190/739/8, 20; 740/6; 741/15; 745/13, 23; 746/25; 747/12, 14; 748/33; 749/5; 750/17; 813/4.

TABLE IV

The information in this table is derived from Table I.

References

[1]G. J. Copley, ed., *Camden's Britannia: Surrey and Sussex* (1977), 38-9, 46, 49.

[2]*The Victoria history of the county of Sussex* (hereafter *VCH*), vii (1940), 16; C. E. Brent, 'Urban employment and population in Sussex between 1550 and 1660', *S(ussex) A(rchaeological) C(ollections),* 113 (1975), 47-50; P(ublic) R(ecord) O(ffice), SP 12/189, f. 36.

[3]B(ritish) L(ibrary), Harl. 703, ff. 49, 53-4; 'Sussex deeds in private hands', *SAC,* 66 (1925), 115; L. F. Salzman, ed., *The Town Book of Lewes 1542-1701,* S(ussex) R(ecord) S(ociety), 48 (for 1945-6) (hereafter *TB*), 33.

[4]See L. F. Salzman's account of the government of Lewes in *VCH*, vii, 24-30.

[5]Cf. M. Weinbaum, *The incorporation of boroughs* (Manchester, 1936), 18.

[6]*TB,* xviii, 15.

[7]PRO, C 219/31/179. This is the only surviving Elizabethan return for Lewes. I am indebted to the History of Parliament Trust for permission to consult their files on Sussex constituencies.

[8]*TB,* 4-5, 130

[9]W. H. Godfrey, ed., *The Book of John Rowe,* SRS, 34 (1928) (hereafter *Rowe*), 120.

[10]*TB,* 43.

[11]Ibid., 31, 32-3, 38, 40, 134; E(ast) S(ussex) R(ecord) O(ffice), LEW C 1/1, ff. 198, 205v.

[12]The constables listed under '1573-4' in *TB,* 22-3 were in fact those for 1574-5. The junior constable in 1573-4 was almost certainly the elder Thomas Trayton; the senior constable may have been Thomas Huggins.

[13]*TB,* 130.

[14]Ibid., 131.

[15]ESRO, LEW C 1/1, f. 198v.

[16]PRO, C 3/245/101.

[17]Trayton was a member of the fellowship in 1586-7 but not in 1587-8; *TB,* 31, 33. His will dated 26 July 1589 was proved on 16 August that year; ESRO, W/A 8/309.

[18]PRO, PROB 11/82/85, 84/62; *TB,* 41; ESRO, DYK 1123, m. 14.

[19]PRO, STAC 5/C1/23; ESRO, W/B 1/153.

[20]*TB*, 130.

[21]*Rowe,* 120. Ages on entry to the fellowship have been calculated on the basis of the information given in Tables I and II below.

[22]See Table I below.

[23]PRO, C 3/245/101.

[24]PRO, E 190/739/20, 740/6, 745/23, 813/4; REQ 2/33/72, 129/54.

[25]See Table III below.

[26]PRO, PROB 11/85/1; ESRO, W/A 15/105; J. H. Cooper, 'Cuckfield families', *SAC,* 43 (1900), 9; J. Comber, *Sussex genealogies: Ardingly centre* (Cambridge, 1932), 191; J. J. Goring, 'Wealden ironmasters in the age of Elizabeth' in *Wealth and power in Tudor England,* ed. E. W. Ives et al. (1978), 213, 217, 224-7.

[27]E. Straker, *Wealden iron* (1931), 150.

[28]W. Budgen, ed., *Abstracts of Sussex deeds and documents,* SRS, 29 (1924), nos. 229, 329, 469; ESRO, W/A 9/406; PRO, E 190/745/23, REQ 2/49/1.

[29]W(est) S(ussex) R(ecord) O(ffice), Ep II/4/1, *passim;* Ep II/5/1, f. 32; ESRO, W/A 14/192.

[30]*Rowe,* vii; ESRO, LEW C 1/1, f. 198; *TB,* 134. *Cf. VCH,* vii, 25, n. 41.

[31]WSRO, Ep II/5/1, f. 48v.

[32]PRO, PROB 11/48/15, 62/7, 69/67, 84/62.

[33]*Rowe,* 120.

[34]PRO, E 179/190/283, m. 19.

[35]*TB,* 27. Trayton's house was on the site of what is now 203, High Street. I owe this information to Mr. John Houghton.

[36]W. H. Godfrey, 'Barbican House, Lewes', *SAC,* 82 (1942), 3-4, 7-9.

[37]*Idem.,* 'The High Street, Lewes', *SAC,* 93 (1955), 17.

[38]H. M. Whitley, 'The churchwardens' accounts of St. Andrew's and St. Michael's, Lewes from 1522 to 1601', *SAC,* 45 (1902), 59.

[39]ESRO, W/A 11/189, 14/192; PRO, PROB 11/108/100; F. W. T. Attree, ed., *Post mortem inquisitions,* SRS, 14 (1912), no. 361; *VCH*, vii, 85.

[40]J. H. Cooper, 'The Coverts', *SAC,* 47 (1904), 123.

[41]*Calendar of Assize records: Sussex indictments, Elizabeth I,* nos. 593, 1459, 1668, 1845, 1876, 1940; PRO, REQ 2/33/72; *TB,* 45.

[42]J. Foster, ed., *Alumni Oxonienses 1500-1714* (Oxford, n.d.), 1504; ESRO, ADA 156, f. 4v.

[43]W. H. Godfrey, 'Trayton of Lewes, sketch pedigree', *S(ussex) N(otes and) Q(ueries),* 3 (1931), 250-51; J. Comber, *Sussex genealogies: Lewes centre* (Cambridge, 1933), 289. His grandfather was probably John Trayton, a small farmer of Ditchling; ESRO, W/A 3/207.

[44]PRO, PROB 11/97/11.

[45]ESRO, LEW C 1/1, ff. 30, 198; BL, Add. Ch. 30,524.

[46]W. H. Godfrey, 'Thomas and Brian Twine', *SNQ,* 2 (1929), 197-9, 231; 3 (1930), 40-41.

[47]J. & J. A. Venn, ed., *Alumni Cantabrigienses* (Cambridge, 1922-54); I, i, 376.

[48]BL, Add. Ch. 30, 614; ESRO, W/A 7/308.

[49]ESRO, W/A 5/406. Since the universities were still primarily the preserves of those entering the church, he may have had no 'aptitude' for the ministry.

[50]ESRO, W/A 5/102.

[51]J. E. Ray, ed., *Sussex chantry records,* SRS, 36 (1931), 138-9.

[52]PRO, PROB 11/48/15.

[53]ESRO, W/A 5/144.

[54]ESRO, W/A 15/105.

[55]Cf. R. B. Manning, *Religion and society in Elizabethan Sussex* (Leicester, 1969), 37, 46.

[56]PRO, PROB 11/84/62, 108/100; ESRO, W/A 9/278, 11/189, 12/69.

[57]PRO, PROB 11/80/69.

[58]ESRO, W/A 19/94.

[59]ESRO, W/A 17/138.

[60]PRO, PROB 11/62/7.

[61]W. H. Challen, 'Kyme family of Lewes', *SAC,* 100 (1962), 119-20; Manning, 201; BL, Add. MS. 39, 447, f. 3; PRO, PROB 11/62/7. The date of Thickpenny's departure from Lewes is not known.

[62]See Table I below.

[63]WSRO, Ep II/5/1, ff. 45-50.

[64]*TB,* 133.

[65]PRO, STAC 5/C1/23, C18/26. That it was the *elder* Trayton who was implicated is evident from the signature appended to his deposition.

[66]In a deposition made in 1609 Edwards made no reference to his earlier sojourn in Lewes: he stated that he had lived in Lewes for about two years and before that in Mayfield almost all his life; WSRO, Ep V/5/1, f. 17v. The key word 'almost' is omitted from the version printed in W. C. Renshaw, 'Witnesses from ecclesiastical deposition books 1580-1640', *SAC,* 56 (1914), 9.

[67]ESRO, W/A 15/105.

[68]See the articles of 1550 in *TB,* 4-5.

[69]See Table I below.

[70]See Table IV below.

[71]*TB,* 131.

[72]Ibid., 33-5; BL, Harl. 703, f. 49.

[73]Cf. R. Tittler, 'The incorporation of boroughs 1540-1558', *History,* 62 (1977), 24-42. Dr. Tittler suggests that many of the towns seeking charters of incorporation in the Tudor period were subject to lords unwilling 'to permit the perpetuation of *de facto* self-government'. The lords of Lewes apparently showed no such unwillingness.

[74]*TB,* 130. Very little is known about the Twenty-Four, who are first mentioned in 1550 and first listed in 1595; *ibid.*, 4, 134. The 1595 articles state that only those who had been members of the Twenty-Four for at least a year were eligible for membership of the Twelve.

[75]Ibid., 5.

[76]Ibid., 132.

[77]J. M. Baines, *Historic Hastings* (Hastings, 1955), 55.

[78]G. W. Eustace, *Arundel: borough and castle* (1922), 113-14; W. Holloway, *The history and antiquities of Rye* (1847), 205-06.

[79]T. W. Horsfield, *The history and antiquities of Lewes* (Lewes, 1824-7), i, 171, 175-6.

[80]I am most grateful to Dr. Colin Brent, Mr. John Houghton, Dr. Jennifer Ward and Mr. Christopher Whittick for their comments on an earlier draft of this article. Any surviving errors and misconceptions are entirely mine.

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WILLIAM ROE OF WITHDEAN: THE PURCHASE AND MANAGEMENT OF A SMALL ESTATE ON THE SOUTH DOWNS 1794 TO 1808 AND ITS CONSEQUENCES FOR THE MODERN LANDSCAPE

by Sue Farrant

In 1794 William Roe, a distinguished civil servant, purchased a small estate at Withdean in Patcham, close to Brighton, Britain's major seaside resort. The new owner planted trees and built a cottage for the family's country home. Roe's estate is of particular interest as one of the few 'suburban' estates established near towns in Sussex, and because Roe's tree-plantations are still important features of the modern landscape.

Between about 1780 and 1830 estates of between 1,000 to 6,000 acres emerged as the normal form of land ownership on the South Downs to the east of the Adur Valley. Such estates were commonly let as farms of between 500 and 1,000 acres but compact estates of up to about 1,800 acres were let as single farms. Even by modern standards, downland farms were large but they were very successful during the later eighteenth and early nineteenth centuries, because of the success of the sheep-corn husbandry which was practised upon them. Letting land in large units was very convenient for its owner and there was no shortage of tenants. The land owners were predominately long established Sussex-based gentry, most of whom did not own residences on the downs, their country seats were in the Weald of Sussex, for example at Wiston, Sheffield Park and Eridge. The number of owner-occupiers of land declined and only a few tenacious families managed to retain their farms through the vicissitudes of this period and of these, one or two were over 1,000 acres, for example the Paines' farm in Patcham.[1]

By 1830 the local gentry had enlarged their downland estates at the expense of the owner-farmers, whose attempts to enlarge their farms during this period frequently resulted in the loss of the entire holding when prices of the downland's main produce, sheep and corn, fell. Nevertheless, owner-occupiers competed against the gentry for smaller holdings of up to about 300 acres which lay inter-mixed with, or adjacent to, their own land and the consequence of this competition was to increase the purchase cost of the smaller acreages.

The gentry and local farmers faced little competition from other prospective purchasers. Only a very small number of the wealthier towns-folk in Lewes and Brighton could afford to develop downland estates and only one or two chose to do so, for example the Hurlys of Lewes who built up their holding in the parishes of Kingston and Iford nearby.

The rapid growth of Brighton as a seaside resort from about 1750 to the mid-1820s probably diverted investment by prosperous traders and professional people in both Brighton and Lewes away from agricultural land into urban development. The attractions of investing in urban development were that profitable participation was possible with less capital than was required to develop a viable downland estate, investment could be spread over a longer time-span and range of assets and, the element of risk inherent in urban development was offset by not having the higher costs associated with managing agricultural land to bear. Townsfolk who

inherited farmland on the downs sold it if the conditions of the legacy permitted, and thus provided another source of land for the gentry and farmers. The capital could be invested in the flourishing local towns, possibly directly into the beneficiaries' own businesses.[2]

Another group of potential investors in downland estates consisted of the increasing number of wealthy visitors who frequented Brighton, many of whom came from London and visited the town fairly frequently. Although some became familiar with the region, investment by visitors was principally in housing development in Brighton and there is no evidence that the price of farmland was directly influenced by the prospect of investments in downland estates by them. Only one Londoner eventually purchased an estate near Brighton in the later eighteenth century: William Roe.

As the average size of estates and farms rose on the downs in the later 1700s, so the number of prospective purchasers was reduced because of the initial purchase cost and subsequent commitment to investing in the holding. Sales of farms by owner-occupiers occurred throughout the later eighteenth and early nineteenth centuries and the purchasers were predominately gentry who owned adjacent or intermixed land and who purchased the entire holding. The gentry's estates tended to survive intact because of their size and the availability of other resources such as rent from estates elsewhere to expend, should rents from the downland drop due to bad harvests. Arrangements for inheritance, such as entail, also helped them to survive intact through periods of inept management or indebtedness. These factors combined with the prosperity of the region especially during the Napoleonic wars to make sales of estates infrequent. When they were sold, their size could result in sub-division and absorption by surrounding estates or offer an opportunity for people who wished to purchase a downland estate. The process of assimilation by established estates of owner-occupied farms and land let on lease by small-scale owners had, by the 1790s reduced most of the areas between estates to interstices which were too small for new estates to develop in them: hence purchasing all or a major part of an existing estate offered the only alternative for prospective estate owners.[3]

In 1793 the Western family's large downland estate which the family had inherited in the early 1700s and which lay to the north and the west of Brighton was auctioned. The family's main estates lay around Rivenhall in Essex. Due to its extensiveness the Sussex land was divided into three lots. Lot 1 included the Lordship of the Manor of Preston and a 900 acre freehold farm, which included a substantial part of Preston parish. The second lot consisted of land on the western side of the town of Brighton (within the parish boundary) which was advertised as potential building land. Lot 3 was Withdean, in Patcham parish, and consisted of the Lordship of the Manor of Withdean Cayliffe with a farmhouse and 354 acres, 555 acres of tithe free free-hold land and 286 acres of copyhold; in total over 1,100 acres (Table I). The total Western estate was approximately 2,500 acres.[4]

There were several prospective purchasers: two members of the local gentry owned land adjacent to parts of the Westerns' estate, Thomas Kemp of Coneyborough who owned land in Brighton, and Lord Abergavenny who owned parts of Patcham, East Blatchington and Rottingdean. Other gentry had estates close by, including the Pelhams of Stanmer. Two owner-occupied farms bounded directly onto the Western estate and belonged to Thomas Paine and Nathaniel Webb, both of Patcham. However, the Westerns' auction was inauspiciously timed because two local banks, at Brighton and Lewes, had stopped payment and this affected the finances of many of the gentry. Why the sale was still conducted is not known, but it must be assumed that the need to sell was urgent as land in Suffolk was sold at the same time and an Act of Parliament was secured in order to break the entailed inheritances.[5] The interests of the local

gentry, at a time of financial difficulties, was probably reduced by the size of the lots and their own policies at that time. Thomas Kemp's interest was confined to the Western land in Brighton parish which was intermixed with his own. Lord Abergavenny was actively developing his other south down estates in the Ouse Valley to the east of Brighton. None of the lots were sold at the auction. Kemp purchased Lot 2, the Brighton land in 1794-1795 and the poor timing of the sale gave opportunities to people who belonged to two groups who, by the 1790s normally had no opportunity to acquire downland estates: tenant-farmers and upper middle-class professional or tradesmen. Thomas Stanford, the very prosperous tenant of the Western's farm in Preston, managed to buy Lot 1, the manor and the land in Preston in 1794. William Roe, a Commissioner of Public Accounts in the Civil Service in London who had long wished to purchase an estate near Brighton, a resort which he visited frequently with his family, was well pleased with paying £13,000 for Lot 3, the Withdean estate, in 1794. When Roe bought Withdean there was no gentleman's residence—Preston manor house was sold to Thomas Stanford.[6]

Roe's estate is of particular interest because he kept a memorandum book which recorded aspects of his management of it, including the process of purchase and because he built a "cottage" for himself on the estate at Withdean, so following a fashion which apparently began in the later eighteenth century when rings of small 'suburban' estates such as Roe's were established around large towns. These estates were let to farmers but small houses were bult on them to be used as country retreats by their owners. Roe's cottage is the only example of this fashion around Brighton.[7] Few personal records such as correspondence and memorandums relevant to the study of downland estate management during the late eighteenth and early nineteenth centuries survive. This period is of special interest because the estates are in the final stages of completion and by 1830 most of them like Roe's have reached their maximum size as recorded on the tithe maps. From 1830 most of them remain unchanged in extent or ownership until they were broken up and sold from *c.* 1900. The investment decisions of estate owners between *c.* 1770 to 1830 are therefore very significant. The layout of the Roe and the Stanford estates onto which Brighton overflowed in the nineteenth century were finally determined by this particular sale and the subsequent purchases by Stanford and Roe. Their decisions ultimately influenced the location and type of urban development from the 1840s.

Roe's memorandum offers insights into six aspects of the purchase and management of a small estate. First the reasons for purchase and the financial arrangements. Second, the process of purchase, including proving the title, which he describes in detail. Third, how a rentier establishes the potential of a new estate and the importance of subsequent purchases. Fourth, the use and role of local attorneys and estate managers. Fifth, the attitudes to and influence of, a rentier on land use; Roe made a particularly distinctive contribution to the landscape of Withdean by ordering the planting of extensive tree belts, some of which remain. Last, by implication, the influence of architectural fashions upon the owners of small estates near towns when deciding what to build as their own residence.

Roe's first visit to Brighton was in December 1775, when he spent his honeymoon there but the family did not stay there again until September 1779. There was another interlude to September 1785 from when Roe rented houses bi-annually, for about two months from late August or early September. From 1794 when he purchased the Withdean estate the family's visits were more frequent. In addition to the family holidays, Roe also made trips into Sussex to visit friends and his wife's relatives at Chichester and often included Brighton in his route.[8]

For some time Roe had wished to buy an estate in this area and he thought that the

Western's sale provided a good opportunity. He discussed the prospect with his heir, William, and with his wife. William junior was told that if the estate was purchased it was to become his responsibility if the family was to retain it. Roe attended the auction when the estate was bought in at £12,000 and a few days later he negotiated with the Western family by using Mr. Gilbert, their steward, as his intermediary. Roe offered £12,500 and after protracted negotiations the Westerns agreed to sell for £13,000 including the timber for which they had previously wanted a separate valuation. This bargaining over timber is striking because few areas of the eastern downland had sufficient woodland to be worthy of any negotiation and its survival may help to explain Roe's attraction to the estate and his decision to plant trees.

The Withdean estate was owned as two separate parts by William and Charles Callis Western as shown in Table 1. Roe paid more to C. C. Western for his 556 acres than W. Western received for his 640 acres not because the land was different but because the former's land was freehold and tithe free whereas only 355 acres of W. Western's was freehold and none of his share was tithe free. Tithe and copyhold rights were regarded as encumbrances which reduced the value of land and, in order to free himself from having to pay tithes, in 1797, Roe purchased from Mr Paine of Patcham the right to collect them from the land which he had bought from W. Western (Table 1).

In common with many downland estates in this period, Roe's was still in transition from being a mixture of freehold and copyhold to becoming entirely freehold, and within its bounds there were still fields which he did not own. Roe soon discovered that the two small holdings intermingled within his estate created friction and decided to purchase them (Table 1). Mrs. Roberts laid claim to additional land which she thought was part of her copyhold until Roe disproved the claim. Thomas Scrase disputed with Roe about rights to pasturing sheep on downland which Roe controlled, but on which Scrase had the right to pasture a flock of 60 sheep which arose from his 19 acre small holding. Not until 1808 did Roe manage to purchase Scrase's land and consequently own all of Withdean.

For outlays greater than £1,000 Roe usually used mortgages as in 1803 and 1808 (Table 1) when Hoper and Gilbert, solicitors and land agents in Lewes, found him wealthy local farmers who were willing to lend, such as John Ellman of Glynde. Smaller outgoings were paid from capital or from income. A similar pattern of financial management was employed by other owners of downland estates.

On receiving the title deeds to his freehold and copyhold land, the manor court books for the two manors which he had purchased as part of the estate (Withdean and Withdean Cayliffe) and maps of his estate, in 1794, Roe then had the bounds of his purchase defined on the ground. At this stage Roe, well pleased with the services rendered by Hoper and Gilbert (who were partners) decided to retain Gilbert (who had been the Westerns' local agent) as his own. Gilbert probably assisted Roe from thereon as he seems to have been present at some of the meetings to tread out the bounds in 1794 and 1795. Such a practise was necessary when downland changed hands because large areas of pasture were unfenced. Old farm labourers, farm bailiffs and shepherds were employed to define bounds in the presence of the respective landowners or their official representatives. Missing boundary stones or doles (mounds of earth) were replaced, and within the estate, rights of way were also identified.

Roe did not intend to farm his land but like many new owners of estates he attempted to assess what the existing patterns of land-use were, the standard of husbandry and general upkeep and, whether the rent was too low. This was of particular interest in a period when rents were rising rapidly, but when tenants normally had 14 or 21 year leases rather than 7. When Roe

TABLE 1 William Roe's Withdean Estate: Investment in Land and in Rights 1794-1808

Date of purchase	*Description*	*Acreage*	*Status*	*Vendor*	*Price*	*Mode of purchase*	*Roe's Rationale*
27.5.1794							
Purchase (1)	Lordship of Manor of Withdean Cayliffe and freehold land within it	355-3-1	Lord of the Manor and owner of freehold	Wm Western of Rivenhall Essex		£1300 realised	Would like to purchase an estate preferably in Brighton area as visits it frequently
Purchase (2)	Copyhold farm	286-1-7	Copyholder held of Manor of Patcham (Abergavenny)		£5913 fine of admission £113	from marriage settlement, then mortgage for £1300 at 4½	
Purchase (3)	Manor and farm of Withdean or Wighdean (tithe free)	556-3-14 1196-3-22 in sale	Freehold	Chas Callis Western, Felix Hall, Essex	£7087		
July 1797	Purchase part of right to be lay impropriator of tithes of rectory of Patcham	66 acres; purchases (1),(2),(4),(5)	Impropriator of Great Tithe	Mr Paine of Patcham	£1500	6 year mortgage to Paine at 5% p.a. paid off 1803	reduce outlays and simplify management
March 1799	Redeem landtax on Great Tithes (£2-10-0 p.a.)	—			48-13-4½	Cash ?	as above
1802 Purchase (4)	Cottage garden and two fields	4-3-25	Copyhold of Manor of Patcham	Mrs Roberts	£670 to her, £17 in court fees to steward	Cash ?	towards completing control of area
1803	(a) redeem land tax on 1796 land (£60-4-0 p.a.)	1196-3-22			£2207-6-8	£3000 mortgage at 3% to J. Morris of Ringmer	reduce outlays and simplify management
	(b) on late Roberts 12/-	4-3-25			£12-13-6	Cash ?	as above
1808 Purchase (5)	Four fields, farmhouse now tenements, yard, garden, land, 60 sheep leases	19-3-24	Freehold	Tho Scrace	£4500	mortgage J. Ellman of Glynd £2000 T. Ellman of Shoreham £2000	resolve disputes over 60 sheep leases and finally complete control of hamlet of Withdean
	Total acreage	1223					

purchased Withdean the entire estate of over 1,100 acres was let to William and Thomas Scrase who worked as a partnership and were well known locally as progressive farmers.

In 1801 Roe decided to increase the rent as the lease was due for renewal and the rent was the major income from the estate. After consulting Gilbert, and discussions with other people, Roe decided to offer a seven year lease at £1,100 per annum to the Scrases in the autumn of 1801, but intended to accept £1,000. He clearly took considerable time and trouble over this important decision. After several months of negotiation he leased the farm in 1802 to his friend Grundy who offered £1,200, tithe included. Just after this, William Scrase wrote to offer £1,050 and Roe recorded his regret at losing long established tenants and that he would have preferred to retain them if they had met him at £1,060, noticeably lower than the rent which Grundy offered. Roe's estimate of rent was in line with the expectations of other owners between 1801 and 1812, Thomas Saxby paid the Earl of Abergavenny £1,200 per annum for Northease farm in Rodmell which had 1,034 acres. In 1811 John Ellman's rent for his 1,400 acre farm in Glynde was increased by the Trevors from £689 to £1,200.[9]

To record the extent of the downland which the Scrases had ploughed up to use as additional land, before the incoming tenant took over, and to check the accuracy of the old maps which he already possessed (one of which has survived), in 1801 Roe employed William Figg of Lewes, a well known local surveyor. Figg also produced plans of specified areas in which Roe was interested, probably because he wished to plant more trees.

Some estate owners took an interest in one aspect of agriculture, for example the Earl of Egremont who experimented with livestock breeding at Petworth, and the Earl of Sheffield's sheep breeding activities at Sheffield Park. Usually these owners conducted their experiments on the estate on which they resided. Roe, though not resident at Withdean until 1807 and only resident in Brighton for short periods until then, took a particular interest in tree planting. Between 1794 and 1807 he briefly noted his actions in this memorandum but the detail, such as acreage and specific types, was noted in another volume. Roe offers no explanation for his interest but he seems to have started soon after buying the land. His decision is interesting because this region was noteworthy for its treelessness, except Stanmer Park and smaller scale projects around Glynde House and Glyndebourne in Glynde parish, Patcham Place by Patcham village, Ovingdean Hall in Ovingdean, and, trees surrounding farms and villages. The upper areas of the downs were open pasture but some arable land was fringed by quickset (hawthorn) hedges instead of fences. The apparent survival of rather more trees than was common to downland may have influenced his subsequent actions.

Roe's planting was sufficiently extensive for him to have his own tree nursery by 1802. In 1803 he decided that the work on the preparation of land, planting, maintenance of established and young trees would merit the employment of a gardener full time and so he employed one from Brighton for 75 pence a week with a rent free cottage in Withdean. By then some of the plantations were cut as copse and sold to customers in Brighton (which provided him with a local market). His timber included ash, beech, elm, larch, oak and Scots fir and other 'forest trees'. Although the specimen trees have gone, the plantations are evident on the Patcham tithe map in the 1840s and most of them survived into the later 1800s when they influenced the layout of roads and the setting of houses in the Withdean and Varndean areas of modern Brighton. The modern large scale Ordnance Survey maps still show tree belts where Roe planted or retained them. Unfortunately, it is impossible to identify the pre-1794 tree belts from the surviving evidence, but most of the planting was probably Roe's.

In 1803 Roe decided to have a cottage built at Withdean and this might have been a long

term aim which may help to explain the planting of trees in order to create a picturesque landscape, even though it handicapped farming. As trees were regarded by local farmers as an impediment to their extensive agriculture and reduced the value of downland as farm land, this is worthy of consideration particularly as the income from timber would have been delayed until the trees matured. Roe did not wish to build a mansion, specifically describing the property as a cottage, meaning a small house. Its precise location is not known but it was probably on the eastern side of the London Road on the road frontage of the modern Withdean Park, for in the 1840s a cottage surrounded by trees stood there. The only other dwellings depicted at Withdean had farm buildings with them and were let as farm houses by Mrs. Roe. If Roe followed the advice of the fashionable architectural books then he would have imitated the local building style but possibly added some embellishments, rather like Nash's houses at Blaise Hamlet. As it was used infrequently, a small country retreat was probably as much as the Roes would have wanted or afforded.[10] The family stayed there for the first time in 1807 but still took a house in Brighton during the resort season.

In 1806 the quality of the memorandum deteriorated, probably because Roe had been promoted to chairman of the Board of Customs and was too busy to maintain it properly. He closed it in 1809 noting that he kept notes on his Sussex affairs in a separate book which, if it is discovered, may be a very useful source on estate management and offer more information about his interest in trees and about his 'cottage'. His papers were inherited by the Curwen family and C. Thomas Stanford published a limited edition of the private memorandums for private circulation, the originals are in Preston Manor museum, Brighton. It is unfortunate that no accounts or letters survive which could be used to establish the effect of his commitment to the Withdean estate upon the family's finances and whether his salary from his profession was either invested in the estate or augmented by income from it.

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[2]S. P. Farrant, *Georgian Brighton 1740-1820* University of Sussex Centre for Continuing Education Occasional Paper 13 (1980), Chap. 4.

[3]S. P. Farrant, 'Farm formation in eighteen century Bishopstone', *Sussex Archaeological Collections* 114 (1976), 335-6.

[4]*Sussex Weekly Advertiser* 10.6. 1793.

[5]Essex Record Office, D/DWE, T48.

[6]L. F. Salzman Ed, *Victoria History of the County of Sussex,* 7 (1940) 271.

[7]M. S. Briggs *The English farmhouse* (Batsford, 1953) 200-201. J. Summerson *Architecture in Britain 1530-1830* 5th ed. (Penguin 1969) 288-90. J. Loudon *A treatise on farming, improving and managing country residences; and on the choice of situations appropriate to every class of purchaser.* (2 vols 1806 reprint Gregg, 1971) Vol. 1 140-2; Vol 2, 609.

[8]C. Thomas Stanford, *The private memorandums of William Roe of Withdean in the County of Sussex 1775-1809* (Brighton 1928), forms the basis of most of the information about Roe in this article and Table I is entirely derived from it.

[9]E.S.R.O., ABER 2/25 T. Saxby, lease 1812. British Parliamentary Papers 1821 (688) IX, 49-61, S. Farrant, 'John Ellman of Glynde' *Agricultural History Review* 26 (1978) 77-88.

[10]E.S.R.O. TDE/46 Patcham Tithe Map and Schedule. Ordnance Survey 6″ to 1 mile.

Sussex Archaeological Collections **119** (1981), 181–194

A DESCRIPTION OF THE MID NINETEENTH CENTURY FORTS AT LITTLEHAMPTON AND SHOREHAM, WEST SUSSEX

by F. G. Aldsworth, B.A., F.S.A.

Of the many small forts and gun batteries built along the coast of Southern England during the past few centuries only two survive in anything like their original form in West Sussex—Littlehampton Fort, completed in 1854, and Shoreham Fort, otherwise known as Kingston Redoubt, completed in 1857. There is a roughly contemporary fort at Newhaven, in East Sussex, but it is a ruin by comparison having suffered the overbuilding of heavy concrete emplacements during the Second World War. The West Sussex examples are especially important because they represent a phase of experimental fortification developed immediately after the introduction of 'rifled' gun barrels on the Continent, an invention of the mid nineteenth century which greatly increased the range of heavy guns. They are also of a form of nineteenth century fort not exhibited in the near contemporary, but slightly later, forts around Portsmouth Harbour, in Hampshire.[1]

From 1977 to 1979 West Sussex County Council sponsored a programme of restoration on Shoreham Fort, on behalf of the Manpower Services Commission, through their Job Creation and Special Temporary Employment Programmes, and in 1980 and 1981 vegetation and rubble was cleared from Littlehampton Fort by local volunteers under the supervision of Mr. Ian Stuart of the Littlehampton Office of the Social Services Department. A number of features were revealed whilst this work was being undertaken and, supported by original drawings and photographs, the new surveys, prepared by the County Planning Officer, are used here to provide a descriptive account of the two forts.

Copies of the new surveys have been placed in the West Sussex County Record Office, at Chichester.

LITTLEHAMPTON FORT

The fort lies on the west side of the entrance to the harbour (Fig. 1) and replaced a battery of seven guns erected on the east side in about 1764.[2] The remains of the battery are now incorporated into an amusement park.

The fort was completed in 1854 and was surveyed in 1859 under the direction of Captain A. de C. Scott, of the Royal Engineers. This original survey was 'corrected' in May 1883 and the published drawings[3] include details of the cost of construction, armament and accommodation. The contract price was £7,146 but the final cost was £7,615.10*s*.0*d*. The fort was armed with three 68-pounder guns and two 32-pounder guns, each capable of firing up to 1600 yards, and the two underground magazines were each designed to take 126 barrels of gunpowder. It was planned to accommodate two infantry officers, one master gunner, and 42 NCO's and privates, but a further 30 NCO's and privates could be accommodated in a hut outside the fort on the north side.

The ground plan (Fig. 2) was in the form of a lunette or straight-sided crescent—a basic

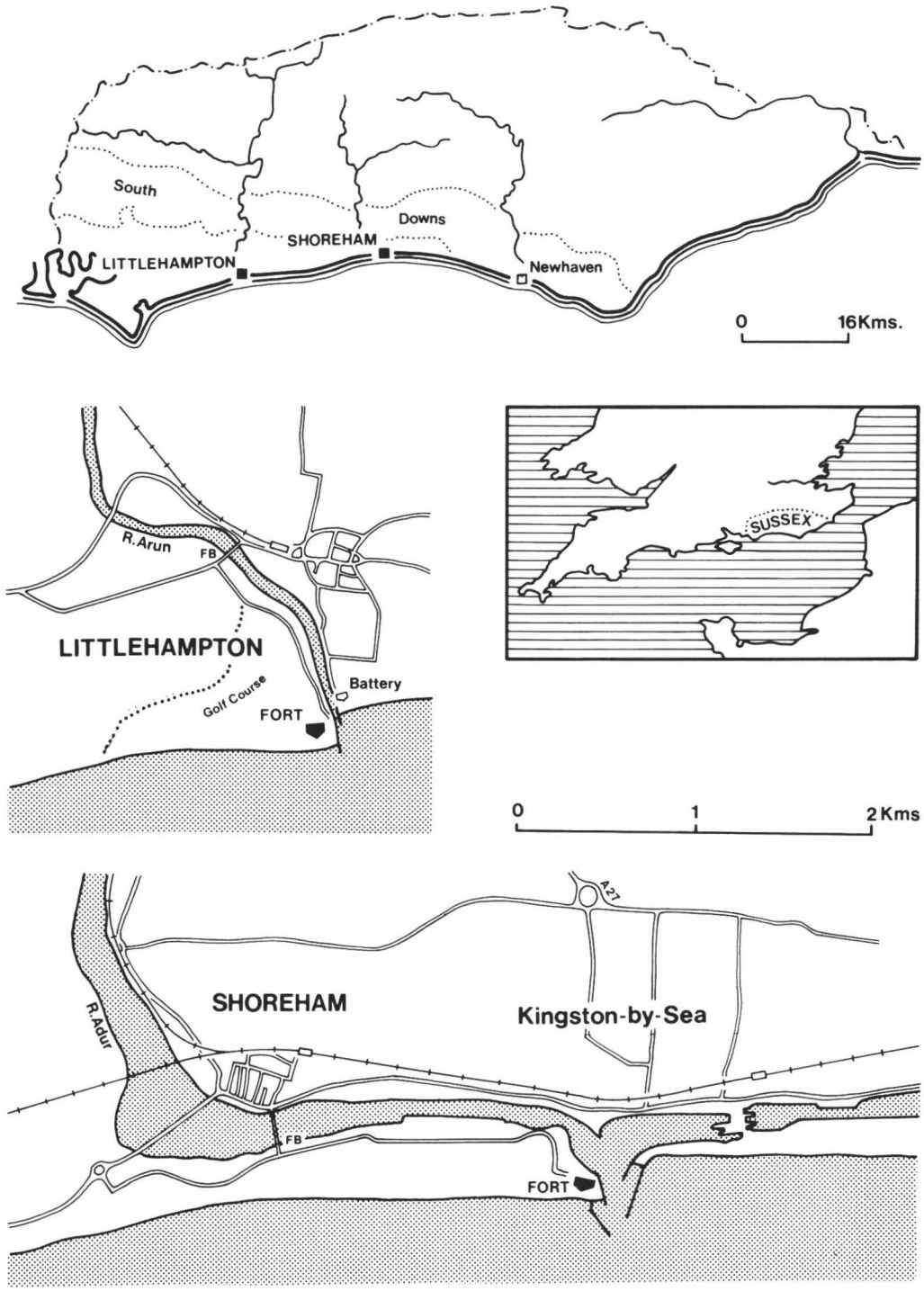

Fig. 1 The Location of Littlehampton and Shoreham Forts.

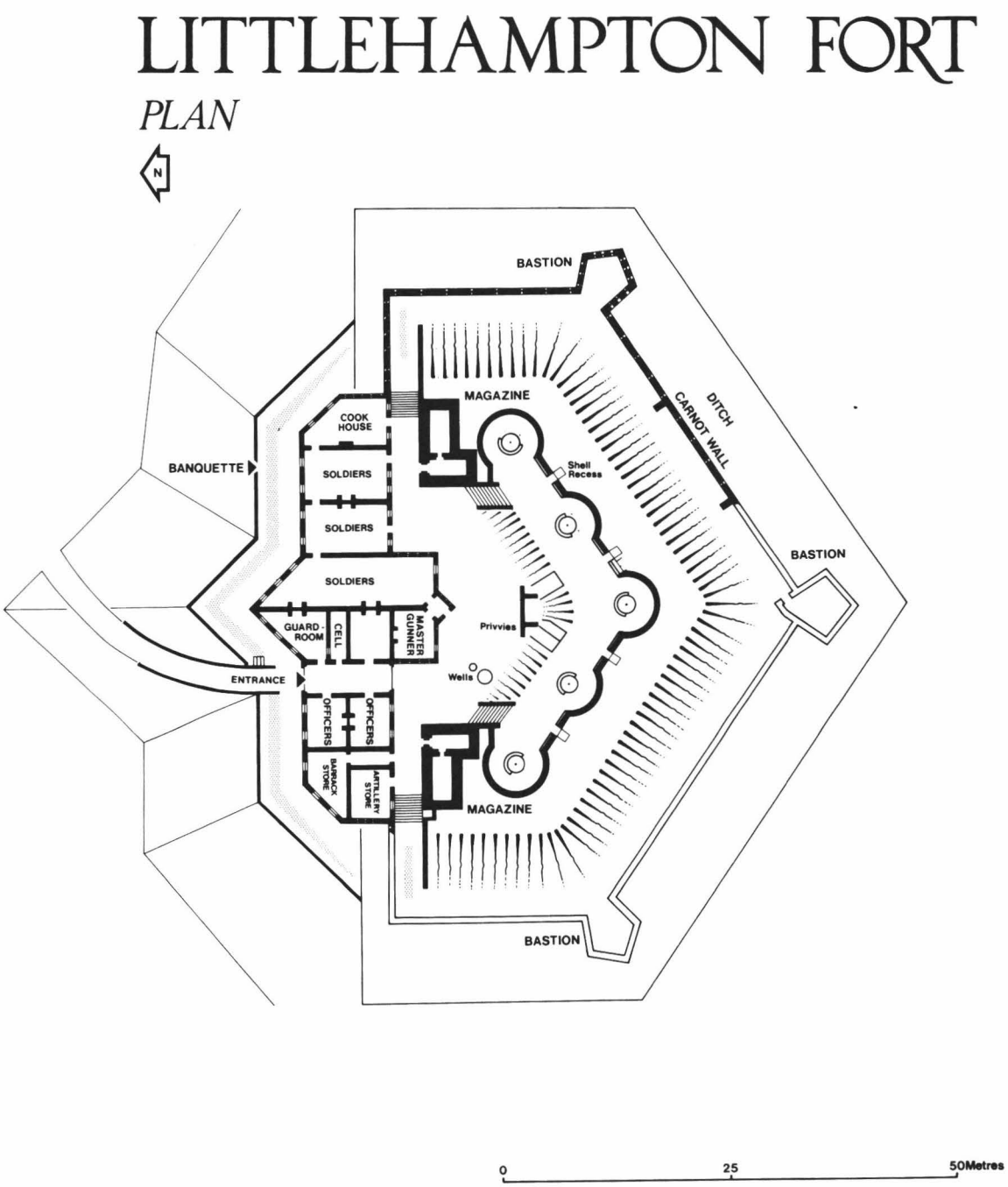

Fig. 2 Plan of Littlehampton Fort—based on an original survey of 1883 (*PRO* WO 78/2849 & WO 33/19) and new survey in 1980.

design which was later adopted at Shoreham. The front and side flanks were surrounded by a ditch, 27 ft. wide, and a detached 'carnot' brick and flint wall, 12 ft. high, was built along the bottom of the ditch to delay attackers storming the ramparts behind which the gun battery was mounted. This wall was loop-holed throughout its length and where it turned the corners it was built into open bastions to allow the defenders to give covering fire along the length of each flank of the ditch outside the wall.

At the rear of the fort the open ends of the ditch were closed by another loop-holed wall, 10 to 12 ft. high and a strongly-built defensible barrack block almost identical in plan to that at Shoreham. On the south side were outer earthwork defences and a curving entrance passage flanked by brick walls. The two underground magazines were built into the ends of the gun battery and ammunition for immediate use was placed in shell recesses on the gun platform (or terreplein) near the gun emplacements. The muzzle-loading guns were mounted on wooden platforms of the type used later at Shoreham (Fig. 6) and which can be seen reconstructed at Southsea Castle, Hampshire; Pendennis Castle, Devon; and Fort George, near Inverness.

The fort declined in importance during the late nineteenth-century and was reported dismantled in about 1900. The barracks were demolished in the 1960s.

SHOREHAM FORT

The site selected at Shoreham was on the wide spit of shingle immediately to the west of the, then, newly constructed entrance into the harbour (Fig. 1), so that the guns could command both the harbour and its approaches.

The fort was completed in June 1857 and details of cost, armament and accommodation are given in a record drawing of Shoreham Redoubt, drawn from old plans and measurements by W. Mumford, of the Royal Engineers, on the 1st September, 1886. The estimated cost was £10,000, and the actual cost was £11,685.10*s*.0*d*. An anonymous note in Brighton Reference Library (Box 24) gives the builder as Messrs. Smith of Woolwich, but the source of this information is unclear. The fort was designed to carry six muzzle-loaded guns with rifled barrels but the survey drawing records only five mounted at that time: 64-pounders on emplacements I, II and VI and 80-pounders on emplacements III and IV. The underground magazines were each designed to take 126 barrels of gunpowder and the water tanks carried 11,578 gallons. The accommodation was for two officers, one master gunner, and 35 NCO's and privates.

The ground plan (Figs. 3 and 4) was in the shape of a lunette, or rectangular half-moon, as at Littlehampton, with earthen ramparts on which the guns were mounted, and at the rear was a defensible barrack block. The fort was surrounded at the front and sides by a ditch which carried a carnot wall along the bottom. At the three corners were covered bastions, or caponiers/caponierres (Fig. 5) which could be entered from inside the fort and allowed defenders to fire along the outside of the carnot wall. These represent a development from the open bastions built a few years earlier at Littlehampton. Buried beneath the two ends of the rampart were the two magazines—one of which is now incorporated into a coastguard station. These comprised stores and shifting rooms where the shells and cartridges were loaded. Piles of iron shot were placed by each gun and the shell recesses or expense magazines, where small supplies of ammunition were maintained, lay adjacent. There were no hoists, and shells were carried to the guns by hand—probably by making use either of the steps alongside and above the expense magazines (Fig. 6) or the ramp.

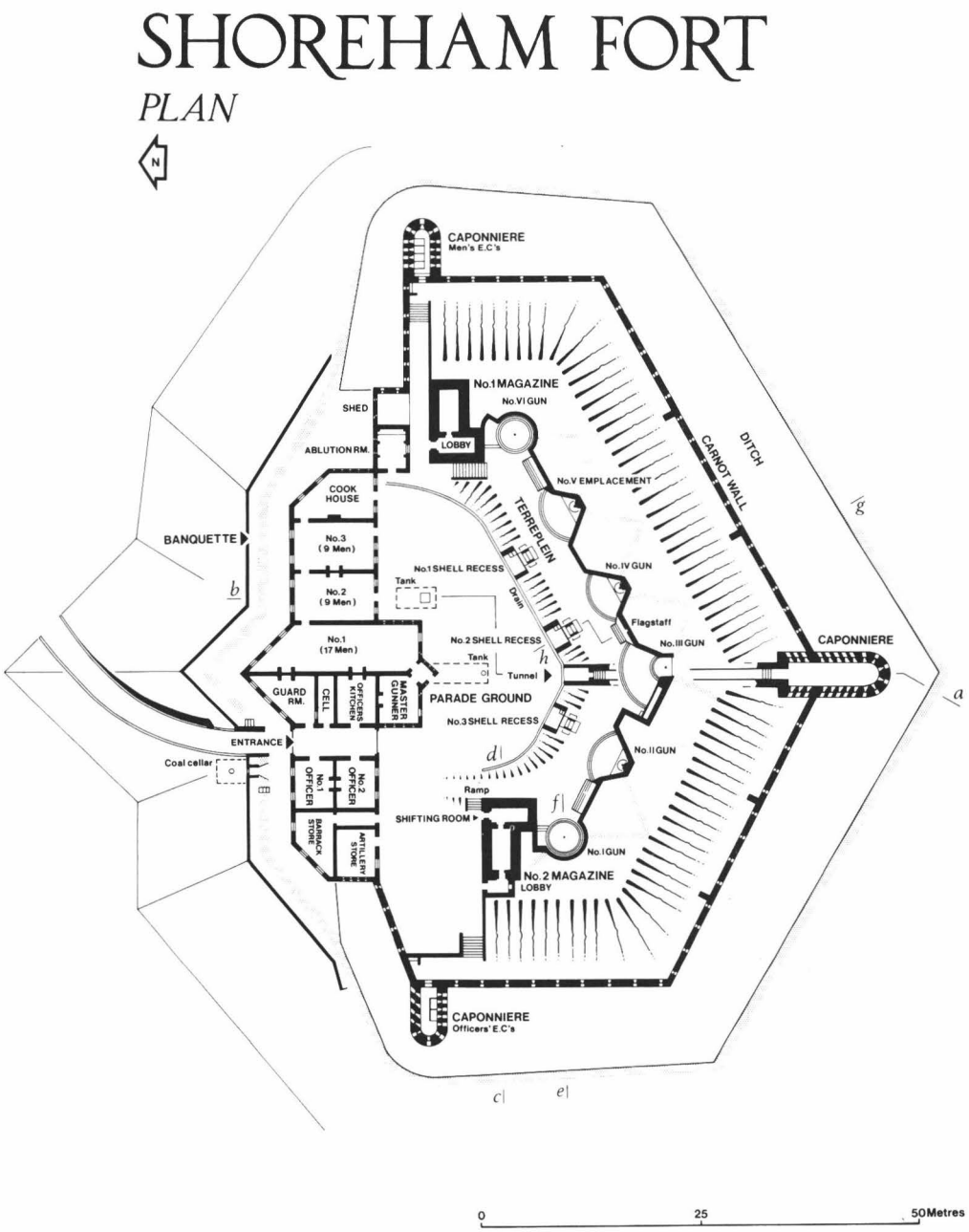

Fig. 3 Plan of Shoreham Fort—based on an original survey of 1886 (*PRO* WO 78/5110-2) and new survey in 1980.

SECTIONS

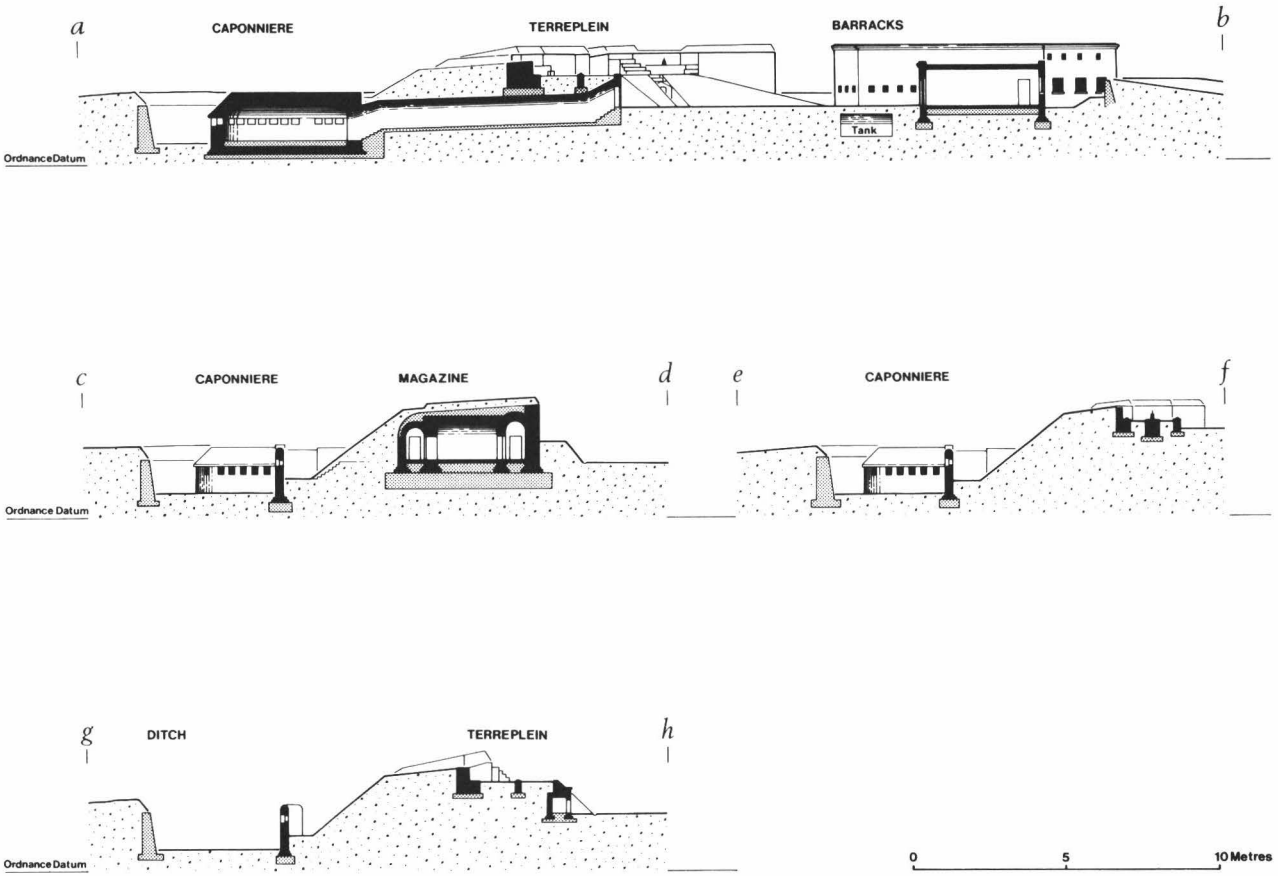

Fig. 4 Shoreham Fort—reconstructed sections.

SHOREHAM FORT
The South Caponniere

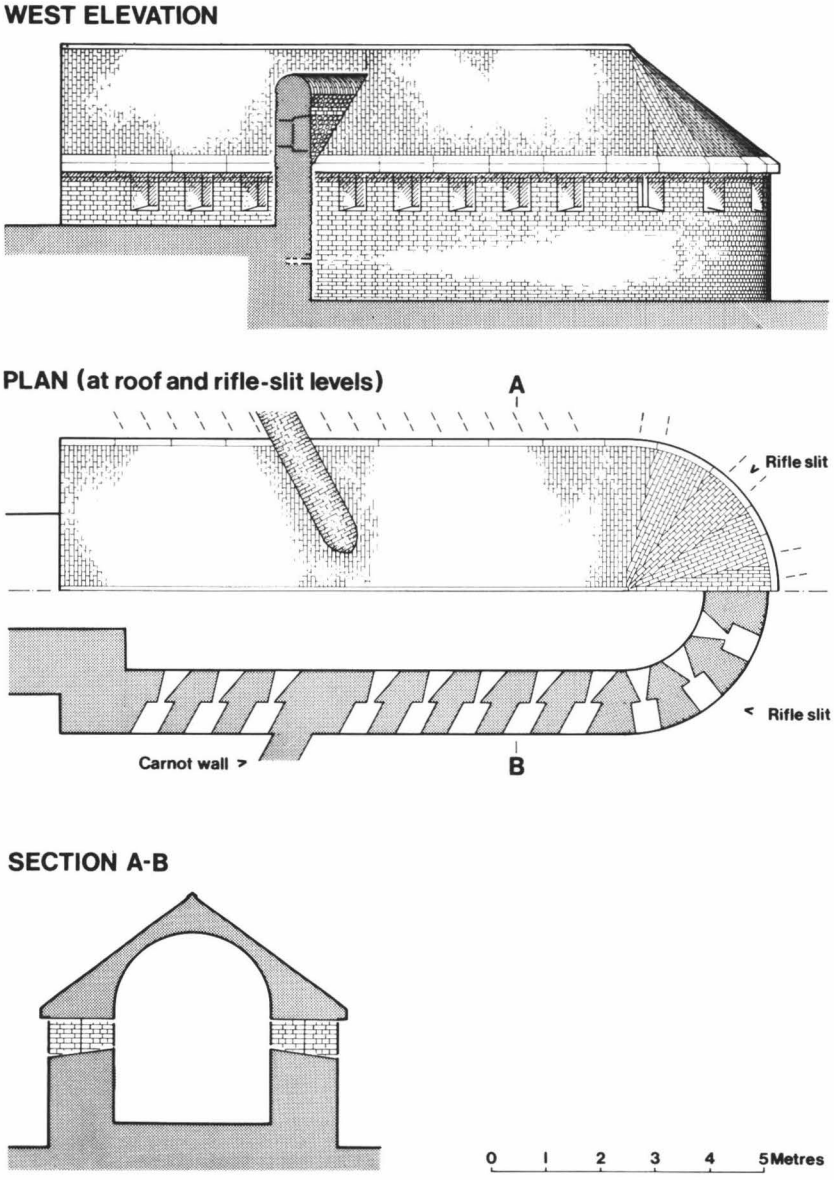

Fig. 5

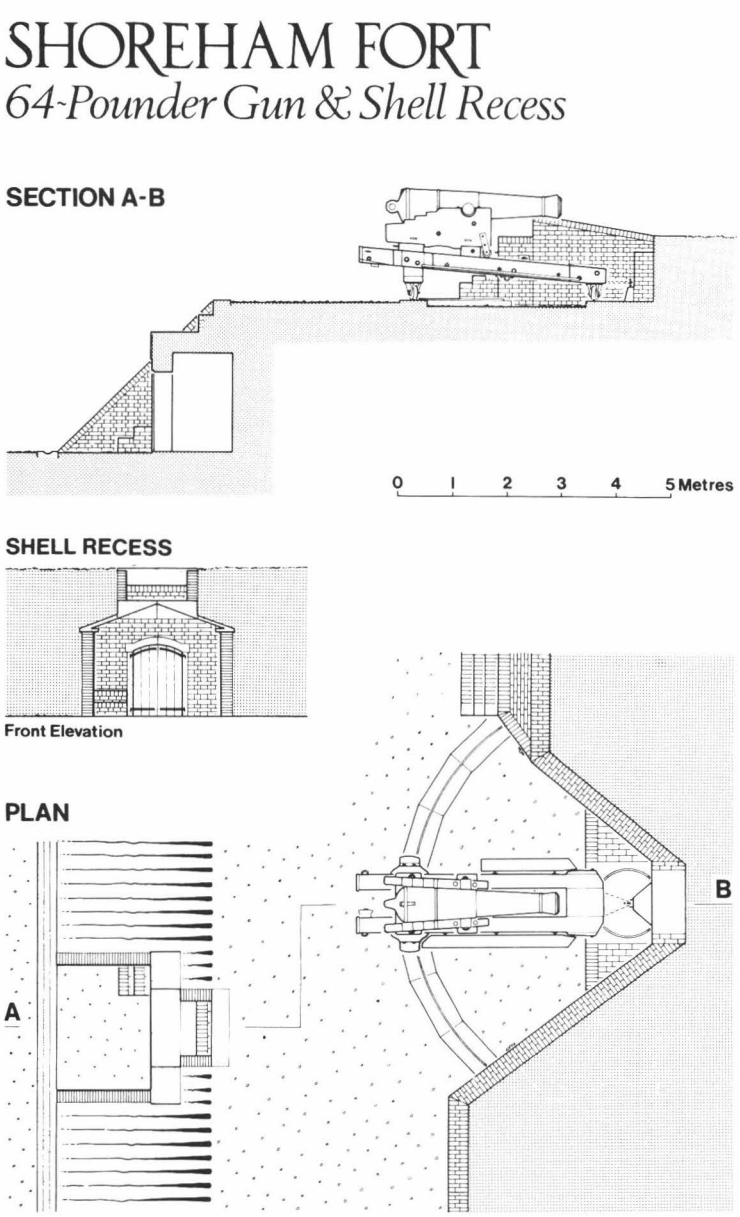

Fig. 6 A reconstruction, based on surviving remains, to show a gun mounted on a traversing platform on emplacement No. V and the nearby, No. 1, shell recess.

SHOREHAM FORT
The Barracks

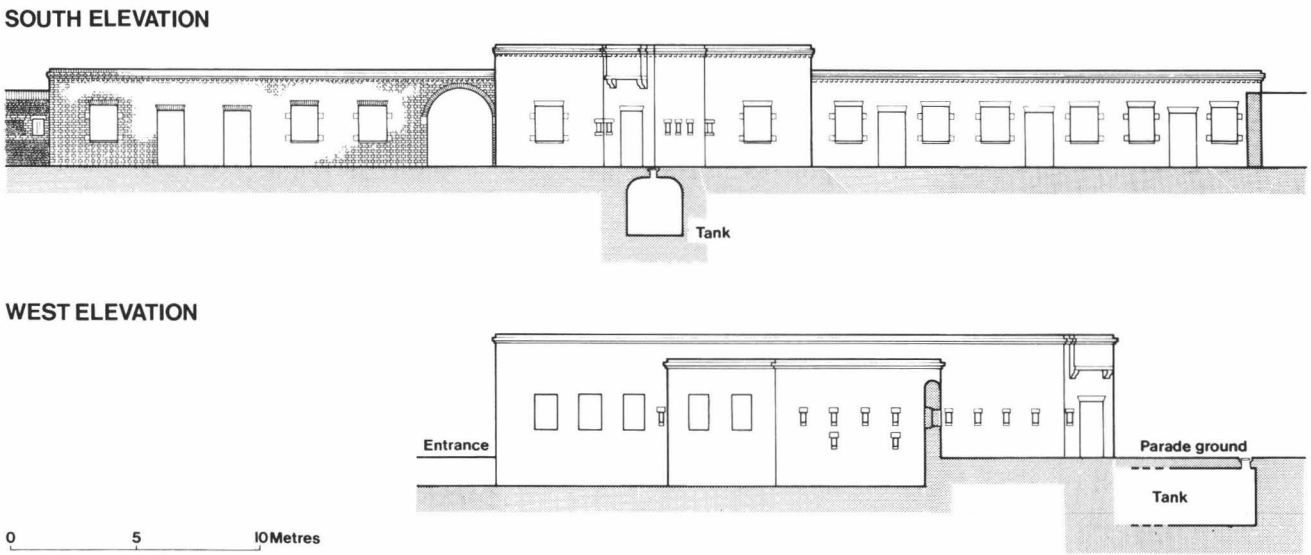

Fig. 7 Reconstructed elevation drawings of the barracks based on old photographs and new survey.

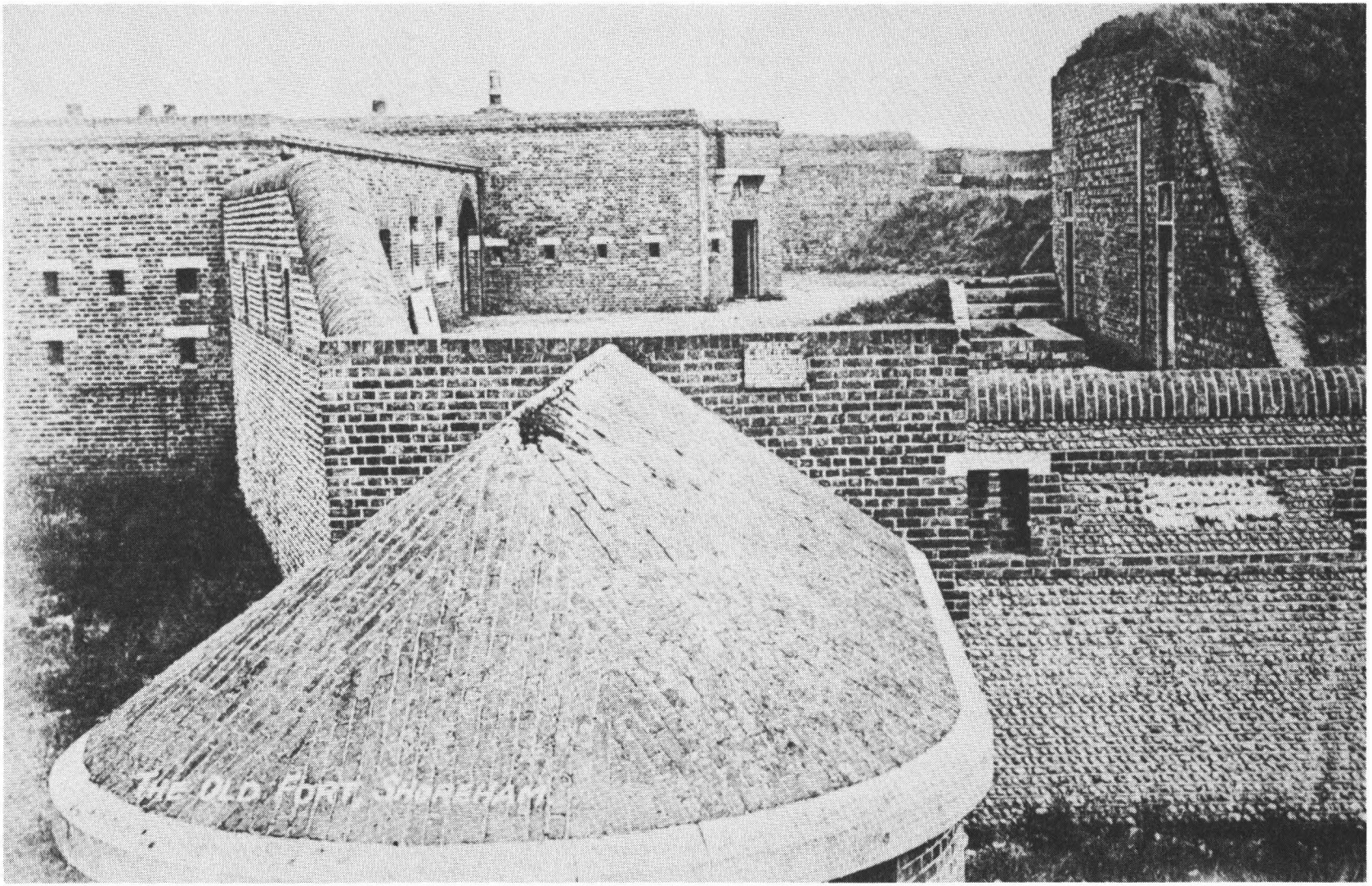

Plate I Photograph of Shoreham Fort in about 1920. This shows the west caponier in the foreground, the barrack block (left) and one of the magazines (right) in the middleground, and the gun platform in the distance.

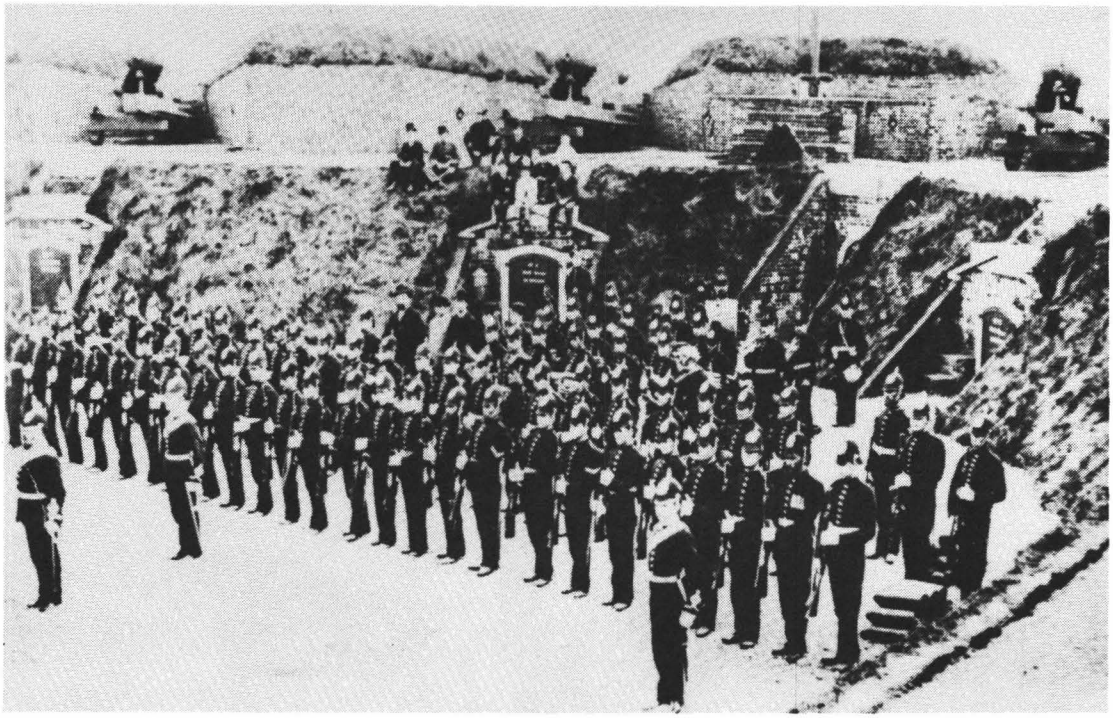

Plate II Photograph of Shoreham Fort in the 1890s. This shows Sussex Artillery Volunteers parading behind the gun platform and shell recesses.

The guns, mounted on the gun platform or terreplein, fired over a low protective wall (plate III). The wooden gun carriage recoiled up an inclined plane on a traversing wooden platform carried on iron rails (Fig. 6). Each gun was manned by at least seven men and was manoeuvred using wedges, levels, and block and tackle. The gunnery officers could supervise operations from steps placed between the gun positions, which could also be mounted by infantry to fire muskets at enemy troops approaching on foot up the beach.

The barrack block (Figs. 3 and 7 and plate I) accommodated officers and men and, with its rifle slits, formed part of the fort defences. A central area served as a parade ground and beneath this were two tanks which, if needed, could supply the fort with water in time of attack.

During the nineteenth century Shoreham Fort was garrisoned by the 1st Sussex Volunteer Artillery of Eastern Division, Royal Artillery, whose headquarters were in Brighton. Together with the 2nd Sussex Volunteer Artillery, based at Eastbourne they were formed just before 1860 as Rifle Volunteers from local rifle clubs and were quickly joined by Artillery Volunteers following the invasion scare of Napoleon III. The Sussex Volunteer Artillery was considered to be foremost among Volunteer Artillery Units and in 1865 at the Shoeburyness National Artillery Meeting it won the Queen's Prize and the Lord Palmerston Prize for accurate shooting. In 1896 they demonstrated the usefulness of an armoured train in the manoeuvres of that year when they achieved 'excellent practice' with a 40-pounder gun which was deployed by train along the coastline between Newhaven and Shoreham. In the Army List of 1896 Sussex is listed as fourth of 62 in 'Order of Procedure of the several counties in the Volunteer Artillery Force'.

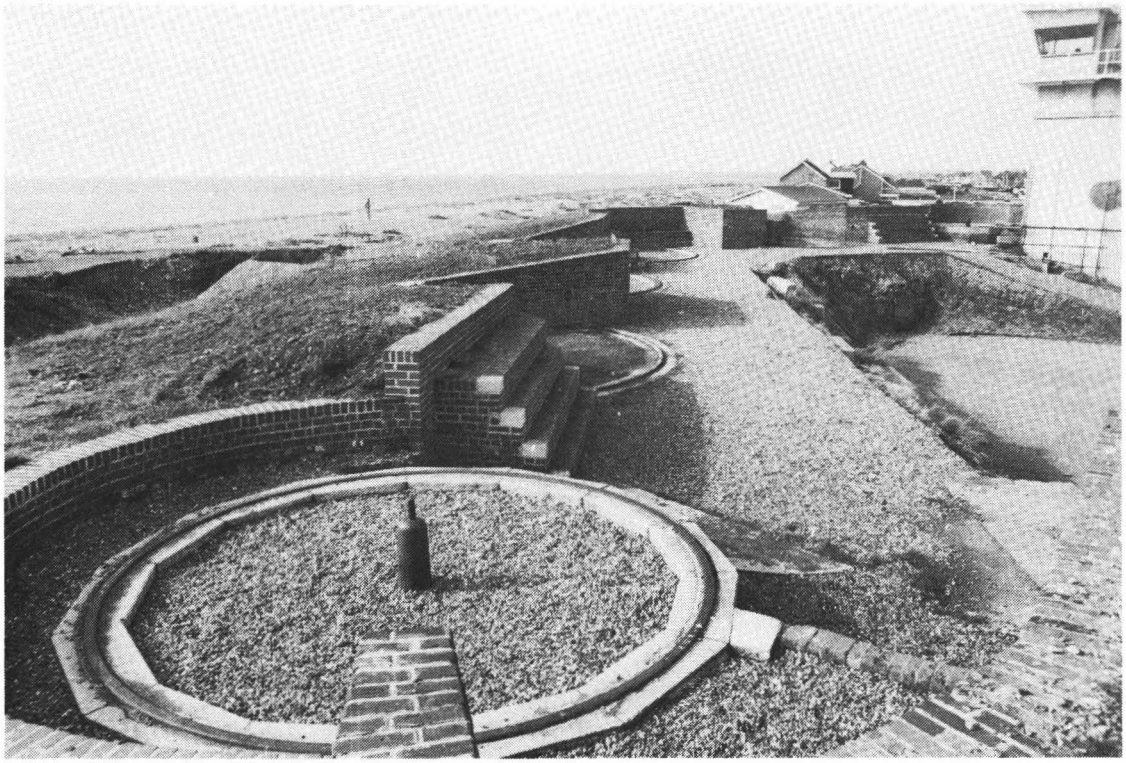

Plate III Photograph of Shoreham Fort in 1980. This shows the restored gun platform.

A photograph (plate II) shows men of the Sussex Artillery Volunteers at Shoreham Fort in the 1890's wearing the typical uniform of that time. The blue cork helmet has a distinctive badge plate which was peculiar to the 1st Sussex Artillery Volunteers. The officers wore a cross belt, waist belt with sword slings and swords, whilst the other ranks are seen parading with waist belts and the Martini Henry rifle. The tunics and trousers are dark blue serge, the tunics with red piping and red 'stand up' collars. Buttons, belts, etc. are dull silver in colour.

During the latter part of the nineteenth century it was proposed that the fort should be remodelled[5] but this work never seems to have been undertaken though it continued to be manned by volunteers at least until 1896. In the Second World War a battery of six-inch guns and a searchlight unit was erected on the fort, but these have since been removed and only part of their footings survive. It may be that it was at this, or an earlier stage, that the gun emplacements I, III and VI were modified by the lowering of the walls over which the guns fired. The barrack block was variously used as a film studio and a private dwelling before being demolished in about 1960.

ACKNOWLEDGEMENTS

I am most grateful to Mr. John E. Goodwin, of Worthing, not only for his help and advice during the restoration of the two forts but also for making available information to be included in his forthcoming book on later fortifications of the south coast. The Sussex Combined

Services Museum, Eastbourne, and the Royal Artillery Institution, Woolwich, have kindly provided information concerning the Sussex Volunteer Artillery.

Author: F. G. Aldsworth, County Archaeological Officer, West Sussex County Council, County Planning Office, County Hall, Chichester.

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[1]Corney, A. 1965 *Fortifications of Old Portsmouth —A Guide* (Portsmouth City Publications)

[2]Thompson, H. J. F. 1974 *Littlehampton Long Ago;* Goodwin, J. E. 1976 *Military Defensive Fortifications at Littlehampton* (Typescript).

[3]*PRO WO 78/2849 & WO* 33/19.

[4]*PRO WO* 78/5110-12.

[5]*Goodwin 1976* op. cit.

Sussex Archaeological Collections **119** (1981), 195–204

THE SOCIETY OF DEPENDENTS: A CASE STUDY IN THE RISE AND FALL OF RURAL PECULIARS

by Roger Homan

The Society of Dependents constitutes a provincial religious sect centred in West Sussex and hitherto apparently undiscovered by scholarly students of religion in Britain, though from time to time noted as a curiosity in Sussex books and magazines; to this extent, the Dependents warrant and are here given a comprehensive introduction. This article documents the origins, distinctive doctrines and organization of the Dependents and attempts to relate to these the burgeoning of the Dependents in the late nineteenth century and their subsequent decline. It has been researched principally by interviewing surviving Dependents and from unpublished manuscripts in their possession.

INTRODUCTION

The history of the Dependents begins with that of their rather better known forebears the Plumstead Peculiars, a religious grouping of the urban poor founded in 1838 by William Bridges and uncharitably described in Blunt's *Dictionary of Sects* as 'very ignorant people' (1874, 414). Bridges was a London hat-block maker whose followers achieved some notoriety in the late nineteenth and early twentieth centuries on account of their preferring Christian faith to worldly medicine: children and wives languished and died for want of the latter and several of them were brought before the courts (Davies 1873, 300-1; Montgomery 1962, 124 f). Bridges had two disciples who subsequently left the Plumstead area to spread their own versions of his teaching elsewhere. James Banyard founded the Peculiar People of Essex, who survive there as The Union of Evangelical Churches (Sorrell 1979, 110 f). The other disciple was John Sirgood, a bootmaker from Gloucestershire, who preached unsuccessfully at Clapham until in 1850 he felt there would be what one of his successors has called 'more reception for spiritual things in the country than in the town'; and so he and his wife Harriet packed their only possessions on to an handcart and journeyed south until he came to lodgings at Loxwood where he established the Dependent brethren, known locally as the Cokelers. Beside the militant insularity practised by each of these religious groups in keeping with their chosen description 'peculiar', the feature held most conspicuously in common was the disfavour which they initially enjoyed in the local communities within which they were established: it led Dr Maurice Davies to observe in 1873 that 'if unpopularity be a test of saintliness, the 'Peculiars' are certainly at the head of modern hagiology' (1873, 295).

Loxwood was a small and nondescript settlement to the south-west of the road from Horsham to Guildford. The response which Sirgood's teaching soon engendered promoted his affection for the area and within the approximate triangle of countryside between Guildford, Horsham and Petworth, the Dependents established meetings at Loxwood, Northchapel, Warnham, Shamley Green, Plaistow and Wisborough Green: while concentrated here and centred always upon Loxwood, they had chapels also at Chichester, Hove and South Norwood.

It is estimated that there were about two thousand Dependents at the time of Sirgood's death in 1885 (Winterton 1904, 107). As they flourished, so they prospered; they took over the principal village stores in the countryside that became their own. Such a proportion of farmers and tenants defected from established religion to Sirgood's following that the alarmed vicar of Loxwood made a strong protest. In March 1861 John Sirgood received the following warning together with a notice threatening a penalty of £20 for every assembly he held:

> Mr Sirgood,
>
> Sir,
>
> I went to your house on Thursday evening, for the purpose of giving you the enclosed notice, but found you holding one of your unlawful meetings. I am glad I did this because I have now myself witnessed two of these unlawful assemblies there, and could without difficulty procure your conviction in two penalties, and these two could probably be easily multiplied. It is a very general opinion that your illegal proceedings have been allowed to go far enough, and that it is quite time they should be controlled.
>
> I am,
> Your Obedient Servant,
> H. Napper. (Sirgood 1861, 2)

By 1904 the sect had dwindled to an estimated 900 (Winterton 1904, 110). Nevertheless it had gained a hold of the local economy. The store at Northchapel (Brown, Durant and Co.), a village six miles from a railway station with a parish population of only 700, consisted of three departments and employed thirteen saleswomen and assistants besides delivery carts and drivers; similarly at Warnham, Lindfield, Luff and Co. supported a staff of 31 and purveyed haberdashery, provisions, china, clothing, bicycles, gramophones and motor accessories (Winterton 1904, 110-1). In addition to the village stores at Loxwood (Aylward, Smith and Co.), the Dependents held the steam bakery there and other properties including Loxwood House (Winterton 1931, 719-20) and the first taxi in Loxwood was a Cokeler possession (Burke 1974, 175). Political involvement came of economic self-interest: the Dependents are reported to have used their voting strength to ensure the macadamizing of a muddy lane connecting two of their chapels: in general, however, Dependents have not organized themselves as a political force (Winterton 1904, 110).

By 1916 Dependents were claiming only 600 adherents (Aylward *et al.*, 1916) and in 1942 the estimated size of the sect was barely 200 (MacAndrew 1942, 348). Today the Dependent Brethren are extant but moribund. The chapel building at Hove was recently closed and its surviving members worship in house meetings; at Loxwood and Northchapel, however, loyal and elderly remnants continue to meet in the simple chapels. The absence anywhere of a next generation and the dominant introspection of preaching and witness portend imminent extinction.

The social origins of converts were invariably humble. Testimonies recall the poverty of sometimes large families, the scarcity of food and clothing; the children of Dependents remember their parents' insecurity in work and accommodation through times of persecution. The faithful testify that they would have starved but for divine providence and the reported taboo upon flowers in the house (Winterton 1904, 109) is retrospectively ascribed to poverty of resources. While the greater number of male Dependents were engaged both before and after conversion in agricultural labour, women were commonly recruited from domestic service to the more liberating service of the Cokeler stores. In the two world wars, conscientious

objectors from the towns, some of them Peculiar People, came to work on Dependents' farms, leaving skilled trades behind them in many cases. John Sirgood and his teachings found little favour or appeal among the possessed and the well-to-do but there were one or two farmers among his early followers who were able to accommodate and employ the persecuted faithful and sustained the Dependent community until it achieved economic independence. Dependents have always valued poverty and humility and sanctified them in an ascetic ideal, even when not obliged by economic necessity to pursue it: when I asked my subjects for an explanation of their longevity, I was counselled 'It's the plain living, Brother'.

The theology and social teachings of the Society of Dependents are in certain respects distinctive among sectarians, the rejected world being quite unlike that conventionally proscribed by evangelical and fundamentalist groups. In the entry for 'Coglers' in Blunt's *Dictionary,* it is described as 'a sect of teetotallers having their origins at Kirdford in Sussex . . . the chief characteristic of which is Antinomianism, its members considering themselves (but not being so considered by their neighbours) to be incapable of committing sin' (Blunt 1874: 110). It would be truer to say that they consider themselves capable, once reborn, of not committing sin; they have, however, been traditionally abstemious and a popular theory about their etymologically dubious soubriquet cites their supposed predilection for cocoa (Winterton 1904, 107; MacAndrew 1942, 347; Scott 1949, 84).

Dependents have denied themselves cultural and sporting entertainments, preferring pursuits of a more spiritually edifying kind: the orthodox allowed no reading of published works save that of the Bible and are said to have admitted neither flowers in their homes nor pictures upon their walls (Winterton 1904, 109; Scott 1949, 82 and 86) though I have found no reference to this taboo in primary sources and have observed both pictures and flowers in all the Dependents' homes I have visited. Dependents are avowedly pacifist and objected on conscientious grounds in both world wars: they wrote to Asquith in 1916 'to lay before the Prime Minister the impossibility of our young men becoming Soldiers if the Military Service Bill becomes law . . . and urge His Majesty's Government, at least, to insert such a clause as shall set conscientious objectors legally free from a service which it would be impossible for them to perform' (Aylward *et al.,* 1916). The majority also disfavour on religious grounds the institution of matrimony, claiming Pauline authority in 1 Corinthians 7 for the view that marriage interferes with an individual's relationship with God (Piper 1936): this ethic has been understood by Dependents as a principle of celibacy rather than a charter for promiscuity. It was with some justification, therefore, that an elder of the Dependents claimed in 1905 'We are the holiest people in the world' (*Daily Mail*).

The comparison of Cokeler worship as observed in these its last days and reports of 20 and more years ago (MacAndrew 1942, 349; Montgomery 1962, 217-8) suggests that practice has now realized a stable form. The men who favoured Sussex smocks until after 1945 now wear sober suits not distinguishable from the Sunday best of most sectarians of their generation: the women, however, wear distinctive long coats, most popularly of dark blue, and poke bonnets like those worn by women of the Salvation Army and Holiness. Two or three meetings are held on a Sunday and one or two on weekday evenings: in addition, the traditional 'Big Meetings' are still held at Loxwood and Northchapel at bank holidays. The chapel interior is plain; the commencement of the meeting is awaited in silence. Worship is led by two or three appointees of the Body who sit on a raised platform facing the assembled gathering. For a long time the Dependents had only a hand-written collection of hymns, principally of their own authorship (MacAndrew 1942, 349) but since 1958 they have used a printed collection of 461 hymns, of

which the greater number is used only by themselves and a few are derived from the Peculiar People's hymnal. Hymns are unaccompanied and each verse is read from the platform before its being sung. After an opening hymn there is a Bible reading which then forms the subject of a lengthy address. Thereafter individuals testify, perhaps including a short Bible reading or citation with a personal thought; appropriate choruses are sung in the intervals between testimonies, usually initiated from the floor. The dominant theme, whether in testimony, preaching or hymnsinging, is dependence upon divine providence. So advanced in years are most surviving Dependents that there are repeated references to the present time representing the evening of an active corporate life; they affectionately remember each other's active service in former days, regret they are now resigned to comparative inactivity, talk much of infirmity or 'affliction' and openly recognize that this might be the last meeting for one or more of them. Nevertheless, age notwithstanding, the Dependent's faith continues to make an absolute claim upon her or his time and thought: even the housebound declare that they 'go to bed with the Book', lie in bed praying for each other and 'wake up in the Psalms'. Cokeler worship today is contemplative: there is no evidence of the sobbing, trembling and fervour once observed in the Dependents' chapel (McAndrew 1942, 349). This is the quiet and feeble remnant of what the *Daily Mail* in 1905 captured as the vision of 'a hundred Dinah Morrises' in reference to the zealous Methodist preacher in George Eliot's *Adam Bede.*

RESEARCH METHOD

The investigator of Dependent history is seriously restricted by sources. What few articles and chapters have appeared in county magazines and books about Sussex have dwelt upon the quaint and curious and have in any case drawn heavily upon each other. While they usefully carry some informed estimates of the size of the Dependent community at various times and include the reports of visitors to Cokeler meetings, their representations of Dependent theology and social teaching are often exaggerated and stereotyped and have occasioned offence to contemporary Dependents. For example, Montgomery (1962) has particularly disturbed Dependents, ostensibly because his title *Abodes of Love* is thought by them to connote licentiousness; a trailer to this book appeared in the *West Sussex Gazette* (28 December 1961) and elicited a letter of protest from Alfred Goodwin, the current leader at Loxwood. While local newspaper reports constitute a potentially useful and significant resource, the press has by and large ignored the Dependent testimony: even Sirgood's death in 1885 passed without notice in the *West Sussex Gazette,* save for a purely medical report of the coroner's inquest (29 October 1885, 4). Believing in the sufficiency of the Bible, the Dependents have produced no books and John Sirgood published nothing but two pamphlets of correspondence between himself and his persecutors (Sirgood 1861 and Sirgood 1866). Hymns written by Dependents and used in the chapels were formally organized and printed in 1958 as *The Dependents Hymn Book:* this collection of testimonies and affirmations of faith provides a rich and standard resource. Such however is the limit of published sources; and I have deployed as a major method the seeking out and interviewing of surviving Dependents and the observation of their worship. There is among them a strong oral tradition so that blessings and testimonies and biographical data are reported in clear detail and stable form, though dates are seldom remembered. This tradition is complemented by the standard practice of writing out testimonies by hand and the copying of these and of letters into notebooks: these are retained for devotional purposes and historical details tend to be incidental rather than necessary to their

purpose: nevertheless they provide a valuable primary source. In a similar way, transactions of meetings have in the past been made the subjects of letters from members of one chapel to those of another. Handwritten documents intended for internal circulation survive in great numbers and I have been able to read many of them including, for examples, the testimony of Brother Benjamin Piper (b. 1868) which is preserved in Warnham parish chest and includes a colourful account of the building of the chapel at Warnham, an account of the Easter Big Meetings at Loxwood in 1917, the life story of Henry Aylward (b. 1866) and a letter of comfort written by William Jacobs of Petworth to be read at a weeknight meeting of the brethren of Northchapel in January 1895. I have been able by these means to compile biographical notes on over 100 Dependents and my comments on, say, occupational status and changing patterns in family life and worldly rejectionism are based on the data in this index.

HISTORY

The rise and fall in the numerical strength of the Dependents is documented above: from the foundation of the community in 1850, it peaked at around 2,000 in the year of Sirgood's death, pointing most obviously to the charisma which marked his 35 years of ministry; in the following 20 years it dwindled to half that size, in 1916 some 600 Dependents were claimed, MacAndrew estimated 200 in 1942 and there may today be 60 or 70. As I shall endeavour to suggest, however, the personality of John Sirgood was only one of a number of factors effecting the revival that endured until 1885.

As with other manifestations of religious hostility—in particular that directed at the Salvation Army in Worthing and Eastbourne two decades later—intolerance of the Dependents came from two social groups and took two respective forms. Members of the respectable professional and landowning classes were disturbed by the noise generated by Dependents' meetings and the assaults of Sirgood and his followers upon established values and norms of behaviour. A magistrate and M.P., 'having been informed on good authority that meetings (had) been held in a house belonging to him, at which it (had) been laid down by the preacher that all parsons would go to hell or words to that effect', served notice that he did 'not think himself justified in tolerating such a doctrine' and requested that 'no further meetings be held there' (Sirgood 1866, 3). Benjamin Piper recalled of his boyhood in the 1870s: 'Now I remember my Father and Mother and us as a family, were turned out, and Father from his work, because he had religious meetings held in his house, where the gospel of our Lord and Saviour Jesus Christ was taught. . . . Being turned out of house for Christ's sake, our furniture was put into a barn' (Piper 1936). A local solicitor canvassed what he held to be 'very general opinion' and in 1861 threatened Sirgood with litigation should he persist in holding supposedly 'unlawful congregations' (Sirgood 1961, 3 and 7). For its part, the rural proletariat adopted more direct methods, upon which Sirgood reported in a plaintiff letter:

> He whom I serve, and in whom I trust ever has, and ever will support and deliver me. This he did a short time ago, when some twenty or thirty men surrounded me with bells, tea-trays, tin kettles, etc., ringing and beating them with all their might, at the same time pelting with mud—pushing me about with a view to throw me down, or force me into the ditch or pool by the wayside; threatening also to throw me into the pond, during the whole of these proceedings I had perfect peace in my soul, and could and did love my enemies for I looked unto Him who told me 'that in the world I should have tribulation, but in him I should have peace, John 16 33, and that peace bless the Lord I had'.

> Not only am I so treated, but those also who come to our meetings and get good for their souls. They necessarily become concerned about the souls of others, for which also they are treated as the off-scouring of all things, 1 Cor. 4 13. They are derided, reproached, insulted and occasionally the men's hats have been knocked off, they thrown down into the mud, struck with sticks; one door was broken open by men in disguise, and the house entered, glass, crockery, etc., broken, and women and children filled with terror. (Sirgood 1861, 10-11.)

Again, Sirgood complained that

> some of (the) meetings have been not only disturbed, but the door of the house in which they assembled was forced open by a rude rabble, most of them disguised in the most grotesque manner. They were armed with bludgeons, with which they beat about the house to the breaking of the windows and the crockery, threatening the life of the Preacher . . . others as they have been returning from Public Worship have been assaulted on the high road, because these stupid men have got the impression from some quarter, that Dissenters are a sort of out-laws, to whom the law will not give protection. (Sirgood 1861, 12.)

One of the functions of hostility was to legitimize the religious life of the Dependents as the consecrated work of God: blessed were they that were reviled and persecuted and said all manner of evil against falsely, for so persecuted they the prophets which were before them. Moreover John Sirgood was consistent in his optimistic view that only good could come of persecution and Dependents today affirm that opposition is in some ways more favourable than apathy: Sirgood allowed persecution only to increase his joy, 'believing it will add to the furtherance of the Gospel, as all other things falsely spoken have done' (Sirgood 1866, 6). In a similar way hardships endured by pioneer Dependents are taken as proof of the veracity of their doctrines:

> I have known some of them walk upwards of thirty miles and preach three times on the Lord's day, and feel it to be no irksome task, but feel a pleasure in doing as Christ taught, 'Freely ye have received, freely give', for the love they have to precious souls. And I can produce these men now. Do you believe, sir, that those who are wrong will manifest a greater love than those who are right? . . . Will men who preach a false doctrine spend and be spent more willingly than they who preach the true one? (Sirgood 1866, 11).

The solidarity engendered in persecution and hardship has endured in Dependent theology as the principle of 'unity' or 'combination'. Dependents have keenly felt the importance of mutual comfort and support in the face of an insensitive and hostile world about them. Henry Aylward, an early leader at Loxwood, was a paragon in this respect in bringing with him from his native Kent a blind girl who lived for many years at the stores and was supported by the community. The fit must support the unfit, the strong the weak. In Sirgood's thought, 'combination' is a theological principle legitimizing co-operative organization and economic independence of the world; as shareholders in the Stores and other enterprises, poor Dependents were able to improve their economic status relative to that of their worldly peers:

> If in your soul you'd keep good health, Then combine,
> And wish to enjoy the commonwealth, Then combine,
> For combination be red hot,
> Let all men see what you have got
> Came down from him who changes not, Then combine.

It helps us our demands to meet, Then combine,
And helps us all our foes defeat, Then combine,
We have such strength against the foe,
As we with combination go,
That makes him to his sorrow know, We combine.

(*The Dependents Hymn Book* no. 15)

Accordingly the main shop in Loxwood was always known as 'The Combination Stores', a name plausible enough for such a department store but one which had a special meaning in Dependent thought and hymnody:

Christ's combination stores for me
Where I can be so well supplied,
Where I can one with brethren be
Where competition is defied.

He that was very rich at first,
But for our sakes so poor became,
Who did for combination thirst,
How can we then but be the same. (Hymn 64)

One of the effects of persecution had been to polarize the believing rural poor and the class of their employers. The behaviour characteristic of the professional and landowning classes as presented in Sirgood's writings included the exploitation and abuse of employees and tenants affecting particularly their economic security, an intolerance of spirituality and the denial to working men of ordinary rights and freedoms. Sirgood's militant religious dissent thereby takes on an economic dimension and he sees it as his purpose to liberate believers from the service of the rich and to provide in the sacred community a refuge from exploitation and abuse. Unlike domestic service, employment in the village stores and Dependent enterprises allowed attendance at cottage meetings, and subsequently at the chapel and provided a social life for the formerly isolated. Benjamin Piper testifies: 'There was a good number of sisters in service, who were serving worldly masters and mistresses, and they had not much liberty for the meetings' (Piper 1936). Sirgood's following included farmers to whom those evicted from their work and tied cottages could look for employment and accommodation.

But while the establishment of business interests in the 1870s brought comforts for the insecure and the expedient avoidance of hostile relations in the local community brought peace for the formerly abused, the size of the established Body began to decline. The early period had been marked by religious fervour, the singular zeal of John Sirgood, miracles and quite exceptional reports of divine providence. The early Dependents testify to having felt and recognized in each other 'a power' like that experienced at Pentecost (Aylward undated). Sister Kate Rugman was wont to recall from her childhood in the 1880s occasions when Loxwood chapel was full to overflowing and it was necessary to open the windows to let people hear from outside. Memories were then fresh of experiences or testimonies of miraculous providence. The story is told that one of Sirgood's opponents set a pair of vicious dogs on him but Sirgood was empowered to pacify them with a friendly stroke and emerged as unscathed as Daniel. Benjamin Piper (1936) testifies that in the 1870s his parents and family were abjectly poor, his three brothers had measles and the family had only one pig which the father killed; but the carcase yielded sufficient lard to sustain the whole family the winter through. As in the classic

case of God's providence for the children of Israel leaving Egypt, these and other folk legends have survived in the oral tradition and folk literature as historic proofs of the divine vocation of the religious leader and the truth of his teachings.

The contemporaneous building of chapels and stores in the 1860s and 1870s marks not only the emancipation from worldly dependence and the dawn of an era of prosperity for the sacred community but also a re-interpretation of the ethics of rejection and austerity. While latter-day Dependents tell their community's history with some affectionate respect for the poverty of their early forebears and the women continue to wear the costume of the poor of the 1860s, they are not ones to scorn economic security. Henry Aylward's typical testimony tells that he was born in 1866 'of poor parents that worked hard for their livelihood' and his unhealthy childhood culminates at age eleven when he 'was obliged to go out to hard work to help maintain (his) family'. In the view of Dependents, the poor are supremely eligible for Christian discipleship but they are not expected to remain in poverty:

> 'Foxes have holes and the birds of the air have nests,' yet He Himself hath not where to lay his head. . . . When he called His disciples they were not all nobles of the land, but some were fishermen, and so it was set forth it was not education or wealth that was required to serve God, although both are very much appreciated by God-fearing people. (Piper 1936).

It is acknowledged that hard work and plain living inevitably lead to greater prosperity which is also the proof of divine favour (Hymn 15): in the explanation of one of my interviewees, 'If you give your heart to the Lord and fully live unto him, you cannot help but be in better circumstances'.

With the establishment of business interests based on local trading, the Dependent witness ceased to be preached but was rather enacted. Through the Stores the Cokelers quickly acquired a reputation for cleanliness, hard work and business acumen to succeed the contempt they had earlier been accorded. They were respected for their sincerity and wholesome living, and these virtues had a drawing power for customers if not for converts. The revival, however, faded; and the aggressive style that Sirgood's opponents believed they had noticed lapsed as an inappropriate strategy for building trade. The vituperative mode was suspended and preaching retreated into the chapels to be heard only by the faithful.

According to the inquest report (*West Sussex Gazette* 29 October 1885, 4) Sirgood died of a kidney disorder. There was no one to replace him. He had been an itinerant leader based at the time of his death at Shamley Green and was regarded by his followers as 'elder of all' (Hymn 247), the only leader to be so distinguished. Charles Taylor wrote in the obituary hymn:

> Our Elder Brother, who has died,
> In whom God's Spirit did reside,
> He was a messenger divine
> In him the God-head much did shine.
>
> Oh what a blesséd man was he,
> Who tasted immortality,
> And did us all in love beseech
> And by the Holy Ghost did teach. (Hymn 247)

Sirgood rejoiced at having 'gained an entrance' in the Loxwood area and urged his followers to persevere in order to reap the predicted hundredfold (Hymn 345). But those who took up the devolved ministry in each of the chapels were teachers rather than evangelists, committed to the

deepening of the faith of converts rather than to proselytizing outsiders. Contingents of the curious and sceptical periodically invaded the chapels; the last recorded visitation of provocateurs was suffered by the brethren of Northchapel one Sunday evening in January 1895 when a group of 27 young men entered the meeting and Brother William Jacobs had a prayer ready for such an occasion:

> Our meeting Lord control
> Thy richest grace display
> That those who come to ridicule
> May hence return to pray. (Jacobs 1895)

Thereafter Dependents came to identify their common Enemy in a less personal guise: no longer did they perceive themselves suffering assaults from worldly malefactors and being delivered from these by grace; as the young generation of Sirgood's followers survived him and grew older, so the feud between them and their worldly peers subsided. The trials in which God was seen to manifest his continuing grace increasingly concerned the pains and debilities of middle and old age. Letters and transcripts of meetings in the early years of this century show that persecution as the preoccupying theme of prayer and testimony was giving way to the problems of aging. In the words of 'An account of the Easter Big Meetings at Loxwood, April 1917':

> Sister Milly Kennard had nice help while telling us of a good experience God gave her a little while before. She had been feeling poorly for some weeks, and one morning when she got up she thought to herself, after I have lit my fire, I will make it a matter of prayer to God, and while she was going towards a chair to kneel down, the blessing of God so came upon her, that the pain she had been suffering from left her, and she has not felt it since. Her little kitchen was to her like a little Heaven, and the words came to her, 'Before they call I will hear and while they are yet calling I will answer'. (Gothard 1917)

As the world became for Dependents a comparatively more congenial and benevolent environment, so their need to find solace in the sacred community diminished and the efforts they deployed to engender a blessing lessened. Writing in the 1930s John Slade reflected upon the ardour he had known in earlier days and lamented:

> I think sometimes it would be a benefit to remind ourselves of how we felt and acted when we began in this blessed work. How we strove and prayed in secret that the Lord might bless and comfort our souls when we met together, and how we used to look up that our prayer should be answered, and how often you heard one saying to another, Did not we have a good meeting? and the other made answer, I expected we should, for I did have such a sweet time desiring it when I prayed.

While the period from 1885 to the end of the first world war is marked by a steep decline in the size of the Dependent community, it continued to draw converts to itself and most Dependents interviewed took up membership during this time. Two principal means of recruitment replaced the outdoor evangelism of Sirgood's ministry. First, many were children of Dependents who had been converted in some cases before marriage but more often after the births of their children; the children of Dependents were brought up in the Body and those who continued in membership normally decided to do so in their late teens. Of those interviewed or whose testimonies of conversion were investigated, the greater number were born to Dependent families. Second, there has been an always smaller number of converts from the world and

Dependents today report cases of individuals or couples who 'came among us' up until about ten years ago. Conversions of this kind have tended to be consequent upon personal testimony and answers to prayers uttered by Dependents for the recovery from sickness or affliction of neighbours or fellow villagers.

The principle of celibacy is a sensitive issue among Dependents, not least because it is arguably the cause of their own extinction. Celibacy is not preached; it is officially recognized as a dominant belief rather than a doctrine. Sirgood thought it desirable but was for his own part married. Ben Piper (1936), however, was emphatic in his acceptance of Paul's thesis in 1 Corinthians 7 that only 'he that is unmarried careth for the things that belong to the Lord.' This is the view that has prevailed: very few Dependents have married since the end of the first world war and one could count on the fingers of one hand the number of children born to Dependents since the end of the second. While it is believed that parents can 'train' children by, for example, keeping them from wordly entertainments, children are inevitably born with a 'natural' mind and so biological reproduction is seen as no guarantee of sect continuity.

The period of evanescence dates from shortly after the first war and in 1980 the sect is sustained ony by the longevity of its members. Evangelism has given way to introspective testimony; distinctive doctrines have been privatized and now have only the status of dominant beliefs. Dependents have turned their backs on 'the world' that has consumed what few children have been born to them and the sect that was revivalist in its first days has become introversionist in its last. 'People today', its current spokesmen explain, 'don't want to know': in their analysis, the appeal of plain living has lost out to the competing attractions of worldly indulgence.

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ARCHAEOLOGICAL NOTES

This section of the *Collections* is devoted to short notes on recent archaeological discoveries, reports on small finds, definitive reports on small scale excavations, etc. Material for inclusion should be sent to Mr. Alec Barr-Hamilton, 226 Hangleton Road, Hove. Those without previous experience in writing up such material for publication should not be deterred from contributing for Mr. Barr-Hamilton will be happy to assist in the preparation of reports and illustrations.

Finds of flint artefacts at Hassocks and East Chiltington

A fragment of a palaeolithic handaxe has been found in the garden of 2 London Road, Hassocks, the home of Mr. A. J. and Mrs. S. P. A. Gumbrell. It was discovered in 1977, in topsoil at TQ 30001580 during clearing work in the back garden. The bedrock here is attributed to the Folkestone Beds, a division of the Lower Greensand, and there is no record of any intervening Pleistocene deposit. The findspot is not far from the place where another handaxe was discovered, also apparently in a superficial deposit, in the 1950s, by Mr. C. Charman, off Parklands Road at TQ 307155, as briefly reported by the present writer,[1] A third handaxe from Hassocks is known[2] and is now in Brighton Museum.

The new find consists of the lower half, or perhaps two thirds (80×73mm), of a flint handaxe whose original shape must have been generally cordiform or sub-rectangular. It is difficult to be more precise, because the edges show much recent damage in the form of mechanical scars, which incidentally reveal that the handaxe is made of dark grey-black flint of excellent quality. It is only a guess that these scars have been caused in the recent past by garden implements, but it might be worth searching for further fragments of the handaxe, though any that survive would probably be small. Meanwhile, even the precise orientation of the implement must remain open to doubt, though the one patch of cortex present is very likely to have formed part of the butt. The handaxe is bifacially worked, being made probably from a large flake rather than a nodule. Most of the flaking has clearly been carried out with a soft hammer, and there is some step-flaking at the edges. The artefact is patinated: one face is bluish-white, with 'basket-work' patina, slight traces of weathering and some spots of iron stain. The other is creamy white, with an intermittent wash of iron stain and some more concentrated spots; the most projecting ridge on this face shows marked abrasion, while the rest are only slightly worn.

The handaxe may have been a Late Acheulian ovate or cordiform type, but the straightness rather than convexity of the only wholly undamaged section of the edge that survives leads the writer strongly to suspect what he cannot actually demonstrate, namely that it was a Mousterian handaxe of *bout coupé* type.[3] If this were so, the implement would probably date from some relatively mild period during the first half of the last (Devensian) glacial, say between 75,000 and 40,000 years ago. If it were Acheulian, its age would be substantially greater. Anyone who has followed the occasional notes contributed to *S.A.C.* by the present writer over the past dozen years might be forgiven for thinking that he has a fixation about *bout coupé* handaxes, and perhaps it would be true, though he would hope that it did not represent exclusive truth. In fact, it is fascinating that most of the recent stray finds of Sussex handaxes sent to him for report have been of this same character: close to the classic *bout coupé* form without quite attaining it. This was true, for example of the previous find from Hassocks and the specimens from Burlough 'Castle' and Alfriston Tye reported at the same time.[4] It seems perfectly possible that there was a substantial Mousterian of Acheulian Tradition presence in Sussex to which all these implements belong, though there is also a good quantity of Acheulian material. Perhaps Fate will for a change direct future finders to some undamaged classic examples of the *bout coupé* type, like the one from Woods Hill, West Chiltington.[5]

In the present case, two further purely circumstantial points are just worth making briefly. First, the majority of the classic British *bout coupé* handaxes have come to light as single finds in superficial contexts, just like these Sussex implements. Secondly, many classic examples in southern Britain and also in northern France show basket-work patina, creamy white patina, spots, lines or thin washes of iron stain and small areas of weathering or exfoliation, all of which can be seen on the present example. These observations are suggestive, but prove nothing: we can merely await new finds of better quality, feeling somewhat provoked meanwhile.

The opportunity may be taken to record here another Sussex flint artefact, this one found in a superficial horizon at Warningore Farm, East Chiltington (TQ 374170) by Mr Richard L. Wells in June 1976. The object is heavy, bifacially worked and broken at one end: if we ignore the break, its shape is roughly oval. The surviving dimensions are 124×92×46mm, but one may estimate that a quarter to a third of the artefact is missing. The break, which is ancient, involves both mechanical and thermal fracture, principally the latter.

The surface of the artefact has a thick white patina with spots and streaks of iron. The flaking is crude, and was apparently carried out with a hard hammer-stone. The edges show much more rough battering than carefully controlled flaking, and the undamaged end is also thick and crudely shaped. One small concave patch of cortex remains on one face: it would have been difficult for the maker to remove this without reducing the object's size rather drastically.

Three possible interpretations of this crude biface occur to the writer: it might be argued as a roughly made Acheulian (Lower Palaeolithic) handaxe of archaic appearance and potentially Early Acheulian age; it might be regarded as an abandoned roughout for a Middle Acheulian ovate handaxe which, if it had reached the stage of soft-hammer finishing, would doubtless have created a better impression of its maker's technological competence; or, it might be seen as a roughout for a Neolithic axe, abandoned before it reached the stage of final shaping and polishing. The writer is inclined to favour the latter possibility. The object has too many flake scars and too much potential regularity of shape greatly to resemble Early Acheulian handaxes, of which Sussex has not yet produced any certain examples; it was never going to be flat enough to make a good ovate of Middle Acheulian type, and the knapper appears to have had in mind blunt edges rather than sharp ones and a thick rather than a flat end. On the other hand, it is of very much the proportions and

nature of the broken roughouts that abound at Neolithic axe factory sites, and Neolithic axes, polished or unpolished, often have blunt sides.

Classifiers of stone artefacts need to remind themselves that specimens are likely to be imperfect, damaged or atypical more often than not: the tactics can only be to review the range of possibilities and make a reasoned choice from amongst them. The two Sussex finds considered here are cases in point, and there is no useful stratigraphic information to assist the discussion of them, nor is there helpful associated material that might offer some guidance to their true age.

Both artefacts remain in the possession of their finders, to whom the writer is grateful for the loan of the specimens for study.

Derek Roe

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[1]In E. W. Holden and D. A. Roe, 'The Ade Collection of Flints and a Palaeolithic Handaxe from Hassocks', *S.A.C.*, vol. 112 (1974), 1-8.

[2]*S.N.Q.*, vol. 15, no. 4, 1959, 130.

[3]For information about British *bout coupé* handaxes, see for example M. L. Shackley, 'The *bout coupé* handaxe as a typological marker for the British Mousterian industries' in *Stone tools as cultural markers: change, evolution and complexity*, (332-9), ed. R. V. S. Wright (1977), Canberra; P. A. Mellars, 'The Palaeolithic and Mesolithic' in *British Prehistory, a new outline*, (41-99, especially 62-5), ed. A. C. Renfrew (1974), London. A fuller account will appear in D. A. Roe, *The Lower and Middle Palaeolithic Periods in Britain* (chapter 6), due for publication by Routledge & Kegan Paul in 1981.

[4]Holden and Roe, op. cit. (1974), 3-5, 7-8.

[5]Mentioned and illustrated by L. V. Grinsell in his paper 'The Lower and Middle Palaeolithic periods in Sussex', *S.A.C.*, vol. 70 (1929), 176, 181-2, though it was first published by R. Garraway Rice in an untitled note in *Proc. Soc. Ant.*, N.S. vol. 32 (1920), 80-2. This implement is now in Worthing Museum.

A flint collection from Stud Farm, Newhaven, East Sussex

Fieldwalking between 1974 and 1976 by Mr. and Mrs. R. Macmillan in the vicinity of Stud Farm (TQ 462 012) has produced a large quantity of humanly modified flint which consisted of the following:

Cores	17

These were analysed in a modified version of the system adopted in the Hurst Fen report (Clark *et al.* 1960);

Class A. one platform	7
Class B. two platforms	4
Class C. three or more platforms	5

However, five small fine blade cores (two class A, three class B), were sufficiently distinct to be regarded as most probably of Mesolithic/earliest Neolithic date.

Core fragments	3
Core rejuvenation flakes	2
Unmodified flakes including waste flakes	570

Many of these were heavily battered and superficially similar to implements (see below). Approximately 80% are with little or no cortex. Some pieces exhibit utilisation damage but because of the generally poor condition of most flakes, no separation was attempted. A few flakes from hammerstones also occur.

Scrapers	
Convex	147
Hollow	52
On thermal flakes	
Convex	17
Hollow	8

No attempt was made to subdivide the scrapers into the standard categories of end, side, etc. It is not felt that these rigid subdivisions are particularly helpful and in fact the scrapers from Stud Farm will not fit easily into these categories.

Notched flakes	225

Some attempt was made to differentiate between notches caused by a single blow which could be confused with natural damage such as that caused by a plough, and those having more elaborate preparation (M. Green, pers. comm.). The larger examples cannot really be distinguished from small hollow scrapers.

Irregularly retouched flakes	148
Awls/borers	75
Spurred implements	23
Fabricators	3

Two are 'D' sectioned and one is triangular sectioned.

Knife	1
Flint axes and axe fragments (unpolished)	7
Possible Mesolithic blade segments	3

The flint occurs in several stages of patination from fresh to totally patinated. Most pieces which still retain some cortex are of chalk origin, although occasional pieces are from gravel and/or Clay-with-flints. No trends were observed between certain tool categories and either their state of patination or the flint source.

The unmodified flakes and convex scrapers were analysed so as to be comparable with published assemblages from other sites of known date. Although a consistent series of chronologically significant traits has not yet emerged, recent work has confirmed some chronological trends (Farley 1979; Pitts 1978). The expected possible sources of error from analysing fieldwalked material were considered. However, in this case no objective methods of collection were undertaken (Woodward 1978; Ford forthcoming), and consequently the material may represent one or more sites, or a general spread over several fields. More productive fields were probably visited more often and it is also suspected that the unmodified flakes were in fact collected as implements and that in-field selection occurred (i.e. 'waste' flakes not collected). This is to some extent confirmed by a ratio of flakes: implements of 1:1.1, which is extremely low, even for a fieldwalked collection. Hence with all these possible sources of ambiguity, little reliance can be placed on a metrical analysis and the results are not reproduced here but retained as an archive. However, other characteristics of the collection can be used as a chronological guide.

The numbers of blades and blade-like flakes is low, with only 3% having a length: breadth ratio of more than 5:2. The remaining unmodified flakes tend to be more squat than the Neolithic assemblage from Bishopstone (Bell 1977), but similar to numerous later Neolithic and Bronze Age collections examined by one of the authors (SF). The convex scraper collection does not contain many examples of later Neolithic types, such as those found at Belle Tout (Bradley 1970) and Rackham (Holden and Bradley 1975), but, although several examples are similar to earlier Neolithic types,

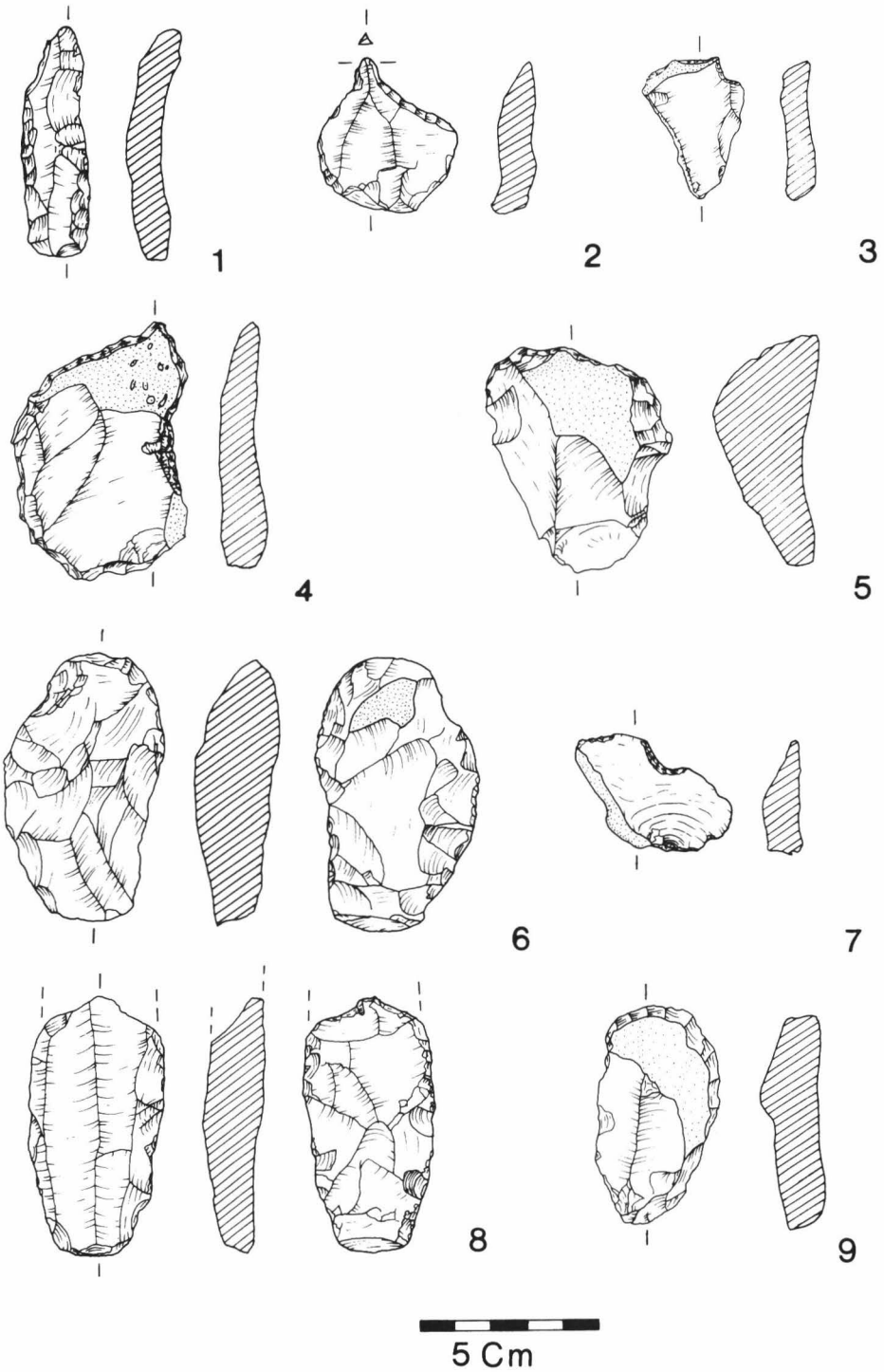

Fig. 1. Stud Farm, Newhaven, 1 fabricator, 2 awl, 3 spurred implement, 4 hollow scraper, 5 and 9 convex scrapers, 6 and 8 flint axes, 7 notched flake.

others could easily be of Bronze Age date. The seven axes and axe fragments are unlikely to be of Bronze Age date and are probably earlier Neolithic.

When the negative evidence is considered, if, as seems likely, there is a limited amount of earlier Neolithic material present, it is surprising that serrated flakes, leaf arrowheads, laurel leaves, etc. are absent. Similarly there is an absence of plano-convex knives, transverse and barbed and tanged arrowheads etc., which could have been expected if later Neolithic material was present in quantity.

The general lack of a wide range of implement types may also be significant, as it can be shown that Bronze Age sites tend to have few implements other than scrapers, and a restricted range of these in comparison to earlier sites.

Therefore it is felt that this collection contains material from several periods. First, the fine blade cores and few blade segments are probably Mesolithic,and Stud Farm is in fact a previously recorded Mesolithic findspot (Bell 1977). Secondly, a limited amount of earlier Neolithic material is present, although this is somewhat different in composition than the assemblage from Bishopstone (Bell 1977). Finally, the bulk of the material seems to be of Bronze Age date.

To conclude, it seems fairly certain that at least one Bronze Age site exists at Stud Farm, which probably locates some of the settlement associated with the (assumed) Bronze Age round barrows on Rookery Hill. The significance of the earlier material is more problematic and it cannot be said with certainty that this represents a site. Only new fieldwork can resolve this question.

Acknowledgements

We would like to thank Richard Bradley and Robin Taylor for their help in this paper.

The finds and results of the metrical analysis have been deposited in the University of Reading, Department of Archaeology Museum.

D. T. Boodle and S. Ford

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Excavations at the Trundle, 1980

INTRODUCTION

During routine checking of planning applications, the Archaeological Officer for West Sussex, Mr. F. G. Aldsworth, was consulted on a proposal to erect a replacement microwave aerial inside the Trundle, within one of the two fenced compounds already existing there (Fig. 2). As the construction of the aerial required a concrete base set into the chalk subsoil adjacent to a known Neolithic ditch, rescue excavation in advance of building work was thought advisable. Permission to excavate was readily given by the Southern Electricity Board, and excavation was carried out for one week in January, 1980, under the direction of the authors. (The Trundle is a scheduled site, and this work was undertaken with the agreement of the Ancient Monuments Inspectorate).

EXCAVATION

The area excavated was just inside the west entrance into the hill fort (Fig. 2). No surface indication of archaeological features was visible, and Curwen (1929a) seems to have located the Neolithic ditch here by means of ramming the ground, and listening for the different note given by ditch silts, as opposed to solid chalk. Turf and topsoil were removed over an area of *c.* 40m^2 (Fig. 3), down to the chalk subsoil. This revealed a short stretch of ditch, two post holes, and a variety of modern disturbances, i.e. two substantial concrete blocks from an adjacent mast, now dismantled, and a small, rectangular rubbish pit. One of the post holes, the square one, was also probably very recent, judging by the looseness of the fill. The round post hole, *c.* 30cm deep with V-shaped profile, had a tightly-packed fill, but was sterile.

Almost half of the exposed stretch of ditch had originally been excavated by Curwen (1929a), and therefore contained his backfill (stippled area in Fig. 3, corresponding to his trench SD.CI). This backfill was not re-excavated, leaving only a 3m length of ditch to be investigated. The portion of the ditch excavated in 1980 was rather irregularly cut, with a maximum depth of 1m; the ditch floor was wide and flat, and the sides were sloping. The only undisturbed section obtainable in 1980 was an oblique one (Fig. 3), but it does match Curwen's fairly well (Curwen 1929a, 38), except that he does not distinguish or differentiate any deposit corresponding to our layer 4. He does not, incidentally, record the circular post hole. It would appear that this particular stretch of ditch is relatively short, up to 7m maximum, though it was impossible to verify this absolutely because of the presence of a concrete slab (Fig. 3).

There was no sign of a surviving bank corresponding to the ditch, but the irregular, rubbly chalk layer at the ditch edge (1A in Fig. 3) may correspond to the last traces of a bank.

Finds from the ditch consisted of late Iron Age pottery (from layer 2), Neolithic pottery (from layers 2-4), 68 pieces of struck flint (no implements), three pieces of carved chalk, and a little animal bone. Soil samples were taken for analysis of land snails.

DISCUSSION

The results of the limited 1980 excavation confirm Curwen's finding of a small Neolithic ditch (part of his

THE TRUNDLE

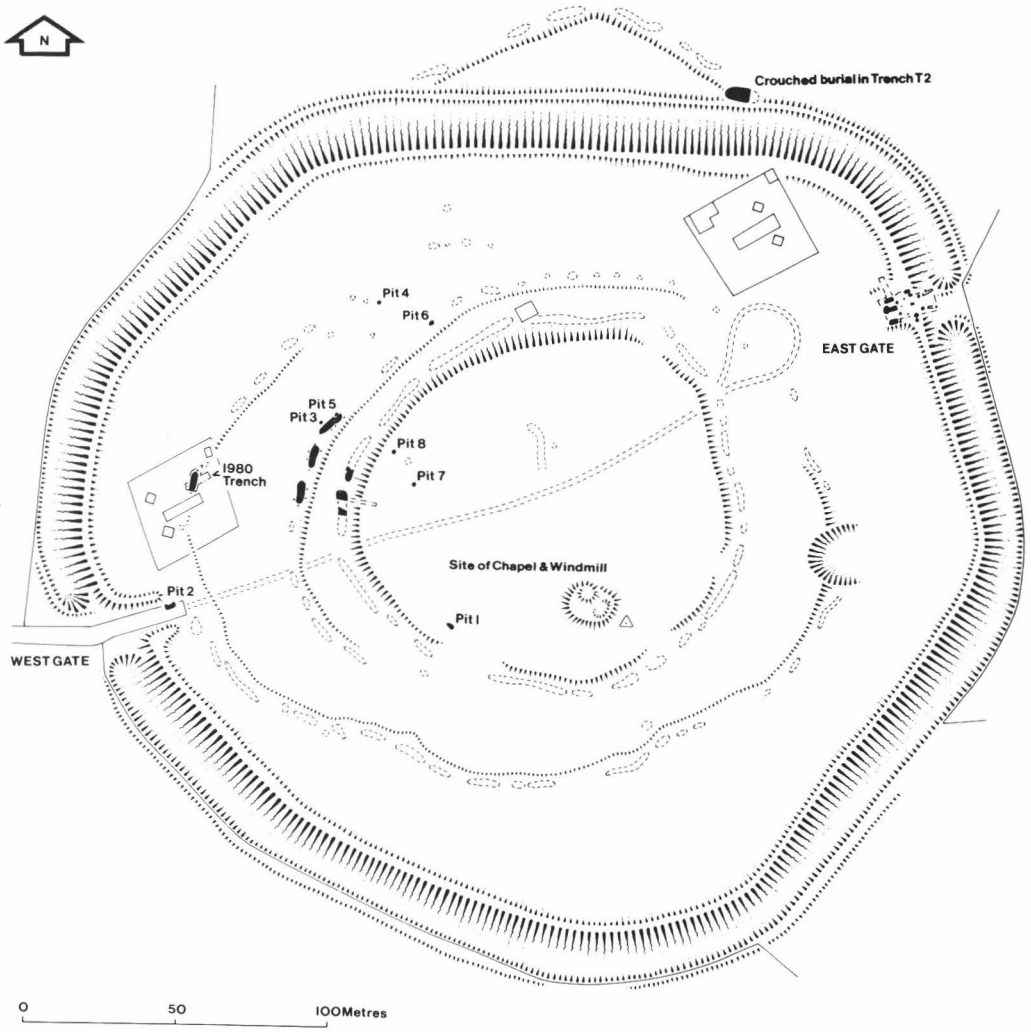


Fig. 2 Trundle 1980. Plan of the Trundle showing 1980 excavation and Curwen's finds from 1928 and 1930 (Survey by F. G. Aldsworth).

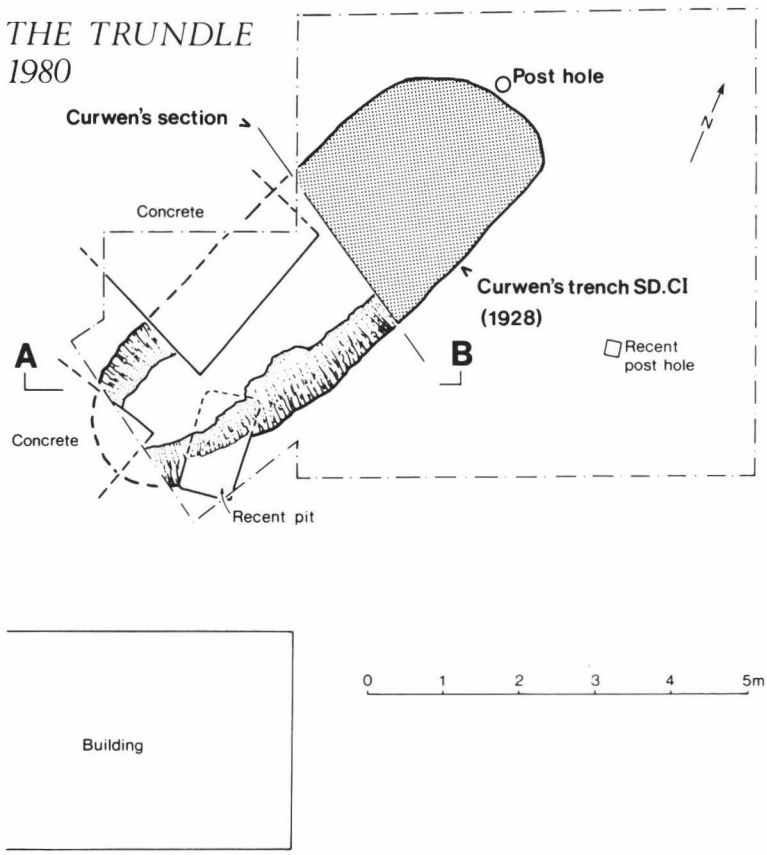
'spiral ditch system') in 1928. In addition, through the molluscan analysis and carbon-14 date, the excavation extends our understanding of the Neolithic occupation at the Trundle. The analysis of land snails (below) suggests that the spiral ditch, at least, was constructed in an area which had been recently but extensively cleared. The area later became overgrown (corresponding to the abandonment of the causewayed enclosure), but was then cleared again in the Iron Age (corresponding to the construction and occupation of the hill fort).

A carbon-14 date was obtained from the animal bones found associated with Neolithic pottery in layer 4 (Fig. 3). This was 2910±100 b.c. (I—11,612); it is consistent with the pottery and compares well with the dates of 2730±80 and 2620± b.c. from the enclosure on Bury Hill, where similar pottery was also found (Bedwin 1981).

SPECIALIST REPORTS

The pottery (by P. L. Drewett)

Thirty eight sherds of pottery were found during the excavation. Six sherds are pre-Roman Iron Age and the remaining 32 are Neolithic. Layer 1 produced two sherds of Iron Age pottery. Both are flint-gritted and the rim sherd has the curvilinear decoration



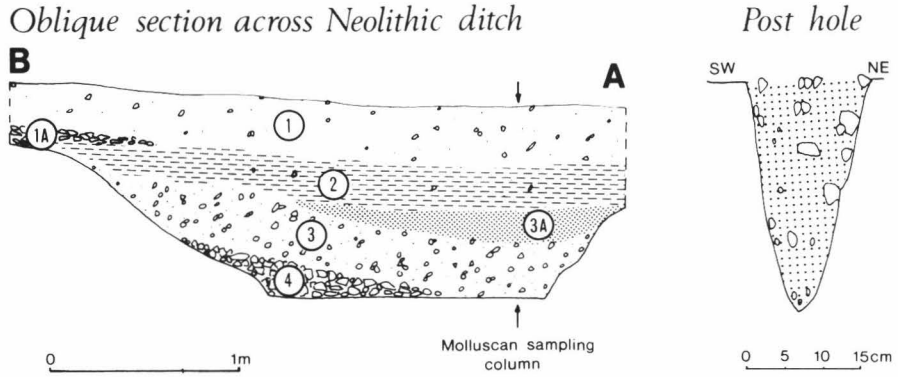


Fig. 3 Trundle 1980. Plan and sections of the excavation.

Note different scales. Key to layers in the ditch section:

1 Modern topsoil
1A Loose, rubbly chalk (? derived from bank)
2 Fine, gritty fill of small chalk fragments in dark brown soil matrix.
3A Fine, soft, greyish-white fill with some small chalk fragments.
3 Hard-packed layer of chalk rubble in soil matrix similar to 3A.
4 Angular chalky lumps.

The fill of the circular post hole was a hard, gritty, chalk-flecked soil.

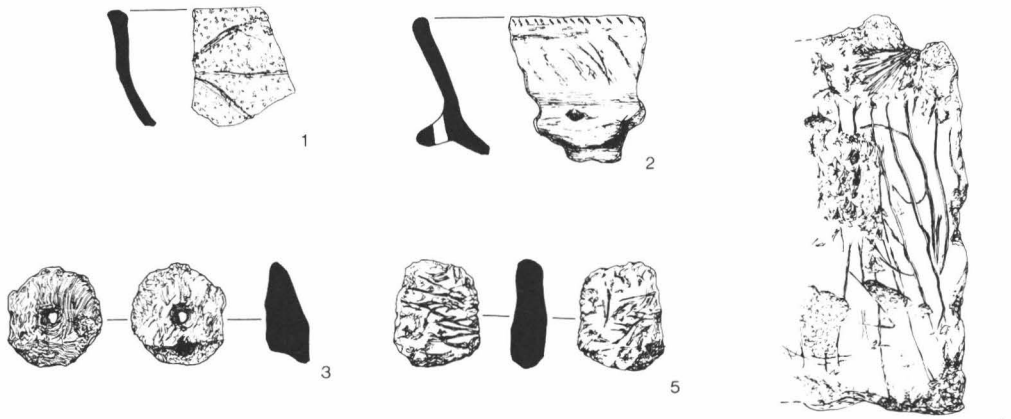


Fig. 4 Trundle 1980. Small finds; nos. 1 and 2, pottery; nos. 3-5 carved chalk objects (× ¼).

characteristic of the Caburn—Cissbury style (Fig. 4, no. 1). Four fine, flint-gritted sherds of Iron Age type were also found in layer 2, together with fourteen coarse flint-tempered Neolithic body sherds of Fabric I (Drewett 1980). Two similar sherds come from layer 3. Layer 4 produced sixteen sherds, thirteen of Fabric I and three of Fabric IV (sand-tempered). One body sherd of Fabric IV was decorated with slight vertical fluting. Three sherds of Fabric I joined to give the profile of the upper part of a carinated bowl with a perforated lug (Fig. 4, no. 2). This bowl was decorated with incised diagonal lines. The pottery is consistent with an Earlier Neolithic tradition.

The flint (by P. L. Drewett)

Sixty eight pieces of struck flint were found. All layers produced flakes (layer 1 produced four, layer 2 produced eight, layer 3 produced nine and layer 4 produced 43). Three pieces of rough workshop waste come from layer 3 and one core of type A2 was found in layer 4. No implements were found. As 46.8% of the flakes were primary flakes with cortex, core preparation may have been an activity in this area.

The carved chalk (by P. L. Drewett)

Three pieces of carved chalk were found on the ditch floor (layer 4).

1. Roughly circular chalk object with hour-glass perforation. There is a second shallow, drilled depression towards one edge. Weighs 60g. (Fig. 4, no. 3.)
2. Large, irregular chalk block with incised lines and antler pick mark. The incised lines are of four types: long parallel lines, short parallel lines, straight converging lines and curved lines. Weighs 3,400g. (Fig. 4, no. 4.)
3. Small, irregular chalk block with incised lines. All appear to be of parallel or converging type. Weighs 60g. (Fig. 4, no. 5.)

Pieces of chalk with hour-glass perforations are well known from several early Neolithic sites. They appear to fall into two groups: small pieces with a roughly central hole and larger pieces with a hole towards one edge. The function of these two types has always been in doubt. Curwen (1931, 143) describes one, found at the Trundle in 1930, as a 'small piece of chalk resembling an asymmetrical spindle-whorl but of unknown purpose'. Dr. Smith, considering Windmill Hill examples, suggests that the larger ones may have been used as weights and smaller examples as pendants (Smith 1965, 132). Simple practical experiments, however, show that small, irregular perforated chalk blocks of 40-80g function perfectly well as spindle-whorls, while 2,000-4,000g perforated blocks are ideal as loom weights (Drewett, forthcoming).

The incised chalk blocks are of particular interest as they increase the already not inconsiderable number from Neolithic sites in Sussex and elsewhere. A detailed study of these markings is in preparation (Drewett, forthcoming). From this it is clear that the regularity of occurrence of four main motifs (long parallel lines, short parallel lines, straight converging lines and curved lines) suggests more than Curwen's 'few moments of idleness' (Curwen 1929b, 17). Whether the blocks represent some form of tally system, or other form of 'written' communication, or even mobile 'art' is difficult to determine. The regularity of occurrence of specific motifs is, however, of great importance in raising these markings above the level of arbitrary doodling.

Land snail assemblages (by K. D. Thomas)

The excavation produced a series of five soil samples for land snail analysis. I am grateful to Caroline Cartwright, M.A., for extracting the snail shells in the laboratory. The results are presented in tables 1-3.

The samples

No bank, with associated buried soil, was present, so the samples relate to various phases of ditch-fill. Five soil samples were taken from the ditch, as follows:—

Sample 1 From the modern soil profile, having a thickness of *c.* 26cm. Disturbed by recent building operations. Fine dark soil rich in organic matter. Sample taken at 15cm from the modern ground surface.

The snail assemblage is dominated by open-country and catholic species, with open-country forms having a high frequency and being represented by a larger number of taxa. No shade-loving forms are represented.

Sample 2 Fine gritty fill of small chalk fragments in a matrix of dark soil (*c.* 26-44cm). Sample taken at

30cm. Late Iron Age pottery was recovered from this layer.

This assemblage is again dominated by open-country forms (but fewer taxa than in sample 1) and catholic elements. *Pomatias elegans* is very abundant (perhaps indicating broken ground) and shade-loving forms are at low frequency. Although a late Iron Age deposit, there may have been some disturbance from layer 1 which resulted in the intrusion of the xerophiles *Candidula intersecta* and *Cernuella virgata*.

TABLE 1

Absolute frequencies of molluscs from the Trundle

Species	*Sample 1*	*Sample 2*	*Sample 3A*	*Sample 3*	*Sample 4*
Pomatias elegans (Müller)	5	15	22	17	6
Carychium tridentatum (Risso)	—	—	8	2	1
Cochlicopa sp.	1	3	3	6	1
Pupilla muscorum (Linn.)	2	15	10	2	1
Vallonia costata (Müller)	10	1	—	6	1
Vallonia excentrica Sterki	2	10	6	—	—
Vallonia sp.	—	—	—	1	1
Acanthinula aculeata (Müller)	—	—	1	—	—
Ena obscura (Müller)	—	—	4	—	—
Punctum pygmaeum (Draparnaud)	1	—	—	—	—
Discus rotundatus (Müller)	—	2	21	7	2
Vitrina pellucida (Müller)	6	—	—	—	—
Vitrea contracta (Westerlund)	—	—	1	1	—
Nesovitrea hammonis (Ström)	—	—	4	—	—
Aegopinella nitidula (Draparnaud)	—	2	13	1	1
Oxychilus cellarius (Müller)	—	—	2	5	—
Limacidae	—	—	30	29	8
Cecilioides acicula (Müller)	1	—	—	—	—
Cochlodina laminata (Montagu)	—	1	4	—	—
Clausilia bidentata (Ström)	—	—	3	2	—
Balea perversa (Linn.)	—	1	—	—	—
Candidula intersecta (Poiret)	9	1	—	—	—
Cernuella virgata (Da Costa)	3	4	—	—	—
Helicella itala (Linn.)	—	—	2	—	—
Trichia hispida (Linn.)	17	18	11	6	—
Helicogona lapicida (Linn.)	—	—	+	—	—
Cepaea sp.	+	+	+	+	+
Cepaea/Arianta apices	1	12	8	—	1
Totals*	57	85	153	85	23

*Excluding *Cecilioides acicula*
Non-apical fragments represented as +

TABLE 2

Percentage frequencies of different ecological groups in the snail assemblages from the Trundle

Ecological group	*Sample 1*	*Sample 2*	*Sample 3A*	*Sample 3*	*Sample 4*
Open-country	47.4	36.5	11.8	10.6	13.0
Catholic	43.8.	38.8	34.0	48.2	43.5
Pomatias elegans	8.8	17.6	14.4	20.0	26.1
Shade-loving	—	7.0	39.8	21.2	17.4

TABLE 3

Numbers of taxa in different ecological groups in the snail assemblages from the Trundle

Ecological group	*Sample 1*	*Sample 2*	*Sample 3A*	*Sample 3*	*Sample 4*
Open-country	7	5	3	2	2
Catholic	3	3	4	4	2
Pomatias elegans	1	1	1	1	1
Shade-loving	—	4	11	6	3
Total taxa:	11	13	19	13	8

Sample 3A Fine soft greyish fill with chalk fragments (44-62cm). Sample taken at a depth of 55cm.

This is a very diverse assemblage with large numbers of specimens and taxa. The assemblage is dominated by shade-loving forms (especially in terms of the number of taxa) and catholic species. The catholic element here is dominated by the Limacidae which are difficult to identify to species, although many of them are associated with shaded or woodland habitats. Open-country species are less frequent and represented by few taxa.

Sample 3 A hard-packed layer of chalk rubble in a soil matrix similar to 3A (*c.* 62-88cm). Sample taken at 75cm.

This sample is dominated by catholic elements, especially the Limacidae, and by *Pomatias elegans,* possibly reflecting the unstable and loose soil conditions in the rapidly filling ditch. Shade-loving species are common while open-country species are rare and represented by only two taxa.

Sample 4 Angular chalky lumps on one side of the ditch, probably slumped down from the bank (*c.* 72-88cm).

This rather sparse assemblage probably reflects the very rapid accumulation of the deposit by erosion from the bank. Not surprisingly, the assemblage is dominated by the Limacidae and *Pomatias elegans*. Open-country species are rather less abundant, both in frequency and numbers of taxa, than shade-loving forms.

Samples 3A, 3 and 4 appear to be from Neolithic phases of infill, but sample 3A may represent a worm-sorted soil which developed in the stabilised ditch-fill before later (Iron Age) activity produced layer 2 and led to the complete infilling of the ditch. Layer 3A may contain land snail assemblages which span a considerable period of time, from the Neolithic to the late Iron Age, and would be worth sampling in a more detailed and intensive manner should further excavation occur at this site.

Discussion

A major problem in the interpretation of the landscape from snail assemblages from ditches relates to the nature of the ditch microhabitat. Ditches tend to provide moist, sheltered environments which become more exposed as the ditch fills with sediments. The early fill of the ditch may be unstable and consist of coarse debris which may favour a rather more limited range of species. As the fill stabilises so a diverse assemblage of snails will develop. The final phase of fill may be associated with dry exposed conditions with open-country species predominating. This hypothetical sequence fits remarkably well the sequence of snail assemblages described above.

Thus, the assemblages need not tell us anything about the surrounding landscape, only about changes in the ditch itself. But, the changing assemblages do not just reflect changes in the abundance of species already in the ditch. Many of the species must have come from elsewhere and perhaps these can give some indication of the broader environment. Evans (1972) has shown that ditches associated with Neolithic and Bronze Age barrows built in open country (as evidenced from their buried soils) tend to accumulate assemblages of snails in the primary fill which are indicative of these open-country conditions. As these ditches become overgrown, so shade-loving elements appear in the deposits, but open-country species remain very abundant. Conversely, it has been argued for the Bury Hill Neolithic enclosure (Thomas 1981) that the absence of open-country elements from the early fill of the ditch must indicate that the enclosure was built in a woodland clearing, or in a recently cleared area.

The assemblages from the Trundle are not so easily interpreted. A number of distinctly woodland elements must have been living in the area for them to be present in the deposits of layer 3A. These include *Acanthinula, Ena, Cochlodina* and *Helicogona,* all elements of an assemblage dominated, both in terms of abundance and numbers of taxa, by shade-loving forms. But, this sample (3A) and the earlier samples contain a consistent representation of open-country forms, indicating their presence in the area at all times after the ditch had been dug, and possibly before that time. The assemblage from sample 3A is best interpreted as representing some regeneration of dense vegetation, perhaps of scrub, around the ditch, allowing relict woodland species to increase in abundance. This was followed by a clearance phase in the Iron Age (represented by sample 2), with open-country species becoming dominant.

Samples 3 and 4 are difficult to interpret. The high frequencies of catholic species and of *Pomatias elegans* may suggest very disturbed and broken-up ground. Open-country species are perhaps not as abundant as one might expect for the primary fill of a ditch constructed in a well-established cleared area; they are represented by only two species. The ditch was probably dug either in an area which had been locally cleared of trees for a long period of time, or in an area which had been more extensively cleared just prior to the construction of the enclosure. Either possibility would increase the chances of open-country species dispersing to and colonising the cleared area. The relatively low abundance of shade-loving forms in samples 3 and 4 along with the high frequencies of *Pomatias elegans* favours the second hypothesis of large-scale clearance prior to the construction of the enclosure.

The arguments used above may seem tenuous but they fit the observed data much better than do alternative hypotheses.

Summary

The sequence of land snails from the ditch fill can be naively interpreted in terms of the changing ditch microhabitat. This ignores the changing representation of taxa within the ditch, indicating that various species must be coming from outside. Therefore, we must consider these ditch assemblages in relation to the overall environment.

1. It is suggested that the enclosure was constructed in an area which had been fairly recently, but extensively, cleared. Open-country species had colonised the area but species of disturbed ground were particularly common.
2. Later the area became overgrown, perhaps with regenerated scrub, and relict woodland elements increased in abundance.
3. In the Iron Age, clearance of the scrub, possibly associated with ploughing, led to a dramatic rise in open-country species and of those preferring broken soil conditions.
4. The modern assemblage indicates open grassland conditions (the present environment is of fenced-off long grassland).

Animal bones (by Owen Bedwin)

The following fragments of animal bone were identified:—

Layer 2; *Bos*, 2 rib fragments; *Sus*, 1 mandible fragment; *Ovis*, 1 upper molar.

Layer 4; *Bos*, 1 vertebra, 1 calcaneum fragment, 1 radius fragment; *Sus*, 1 scapula fragment; *Ovis*, 1 pelvis fragment.

The material from layer 4 totalled *c.* 280g, and was used for a carbon-14 determination.

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Owen Bedwin and F. G. Aldsworth

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An excavation at Broadbridge, Bosham 1976

Extensive excavation of an area c. 275m by 8m between two known Roman buildings, 215m apart, produced no direct evidence of Roman occupation. Three north-south ditches were found, one of which was filled by the thirteenth century A.D. A millstream crossing the site was shown to be a substantial, artificial work, probably of Saxon or earlier date. No evidence for a Roman road west from Chichester was found; the significance of this is discussed.

INTRODUCTION

Because plans for the construction of a carriageway for the A27 road and a new roundabout threatened an area of archaeological interest, the Sussex Archaeological Field Unit undertook this excavation in February, 1976 on behalf of the Department of the Environment, with the active cooperation of West Sussex County Council. Three previous finds of Roman material in the vicinity indicated possible Roman settlement within the area of the new carriageway. References to particular locations herein will be by reference to the National Grid coordinates as shown on Figure 5:C. Two Roman buildings were found in 1832, probably during construction of a drain (81200531 to 81180524), which appeared to continue across the excavated area in 1976 (Fig. 5:—E: 81170522 to 81130522) and probably continued southwest. This line appears on the 1839 Tithe Map as a field boundary but is not shown on the 1784 Berkeley estate map.[1] Building A (81020513) was in part an Antonine masonry building of two ranges on either side of a courtyard.[2] Excavations by Miss M. Rule in 1967 nearby (81040516) revealed three phases of timber building in the more southerly of her two trenches. A timber palisade underlay a rectangular building of two rooms on an east-west alignment, which was burnt down *c.* A.D. 310. A structure of wattle and clay on a different alignment overlay it. Building B (81190527) was built in part after A.D. 395 but little is known of it. It does not extend south of the main road and the only indication of its' proximity in this excavation and two small trial trenches at H (Fig. 5:C—81160523) was one tegula fragment. In addition to the two buildings known, a Roman marble head was found before 1850, possibly at C (81070537); however, it is more probable that it was found either in the extension of Broadbridge mill after 1839 (81120538) or in the aforementioned drainage work at one of the two buildings. It has been identified as of Caligula *c.* A.D. 38, possibly a modern import.[3]

THE EXCAVATION

Trial trenches at various points along the line of the new road indicated a uniform depth of topsoil and underlying brickearth (50-70cm). This had been disturbed to a variable depth by steam ploughing. Underlying this was a layer of gravel and sand (*c.* 50cm) which dipped to the west of 81080528 and was itself overlain by a thin layer of Coombe deposit (20cm). Beneath the gravel lay Reading Beds' clay.

An area of *c.* 1850m^2 was stripped by machine (Hymac) to the level adjudged as the base of the ploughsoil (Fig. 5:C). Adverse weather conditions and the uniformity of the brickearth prevented detection of archaeological features except in two instances. At D (81120527), a small pit 10cm deep and 40cm in diameter contained thirteenth century pottery. Post-medieval deposits in the same area probably derived from a building at M (81140526), which is first recorded on the 1839 Tithe map. At F (81160522) the upper fill of a northeast to southwest ditch contained thirteenth century pottery, as did a shallow rubble spread immediately adjacent. Further longitudinal trenches to the surface of the gravel were excavated in order to detect any features cutting across the site. Two further ditches on a similar alignment were found, which were not datable. One ran close to and cut by F, and the other 40m to the east.

No evidence of an east-west Roman road was found, although it was anticipated on a line between northings 0520 and 0525.[4] A verbal report was received that an east-west gravel surface had been observed at K

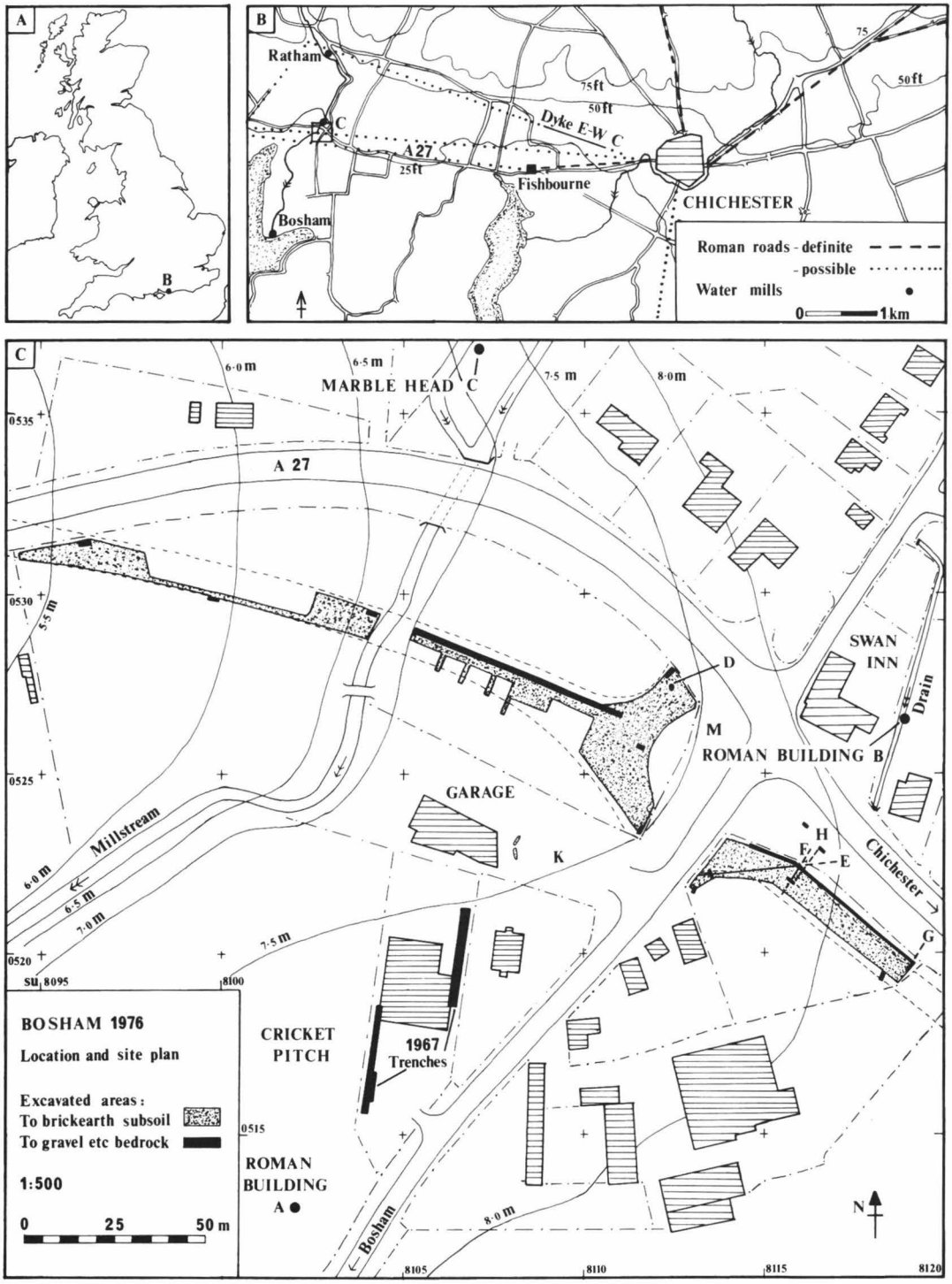

Fig. 5 Broadbridge, Bosham 1976. Site location and general plan.

(81090523) during construction of the garage forecourt *c.* 1972. A direct alignment from the west gate of Chichester to Nutbourne (SU 798052) remains a possibility. However, it is more likely that an early military road ran more to the south on a direct continuation of the alignment from Havant to Nutbourne via Bosham to Fishbourne to coincide with the 'north' road there,[5] and that this was later replaced by a road on a line which completely avoided the Flavian palace. Although Dyke E-W C has recently been discounted as a possible agger,[6] it might be reconsidered as a road on a more northerly line (Fig. 5:B). There is air photographic evidence for a road approaching Ratham and the possible Romano-Celtic temple there from the southeast from Mudberry farm in the form of two parallel ditches (SU 806062).[7]

A section of the west bank of the millstream (81040529) indicated that the material excavated during its' construction was not present in the form of upcast and had presumably been exported elsewhere. Fieldwork established that the millstream was artificial from Ratham to Bosham and had been engineered with the intention of delivering water power to Bosham and intervening mills (Fig. 5:B). The date of this is probably prior to the first occurrence of the name 'Broadbridge' in A.D. 1192.[8] Given the presumed importance of Bosham in the late Saxon and Roman periods,[9] it might well be as early as Roman. The relationship between Roman settlement and available water power is little known as yet. The location of buildings, such as those at Broadbridge and Roman villas in general, may well have more to do with water power than anything else.

The finds (selective summary)

Pit (81120527)

Pottery: Three cordoned body sherds: one with strap cordon, two with linear cordon and spaced flat beads: similar to thirteenth century A.D. pottery from Hangleton.[10]

Rubble spread (81160522)

Pottery: Two plain bases, one slashed handle and one pinched base; the last is similar to thirteenth century A.D. pottery from Hangleton.[11]

Shell: A large quantity of oyster shell.

North-south ditch upper fill (81160522)

Pottery: One rim of a jar, plain and outcurving, with a splash of green/brown glaze: generally similar to thirteenth century A.D. jars from Hangleton.[12]

Bone: Tibia of ox and jaw of sheep.

Topsoil (81160523)

Tile: One fragment of tegula with right-angled flange and notched corner.

Acknowledgements

S.A.F.U. is most grateful to the County Planning Officer, P. W. Bryant, Esq., and F. Aldsworth, Esq., of West Sussex County Council for arranging and assisting with the excavation. We would also like to thank P. Turnbull, Miss M. Rule, D. Sturdy, J. Munby, Mrs. Hunt, Dr. Cameron and all the people of Bosham who helped with the excavation.

The notebook, detailed plans, sections, finds and a full finds' report and drawings will be deposited at Chichester museum.

Hugh Toller

The Society is grateful to the Department of the Environment for a generous grant towards the cost of publishing this paper.

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[1]West Sussex Record Office, MP 810.

[2]H. Mitchell, 'On the early traditions of Bosham', *Sussex Archaeological Collections* (hereafter *S.A.C.*), 18 (1866), 2.

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[4]B. Cunliffe, *Excavations at Fishbourne, 1961-69* (Leeds, 1971), 9, Fig. 4.

[5]B. Cunliffe (1971), 38-9, 46, 56.

[6]R. J. Bradley, 'A field survey of the Chichester entrenchments', in B. Cunliffe (1971), 24.

[7]Aerial photograph in the possession of the West Sussex County Council Planning Office.

[8]A. Mawer, F. Stenton and J. Gover, *The place-names of Sussex* (1929), 58.

[9]*Victoria Country History (Sussex)* (1973), 184, Mitchell (1866), 1-9.

[10]E. W. Holden, 'Excavations at the deserted medieval village of Hangleton, Part I,' *S.A.C.* (1963), 117, no. 26.

[11]E. W. Holden (1963), 130, nos. 222-3.

[12]E. W. Holden (1963).

Seven Anglo-Saxon pennies from the Chancton (Sussex) hoard

In August 1980 the Chichester District Museum was offered by the Revd. J. Tickner of Chichester, a group of seven Anglo-Saxon pennies which came from a hoard of approximately 3000 such pennies discovered in 1866 on the demolition of an old farm building at Chancton Farm, about one mile north of Chanctonbury Ring. The original find was reported in *Sussex Archaeological Collections* **20**, 212-21.

Of the supposed 3000 coins, 681 were deposited at the British Museum shortly after the discovery of the hoard. The British Museum received a further deposit of coins in 1915 from the collection of Sir John Evans. (See the *British Numismatic Journal* **38**, 54-6, for a list of the catalogue numbers of the coins from Chancton included in the British Museum catalogue[1]). The seven coins in question were retained by Mr. Tickner's grandfather, Charles Botting, who was the tenant of Chancton Farm at the time.

Six of the pennies are of Edward the Confessor and the seventh is of Harold II. (Of those in the British Museum, 58 are of Harold II and the remainder of Edward the Confessor). The mints represented are Exeter, Lewes, Steyning, Lincoln and Bedwyn. Except for the coin from the Bedwyn mint, which is of a type not hitherto recorded, all dies are paralleled by others in the British Museum collection from the Chancton hoard. The Bedwyn mint penny is a Heavy issue,

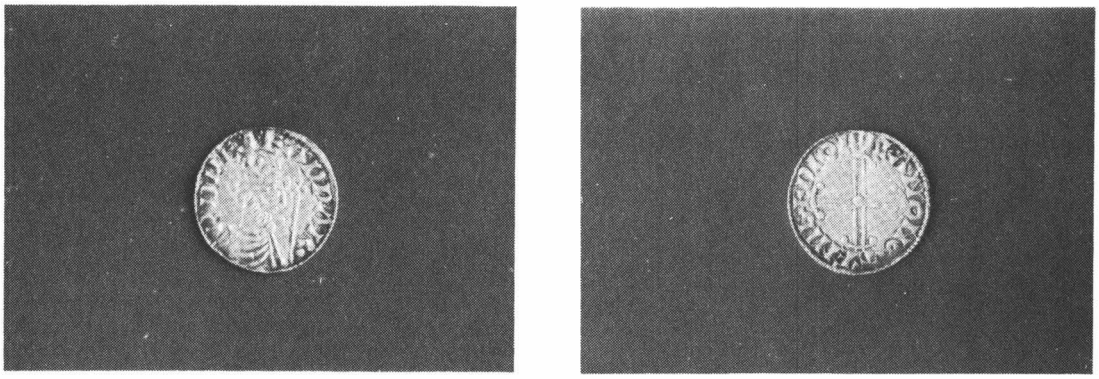

Plate I. Edward the Confessor. Bedwyn mint (Cild).

expanding-cross type and reads as follows (Plate I):

OBV. +EADPA . RDREX:

REV. +CILD ON. BEDEPINDE:

The moneyer is Cild.

Although the coins are from a find spot outside the Chichester District Museum's collecting area, they were accepted by the Museum since the donor expressly wished them to remain in Chichester.

Loraine Knowles

[1]I am indebted to Miss Marion Archibald of the British Museum for this information.

Excavations on 'The Mound' at Church Norton, Selsey, in 1911 and 1965

(by F. G. Aldsworth B.A., F.S.A., Archaeology Officer, Planning Department, West Sussex County Council and E. D. Garnett; with a note on the pottery by A. Down F.S.A., and a note on a Late Saxon strap-end by D. A. Hinton M.A.)

In a recent article[1] one of us suggested that the earthworks to the south of St. Wilfrid's Chapel, Church Norton, were the remains of an early Norman ringwork castle, which formerly supported a stone tower, and also presented evidence to indicate that a church, erected by St. Wilfrid in the seventh century A.D., may formerly have stood on the site now occupied by the chapel. Since that paper was prepared the elm trees and dense undergrowth, which formerly covered the earthworks, have been removed, under the supervision of the County Planning Officer, and the site has been laid to grass. Whilst this work was in progress a number of old trenches were encountered (see Figs. 6 and 7) and these result from excavations in 1911 and 1965 which have not previously been fully published. Finds from these excavations are in Chichester City Museum[2] and in this article the material is discussed together with the bronze strap-end found in 1911,[3] but now lost.

The excavations undertaken in 1911 have been the subject of a previous paper in the *Collections*[4] and were discussed by E Heron-Allen,[5] but the finds were not fully explored. The principal features encountered were the foundations of a square stone tower and a smaller wall to the east which may now be seen as part of a small building, possibly a chamber. An attempt to date the earthwork produced pottery sherds, apparently of fourteenth and sixteenth century date, from under the mound on the east side,[6] but these have not been re-identified and their precise context was not recorded in 1911. Despite the conclusion in 1911 that the earthwork was constructed in the sixteenth century[7] the present writers are in no doubt that the form of the work and the overwhelming evidence of the surviving pottery (see pages 220-1), which is almost all of the eleventh and twelfth centuries, indicates that the earthwork was constructed in the Norman period. It is assumed that the four later pottery sherds found under the bank in 1911 were sealed, not by the original bank but by soil eroded down from the bank at a later date.

In 1965 the two masonry structures encountered in 1911 were relocated and further investigated in a series of trenches excavated under the supervision of one of us.[8] The tower proved to be about 9.5m (31 feet) square with wall footings about 2.7m (9 feet) wide of Mixon stone set in a yellow mortar. These were on a foundation of compacted yellow gravel (shown stippled on Fig. 7), up to 0.8m (2 feet 9 inches) deep. The gravel overlay clay containing oyster shells, Romano-British brick and tile fragments, and charcoal.

A north-south ditch or gully, 0.9m (3 feet) wide and 0.8m (2 feet 6 inches) deep, was found immediately to the east of the tower, and contained Romano-British roofing tile and a few pieces of burnt and vitrified clay. One piece of clay showed traces of burnt chalk which may indicate that it was from a lime-kiln. A second ditch or gully, parallel to and of similar dimensions to the first, was encountered 7.5m (24 feet 8 inches) further west and partially underlay the foundation of the tower.

To the east of the tower and the easternmost gully a further building was found. It was rectangular, measuring 6.5m (21 feet 4 inches) by 5.5m (18 feet), with walls about 0.7m (2 feet 4 inches) thick, of stone on a footing of mortar, gravel, and oyster shells. Its eastern wall had been identified in 1911 and when re-excavated it appeared to have an original entrance, about 0.9m (3 feet) wide, at its centre. Fragments of three chimney vents (Nos. 17a, 17b and 18) were found in collapsed walling from this building and finds from within it included pottery, iron nails, and an iron ring. It was probably a chamber.

CHURCH NORTON, SELSEY
'THE MOUND' AND ST. WILFRID'S CHAPEL

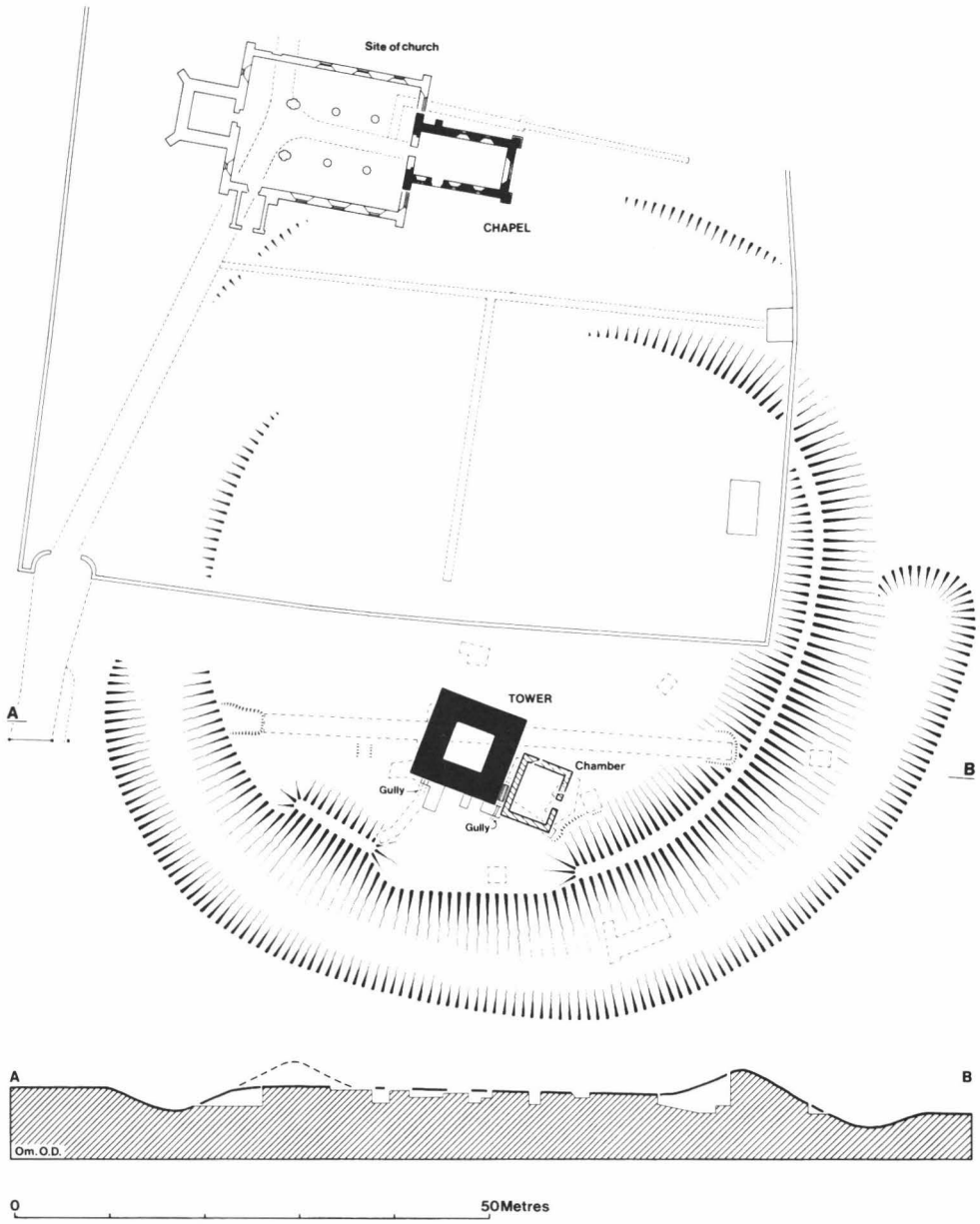

Fig. 6

CHURCH NORTON
EXCAVATED FEATURES

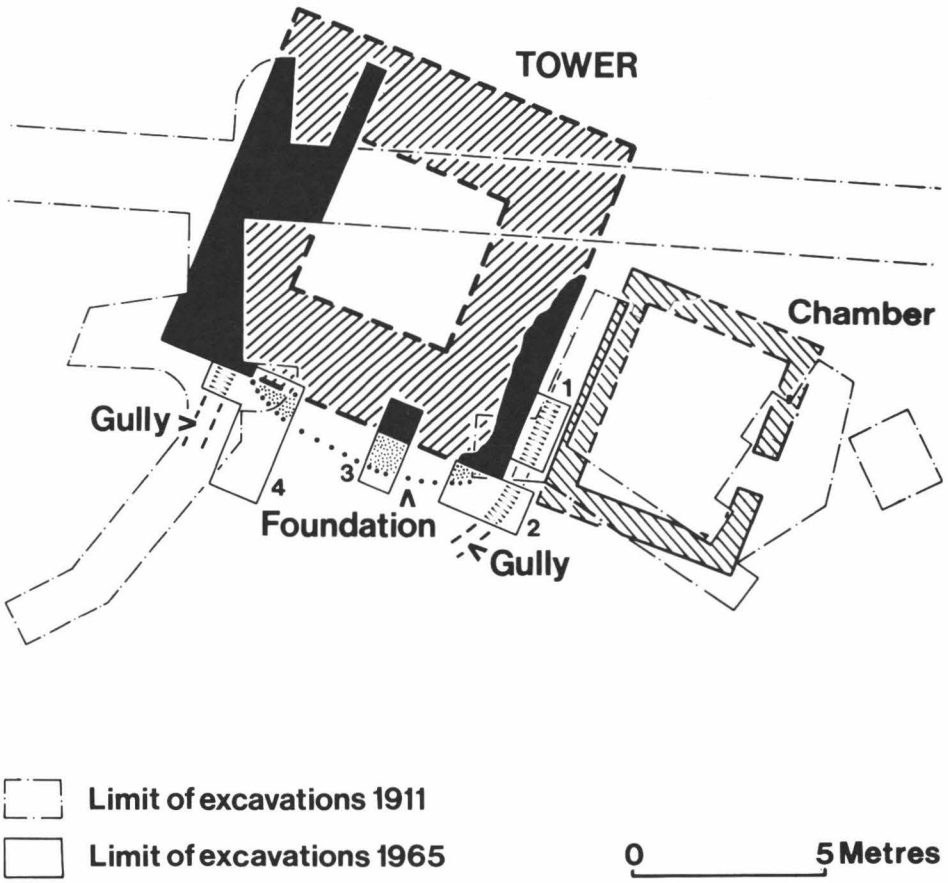

Fig. 7

THE FINDS

Chichester City Museum retains a collection of finds from the excavations undertaken both in 1911 and 1965 and, apart from pottery, these include fragments of Romano-British brick and tile, several pieces of slate, and part of a Medieval curved ridge tile, of a hard-fired grey sandy ware, with splashes of glaze on the exterior surface.

The Pottery by Alec Down F.S.A.

Of the pottery (Fig. 8), all the diagnostic sherds are described here.

Sherds from about fifteen or sixteen vessels (1-16) survive from the 1911 excavations but there is no record of their precise provenance. Most of the material recovered in 1965 (17-52) is marked with a site and context code and can therefore be related to areas of the

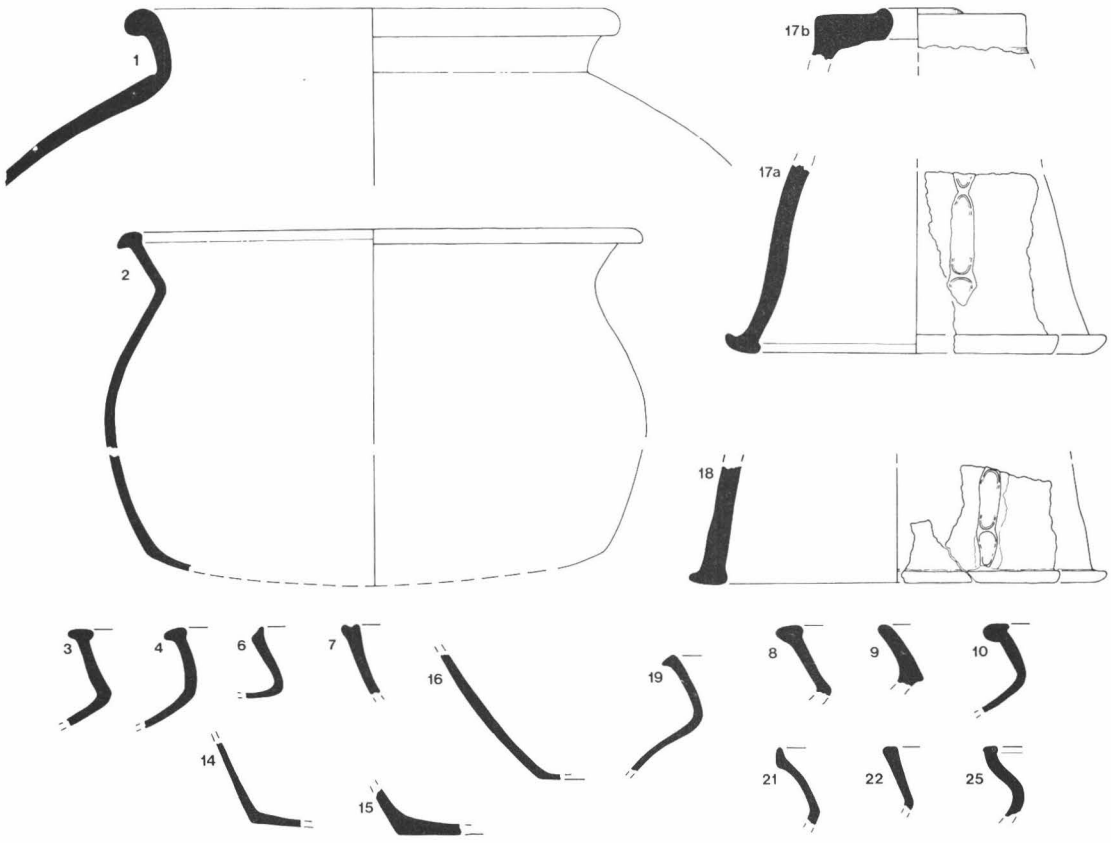

Fig. 8 Church Norton, Selsey 1911 and 1965—Pottery and Chimney Vents ($\frac{1}{4}$)

excavation, but because of the nature of the records of the excavation the material is probably best seen only within the context of the whole site.

1. A single rim sherd of a Romano-British necked jar of a fine sandy grey ware fabric with traces of a red oxide slip on the shoulder. It could date from any time after the first century A.D.

The remainder of the pottery from the 1911 and 1965 excavations is mostly Saxo-Norman and unless otherwise noted the date range is about A.D. 1050 to 1150, the vessels are cooking pots, and the fabric is grey, hard-fired, with sparse small flint grits, generally reduced in firing but with a red/buff oxidation.

2. Rim, body and base sherds from one vessel.
3-5 Rim sherds (5 not illustrated and probably from same vessel as 4).
6. Rim sherd, with sand and flint, which could be as late as the thirteenth century.
7. Lid sherd, mainly with sand, and rather similar fabric to 6.
8. Rim sherd of a necked pot or storage jar. Soft dark-brown fabric, with coarse sand, selected flints, and some chalk.
9. Rim sherd of a vessel which was probably hand made and finished on a slow wheel. The fabric is soft black, heavily tempered with coarse sand, and the external face is rough and lumpy. The sherd is probably pre-Conquest and could be as early as the tenth-century.
10-13 Rim sherds (only 10 is illustrated).
14. Base sherd.
15. Base sherd—possibly same vessel as 10.
16. Base and body sherd.
17a. Sherds from the top and body of a chimney vent in a hard sandy fabric, with flint.
17b. Part of the base of a chimney vent, of a form similar to that which would complete 17a but the fabric is slightly different. Oxidised brick red,with flint, and smoke blackened.
18. Sherds from the top of a chimney vent, similar fabric to 17a. but softer.
19. Rim sherd of black burnt fabric, with flint. Poorly fired being both oxidised and reduced.
20. Rim sherd similar to 5 (not illustrated).
21. Rim sherd to carry a lid. This unusual rim form has not been noted in Chichester.
22. Rim sherd, hard-fired grey fabric, with sand.
23. Rim sherd, similar to 4 (not illustrated).
24. Rim sherd of soft grey fabric, with flints, oxidised red (not illustrated).
25. Rim sherd of a fabric like 22.
26-50 Rim sherds (not illustrated).

51. Small sherd, possibly part of the neck of a vessel, of hard sandy grey fabric with external light green glaze. Probably thirteenth-century or later (not illustrated).
52. Body and base sherds of a cooking pot of a grey fabric, with small flint grits, oxidised reddish buff both internally and externally. This could be as late as the thirteenth century (not illustrated).

The Strap-End found in 1911 by David Hinton M.A., Department of Archaeology, University of Southampton.

Strap-end, copper alloy. This object was recorded and illustrated by Salzmann[9] and Heron-Allen,[10] and briefly discussed by Wilson,[11] who noted that the four full-length figures on it are paralleled on late Anglo-Saxon secular metalwork only by the Fuller brooch and the Abingdon sword, both objects of the ninth or early tenth centuries. A subsequent find at York[12] extends this list slightly.

Strap-ends of this sort, with a split end containing two rivet holes, a wide central panel, an animal head terminal, and a plain reverse, are common objects.[13] They can be as early as the eighth century,[14] but the apparently dancing figures on the Selsey example, and the division of the main panel into four by a cross, are Trewhiddle-style traits of the ninth and early tenth centuries. There is thus no reason to date the Church Norton, Selsey, strap-end as early as, for example, the seventh-century gold ring fragment from the area.[15] The open-centred cross on it is closely paralleled by that at Dymchurch, Kent,[16] which has interlaced animals in the four panels, not human figures. It is sad that the precise details of these figures cannot be seen on either Salzmann's or Heron-Allen's photographs, and that the object itself does not survive. The man on the Abingdon sword[17] is generally taken to be the symbol of St. Matthew, and this provides the closest analogue. Could the four Selsey figures be the four evangelists? It seems more likely that a less explicit symbolism was intended: the figures on the Fuller brooch, for instance, symbolize the five senses.[18] Others in the late Anglo-Saxon corpus of art include dancers and musicians, not all in roles which we fully understand.[19]

CONCLUSION

The evidence provided by the excavations undertaken in 1911 and 1965 indicates that the main period of occupation was from the mid eleventh to the mid twelfth centuries A.D., thus supporting the suggestion that the earthworks were probably constructed in the Norman period and probably soon after 1066. The square tower probably dates to the same period and may be seen as a keep within a ringwork motte of the type described by King and Alcock.[20] The occurrence of Romano-British and late Saxon material indicates earlier occupation in the vicinity and the absence of later Medieval and post-Medieval pottery in any quantity indicates that the occupation of the site was comparatively short-lived after about 1100 A.D.

F. G. Aldsworth and E. D. Garnett

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[1]Aldsworth, F. G. 'The Mound' at Church Norton, Selsey, and the site of St. Wilfrid's Church *Sussex Archaeological Collections* 117 (1979) pp. 103-7.

[2]Accession Numbers 5304 (1911 finds) and 5305 (1965 finds).

[3]Salzmann, L. F. Excavations at Selsey, 1911 *SAC* 55 (1912) pp. 56-62 Plate v; Heron-Allen, E. *Selsey Bill* (1911) Plate xxxvi Fig. 1.

[4]*Salzmann* op. cit.

[5]*Heron-Allen* op. cit. pp. 195-7.

[6]*Salzmann* op. cit. pp. 59-60.

[7]*Salzmann* op. cit. p. 61.

[8]Garnett, E. M. Report on excavations on the 'Mound', Selsey. July-September 1965. Undated typescript in Chichester City Museum.

[9]*Salzmann* op. cit. p. 60 and Plate v.

[10]*Heron-Allen* op. cit. Plate xxxvi Fig. 1.

[11]Wilson, D. M. *Anglo-Saxon Ornamental Metalwork 700-1100 in the British Museum* (London 1964) p. 30.

[12]Wilson, D. M. Two ninth-century strap-ends from York *Medieval Archaeology* 8 (1964) pp. 214-16.

[13]As for example Wilson, D. M. and Blunt, C. E. The Trewhiddle hoard *Archaeologia* 98 (1961) pp. 75-122 (especially pp. 120-2).

[14]Evison, V. I. in Farley, M. Saxon and Medieval Walton, Aylesbury: Excavations 1973-4 *Records of Buckinghamshire* 22 (1976) pp. 153-290 (especially pp. 247-8).

[15]Page, R. I. *An Introduction to Runes* (London 1973) pp. 29 and 163.

[16]*Wilson 1964a* op. cit. p. 28 and Fig. 1.

[17]Hinton, D. A. *A Catalogue of the Anglo-Saxon Ornamental Metalwork, 700-1100, in the Department of Antiquities, Ashmolean Museum* (Oxford 1974) No. 1 Panel 3.

[18]*Wilson 1964* op. cit. in note 11 No. 153.

[19]Hinton, D. A. *Alfred's Kingdom: Wessex and the South 800-1500* (London 1977) p. 55, Fig. 17.

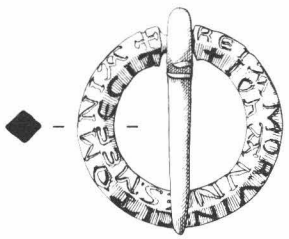
[20]King, D. J. C. and Alcock, L. Ringworks of England and Wales in Taylor, A. J. (ed.) *Chateau Gaillard III* (1969) pp. 90-127.

A silver ring brooch from Cliffe Hill, Lewes

The circular silver brooch (Fig. 9) found at Cliffe Hill, Lewes, has been recently given to the Barbican House Museum, Lewes, by the finder Mr. J. R. Hancocks. The brooch measures 18mm in diameter, it has a diamond-shaped section, and retains its original pin. It is engraved with an inscription which runs along the two upper sides and along one of the lower sides. The inscription was inlaid with niello. It reads:

+REI AMOR : VIN : CIT OMNIA
+IOHANNES : ME FECIT
+PENSEZ DE : MEI AVUS : MEIOT

The inscription is in the lombardic (rounded) script which dates it to the thirteenth or early fourteenth century. The first part of the inscription contains the words amor vincit omnia (love conquers all). This is a common inscription occurring on both rings and brooches. It is more frequent in lombardic letters than in the later black letter. The word 'rei' is puzzling. It may stand for the love of things but this is not convincing. The second part of the inscription contains the words 'John made me'. The first three words of the last line mean 'think of me'. The meaning of AVUS



+REIAMOR:VIN:CITOMNIA

+IOhANNES:MEFECIT

+PENSEZDE:MEIAVVS:MEIOT

Fig. 9 Silver ring brooch (×3/2).

MEIOT is not clear but it may represent a name. The brooch is an interesting addition to the inscribed circular brooches of the thirteenth and fourteenth centuries which have been discussed by J. G. Callender and the author.[1]

John Cherry

[1]J. G. Callender, 'Fourteenth-century brooches and ornaments'. *Proc. Soc. Antiq. Scotland,* LVIII (1923-4), 160-84.
J. Cherry 'A ring brooch from Waterlooville, Hants.' *Medieval Archaeology,* XIII (1969), 224-6.

An excavation at 1-3 Tower Street, Rye, East Sussex

INTRODUCTION

The town of Rye lies on an outcrop of Ashdown Sands capped with Wadhurst Clay, the Ashdown Sands are of an argillaceous type, namely Fairlight Clays (Gallois *et al.* 1965). The outcrop is connected to the higher land to the north only by a small neck of land, along which the London Road runs. This was the only connection except for the Udimore Road which involved a ferry across the River Tillingham. This river and the Rother combine at this point and provide good harbour facilities. As a result of this a significant trade developed here and the town was one of the earliest members of the Cinque Ports Confederacy, from A.D. 1197. This combination made it a favourite point for French raids, encouraged by the poor defences of the town. The most significant attack being that of A.D. 1381. However, from this time the silting up of the harbour began to increase rapidly so that by the seventeenth century the town had become a small fishing village. The demolition of two nineteenth-century houses provided an opportunity to investigate the nature and date of the defences erected in the fourteenth century.

THE EXCAVATION (Fig. 10 and 11)

A trench 12.8m × 2m was excavated at right angles to the town wall. A J.C.B. 3C was used to remove the first metre, that is contexts 1 and 2, the rest being removed by hand. Contexts 5, 7, 8 and 10 were all sandy clay containing beach pebbles and fragments of pot. Context 7 however was dark black and much more silty; it contained much more pot and a quantity of bone, leather and wood. They appear to be a succession of dumped layers levelled off by context 5, to provide a flattish surface. Beneath were two similar layers of compacted beach pebbles. They differ by the size of pebble (much larger in context 13), the finds (very few in context 13), and a sandier matrix in context 6. It is suggested that they form an intentionally laid deposit with the purpose of providing a flat, durable and reasonably well drained surface. Finally a dark grey silty layer, context 9, sufficiently water-logged so as to preserve a tree, identified as being of the *Betula* genus, but very little pottery was found. However part of a late seventeenth-century candlestick indicates that the area was open at this time while a George II half-penny, A.D. 1740-54, from context 6 indicates a date for the levelling of this area.

There were only two other contexts; one, context 4, a nineteenth-century foundation trench, the other, context 12, is a post-hole with no datable contents but it must on stratigraphical grounds pre-date the levelled area.

DOCUMENTARY EVIDENCE

The documentary evidence for ditches in this part of town is both confused and ambiguous. From A.D. 1329 the town received irregular murage grants (Page 1973), but it was only after the French raid of A.D. 1377 that a murage grant was made for a stone wall, to be erected in the three years after the grant given in A.D. 1381. That something existed before can be demonstrated in the land grant to the Augustinian Friars in A.D. 1378 (Dell 1962, 134-2). The plot is described as being by the 'foss of the town wall'.

Soon after the new murage grant the area north of the town was being reclaimed and developed for building and agricultural land as many documents show (122/3, 122/6, 137/17) with references occasionally to gutters and dykes. In 1506 a major new ditch, the 'Horsepett', is mentioned (130/13) and the implication is that this and the town ditch flowed into the harbour. This no doubt added to the silting of the harbour which had already been going on for many years (Aldsworth and Freke 1976). From now on the mention of larger ditches becomes more frequent as in 1587 with a new conduit (130/41), and in 1687 a new ditch at the Rope Walk Causey (127/25) which is specifically given as being two rods wide. Two years later it is referred to as a sewer but more interestingly a proviso is attached (127/26) for 'resumption should the land be required for fortifying the town'.

DISCUSSION

The archaeological evidence shows a shallow and wide ditch which was open at least into the late seventeenth century, possibly into the eighteenth, if the document of 1717 (127/31) is to be associated with this ditch. Moreover, if this association is correct, the ditch was regarded as a potential defensive feature in the late 1680s (127/25, 127/26). This ditch was filled in *c.* 1750, coinciding with the last reference to any similar ditch. It therefore seems reasonable to conclude that at this time

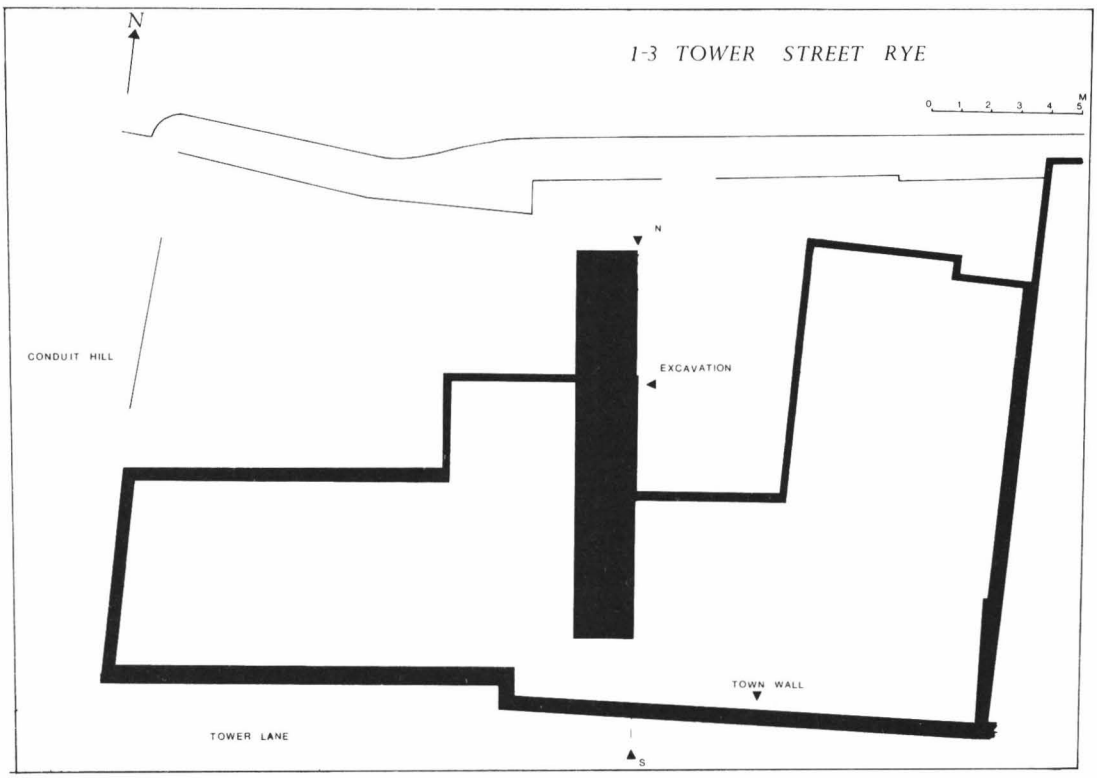


Fig. 10 Rye. Site location.

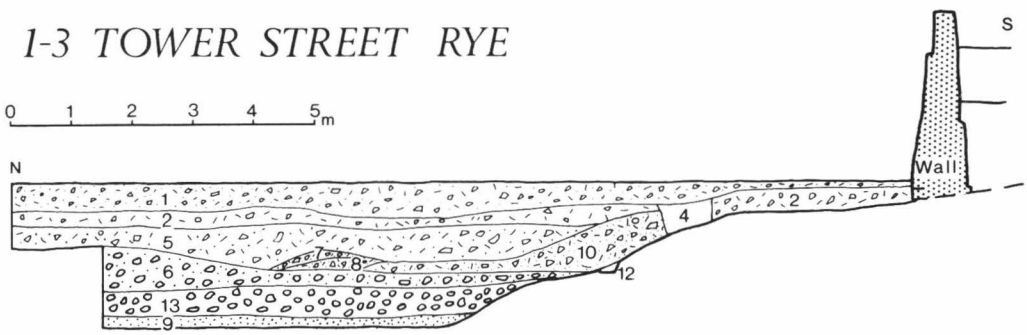


Fig. 11 Rye. Section, including town wall.

a ditch for some purpose ran around at least part of the town wall.

Evidence for an early ditch is not to be realised through the archaeological material owing to the fact that the ditch was kept very clean. Any attempt to elicit proof from the documents is brought into question by the existence of numerous ditches, dykes and gutters mentioned, most of which cannot be located even roughly. Indeed the very fact that the area was being drained from the late fifteenth century at least could mean that no defensive ditches were necessary. Town ditches may be dealing with sewage, drainage or as enclosures, hence they run north-south as well as west-east. Not even the earliest reference (134/2) can refer to a defensive ditch as reference is plainly made to a 'foss' inside the town.

CONCLUSION

It may be concluded, therefore, that there is no evidence for a defensive ditch in the medieval period although in the late medieval and post-medieval period a ditch existed, probably to carry off excess water. The potential defensive nature of this late ditch may be

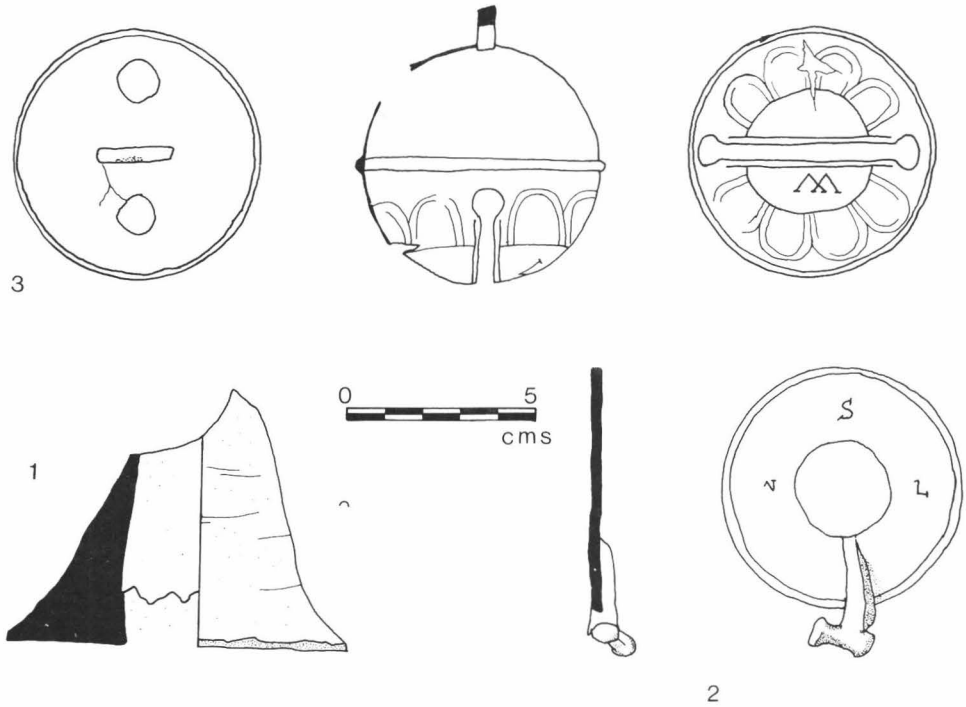


Fig. 12 Rye. Small finds.

recognized as the houses in that area were liable to be demolished if the town were attacked.

FINDS

This is only a selection of the total finds based on their stratigraphic or individual significance. A full list is deposited with the finds themselves and other archive material.

Pottery

1. Fragment, hard grey-white fabric with mica and fine sand inclusions; light green glaze; French probably Saintonge. Late thirteenth century. 2g. Context 1.
2. Fragment, the same. Rim sherd of jug. 5g. Context 5.
3. Fragment, hard grey fabric; grey and blue glaze; Westerwald stone ware 2g. Context 6.
4. Fragment, hard grey fabric; brown salt-glaze; Rhenish stoneware. Late fifteenth century. 10g. Context 9.
5. Base of candlestick, soft pink fabric with medium flint, grog and sand inclusions; light green splash glaze; local. Late seventeenth century. 170g. Context 9. Fig. 12 No. 1.

Clay Pipes by R. G. Stapley.

Sixty-five fragments of clay pipe were submitted, of which 58 were undatable.

6. Context 4. Small bowl with small, flat heel and rouletted rim, *c.* 1600-40.
7. Context 5. Large, thin bowl, *c.* 1820-40; short, thin bowl, *c.* 1780-1820; bowl with large spur initialled 'IW', John Walker?, *c.* 1798.
8. Context 6. Small bowl with heel, late seventeenth/early eighteenth century; stem and heel, *c.* 1680-1710.
9. Context 7. Tall bowl, initialled 'IW', *c.* 1780-1820. (Oswald 1975).

Metalwork

Context 6.

10. Pewter lid, initialled 'N S L', seventeenth-eighteenth century mug lid six centimetres in diameter, 75g. Fig. 12 No. 2.
11. Fish hook, a non-ferrous metal, the hook is not barbed and the end is beaten flat, the top of the shank has a round pin-like head.

Context 7.

12. Two cow bells of a type made in Shaftesbury, Dorset between the late seventeenth and the late nineteenth century, grooved decoration of arcading around the lower half, one initialled 'W' (165g.), the other 'WG' (95g.), the latter illustrated. Fig. 12 No. 3. (Identified by V. and A. Metalwork Department).

Coin Report by D. R. Rudling.

Context 6.

13. A George II (1727-60), copper halfpenny. Old bust (1740-54), 174?. Condition: extremely worn.

Glass by J. D. Shepherd

14. Base of bulbous flask. Fifteenth-seventeenth century. 25g. Context 5.

Stone

15. Part of roofing slate with peg-hole. 185g. Context 7.

The animal bones by M. J. Kyllo

The animal bone collection from the excavation of the Rye town ditch, though relatively small, was unusual in nature. It was therefore considered worthy of examination even though it dates from the mid-eighteenth century.

There were 474 identifiable bones and bone fragments—of which 254 were sheep metapodials—and 84 other fragments, including ribs and vertebrae (Table I). Minimum number of individuals and meat weight calculations were considered inappropriate for this collection. Metrical analyses of the sheep metapodials have been archived. Most of the bones were from contexts 6 and 7, in which animal species were represented in similar proportions. Though probably not deposited at the same time, all layers are from the same period and will be treated as one group for the rest of this report.

ACKNOWLEDGEMENTS

Thanks are due to the landowners, the Sussex Housing Association for the Aged for permission to excavate, and Mark Roberts and Mark Renkin for their help excavating. Thanks are also due to D. Rudling, Mrs. M. Kyllo, J. Shepherd, for their specialist reports and P. L. Drewett for his help and advice. In addition, Mrs. M. Kyllo would like to thank Pat Stevens and Dale Serjeantson for their help and encouragement in the preparation of her report.

The finds are deposited in Lewes Museum. The large quantity of leather is at the moment being conserved and will be published later.

James Hadfield

The Society is very grateful to the Department of the Environment for a generous grant towards the cost of publishing this article.

TABLE I Species by context

Layer	*4*	*6*		*7*		*10*	*12*	*Total*	
	No.	*No.*	*%*	*No.*	*%*	*No.*	*No.*	*No.*	*%*
Cattle	3	69	20.1	35	29.4	—	1	108	22.8
Sheep	2	221	64.4	69	58.0	6	—	298	62.9
Pig	—	6	1.8	1	.8	—	—	7	1.5
Horse	—	36	10.5	10	8.4	—	—	46	9.7
Dog	—	9	2.6	4	3.4	—	—	13	2.7
Cat	—	2	.6	—		—	—	2	.4
	5	343		119		6	1	474	

The distribution of bones present reveals this to be an unusual deposit, 83% of the sheep bones being metapodials. There is a wide range in size of fused bones, the average being larger than at either Exeter or King's Lynn. An explanation for the high proportion of sheep metapodials has not yet been discovered. Though metapodials were often used for bone-working there is no evidence for it here. They are possibly refuse from a tannery, as leather was also present, or a slaughter-house, except one would expect more phalanges to be present. None of the metapodials appear to be cut, but about one-third are abraded or flattened, possibly as a result of prolonged exposure.

A large proportion of the cattle bone is from high quality cuts of meat, with butchery frequently evident. Almost 70% was from categories 2 and 3, the best cuts, as described by Maltby (1979). Pig was poorly represented but 86% of the pig bone was from these categories. Bone from these animals appears to be domestic refuse. A relatively high proportion of horse bone was present (9.5% at Rye as against 0.07% at Exeter (Maltby 1979) and 2.4% in King's Lynn (Noddle 1977). The radii indicate the minimum presence of six individuals, femur members indicate four individuals. There was no evidence for horse butchery.

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HISTORICAL NOTES

This section of the *Collections* is devoted to short notes on aspects of local history. Material for inclusion should be sent to Mr. Alec Barr-Hamilton, 226 Hangleton Road, Hove. Those without previous experience in writing up such material for publication should not be deterred from contributing for Mr. Barr-Hamilton will be happy to assist in the preparation of reports and illustrations.

New Light on the Deprivation of Puritan Ministers in Sussex After the Hampton Court Conference

It has always been known that a number of Puritan ministers in Sussex were deprived of their benefices after the Hampton Court conference but there has been uncertainty about the form taken by the deprivation. R. B. Manning in *Religion and Society in Elizabethan Sussex* (1969) 211, after some discussion, concludes that 'although [the sentence was] most certainly carried out by the authority of Bishop Watson . . . the actual deprivations were most likely pronounced by lieutenants of the metropolitan acting as commissaries of the bishop of Chichester'. There is, however, evidence that the sentences were actually pronounced by Watson himself despite the infirmity which afflicted him in the last months of his life.

Four cases brought in the Exchequer by English bill make the position clear and also cast an interesting new light on the puritans own reaction. Watson sat in person at East Grinstead on the last day of April 1605, assisted by John Drury, doctor of laws, his commissary, Thomas Pye, doctor in Divinity, Lawrence Barde, doctor in Divinity, John Mattock, bachelor in Divinity and 'sundry other preachers and ministers of the word of God'. Those who would like to rescue Watson's reputation from the accusation of utter negligence could draw, perhaps with due caution on the alleged 'mild and charitable' advertisements and admonishments which Watson was said to have made to the ministers at earlier dates, inviting them to 'subscribe and conform . . . to sutch articles, rites and ceremonies as are set down and established by his majesties said laws and ordinances touching ecclesiastical government'. The failure of these preliminaries, however, resulted in the decree of April 30 suspending them from their ministry and depriving them of their benefices.

Watson was using his ordinary power as bishop in taking this action. The defence of their subsequent conduct produced by the four deprived ministers involved in the exchequer action, Christopher Goldsmith, Stephen Gough, Stephen Vinall and John Warren, is precisely that Bancroft, having 'a purpose and intent (according to his plan to visit the state, persons and causes ecclesiastical of the county of Sussex and diocese of Chichester) . . . some time before the said pretended sentence of deprivation, did lawfully and absolutely . . . inhibit and prohibit the said bishop of Chichester from the execution of all jurisdiction and authority ecclesiastical within the said diocese of Chichester (which was in force at that time).[1] It seems unlikely that so gross a censure of Watson's capacity would not have been included in the archbishop's register, but the Puritan ministers, at least as a delaying tactic, had on these grounds appealed to the Archbishop's court of the Arches where, on June 9 1606, the cases still remained, they claimed, unheard. Until the archbishop had decided, the clerics asserted that the induction of any successor and his collection of revenues would be invalid.

The four patrons of the advowsons, Sir Thomas Shirley at Steyning, Sir Edward Montague at Hellingley, the college of St Mary Magdalene at Bramborough and Sir Edward Lewknor at Kingston Bowsey, had taken the sentences as definitive, however, for they had nominated new ministers. Three of the four new men were reputable scholars. Jonas Michaell, nominated at Steyning, was a Master of Arts and 'a public preacher lawfully authorised'; Thomas Lancaster at Hellingley and Nathaniel Virtue at Bramborough were Bachelors of Divinity. Only John Postlethwaite at Kingston Bowsey was 'minister' alone. All could enter bills in the Exchequer because they could claim that their ability to pay the king's First Fruits and Tenths was affected by the recalcitrance of their predecessors. All had certainly been put to some expense.

Jonas Michaell's case is the fullest and most interesting—revealing as it does the possibilities of obstruction inherent in the range of different processes and courts available to the would-be litigants. Michaell claimed to have been inducted at Steyning on 25 October 1605 in the presence of his predecessor, Stephen Vinall, but to have agreed, at the request of Sir Thomas Shirley, the patron of the living, to permit Vinall to continue to live in and use the vicarage house and pasture ground of the vicarage until the following Lady Day. During that time Vinall evidently changed his attitude and refused to leave on Lady Day. Michaell then sued the writ *De Laica removenda* out of Chancery and the sheriff disseised Vinall at the beginning of March. Vinall then sued an affidavit in Kings Bench, obtained a writ of restitution and had this, in turn, executed at the end of May so that he was put back in possession. Michaell immediately obtained *subpena* in the Exchequer and, summoned by the writ, Vinall swore the oath affirming the truth of his reply, on 9 June 1606.

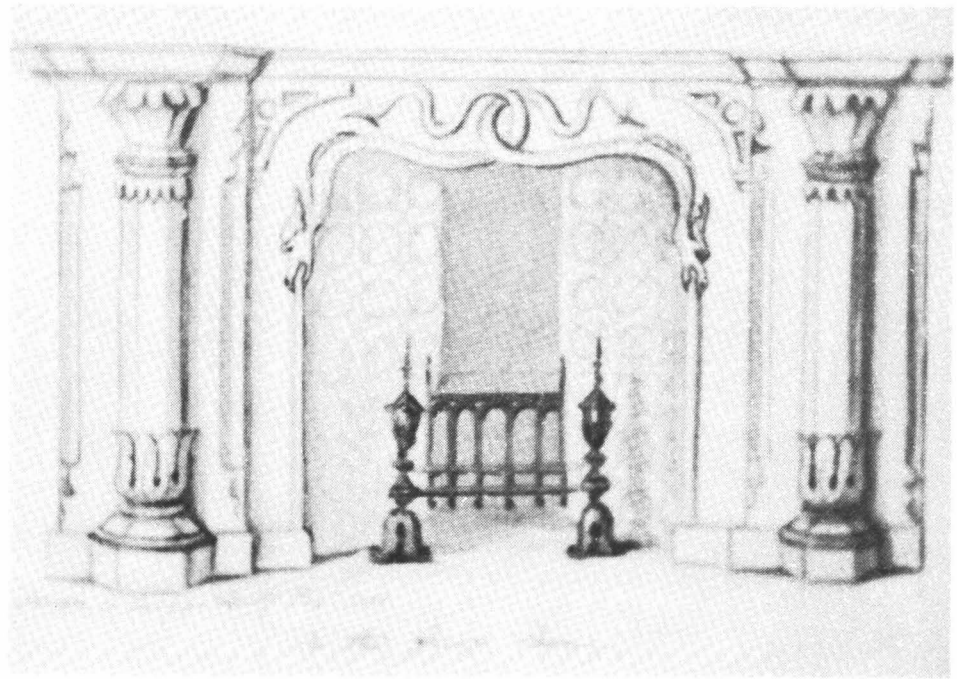
The disruption had affected the holding of services in the busy market town and the baptism of children, for which each party blamed the other. The cases comprise bill and answer only and there is no surviving decree on the Exchequer, probably indicating that it was pursued no further, doubtless because Bancroft upheld Bishop Watson's sentence, depriving the puritans of their tenuous legal foothold.[1]

Sybil Jack

[1]The cases are to be found in Public Record Office: Exchequer Bills and Answers Sussex James I and VI E112/166, 170, 171, 173.

Chimney-pieces at the Royal Pavilion, Brighton

Illustrated (Fig. 1) are two from a group of five sepia pen and wash drawings of the Victorian chimney-pieces at the Royal Pavilion.[1] Dated 1851, they are noteworthy



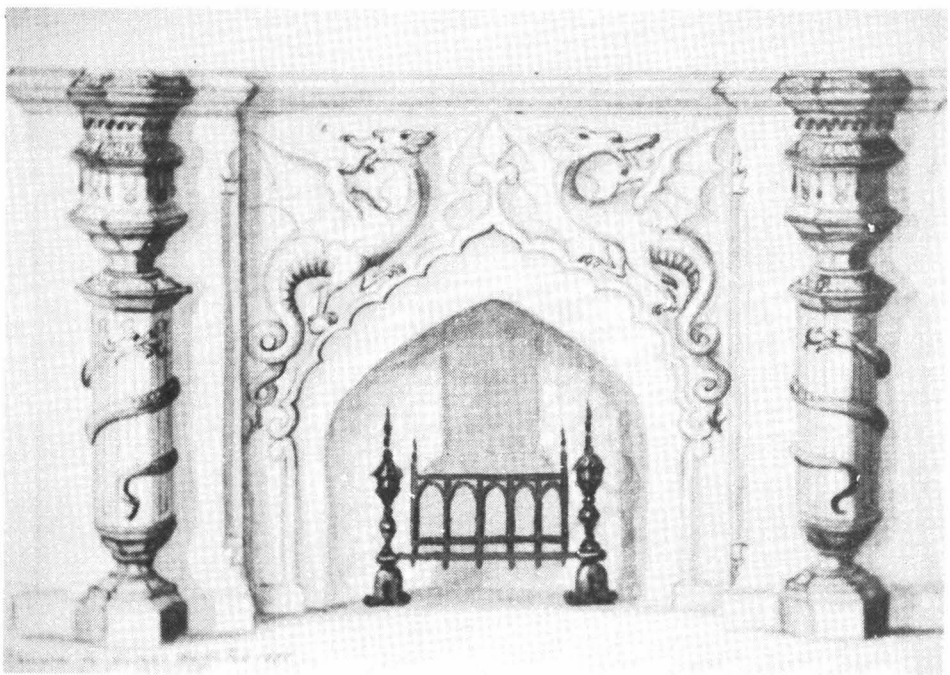


Fig. 1

because no contemporary plans or working drawings are known to have survived and the identity of the designer has been noted only in passing both by Henry Roberts and Clifford Musgrave in their detailed studies of the building. The sculptor John Thomas (1813-1862), was a protégé of Sir Charles Barry; Dr. Musgrave mentions him as having *'apparently* carried out work in the Houses of Parliament'. In fact all the interior carving there is his, as are the statues on the North and South fronts. He was further responsible for a considerable number of designs for public buildings and railway stations. In 1848 he supplied two statues, 'War' and 'Peace', for the Prince Consort and the following year a chimney-piece with Shakespearean motifs for Isombard Brunel. At the time of his death he was working on a chimney-piece for Windsor Castle.

The Pavilion chimney-pieces are recorded in the MS. Notebook of Dr. William King M.D., a Town Commissioner and member of the Royal Pavilion Committee, which supervised the restoration and redecoration 1850-1851.[2] He supplies the following list: 'Mr. Thomas:

2 Chimney-pieces	in Banqueting Room	85
2	in Banqueting Gallery	50
1	in Saloon	37
2	in North Gallery	28
2	in Music Room	50
2	in Ladies Cloak Room	42
Fixing and painting		30
4 Long Gallery		15
		£322'

The entry for the Long Gallery is scratched out and not included in the total, so presumably Thomas supplied ten pieces in all. The original chimney-pieces and hearths installed for George IV had been removed during the ruthless dismantling when the building had ceased to be used as a royal residence. In 1850 it was purchased by the town, and in September of that year it was decided to spend £4,500 on immediate repairs and renovating ten rooms for use as a public amenity. At the Opening Ball on 21 January, 1851, both Thomas and R. A. Stickney, the town surveyor, received praise for the 'skill and taste in the selection of the style of . . . the beautiful and highly wrought marble pieces . . . they are quite unique and reflect much honour on this branch of English art'.[3]

Thomas's designs are carried out in Caen stone and, complying with the strictures of the Pavilion Committee, 'the chimney-pieces, of course, are not so costly . . . as the originals'. Dr. King's report to the Town Commissioners, 6 September 1850, had stipulated that 'the object of the Committee will be to get the work done in the best manner and at the least cost'. Dr. Musgrave accords them a degree of qualified praise: 'Though lacking the finesse of those Holland designed, they too have a robustness and vitality and the designs are carried out in a fashion sympathetic to the material'.[4] Thomas employed the dragon motif for the Music Room piece, and in the Banqueting Room the gigantic plaintain leaves on the painted, domed ceiling are echoed in the spandrels of the fireplace arches.

The pen drawings form a group of five, most probably part of a complete series illustrating the pieces Thomas supplied. Each is inscribed 'drawn by George Ruff, Feb 1851', with the name of the appropriate room. Ruff appears to have been a builder, of 28 Upper Rock Gardens.[5]

There is no evidence that he was in any way involved with the renovation work, although that would have explained his interest in the interior, apparently accessible to the public after the Opening Ball in January 1851, in spite of the fact that some work was still going on. The drawings of the Music Room and South Drawing Room pieces are of particular interest; these have now, in their turn, been replaced with replicas of the originals as they appeared in Nash's *Views of the Royal Pavilion* and Thomas's pieces can no longer be seen by the public. (The remaining three drawings in the group are of the Banqueting Room, Saloon, and North Drawing Room pieces, all of which are in-situ.) The original for the Music Room came from the workshop of Sir Richard Westmacott R.A. (1775-1856) and is now in the Chinese Room at Buckingham Palace. He received £1,244 2s. 6d. for it, and the replica in its place in the Music Room today does credit to it in authenticity of detail if not materials. The originals in the South Drawing Room, in white statuary marble with ormolu embellishments, to designs by Robert Jones have been reconstructed from those shown in the aquatints in the *Views*. Their present whereabouts are unknown.

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References

[1]Private collection.

[2]Brighton Reference Library, SB97 24006, p. 62.

[3]Brighton Reference Library, SB9 SM1, 'History of the Royal Pavilion', 3, Contemporary press cuttings.

[4]Clifford Musgrave, *Royal Pavilion, a study in the Romantic* (1951).

[5]*The Court guide and general directory for Brighton* (Brighton: Robert Folthorp, 1850, 1852).

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