

Refining the biography of a marketplace tenement

A RECENT EXCAVATION AND ARCHAEOLOGICAL INTERPRETATIVE SURVEY AT 'THE MARLIPINS', SHOREHAM-BY-SEA, WEST SUSSEX
By Gabor Thomas

with a major contribution by David & Barbara Martin

In advance of its recent redevelopment, The Marlipins — New Shoreham's sole remaining known medieval vernacular building and a local museum since the 1920s — was subjected to a programme of archaeological survey and recording which has shed new light on its constructional history. Emphasis is placed on integrating new details relating to the earliest (12th-century) phase of the building, including the tree-ring dates returned by the heavy timber joists spanning the ground floor, which must now have a strong claim to be the earliest in-situ survivals of domestic structural timber-work in Sussex, and the buried foundations for a previously unknown north wall incorporating a rectangular stone-lined pit — interpreted as the subterranean remnant of a first-floor garderobe. In addition to refining the chronology of its constituent phases, the opportunity is taken to reassess the likely function of the building as originally intended. A wider archaeological context for the historic range was provided by the results of an adjoining excavation which uncovered the footings for a medieval timber building or buildings, a group of medieval and post-medieval pits and foundations for 18th- and 19th-century workshops and sheds. Finds from this sequence included the first closely-dated assemblages of post-medieval pottery and glass to have been recovered from the town.

ADS SUPPLEMENT

These web pages and associated digital resources provide supplementary information to that which is contained in the hard-copy publication. Please note that the digital information presented here is not intended to be read as a stand-alone source, but should be approached by the reader who has access to the hard-copy publication. A list of the supplementary information can be found in the printed publication.

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DETAILED ARCHITECTURAL DESCRIPTION OF THE MARLIPINS by David & Barbara Martin

PHASE 1 (PROBABLY 1167–1197) (Fig. 5)

Layout

Perhaps not surprising given the building's early age, the initial phase of the structure is very fragmentary and contains only one architectural feature which is typologically datable — a single-light window. Both the front and rear walls have been rebuilt, as too has the roof.

The initial late-12th-century phase of the building comprised a rectangular structure measuring 15.40 m (50'6") north–south by 7.15 m (23'6") east–west. Both measurements are given overall the flint external walls — the internal dimensions were 13.85 m x 5.80 m (45'5" x 19'0"). The present ground floor is sunk approximately 850 mm (2'9") below current street level, but it is not known to what degree the street has risen since the late 12th century. Excavations carried out in the 1920s suggested that the then internal floor level was approximately 225 mm (9") above the original (Packham 1924).

The ceiling of the ground-floor area is formed by massive joists which span the building in one length. Two of these have been tree-ring dated: one produced a felling date of 1165–1197, in the other the heart/sap boundary could not be determined with absolute confidence, but the last intact ring dated to 1160 and (assuming the heart/sap boundary to be correct) produced a felling date of 1169–1201 (Bridge 2002). The joists are therefore very likely to belong to the Phase 1 building. The timbers are built into the walls at each end and are likely to be in situ, though given that the extent of the surviving Phase 1 walls is uncertain (see below) the possibility that the timbers had been refixed cannot be entirely ruled out. If in situ, the lack of any evidence for former internal partitions implies that the ground-floor area formed a single space.

Although the upper levels have been rebuilt, it is thought that much of the Phase 1 east wall survives to a maximum of 900 mm above first-floor level, whilst it is likely that virtually all of the west wall still stands to a height of 1.85 m (6'1") above the first floor. The straightness of the visible joint which indicates where the latter wall has been raised suggests that the underside of the raising indicates the wall's original full height. It is impossible to say whether this upper level was a single room or divided by partitions; nor is it known whether it was open to its roof or incorporated a ceiling.

The external walls and their architectural features

The only wall which contains a Phase 1 architectural feature above ground level is the eastern elevation, and even this wall has been much rebuilt — the southern end during Phase 2 and the northern end during the late 19th century. The latter work appears to have retained much of the original core and internal facing up to the level of the first-floor joists, but involved refacing the upper part of the ground-floor externally. The early sections of wall are faced in coursed flints — mostly un-knapped but selected for size — laid in copious amounts of mortar in order to accommodate the irregularities in the flints. Although the west wall contains no datable architectural features and cannot therefore be positively identified as being of Phase 1 date, the visible details are very similar in character, and this is also the case with the western portion of the north wall on the ground floor, argued below to represent the southern wall of a corner garderobe chute.

The southern Phase 1 wall was entirely rebuilt during Phase 2, though alternating dressed quoins incorporated into the eastern jamb of the Phase 2 eastern doorway in line with the present northern face of the wall indicates where the internal face of the Phase 1 wall formerly turned, confirming that its alignment was identical to that of the later work. When the wall was rebuilt incorporating the present eastern doorway, every alternate quoin stone was removed because it projected westwards and would have fouled the new opening.

The surviving Phase 1 lancet window (Figs 2 & 3) is located approximately half way along the length of the eastern wall and only retains original work on the interior. The reason for this is that the opening was widened and converted into a doorway during the 18th century; it was restored back into a window after 1924. Luckily, the dressed Caen stone quoins of the steeply-splayed jambs, together with the voussoirs of the round-headed rear arch escaped intact when the doorway was punched through. Although the lower quoin stones were replaced during the restoration, photographs taken prior to repair clearly show the original height of the window [photograph in Packham 1924]. Internally the opening measured c. 800 mm wide and had a height of c. 1.15 m from the cill to the crown of its rear arch. The angle of the splayed jambs and head indicate that the external opening would have been no more than 150–200 mm wide and about 700 mm high. The window is set high above the floor, the original cill having been sited approximately 1.45 m (4'8") above present floor level. This may indicate that although the external ground surface has risen, the internal floor level was always well below the ground.

The only ancient architectural feature contained within the west wall is a blocked and badly damaged locker recess or aumbry (marked 2 in Figs 2 & 3). Located approximately half way along the wall on the first floor, the dressed stones which make up its surround have mostly shattered and been roughly repaired in cement mortar. However, the Caen-stone cill is intact, as too is the lower stone of the southern jamb. Both appear to be reddened (? by fire) and are rebated for a door which would have been set flush with the internal face of the wall. Sufficient survives of the shattered lintel to indicate that the recess was square-headed. It measured 680 mm wide by 550 mm high and was set with its cill 1.20 m off the floor. It is not clear whether the feature is of Phase 1 date, or whether it was intruded during either Phase 2 or 3.

Floors and stairs

The first floor is carried by twenty-two massive joists which span the building in one length with their ends built into the east and west walls (some ends had rotted overtime and were 'accro-ed' up during the late 1920s restoration and refixed - Cheal & Browning 1928). The southernmost joist and four at the northern end represent replacements, but all the others appear to be original. They are entirely plain. In scantling they vary in section from 240–260 mm wide by 250–255 mm deep and are of sufficient size to span the 5.80-metre (19'0") internal width of the building without any intermediate support. However, they are now strengthened from beneath at near centre span by a spine beam supported by Samson posts. The design of the supporting structure is typical of the form of construction used during and prior to the early 14th century. Therefore, all could be of one date, except that the tree-ring analysis suggests that the Samson posts are approximately 100 years younger than the joists. As noted above, it is possible that the joists were refixed in their present position during the Phase 2 alterations. However, there is a strong likelihood that the joists are *in situ* and that the spine beam and Samson posts were merely added to strengthen the joists during Phase 2.

If the joists belong to Phase 1, the only possible location for an internal staircase is in the south-western corner, where the present staircase is located and where it is known the stairs have been sited since c.1300 (see Phase 2 below). However, the possibility of access having been gained through an external first-floor doorway should always be borne in mind.

Chimneys

There is no surviving evidence for heating during Phase 1.

Roof

The roof was entirely rebuilt during Phase 3. None of the Phase-3 roof timbers show signs of reuse from an earlier phase, and thus no details are known regarding the form of the Phase-1 roof.

PHASE 2 (PROBABLY 1276–1308) (Fig. 6)

Layout

Although the Phase 2 alterations were in some ways relatively minor — the layout appears to have been little affected by the modifications — in terms of appearance they were far-reaching, for it was at this date that the front facade was entirely rebuilt to incorporate its characteristic chequer-board external facing. Why it was felt necessary to reconstruct the front wall is unclear, but it would appear that the upper part of the east elevation was also reconstructed at this phase. Furthermore, the joint between the Phase 1 and Phase 2 work within the eastern wall is very ragged, perhaps suggesting that after 100 years of existence the Phase 1 building was suffering structural problems with parts of its walls near to collapse. Evidence within the west wall further suggests that the height of the building may have been increased by c. 0.7 m at this date (see Phase 1 above).

During Phase 2 the slightly sunken ground-floor area served as a single room which was accessed from the High Street via a doorway and flight of steps at the eastern end of the south facade. In its present form this doorway is very low and has a height of only c. 1.70 m (5'7") from pavement to the apex of its arch. This arrangement was the standard method of obtaining access to the vaulted cellars in Winchelsea, East Sussex, built at approximately the same date as the facade at Marlipins (Martin & Martin 2004).

As also the case with many of the cellars at Winchelsea and other urban centres throughout England, during Phase 2 there was no internal communication between the slightly-sunken lower storey of the building and the upper floor, and this continued to be the case until the early 20th century when the staircase was rebuilt; prior to this the upper storey was known as Upper Marlipins, and the lower storey as Lower Marlipins. Access to the upper floor was via the external doorway at the western end of the south elevation. The doorway here is much loftier than that at the eastern end and is set considerably higher in the wall. Furthermore, it incorporates an external closing rebate indicating that it was designed to be fitted with an outward-opening door set flush with the external facade. This arrangement indicates that, as was still the case early in the 20th century, the stairs rose from directly within the door without a landing. The proportions of the door are correct for the street to be interpreted as having been at approximately its present level, but it should be borne in mind that — as with the eastern doorway — it is possible that the southern part of the staircase projected slightly into the street.

By Phase 3 it can be certain that the first-floor area comprised a single room, and this is likely always to have been the case. However, it should be noted that the upper surface of the spine beam strengthening the joists incorporates a deliberate step suggesting a slight rise in floor level part way along the building (see Floors and stairs below). This may indicate the location of a former cross-partition dividing the upper floor into two rooms. Reconstruction of the roof during Phase 3 has destroyed the evidence which would have allowed this point to be checked.

The existence of rooms on two levels, each level separately accessed from the street without any internal

intercommunication is wholly consistent with the ground-floor area having been intended as a warehouse or workshop (or both) which could be separately let from the remainder of the building. By Phase 3 the upper storey was likewise a single room and, being of very utilitarian finish, was doubtless also used as work or storage premises. A similar use seems likely during Phase 2. Being on the opposite side of the street to the town's waterfront, the building's showy chequer-board facade implies that, despite its utilitarian function, the building was a structure of some note.

The external walls and their architectural features

All architectural features within the front (south) elevation are entirely consistent with a date in the mid/late 13th century, whilst the design of the first-floor two-light window makes a date after the opening years of the 14th century very unlikely. A subtle, but indisputable structure joint in the east elevation between the Phase 1 and Phase 2 work (marked '3' in Fig. 3) confirms that the two doorways and two windows which the wall incorporates have not been intruded into earlier fabric. Inset approximately 900 mm (3'0") from the south-eastern quoin, the joint not only shows as a change from coursed to un-coursed work, but by the inclusion amongst the cobbles of a considerable number of Caen stone fragments. Although now mostly hidden by hard, mortar render patching, a similar variation is visible between the Phase 1 work extending along the lower part of the wall and the Phase 2 rebuilt upper part, the joint between the two being marked '4' in Fig. 3. Towards the southern end the approximately horizontal joint between the two phases is marked by an intermittent and somewhat irregular course of Caen stone blocks, and towards the centre of the wall, where the top surface of the Phase 1 work dips, the Caen stone increases in depth until at one point it is three courses high (see '5' in Fig. 3). The same feature is visible in the internal face of the wall. It would seem that the Caen stone was used to level the upper surface of the retained earlier work before rebuilding the upper part. The work terminates above the northern jamb of the Phase 1 ground-floor window [1], beyond which all but the base of the wall was rebuilt in the late 19th century.

The south-eastern quoin is formed by dressed Caen-stone blocks and this use of Caen stone continues across the southern face of the new front facade, where it is laid in a very distinctive chequer-board pattern, the blocks being inter-spaced with similar-sized panels of knapped flintwork. As can be seen from the drawn south elevation (Figs 2 & 6) although the Caen stone is neatly squared, the blocks are not of a standard size and as a result the pattern is not overly even, which adds to its character. In places, particularly towards the quoins and at the openings, the pattern breaks down, whilst in some areas more than one Caen-stone block has been used in order to make up the size.

Despite the fact that the gable head has been rebuilt and that by the 18th century the first-floor window had lost its central mullion and central section of tracery, the elevation survives very much as first built. At the eastern end of the facade is the doorway which leads to the slightly sunken ground-floor room. Set low in the wall, the 1.36 metre (4'5") wide two-centred main arch is chamfered on its external face, and there are traces of this continuing down the jambs. However, some of the jamb stones are unchamfered. Whether this indicates repair is uncertain. The lower part of the western jamb has been rebuilt in brick. The voussoirs of the main arch are capped by a relieving arch of roughly squared Caen stones laid on end. Internally the eastern jamb is formed by a continuation of the east wall, and this still retains an intermittent row of redundant Phase 1 quoin stones indicating where the internal face of the wall originally turned. The unchamfered western internal jamb is dressed in Caen stone and supports an unchamfered two-centred segmental rear arch, also of Caen stone. The internal face of the main arch is rebated so as to accommodate the door and incorporates two heavy pintles in its eastern jamb. There are no indications of sockets for a locking bar. The present steps leading down through the opening are of more recent date and are almost certainly located higher than the originals.

At the opposite end of the facade is the doorway which led directly to the stairs, giving the sole means of access to the first floor. Set at a much higher level in the wall, in general constructional details it is very similar to that leading to the ground floor. However, there are a few important differences, the most obvious being that the opening does not narrow at the main arch so as to form an internal closing rebate. Instead, the jambs extend straight through the wall, giving a consistent width of 1.13 m (3'8"). They incorporate a closing rebate which runs around the external face of the opening. The reason for this is obvious: because the stairs rose directly inside the opening, the door had to be hinged to open outwards, onto the street, and was set flush with the external face of the wall. Photographs taken of the facade prior to its restoration after 1924 still show a flush door, hung on the eastern jamb: the present door is recessed back into the opening and unfortunately does not replicate the original appearance. In the western jamb a recessed section of the closing rebate incorporates a pair of lock sockets, but whether these are added or original is unclear. Internally the rear arch is a true segment of a circle (rather than being two-centred as in the eastern door) and has a chamfered, rather than an un-chamfered leading edge. The chamfer returns down the eastern jamb for one stone before terminating level with the upper floor, for the upper part of the door opening extends above floor level. Owing to 20th-century alterations to both the staircase and the stair trimming through the first floor, the reason why the chamfer terminates is not now immediately apparent, but until the stairs were altered that section of the jamb below floor level was extended back as a daub partition infilling

the triangle between the staircase and floor, and therefore would not need to have been chamfered. Internal photographs taken prior to the restoration show this arrangement then still surviving [Marlipins Museum SHORM 95/2646.5].

Off-centred between the two doorways is a small lancet window with a continuously chamfered two-centred arched head. Because of the small size of the window - it measures only 460 mm (1'6") wide externally - there is no relieving arch above the voussoirs. Although now filled with mortar in order to fix the added-in glazing, the internal face of the main arch is rebated to accommodate a former hinged shutter. Beyond the shutter rebate the jambs splay to give an internal width to the opening of 1.03 m. The dressed, but unchamfered quoins to the jambs support an unchamfered, slightly two-centred rear arch. The cill is stepped, but flat. The off-centred location of the window has already been referred to: rather than being set midway between the two doorways, it is heavily biased towards the western door. The reason for this is obvious from the interior: if it had been set central it would have been fouled by the Samson post supporting the first floor. As tree-ring dating indicates that the Samson posts were inserted 1276-1308, the facade must either be contemporary with this work or subsequent. The architectural details make a contemporary date likely, and this impression is to large extent confirmed by the fact that the bridging beam and Samson posts are themselves not set at centre span but are offset slightly to the east so as to give more space for the window.

There is only one opening within the facade at first-floor level, this being a two-light window which is off-centred towards the east so as to be central in that section of internal wall to the east of the staircase. This location also has the effect of counterbalancing the off-centred location of the ground-floor lancet window, for it is located over the section of blind wall between the lancet and eastern doorway. The window had already lost its central mullion and central section of its traceried head by the late 18th century (see Grimm drawing reproduced in Packham 1924), though it was otherwise intact. Photographs taken prior to restoration show that its present restored form replicates the original design, though (to judge from the photographs) rather than a solid single-stone central section of plate tracery the missing sides of the arches (supported by the mullion) were perhaps formed from individual voussoirs as on the other side, with flintwork filling the gap between the voussoirs and the Caen stone relieving arch which caps the two lights. In its general form the relieving arch is similar to those which cap the doorways below, though in this instance it is asymmetrical. As with the lancet beneath, the two arches had two-centred heads, were continuously chamfered and show internal rebates for former hinged shutters. The western jamb of the western light still shows the broken-off shank of one of its two hinge pintles, whilst above survives a pintel of later date. There is also evidence of former pintles in the eastern jamb of the eastern light. Internally the opening has dressed, splayed jambs supporting an unchamfered, slightly two-centred relieving arch, all as in the window on the storey below. The cill was flat.

A distinct horizontal line approximately 1.85 m above first-floor level in the west wall marks a change in the character of the flintwork (marked '6' in Fig. 3), suggesting that this wall has been raised. If this interpretation is correct, given that the Phase 2 south facade is built to suit the present eaves level, this raising presumably occurred as part of the Phase 2 work. It contains no datable features.

Details contained within the support to the first floor indicate that the Phase 1 northern wall remained in use at this period [see Floors and Stairs below] and was not realigned until Phase 3.

Floors and stairs

Although it is possible that the late 12th-century joists were refixed as part of the Phase 2 works, it seems more likely that the existing arrangement was retained and strengthened from beneath by the insertion of a bridging beam (or spine beam) supported by an arcade of three Samson posts with arch bracing. It is the southernmost of these Samson posts which has been dated by tree-ring analysis to 1276-1308 (Bridge 2002). As noted above, the alignment of the arcade is slightly off-centred towards the east. The arcade comprises a heavy bridging beam which extended the full 13.85-metre (45'5") internal length of the Phase 1/2 building in one piece. In scantling the timber measures 200 mm wide and varies in depth from 200 mm at its slightest at the southern end, to 310 mm about two-thirds along the building. At this point the upper face incorporates a very deliberate step, thickening from 210 mm to 310 mm, suggesting a 100-mm step in the floor level. The bridging beam was supported by three Samson posts of which two still survive — the northernmost post was destroyed when the north wall was rebuilt further south during Phase 3. The posts measure on average 245 mm x 245 mm, are fixed to the bridging beam by means of a pegged mortice-and-tenon joint, and support curved arch braces which rise to the bridging beam. The braces are jointed-in by means of pegged mortice-and-tenon joints, the joints at the base of the braces being twice pegged: those at the head are single-pegged. Typical of their early date, all three surviving braces are of near square cross-section — that rising from the southern post measures 175 mm x 195 mm and is plain, those to the central post are 175 mm x 200 mm and have chamfered lower leading edges, without stops. At the northern end the bridging beam appears to have been truncated during Phase 3 and its end built into the new northern wall when it was rebuilt at that date, but this subsequently rotted and has been trimmed back and supported from beneath by brick corbelling. At the very end of the surviving section the peg hole for securing the head of the lost

arch brace to the former northern Samson post is visible.

Over time the bases of the Samson posts have rotted and as a result the entire frame has subsided considerably. Packing pieces have been added between the bridging beam and the underside of the individual joists in order to maintain support to the joists (compare the long section in Fig. 3 with that in Fig. 6).

When the stairs were rebuilt in the early 20th century, a landing was introduced just inside the external doorway in order to introduce an extra flight extending down to the ground floor, thereby allowing internal communication between the two floors. At the same time the going of the main staircase was reduced. The result of this was that the size of the trimming through the first-floor joists was increased, destroying all evidence of the original opening. Internal photographs taken prior to the work show the earlier staircase to have been a steep straight flight rising directly from the doorway, with a triangular area of plaster partition infilling the gap between the floor and staircase [Marlipins Museum SHORM 95/2646.5]. The photographs do not show whether the stair was an original triangular-tread arrangement, or whether it represented a later replacement.

Chimneys

The Phase 2 work shows no visible evidence for a heating system.

Roof

Given the fragmentary nature of the Phase 1 east wall and the apparent evidence of a raising within the west wall, it is assumed that the original Phase 1 roof was rebuilt as part of the Phase 2 work. However, the roof was again entirely rebuilt during Phase 3.

PHASE 3 (AFTER 1445, PROBABLY LATE 15TH C) (Fig. 7)

Layout

As far as can be ascertained, the Phase 3 alterations were limited to the rebuilding of the north wall on a revised alignment (reducing the length of the building by c. 950 mm), reconstructing the roof, and the probable insertion of an additional ground-floor window within the east wall, though it should be stressed that the date at which the latter was intruded is uncertain. Whereas it is probable that the Phase 2 building incorporated a single room on the first floor, it is possible that it was subdivided. The details of the Phase 3 roof prove that by Phase 3 the building definitely incorporated but one room on each floor. Furthermore, the utilitarian nature of the roof strongly suggests a non-domestic use, as indeed does the layout.

The external walls and their architectural features

Evidence that the Phase 2 Samson posts and bridging beam supporting the joists has been truncated at the northern end indicates that the Phase 1 north wall was not rebuilt on its present alignment until after Phase 2, whilst the constructional details of the Phase 3 northern roof hip show that the wall had been moved by the time the roof was built. Thus it was as part of the Phase 3 works that the Phase 1 north wall was demolished to ground level and replaced by a new wall immediately to its south. The reason for this realignment is unknown. The Phase 3 wall has been badly damaged and rebuilt in modern times; openings (including a first-floor doorway) have been thrust through the centre of the wall; the eastern half has been largely (or perhaps completely) refaced on the exterior; and a doorway thrust through the eastern end on the ground floor (Figs 9 & 10). Although now in a very poor structural condition, an elaborate section of Phase 3 fabric is preserved within the internal face of the first floor, to the east of the central opening (Fig. 11). The wall here is in two parts. The lower part, rising to 1.30 m above floor level, incorporates three thin bands of stone (?Horsham slab) with a course of alternating squared blocks (mostly clunch) and flint panels immediately beneath the slabs, occupying the upper part of each tier. The lower part of each tier is of flintwork (mostly un-knapped) with tile (including part of a ridge tile and a glazed floor tile) used as packing within some of the joints. Where the joints to the flintwork have fallen away in the upper course of each tier, the flint panels appear to have voids behind them, suggesting that the flintwork represents blocking to recesses which resemble pigeonholes. Above the upper tier of slabs the nature of the wall changes. Within this upper section there are six courses of facing comprising a course of alternate squared clunch blocks and flint panels, alternating with a full course of squared clunch blocks. Here too, holes in the joints indicate voids behind the flint panels, and the flintwork of one panel has been removed to reveal a rough, concave, pigeonhole-like recess. The whole arrangement is very deliberate and has been cut through by the intrusion of the 19th-century doorway to its west. The work appears to represent the remains of a dovecote, but could this really be the case? More information is required before a judgement can be made.

Although much of the northern end of the east wall has been rebuilt on the first floor, the same pattern of three tiers of thin slab bands as was used in the lower part of the north wall is recognizable returning along the east wall for approximately 950 mm before being truncated by the jamb of a late-19th-century window. The return section of wall is fully bonded to its northern neighbour. Above the upper tier of slabs the entire section of wall has been

rebuilt and is now straight-jointed to the north wall.

Inserted towards the southern end of the east wall on the ground floor is a window of post-Phase 2 date (marked '7' in Figs 2 & 3). The surviving details of the window indicate a medieval date, but there is no proof that it was intruded at the same time as the other Phase 3 alterations. The external surround has been entirely destroyed, having been replaced by a timber frame. Internally the details are complete. The opening has widely splayed dressed Caen stone jambs which support a segmental rear arch with chamfered leading edge.

Floors and stairs

Apart from the removal of the northern Samson post and brace, and the associated truncation of the bridging beam when the north wall was rebuilt further south, no known alterations were made at this period.

Chimneys

There was no chimney incorporated within the building at this period, and no indications of sooting on the Phase 3 roof timbers to suggest the former presence of an open hearth supported by the joists.

Roof

Although much altered during Phase 4 and very heavily repaired subsequently, the entire Phase 3 roof survives. It is of simple crown-post construction, set at a c. 45° pitch and framed in four bays with tie beams dovetailed over an inner and an outer wall plate. It retains a Horsham slab covering on its eastern slope, and - to judge from the shallow pitch - this is likely to reflect the original covering. The front (southern) terminal is gabled: the rear (northern) end incorporates a hip which was rebuilt (with the exception of its central jack-rafter) in 1950. The collar purlin extends through to joint into this central rafter, the head of which was carried by a high-set collar located unusually low. The collar is missing, but is evidenced by dovetails in the side of the rafters. Although somewhat variable in size, all rafters are of equal scantling and average 150 mm x 80 mm in section. They carry 115 mm x 100 mm collars which are jointed to the rafters by means of dovetailed halvings. At their feet the rafters are birds-mouthed over the outer wall plate in the usual manner. Solepieces set at wide intervals link the two wall plates over each wall. The inner plate (180 mm x 140 mm) projects by about 60 mm from the wall face and has a chamfered lower leading edge. Today ashlar pieces rise from the plate to the common rafters, but these all appear to be nailed into position and include reused material. It is therefore likely that the ashlar pieces have been added subsequently — for this reason they are omitted from the reconstruction drawings.

The tie beams which divide the roof into bays average 200 x 270 mm in section. That against the internal face of the south wall (D-D) is cambered, yet despite this it still cuts across the rear arch of the first-floor window. It supports a plain crown-post with a c. 60 mm x c. 190 mm curved headbrace rising to the collar purlin, and a pair of cranked 65 mm x 190 mm footbraces descending to the tie beam. Of the other trusses only that dividing the two northern bays (G-G) survives intact, the remaining two (E-E and F-F) having been modified during Phase 4 when the central section of the tiebeams and the crown-posts were removed. The intact truss has an un-cambered tie beam supporting a plain crown-post which (because of the hipped terminal beyond) has one-way headbracing only. The two missing crown-posts were reused as queen-studs within truss F-F during Phase 4. Each had two-way headbracing up to the collar purlin (confirmed by mortices in the collar purlin). Sufficient remains of the truncated tie beams to indicate that they were un-cambered.

All structural details — particularly the scantling of the braces — are consistent with the roof having been rebuilt during the mid/late 15th century, or possibly the very early 16th century. The programme of tree-ring dating allows this date range to be refined slightly in that one rafter (sample absent of sapwood) was still growing in 1436 and thus, allowing for a minimum of sapwood rings, must have been felled after 1445.

PHASE 4 (PROBABLY 1567-1599) (Fig. 8)

Layout

Apart from the possible intrusion of an extra window within the west wall, the Phase 4 alterations were restricted to the formation of a loft within the roof area, including adjustments to the roof in order to make the newly-formed area usable.

The external walls and their architectural features

A window (now blocked — marked '8' in Figs 2 & 3) cut through the west wall at ground-floor level has a sloping cill and splayed internal jambs of brickwork supporting a timber lintel. The fact that the jambs are splayed suggests that the window predates the mid-18th century, but there is no way of knowing whether it was intruded at the same date as the other Phase 4 alterations.

Floors

A new floor was now inserted into the upper room. Located approximately 300 mm below wall-plate level, the floor is framed in four bays and is carried by heavy crossbeams built into the walls and sited in line with the Phase 3

roof trusses. The crossbeams vary in scantling, that at D-D (against the south wall) being 290 mm x 270 mm; that at E-E is 290 mm x 280 mm; that at F-F is 350 mm x 300 mm; and the crossbeam at G-G measures 310 mm x 340 mm. The lower leading edges are chamfered and incorporate a mixture of run-out, cyma, and stepped-and-hollowed stops. Only the two northern bays retain their joists, which are aligned along the axis of the building and vary in section from 110-120 mm wide by 140-160 mm deep. Most are neat, but some incorporate waney and lost edges. Those to the northern bay are merely built into the northern wall, but are fully jointed into crossbeam G-G at their southern end. Those to bay F-G are jointed into the crossbeams at both ends, whilst the southern face of crossbeam F-F incorporates empty joist mortices confirming that the floor formerly extended southwards. These missing joists must have been merely lodged over crossbeam E-E, for not only is the beam devoid of mortices, but it is also set at a slightly lower level. Given that a crossbeam was fitted beneath truss D-D (against the south wall, crossing the first-floor window awkwardly) it is assumed that the southern bay was likewise intended to be floored, but if so, all joists within this bay were lodged into position. Perhaps the floor here was framed loose for a purpose, or perhaps this bay was intended for loose storage of long items by resting them over the crossbeams.

Stairs

There are no indications as to how the loft was intended to be reached from the floor below.

Chimneys

There were no chimneys at this period.

Roof

In order to make the roof void usable, the crown-post roof was drastically modified by converting it to 'dropped-tie' type. As Fig. 8 illustrates, this was achieved by removing the crown-posts to trusses E-E and F-F, cutting the central sections out of the tie beams, and trimming the retained ends into sturdy queen-posts rising from the new crossbeams to heavy scantling (210 mm x 180 mm) collars inserted into the roof a little below common collar level. These collars in turn carried new stubby crown-posts in order to support the Phase 3 collar purlin, and were notched at the ends so as to support new clasped side purlins inserted under the Phase 3 common rafters. The two queen-posts in truss F-F are the Phase 3 crown-posts reused. They have had chamfers added to their internal leading edges.

Because it was located against the south gable, and was thus not in the way, the southern truss (D-D) was not modified. Similarly, because the hipped northern end of the roof restricted the usefulness of the northern bay, the northernmost crown-post truss (G-G) was likewise left unmodified. A heavy plate has been inserted across the western end of the tie beams to trusses F-F and G-G in order to help support the feet of the common rafters on this side, apparently addressing a structural failure.

THE FINDS

THE POTTERY by Luke Barber

Methodology

The evaluation and subsequent excavation at the site produced 725 sherds weighing just over 18.5 kg from 44 individually numbered contexts. The pottery spans the 13th to 19th centuries, though by far the majority can be placed between the mid/late 16th and 17th centuries.

The condition of the assemblage is generally good, particularly for the early post-medieval period, where sherd sizes are often large with little/no signs of abrasion. The medieval and later post-medieval material is more commonly, but not exclusively, represented by smaller sherds either residual or intrusive into early post-medieval contexts. The largest single assemblage from the site comes from the garden soil which produced 143 sherds (1930 g) and 178 sherds (3650 g) from the evaluation (Context 303) and excavation (Context 4) respectively. With one notable exception the assemblages from cut features are always small. A number of these 'sealed' groups contain small amounts of intrusive or residual material though these sherds have been easy to isolate.

The main aims of the pottery analysis were to characterize the assemblage; help date the excavated features and, as this is the first reasonable assemblage to be analyzed from the town, begin to create a fabric series.

Initially, the pottery was used, in conjunction with the clay pipes, to establish a spot-dating list for all contexts. All pottery was quantified by sherd count/weight by context. The pottery from the larger sealed assemblages was subsequently divided into fabric groups based on a visual examination, using a hand-lens were necessary, of tempering, inclusions and manufacturing technique. This was only undertaken on the post-medieval assemblage. The medieval assemblage from the current site is too small to be reliably used for the establishment of dated fabric types in Shoreham, particularly in the light of the large medieval assemblage excavated at the Ropetackle site (Stevens pers comm.). All the fabric groups were given a short title and code (see below) to enable ease of recording on proformae. Each fabric was subsequently quantified by sherd count and weight for each context. This information, along with the spot dates and general quantification for all contexts, is housed with the archive.

Medieval

The small assemblages of medieval pot from the site consist of 14 sherds from the evaluation (seven of which were residual) and 91 sherds

from the subsequent excavation. Of the latter assemblage most come from a single large cooking-pot/storage jar in Context 81 (47 sherds weighing just over 2.7kg — see below). The next largest group of medieval pottery consists of a mere six sherds from Context 85 (which includes sherds from the base of the storage jar in 81).

The earliest medieval material consists of a single rim fragment from a cooking-pot in a sand-tempered fabric containing sparse fine flint and chalk to 1 mm (Context 79). A later 12th- to 13th-century date is likely. The majority of the medieval material consists of fine and medium sand-tempered fabrics, frequently well-fired. These are more likely to be of the mid/late 13th to 14th centuries. Cooking-pots, storage jars and jugs are all present. Surprisingly, no imported material was recognized in the medieval assemblage, however, this is likely to be the result of the small size of the assemblage. A small scatter of material of probable late 14th- to 15th-century date is also present, usually represented by plainer vessels with flaring rims and finer, harder-fired fabrics. Within this group are the white painted wares (Fabric code FSE/B+W) of the 15th to early 16th centuries.

No medieval groups were large enough for meaningful quantification by fabrics and only a few vessels were considered worthy of illustration. These include the following (see Fig. 19):

- 1) Cooking-pot/storage jar with oblique applied thumb-strips and squared, slightly down-turned rim. A well-fired medium-sand-tempered fabric with very rare inclusions of white flint to 2 mm. Mid-grey core and interior surfaces. Dark grey exterior surfaces. Probably 14th century. Context 72.
- 2) Skillet with simple out-turned rim with slight traces of the scar for the handle (not visible on illustration). A well-fired medium-sand-tempered fabric with very rare white flint inclusions to 1 mm. The exterior surface has spots of green glaze and is quite heavily sooted. Grey core and dull orange brown surfaces. 14th to 15th century. Context 72.
- 3) Nearly complete storage jar/cooking-pot with large flaring rim and horizontal (x1 around shoulder) and vertical (x7 slightly irregularly spaced) thumb-applied strips. A well-fired fine- to medium-sand-tempered fabric with very rare rounded quartz to 2 mm. A dull brown orange throughout. Spots of clear glaze on the exterior surface and knife trimming evident on the lower third of the body. Interior had a thin yellow green glaze on the base and partly up the interior wall. Sooting covering the lower two-thirds of the pot's exterior surface demonstrate its use for cooking. Probably later 14th to 15th century. Context 81. (NB. Sherds from the base of this vessel were also recovered from Context 85).
- 4) Bowl with wide flaring rim. A medium-fired fine- to medium-sand-tempered fabric with knife trimming on the exterior surface toward the base. Dull green glaze on interior base. Grey core and buff surfaces. Later 14th to 15th century. Context 210 (TP 2, evaluation).

Early post-medieval

The assemblage from this period dominates the pottery from the site, both from the cut features and the overlying garden soil. As a result, all the material of this period, whether from sealed cuts or the garden soil, was scanned in order to note the full range of fabrics present. This is given below and uses common names for wares where applicable, including a reference for fuller publications.

- 1) Fine Sandy Earthenware: oxidized (FSE /O1)
- 2) Fine Sandy Earthenware: oxidized and hard-fired (FSE /O2)
- 3) Fine Sandy Earthenware: reduced (FSE /R1)
- 4) Post-medieval Redware with thin green/brown glaze (PMR/GBG 1)
- 5) Post-medieval Redware with green/brown glaze (PMR/GBG 2)
- 6) Post-medieval Redware with green glaze (PMR/GG 1)
- 7) Post-medieval Redware with patchy thin clear/red glaze (PMR/RG 1)
- 8) Post-medieval Redware with even clear/red glaze (PMR/RG 2)
- 9) Post-medieval Redware with thick and even clear/red glaze (PMR/RG 3). A distinctly sandy earthenware of Dutch-type. Only two sherds of this fabric were noted. A handled cauldron from the garden soil (Context 4) and a typical Dutch folded handle from a skillet from Context 31. Both are closely paralleled in Norwich (Jennings 1981, nos 957 & 988 respectively). Import.
- 10) Post-medieval Redware with dark brown/black/metallic glaze (PMR/BIG 1).
- 11) Post-medieval Redware with dark brown/black/metallic glaze (PMR/BIG 2).
- 12) Post-medieval Redware with black glaze (PMR/BIG 3)
- 13) Post-medieval Redware with all-over brown glaze (PMR/BG 1).
- 14) Post-medieval Redware with yellow/tan glaze (PMR/YG 1).
- 15) Post-medieval Whiteware with all-over brown glaze (PMW/BG 1). Probably Borderware (Pearce 1992).
- 16) Post-medieval Whiteware with iron oxide inclusions and thick brown glaze (PMW/BG 2). An off-white fine fabric with moderate black iron-oxide inclusions to 1 mm. West Country type?. An identical fabric has been located in Lewes at the hospital of St Nicholas (Barber forthcoming).
- 17) Post-medieval Whiteware with streaked fabric and very dark brown glaze (PMW/BG 3). Fabric similar to that from Staffordshire combed slipware.
- 18) Post-medieval Whiteware with sandy fabric and even clear/yellow glaze (PMW/YG 1) Surrey/Borderware? (Pearce 1992).
- 19) Post-medieval Whiteware with fine fabric and patchy thin/thick clear/yellow glaze (PMW/YG 2). Borderware (Pearce 1992).
- 20) Post-medieval Whiteware with fine sandy fabric and even clear/yellow glaze (PMW/YG 3)
Not Borderware. Possibly a local copy – Graffham?
- 21) Post-medieval Whiteware with iron oxide inclusions and yellow/green streaked glaze (PMW/YG 4). As No. 16 but with fewer iron oxides in fabric and an iron-spotted yellow/green glaze. German/Hafner type? (Hurst *et al.* 1986).
- 22) Post-medieval Whiteware with fine fabric and good light to dark green glaze (PMW/GG 1). Borderware. (Pearce 1992).
- 23) Post-medieval Whiteware with fine fabric and patchy thin/thick green glaze (PMW/GG 2). Tudor Green. (Pearce 1992).
- 24) Green Glazed Coarseware. Only one sherd of this distinctive coarse sandy buff fabric was located: Context 4 (garden soil). Probably a Spanish product (Hurst *et al.* 1986). There appears to be a white external slip on the outer surface and an even green glaze inside and out.
- 25) Langewerhe Stoneware (Gaimster 1997).
- 26) Raeren Stoneware (Gaimster 1997).
- 27) Cologne/Frechen Stoneware (Gaimster 1997).
- 28) Tin-glazed Ware with lead glaze on exterior of vessel (TGW 1).
- 29) Tin-glazed Ware with painted decoration (TGW 2). Decorated with crude painted lines in blue, yellow, purple and ochre.
- 30) Tin-glazed Ware – plain white (TGW 3).
- 31) Tin-glazed Ware – lustre (TGW lust). Spanish lustware of 16th-century date (Hurst *et al.* 1986). Only one sherd was found from the site in an overburden layer (Context 2). Late 15th to 16th century. Import.

Later post-medieval (post 1800)

Although the site produced very few sherds post-dating the 17th century, the fabric series was continued for the sake of completeness. It should also be noted that some of the earlier wares, for example TGW 2 and 3, continued into this period. The majority of the late post-medieval wares were recovered from small-scale intrusion into the garden soil (Context 4) and a few earlier features.

- 32) Post-medieval Redware with thick even clear/red glaze (PMR/RG 4)
- 33) London Stoneware
- 34) 'English' Stoneware
- 35) Staffordshire white salt-glazed stoneware
- 36) Staffordshire white salt-glazed stoneware with iron-dipped top
- 37) Staffordshire slipware
- 38) Late slipware (PMR/slip)
- 39) Creamware
- 40) Plain China
- 41) Transfer-printed ware (blue)
- 42) Plain earthenware (flower pot)

The pottery groups

The site only produced three sizeable pottery groups, two from cut features and one from the overlying garden soil.

Pit 23: Fills 24, 96, 97, 98

Although this pit contained four fills producing pottery, the quantities are too small to treat each fill separately (24: 13 sherds; 96: 1 sherd; 97: 10 sherds and 98: 1 sherd). As such, the pottery from this group has been combined to create a total of 25 sherds. Although still too small to be statistically useful, this group is the only one from the site that can confidently be dated to the later 16th century.

Table 1. Quantification of pottery from Pit 23 (all fills combined).

Fabric	No. of sherds	% by number	Weight (grams)	% by weight
Medieval	2	8	9	0.6
FSE/O1	4	16	250	17.1
FSE/R1	1	4	2	0.1
FSE/O2	2	8	342	23.4
PMR/GBG 2	2	8	16	1.1
PMR/GG 1	2	8	205	14
Cologne/Frechen	12	48	638	43.6
Totals	25	100	1462	99.9

The small size of the assemblage means the percentages of fabrics by sherd count and weight can vary wildly by the presence of one or two large sherds, however, it is interesting to note the dominance of the FSE fabrics over the PMR fabrics. The group's best dating evidence comes from the dominance of the FSE sherds, the total absence of clay pipes and the presence of the face-mask from a Cologne/Frechen Bellarmine with 'naturalistic' face (Fill 97). This type of mask is typical of the later 16th century (Gaimster 1997, nos 58, 59 and 64). Only one sherd from this group has been illustrated (Fig. 19):

- 5) Deep bowl with slightly hooked rim. PMR/GG 1. Even dull green interior glaze going light green/brown toward rim. Fill 24.

Pit 50: Fills 32, 44, 51/309, 52/311, 58, 66, 306, 307

This pit was initially investigated during the evaluation in Test-Pit 3 when it produced a moderately large assemblage of pottery (Context Nos 306: x16, 307: x14, 309: x3, 310: x1, 311: x89). The subsequent full excavation yielded only a few more sherds (Context Nos 32: x6, 52: x35, 66: x10). Dating of this feature has relied heavily on the clay pipes which suggest a deposition date in the first half of the 17th century, probably between 1610 and 1620/30. However, a few later pipe fragments, dating from the second half of the 17th century suggest

a little intrusive material, perhaps being introduced by animal burrowing from the garden soil above. Although this slight intrusive element is also apparent with at least one sherd of pottery, it is considered highly probable that the vast majority of the assemblage falls between 1610 and 1620/30. The presence of conjoining sherds between a number of the fills suggests either that the pit was backfilled rapidly, or that some mixing has occurred by animal activity. Only the largest group, from Fill 52/311, is considered here.

Table 2. Quantification of pottery from Pit 50 (Fills 52/311).

Fabric	No. of sherds	% by number	Weight (grams)	% by weight
Medieval	2	1.6	32	0.9
FSE/O1	1	0.9	18	0.5
FSE/R1	4	3.2	78	2.3
PMR/GBG 1	2	1.6	116	3.4
PMR/GBG 2	64	51.6	1280	37.8
PMR/GG 1	2	1.6	508	15
PMR/RG 2	1	0.9	50	1.5
PMR/BIG 1	2	1.6	54	1.6
PMR/BIG 3	1	0.9	14	0.4
PMR/YG 1	7	5.6	66	1.9
PMW/BG 1	1	0.9	1	0.02
PMW/YG 1	9	7.3	779	23
Cologne/Frechen	22	17.7	264	7.8
TGW 1	4	3.2	112	3.3
TGW 2	1	0.9	2	0.1
London stoneware	1	0.9	12	0.4
Totals	124	100.4	3386	99.92

This group has small quantities of residual medieval material and at least one intrusive late 17th- to early 18th- century London stoneware sherd. There is a marked difference between the percentages of different fabrics depending on whether sherd count or weight is used as a medium for quantification. This is due to a number of sherds being present from large vessels. For example, the dripping dish in PMR/GG 1 (see below) consists of only two sherds though by the very nature of the vessel, both are large and robust. Similarly, the PMW/YG 1 sherds are large and all from a single ?bottle. The presence of these anomalies has thrown some of the other categories. Whatever, the case, it can be seen that post-medieval Redwares (PMR), particularly PMR/GBG 2, dominate the assemblage, together with Cologne/Frechen

stonewares. A number of sherds have been illustrated (Fig. 19):

- 6) Bowl with slightly hooked rim. PMR/GBG 1. Thin patchy green/brown internal glaze on interior base with spots on interior of rim. Exterior unglazed. Possibly an old vessel made in the later 16th century.
- 7) Small bowl with hooked rim. PMR/GBG 2. Internal green/brown glaze with splashes on exterior surfaces.
- 8) Jar. PMR/GBG 2. Interior dull brown green glaze with splashes on exterior of rim.
- 9) Small jar. PMR/GBG 2. Interior dull green brown glaze with exterior splashes around rim.
- 10) Jar with thickened rim. PMR/GBG 2. Interior dull green glaze. Exterior reduced dark grey (over orange earthenware fabric).
- 11) Handled mug. PMR/GBG 2. Allover dull green glaze with red patches.
- 12) Base of candlestick with horizontal incised line decoration/grip. PMR/GBG 2. Spots of dull brown/green glaze on exterior. The remains of an apparently triangular cut-away are present close to the base. Similar forms are known of from a 17th-century kiln at Cove (Haslam 1975, nos 114–115) though without the cut-away.
- 13) Rectangular/oval dripping dish. PMR/GG 1. Internal dull green glaze with spots on exterior of base.
- 14) Bowl. PMR/BIG 1. Interior glazed very dark brown with unglazed exterior reduced mid/dark grey.
- 15) Bowl with thickened rim. PMR/BIG 1. Glaze etc. as No. 14.
- 16) Handled bowl with slightly corrugated body. PMR/YG 1. Interior brown yellow even glaze with splashes and thin glaze on exterior rim and upper body. Two horizontal handles.
- 17) Bottle-shaped Costrel. PMW/YG 1. Even clear external glaze over upper part of body glazing to yellow. Other sherds of this vessel were found in other fills of the pit as well as the overlying garden soil. Similar forms are known of from Norwich (Jennings 1981, no. 1329) though the current example is probably from the Borderware industry where it also has close form parallels (Pearce 1992, fig. 38)
- 18) Facemask from a Bellarmine bottle. Frechen stoneware.
- 19) Shallow bowl with a diameter of c. 300 mm. TGW 1. Decorated with repeating ochre and blue 'foliage' design under blue arcading, the whole contained within blue and yellow banding.

Table 3. Vessel forms recognized in Pit 50 (All fills) by fabric.

Vessel form	Fabrics/Minimum vessel numbers
Storage jars/jars	PMR/GBG 2 – x6; PMR/RG 2 – x1;
Handled jar/chamber pot	PMR/GBG 2 – x3;
Dripping Pan	PMR/GBG 2 – x1; PMR/GG 1 – x1;
Tripod Pipkin	PMR/GBG 2 – x1;
Lid	FSE/O 1 – x1
Bowl	FSE/R 1 – x1; PMR/GBG 1 – x2; PMR/GBG 2 – x3; PMR/BIG 1 – x2; TGW 2 – x1
Handled Bowl	PMR/YG 1 – x2; PMW/YG 2 – x1
Plate/charger	TGW 1 – x1;
Costrel	PMW/YG 1 – x1
Mug	PMR/GBG 2 – x1; PMR/BIG 3 – x1;
Bellarmine/Bottle	Colonge/Frechen – x5

Tavern pot	Colonge/Frechen – x1
Tankard	London stoneware – x1
Other	PMR/GBG 2 – x1 candlestick; TGW 2 – x1 'closed form'

Table 3 shows the range of vessel types represented in Pit 50 and the estimated minimum number of each type by fabric. At least 39 different vessels are represented, although often only by a few sherds. The forms consist of a range mainly of kitchen wares, though drinking vessels are well-represented and a little 'fine' tableware is present. All in all, the assemblage from the pit appears to be a typical domestic one.

The Garden Soil (Contexts 303 and 4)

Although the garden soil at the site cannot be considered a stratified deposit, it contains a number of fabrics not recorded within the cut features. This, together with the fact the assemblage is generally representative of activity on the site, means some basic data are worth presenting here.

Table 4 shows the dominance of 16th- to 17th-century wares (most are late 16th to 17th century) at the site and the relatively low quantity of earlier material. This pattern is reflected in the assemblages from the cut features sealed below the garden soil. The low quantities of 18th- and 19th-century material strongly suggests that most of the excavated area was not open for the disposal of refuse at this time. The small quantity present could easily have derived from localized areas of disturbance from within a building.

Table 4. Quantification of pottery from the garden soil (303 and 4 combined).

Fabric	No. of sherds	% by number	Weight (grams)	% by weight
Medieval (C13/14th)	43	13.5	412	7.5
Total C13th–14th		13.5		7.5
Medieval (C15th)	13	4.1	192	3.5
Total C15th		4.1		3.5
C16th–C17th				
FSE/O1	4	1.3	92	1.7
FSE/O2	3	1.3	36	0.7
FSE/R1	25	7.9	362	6.6
PMR/GBG 1	7	2.2	166	3.0
PMR/GBG 2	55	17.3	1004	18.2
PMR/GG 1	45	14.2	914	16.6
PMR/RG 1	7	2.2	114	2.1
PMR/RG 2	3	1.3	60	1.1
PMR/RG 3	1	0.3	6	0.1
PMR/BIG 1	10	3.1	142	2.6

PMR/BG 1	7	2.2	32	0.6
PMR/YG 1	2	0.6	12	0.2
PMW/BG 2	1	0.3	12	0.2
PMW/BG 3	1	0.3	6	0.1
PMW/YG 1	1	0.3	6	0.1
PMW/YG 4	1	0.3	12	0.2
PMW/GG 1	5	1.6	40	0.7
PMW/GG 2	2	0.6	14	0.3
Spanish Coarse	1	0.3	20	0.4
Langewerhe	1	0.3	30	0.5
Raeren	1	0.3	16	0.3
Cologne/Frechen	42	13.2	1044	18.9
TGW 2	2	0.6	4	0.1
TGW 3	5	1.6	42	0.8
Total C16th–17th		73.6		76.1
C18th-C19th				
PMR/RG 4	7	2.2	618	11.2
London stoneware	3	1.3	28	0.5
'English' stoneware	2	0.6	12	0.2
Staff. white salt-glaze	1	0.3	2g	0.03
Staff. White salt-glaze: iron dipped	1	0.3	6	0.1
Staff. slip.	2	0.6	8	0.1
PMR/slip	1	0.3	6	0.1
Creamware	4	1.3	12	0.2
Plain china	2	0.6	6	0.1
TPW (blue)	6	1.9	18	0.3

Flower pot	1	0.3	4	0.1
Total C18th–19th		9.7		12.93
Grand Totals	318	100.9	5510	100.03

Conclusions

The site has yielded a small but important group of pottery for the town. Although little can be said regarding the medieval material, most is of the 13th, or more probably, 14th centuries. The bulk of the assemblage is of the later 16th and earlier 17th centuries. This early post-medieval group suggests the disposal of domestic refuse primarily from a 'kitchen' area. The material is dominated by local products, but regional wares are also quite common. Although the presence of large quantities of imported German stoneware in the assemblage is not surprising for deposits of this date, the presence of the possible German whitewares (Hafner), Spanish lustreware and green-glazed coarseware suggests other wares were reaching the household through the port. Further assemblages from the town will hopefully extend the fabric sequence into the medieval and later post-medieval periods.

THE GLASS By Rachel Tyson

Medieval glass

A small window fragment with two grozed edges at right angles dates to the medieval period, certainly no later than the 16th century when the grozing iron was replaced by the diamond cutter (ctx 4). Four heavily weathered vessel body fragments cannot be attributed to any particular form, but the degree of weathering suggests that they are consistent with their 13th- to 14th-century context date (ctx 81). Glass was a valuable possession at this date, and all the sites where 13th- and 14th-century glass has been recovered so far have been interpreted as wealthy or high-status.

Post-medieval glass

The glass assemblage is dominated by drinking vessels dating to the second half of the 16th and first half of the 17th century. A green-tinted pedestal goblet is one of the earlier types, dating to the second half of the 16th century. A number of the beaker types can be attributed to the first half of the 17th century, particularly those with plain cylindrical bases which may even be mid-17th century in date. The remaining types can only be dated more generally within the period 1550–1650.

Later glass comprises a few wine bottle fragments, a lead wine glass stem and an apothecary's phial all dating to the later 17th or 18th century, a soft drinks bottle of the late 19th/early 20th century, and small window fragments dating throughout the post-Medieval and Modern periods.

Function

The assemblage is typical of a domestic urban site, with a predominance of drinking vessels. Of the 1550–1650 glass only one goblet can be identified, while a minimum number of 15 beakers were counted, reflecting a preference for ale or beer over wine. A number of different beaker types can be identified including undecorated styles, and those with optic-blown wrythen ribs, mesh patterning and bosses. The majority have pedestal bases, others have an applied rigaree-patterned base ring, while some have a plain cylindrical base. This mixture of types suggests vessels that were acquired in small quantities at different times and therefore a domestic nature, contrasting with assemblages where larger 'sets' of similar beakers are found which may indicate an inn (Willmott 2002, 23–4). The only other vessel type of this date is a probable bottle, while the small window fragments indicate that the property was glazed although there is no evidence for the type of glazing scheme.

Source

Most of the post-Medieval glass is English green-tinted potash glass, and up to c. 1615 is likely to come from the nearby Wealden glass industry. Examples of the beaker and goblet types found here have been identified during fieldwork on these industrial sites (Kenyon 1967). After wood was banned as a fuel in 1613, potash glass furnaces were established in other parts of the country (Willmott 2002, 12). A few fragments of higher-quality *façon de Venise* glass were recovered, which is colourless or has a grey tint. This was made to emulate Venetian glass, produced at urban glasshouses in Europe including London and the southern Netherlands whence glass was certainly exported into England.

One *façon de Venise* fragment is particularly interesting as the only example of its type in England: a beaker with very indistinct 'thin-cut trailing' (see Willmott 2002, 40–41 for a description of this production technique) with enamel dots in the centre of each of the prominent bulges of the trail (ctx 32). A few examples using the same technique but with 'thick-cut trailing' decorated with blue and white enamel dots between the trails are known, predominantly in the southern Netherlands suggesting a production centre there (e.g. Henkes 1994, 134), with the only examples in England from Norwich (Willmott 2002, 40–41). However, no 'thin-cut' examples have yet been found with enamelling.

Other colourless *façon de Venise* beaker fragments came from contexts 32, 52, 66 and 311 (all the fill of pit 50), including a body fragment with three horizontal adjacent opaque white trails, and two bases with rigaree-patterned base rings. It is not possible to determine whether these vessels were manufactured in London, or other *façon de Venise* centres.

Status

In the mid-16th century the ownership of glass tablewares was still restricted to the wealthier sections of society, but by the second quarter of the 17th century, there is evidence that they were more affordable by the middle classes (Willmott 2002, 22). While this assemblage is dominated by standard English forest glass beakers, the few fragments of *façon de Venise* glass, one of which probably comes from the southern Netherlands, indicates that the owners could afford more than the cheapest glass tablewares available.

Table 1. Complete catalogue of glass by context.

Context	Context date and	No. of	Glass description	Glass date
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no.	description	fragments		
2	Fills of modern intrusions. Mixed, mainly c. 1550–1675/1700	2	1 complete base and 1 fragment of green-tinted pedestal beaker bases. Complete base has trace of optic-blown decoration on rest of beaker. BD c. 53 mm.	c. 1550–1650
2	"	8	Thin green-tinted body fragments probably from beaker. No visible decoration.	?c. 1550–1650
2	"	1	Base fragment from kick of olive green wine bottle.	Second half 17th–possibly E.18th C
4	Garden soil c. 1550–1675	1	Pale greenish window glass with surface weathering with 2 grozed edges at right angles.	Medieval–mid-16th C
4	"	2	Rim and body fragment of green-tinted beaker with close optic-blown wrythen ribs. Convex body and inturned rim. RD c. 85 mm.	c. 1550–1650
4	"	5	2 rim and 3 body fragments (not necessarily same vessel) of green-tinted beaker with optic-blown mesh patterning. Slightly everted profile. RD c. 70–75 mm.	c. 1550–1650
4	"	2	1 complete base and 1 fragment of green-tinted pedestal beaker bases with folded rim edge. BD c. 73 mm. High domed kick. No visible decoration.	c. 1550–1650
4	"	1	Misc. green-tinted body fragment probably from similar beaker	c. 1550–1650
4	"	1	Misc. green-tinted fragment from kick of base of similar beaker.	c. 1550–1650
4	"	2	2 rim fragments of green-tinted optic-blown wrythen ribbed beaker.	early–mid-17th C
4	"	1	Kicked base fragment with no base ring and optic-blown mesh patterning. Green-tinted glass.	early–mid-17th C
4	"	1	Fragment from base of large vessel with shallow kick, such as case bottle, pale green glass.	L16th–17th C
4	"	1	Olive green body fragment probably from neck/shoulder of an early wine bottle.	2nd half 17th–early 18th C
4	"	1	Pale green body fragment from bottle or other large vessel.	17th century or later
4	"	1	Solid colourless lead glass wine glass	1740 or later

			stem, ht. 45 mm. Widens slightly at base, survives to inside centre of bowl.	
4	"	10	Window glass, various shades from greenish to colourless, 2 with bevelled edges.	?L16th–20th C
4	"	1	Pale greenish thick soft drinks bottle.	Later 19th–E20th C
24	Fill of pit 23, 1550–1600	1	Rim fragment of green-tinted beaker with optic-blown wrythen ribs, concave profile just below rim. RD c. 70 mm.	c. 1550–1650
Context no.	Context date and description	No. of fragments	Glass description	Glass date
24	"	3	Fragments of 3 pedestal beaker bases with folded base rims. 1 with complete circumference, BD 58 mm. No visible patterning. green-tinted.	c. 1550–1650
24	"	2	1 rim and 1 complete base of green-tinted beaker, undecorated. Kicked base, profile concave just above base, and convex just below rim. Prob. same vessel. RD c. 65 mm. BD 59–60 mm.	First half, even mid-17th C
24	"	1	Pale green window fragment, dims c. 35 x 80 mm.	Second half 16th C or later
26	Fill of pit 25, 1275–1375 (2 residual sherds)	6	Base/stem/lower bowl of pedestal goblet of green-tinted glass, with 5 thin undecorated bowl fragments. Folded base, folded to centre of stem. Everted lower bowl. BD c. 51-52 mm.	Mid-late 16th C
26	"	1	Green-tinted fragment probably from pedestal base of drinking vessel	c. 1550–1650
30	Mixed spreads sealed below chalk floor, relationships severed by modern intrusions. 1750–1825.	1	Pale green body and base of cylindrical apothecary's phial. Diameter c. 22–23 mm. Extant ht 107 mm.	Second half 17th C–18th C
32	Fill of pit 50. 1600–1650.	1	*Body fragment of colourless weathered cylindrical beaker with thin-cut trailing, rather indistinctly defined. Trace of enamel dots on the prominent part of each 'bulge', original colour now unclear.	Late 16th–E17th C
32	"	1	Colourless/grey-tinted centre of kicked base of beaker, with optic-blown decoration and neat pontil mark.	c. 1550–1650
32	"	1	Pedestal beaker base of green-tinted glass with folded base rim. Small irregular dots on surface probably manufacture	c. 1550–1650

			marks. Trace of optic-blown decoration. BD 64 mm.	
32	"	1	Green-tinted small window fragment	Later 16thC or later
52, sample <2>	Fill of pit 50, 1600–1650	2	Adjoining fragments of colourless/grey-tinted cylindrical beaker base with rigareed base ring. Rosette pattern on base, from mould for creating optic-blown vertical or wrythen ribs or mesh pattern.	Late 16th–early 17thC
52, sample				
<8>	Fill of pit 50, 1600–1650	1	Rim fragment of green-tinted beaker with optic-blown mesh patterning, RD c. 90 mm.	c. 1550–1650
52 <8>	"	1	Base fragment of cylindrical beaker of green-tinted glass with crude rigaree base ring, and dots impressed into the underside of the base. BD c. 70 mm.	Late 16th-early 17th C
52 <8>	"	10	1 rim and 9 small body fragments of green-tinted glass	Misc.
58 <1>	Fill of pit 50, 1600–1650	2	Green-tinted beaker rim fragments with trace of optic-blown mesh patterning	c. 1550–1650
Context no.	Context date and description	No. of fragments	Glass description	Glass date
58 <1>	"	2	Body fragments of green-tinted beaker, 1 with trace of mesh patterning	c. 1550–1650
58 <1>	"	1	Green-tinted window fragment	Second half 16th C or later
66 <9>	Fill of pit 50, 1600–1650.	1	Green-tinted body fragment with optic-blown 'tear-drops' or bosses. Turns inwards towards base, no ring visible. Poss. squat beaker.	First half 17th C
66<9>	"	2	Colourless body fragments	Misc.
81 <11>	Fill of sunken vaulted shaft 22 in N wall foundation, 13th–14th century.	4	Pale green body fragments from cylindrical vessel such as beaker or bottle. Heavily weathered.	?13th–16th C
97	Fill of pit 23, 1550–1600.	6	3 green-tinted pedestal beaker bases; at least 2 have a trace of optic-blown patterning. BDs 54, 58–60, 60 mm. Also 3 thin body fragments.	c. 1550–1650
311	Fill of pit 50, 1600–1650.	1	Heavily grey-tinted/colourless beaker base with very shallow kick and very crudely applied base ring continuing on	Late 16th–early 17th C

			underside of base, with crude rigaree pattern. BD.	
311	"	1	Body fragment of colourless, grey-tinted glass, with horizontal band of 3 adjacent opaque white trails of slightly irregular thicknesses. Width of band c. 6 mm.	c. 1550–1650
311	"	2	Base fragments of green-tinted beaker, kicked and no base ring, with optic-blown patterning visible on base.	First half 17th C
311	"	1	Beaker rim fragment of green-tinted glass with trace of optic-blown patterning, probably mesh pattern. RD ? c. 80 mm. Probably same vessel as above.	c. 1550–1650
311	"	6	Green-tinted body fragments	Misc

BUILDING MATERIAL By Luke Barber

West Country Slate

Two variants were noted: Type 'a' is finer with a smooth shiny surface while Type 'b' is slightly coarser with a matt surface. Type 'a' is the more 'typical' slate seen from medieval deposits and it first appears at Marlipins in contexts of the 14th to 15th centuries. The degree to which it is residual in the 16th- to 17th-century deposits is uncertain. However, the first appearance of Type 'b' in these deposits suggests this type may have been used later than Type 'a'. All the slate is from roofing though it is never present in large quantities at the site. The presence of West Country slate, particularly in a coastal position, is not unexpected (Holden 1989) and the presence of an unfinished slate from Context 18 (dated 14th-15th century) suggests some finishing may have been occurring on site.

Horsham Stone

Five variants of Horsham stone were noted in the assemblage but all could have occurred in the same general vicinity. All pieces appear to be from roofing slates which vary in thickness from 7 mm to 30 mm, though the thinner material is almost certainly due to post-usage splitting (most slates appeared to range between 14 and 24 mm thick). The stone first appears in 14th- to 15th-century contexts. Although more numerous by number in 16th- to 17th-century contexts, the pieces tend to be smaller suggesting a higher degree of breakage and residuality. Although stone roofing slates were obviously still in use, it is likely most originated from the late medieval period. It is probable the stone was transported down the Adur from the Weald.

Table 1. Characterization of the excavated geological material assemblage.

Stone type	C13th (2 contexts)	C14th–C15th (8 contexts)	Later C16th– C17th (13 contexts)	Undated or Mixed (7 contexts)	Totals (30 contexts)
West Country Slate (a)	-	6/954 g	20/1096 g	2/22 g	28/2072 g
West Country Slate (b)	-	-	10/940 g	-	10/940 g
Horsham Stone (5 variants combined)	-	21/8697 g	41/5532 g	18/1176 g	80/15,405 g
Caen (a)	-	51/16,082 g	4/600 g	2/8034 g	57/24,716 g
Caen (b)	-	4/1602 g	-	-	4/1602 g
Caen (c)	1/410 g	3/33,194 g	1/1130 g	-	5/34,734 g
Wealden Clay Ironstone	2/14 g	5/166 g	4/140 g	11/196 g	22/516 g

Coal	-	4/12 g	3/80 g	21/196 g	28/288 g
Basalt?	-	-	1/188g	1/34g	2/222g
Hard Chalk	1/762 g	1/56 g	3/610 g	1/14 g	6/1442 g
Quartz Pebbly Sandstone	-	-	1/410g	-	1/410g
Purbeck Limestone (2 variants)	-	1/4000 g	5/656 g	-	6/4656 g
White Tertiary Sandstone	-	1/82g	-	-	1/82g
Lower Greensand (Hythe Formation) (3 variants)	1/828 g	-	1/2,110g	2/654g	4/3,592g
Totals	5/2014 g	97/64,845 g	94/13,492 g	58/10,326 g	254/90,677 g

Caen stone

Three variants of this stone were present:

- (a) could be considered typical Caen stone, if a little white;
- (b) had a pinkish tinge suggesting some pieces may have been burnt, though no zonation was noted in the colouration, and
- (c) a slightly harder, more crystalline type.

This latter type first appears in a 13th-century context though the context was only dated by one sherd of pottery and must be treated with caution. Certainly Caen stone is well represented in 14th- to 15th-century contexts where it is virtually exclusively used, where discernible, for ashlar blocks and moulded architectural fragments. By far the majority comes from Context 22. This contained 30 pieces (6032 g) from square or rectangular ashlar blocks in the 'a' variant as well as 19 pieces (9750 g) of moulded pieces, again in the 'a' variant. Most of the moulded pieces were too small to be diagnostic of form or close date. However, most of the pieces, which exhibit a number of rolls, some with keels, chamfers and hollows, appear to be from jambs, window voussoirs, and string courses. In addition to these a single fragment in variant 'c' (694 g) is probably from a rebate for a shutter fitted to a window with a slightly splayed internal jamb (D. Martin pers. comm.). Although most pieces could span a later 12th- to 14th-century date those with more diagnostic features appear to be late 13th to early 14th century in date. At least one piece, part of a half roll, appears to have been re-tooled for re-use. Context 22 also contained, together with a piece of West Country slate (type 'a') and 14 pieces of Horsham stone slate (5485 g), part of a plain Caen mortar (variant 'b') with obvious signs of burning. Four fragments of another plain mortar (496 g and 104 g) were located in post-medieval contexts 209 and 307 respectively during the evaluation. Context 18 produced two large shaped blocks, but in variant 'c'. The first (19.5 kg) was from a plain voussoir, probably from a relieving arch, while the other (13 kg) may be from a window edge. Caen stone in post-medieval contexts is always present in small pieces and can be assumed to be re-used and/or residual.

Purbeck 'broken shell' limestone

Relatively little of this stone was found. The earliest consists of the base of a simple medieval mortar (external base diameter 240 mm) with the remains of one lug still surviving which was recovered from Context 18. All other pieces were irregular but were probably residual in post-medieval contexts.

Coal

Small quantities of coal were recovered from 14th- to 15th-century contexts as well as later ones. Although this would suggest coal was coming into the port, presumably travelling down the east coast, in the late medieval period more is needed from secure contexts to prove this.

Other stone

Several other stone types were recovered. These include irregular pieces of Wealden clay ironstone, possibly imported with the Horsham stone though for exactly what purpose, if intentional, is not clear as none appears to have been worked. Hard chalk is also apparent throughout and was presumably used for interior building work. The possible basalt pebbles and distinctive quartz pebbly sandstone may have come in as ship's ballast though their origin is uncertain. A white Tertiary sandstone, from part of a square-sectioned (23 x 25 mm) elongated (81 mm plus) whetstone (Context 26, dated 14th to 15th century) is also of uncertain origin, though is possibly from the Hampshire Basin. Although most of the Lower Greensand probably originated from rotary querns, only one diagnostic piece is present: part of a 45 mm-thick burnt stone (612 g) from Context 86. An example from Context 52, with a flattened face, may even be from a shaped building stone.

Discussion

The assemblage from the site certainly indicates that building stone was being used from a number of different sources during the late

medieval period. This included exploitation of Wealden material such as the Horsham stone and possibly Lower Greensand. West Country slate and Purbeck stone, which would have been brought along the coast, was also utilized for building and objects. Caen stone from France as well as evidence of trade down the east coast in the form of coal further demonstrate the wide trading network the town enjoyed at this time and the status of the current site within it. The post-medieval assemblage is harder to comment on as few new stone types appear to have been used. As such, much of the stone in this period may be re-used and/or residual material from the late medieval period.

THE CERAMIC BUILDING MATERIAL

Tile

For the purposes of this report only a range of the more 'secure' dated contexts is considered, however, the problem of residual tile was always evident in all but the earliest of contexts.

The earliest context to produce tile was apparently of the 13th century (Context 79). This produced a small assemblage (14 pieces weighing 656 g) including both peg and nib roof tiles (Fabrics 1, 1b, 2, 3, 4, 5, 7, 11). However, the presence of a number of these tile fabrics in later 14th- to 15th-century contexts suggests the single piece of 13th-century pottery dating this feature may be residual. Whatever the case, the presence of nib tiles certainly suggests a tiled roof in the vicinity in the 13th century.

The 14th century is better represented by tile assemblages. Context 34 contained 37 pieces (2195 g) (Fabrics 1, 1b (18 pieces), 2, 3, 7, 9, 10, 12). All these were peg tile, where discernible, with the exception of two unglazed floor tiles (Fabric 9) with stabbed undersides.

Two main groups, dated by ceramics to the mid-14th to mid-15th centuries, are present. Context 35 contained 61 pieces (4132 g) (Fabrics 1, 1b, 2, 2b, 3, 4, 5, 5b, 7, 9, 10, 10b, 11, 12, 13). By this date F1b tiles are the most common (16/1072 g), but it is likely that a fair proportion of the tiles are old/residual (i.e. there is a nib tile in F1 in this context). With this exception all the other roof tile consists of peg tile with round peg holes in higher fired sandy fabrics (e.g F3 and 4). Four unglazed floor tile fragments are also present (F3 x1 and F9 x3). The fills of the stone-lined pit adjacent to the building have also been dated to this period and contain a significant assemblage of tile (Fills 22, 81, 85: 59 pieces weighing 5816 g). Unfortunately, the presence of residual earlier tile is still apparent (i.e. the F1, 2, 2b tiles); however, the assemblage is dominated by the higher-fired sandy fabrics (F3, 4 & 5). F4 peg tiles, which frequently have splashes and patches of dull green glaze, are the most common (27 pieces weighing 2596 g) and obviously belong to this period.

Early post-medieval material is also represented in the assemblage. The late-16th-century pit represented by fills 24 and 97 produced only two tile fragments (86 g), however, the early-17th-century pit (Pit 50) contained a much larger assemblage (Fills 32, 52, 66, 306, 307, 309 & 311 combined): 72 pieces weighing 2,978g (Fabrics 6, 7, 8, 14, 15, 16, 18, 19). The fills are dominated by the early-post-medieval fabrics suggesting residual material is low or non-existent (the F7 may be medieval). Virtually all of the material is from peg tile, though only one diamond-shaped peg hole was identified. A single bonnet tile was also present, as was a green glazed floor tile, possibly a French import (F14, Context 307).

The material from the site certainly suggests that ceramic roofing tile was being used nearby from at least the 13th century, though most appears to relate to later-14th- to early-15th-century and late-16th- to early-17th-century activity. Throughout these periods it is obvious that tile was acquired from more than one source.

Brick

Eight different fabrics/variants were noted, most of which are low-fired fine sandy 'Flemish'-style examples: descriptions are housed with the archive. A lot of the assemblage came from the garden soil. The earliest brick consisted of single pieces from 33 (F2, 388 g) and 210 (F2, 188 g) both dated to between the mid-14th and 15th centuries. A little material is also present in a late-16th-century pit (Fills 97 and 98) which produced nine pieces (F1–3). Up until this time it is likely that brick was only being used for specialist tasks such as hearth linings. The early-17th-century pit (Context 50: Fills 52, 306, 307 & 311) produced a larger assemblage (68 pieces weighing 6,294g). Although this included some probable residual earlier material (F1–3) other later fabrics dominated the assemblage (F4–8) suggesting a new range of fabrics being used during the 17th century, perhaps for the insertion of chimneys and ovens into an existing building.

The burnt clay

Some 81 pieces of burnt clay (1987 g) were recovered from four different contexts. The majority of the material (65 pieces weighing 1892 g) came from a single pit (Pit 59; Fills 33/210). Many of these pieces had a flattened reduced face suggesting they may have acted as a hearth lining, possibly within the pit itself.

THE METALWORK by Gabor Thomas

The archaeological interventions at Marlipins produced a total of 132 metalwork finds, over 90 per cent of which was recovered from metal-detector scanning of the garden soil, (4). The remaining metalwork is nearly all from post-medieval and later contexts; a small number of copper-alloy pin and pin fragments were recovered from the environmental samples taken from post-medieval pit fills.

Iron

The majority of the ironwork, totalling 90 individual pieces, is identifiable without the aid of x-radiograph despite being in a generally poor state of preservation. The assemblage covers a range of structural fittings and fixtures, headed by a total of 74 nail and nail fragments of various shapes and sizes (Table 1), followed by two clench-bolts and two hinge-pivots, the latter probably from doors. Other identifiable pieces included a rectangular buckle, and a chain-link.

Non-ferrous metalwork

Non-ferrous items include a standard range of medieval and post-medieval copper-alloy belt- and strap-fittings, including three plain single- and double-looped buckles (context 4). More elaborate is a rectangular belt-mount with a circular perforation and edge-nicks closely paralleled by a tightly-dated, 16th-century example from Whitefriars, Coventry (Woodfield 1981, 93, fig. 5. no. 43), and two post-medieval sword-belt fittings which represent plainer versions of the example discussed by Gaimster from Pyecombe, West Sussex (Gaimster 1988). Other dress accessories, ubiquitous on post-medieval sites, include a total of six small drawn-wire copper-alloy pins with spherical heads and a cast lead/tin-alloy button (cf. Goodall 1984).

Additional functional categories represented in the assemblage include a copper-alloy folding balance (context 4), closely comparable to a London find from a context dated 1350-1400 (cf. Egan 1998, no. 1055, 326, fig. 243), a copper-alloy crotal bell, and eight fragments of post-medieval — probably 18th- or 19th-century 'milled' lead window came. Less readily classifiable is an unusual crescent-shaped copper-alloy object with a convex outer surface carrying ribbed decoration (context 4).

Numismatica recovered from the excavations are exclusively post-medieval in date and include three lead-alloy tokens, all of 17th- or

18th-century date (context 4), an imported lead-alloy cloth seal from Augsburg, Southern Germany (1620–1640) (context 4), and a silver Threepence of Charles II (1670–84).

Discussion

Despite the limited size of the area investigated, the excavations at Marlipins have produced a corpus of metalwork which embraces many of the major categories of objects represented within larger medieval and post-medieval assemblages from towns such as York, Winchester, Norwich and London. The mix of household fittings and personalia with items associated with commercial activity (the folding balance, trading token and cloth-seal) is exactly what one would expect from a site enjoying such a prime situation within a coastal town, and is perhaps also reflective of the site's physical proximity to a building which may have had strong mercantile/commercial associations throughout the medieval and post-medieval periods.

Catalogue

Ferrous

74 nails and fragmentary nails were recovered from a total of 12 contexts, over 80% from unsealed deposits, of which the garden soil, (04), yielded the majority. The assemblage covers the full spectrum of nail types from small tacks to larger bolts (listed in archive).

Table 1. Iron nails from contexts.

Context no.	Number	Date of context
02	7	Unsealed
04/303	50	Unsealed
09	1	?
19	3	1450–1550
22	1	Unsealed
30	1	Unsealed
31	1	Unsealed
32	1	Closed 1600–1650
43	2	Unsealed
49	1	Closed 1325–1425
52	5	Closed 1600–1650
97	1	Closed 1550–1600

Of the remaining 17 iron objects and fragments, the following can be identified.

1. D-shaped buckle loop. 35 x 30 mm. Context 30.
2. Chain-link. 130 x 70 mm. Context 22.
3. Hinge pivot. 95 x 70 x 20 mm Context 04 (cf. *The Medieval Household* 1998, 43–6, nos 1–27).
4. Hinge pivot 84 x 30 x 10 mm. Context 04 (cf. *The Medieval Household* 1998, 43–6, nos 1–27).
5. Bolt. Context 04.
6. Hinge/bracket. 160 x 35 mm. Context 02.
7. Clench-bolt with domed head. 60 x 32 mm. Context 02.
8. Clench-bolt. 115 x 35mm. Context 02.

Unidentified

9. Pointed rod of square section. 750 x 8 mm. Context 12.
10. Fragmentary rectangular strip. Context 04
11. Strip with protruding D-shaped section. Context 30
12. Tapering rectangular plate. 95mm x 30mm. Context 97
13. 5 amorphous lumps, some possibly detached nail heads. Context 04

Non-ferrous

1. Folding balance (cf. *The Medieval Household* 1998, 324–328, nos 1055 from a context dated 1350–1400). One of the arms, detached from the cross-piece, retains its terminal loop and wire suspension ring. Heavily corroded so no longer possible to unfold. Max L. folded 56 mm, W. 20 mm. Context 04.
2. Trapezoidal double-looped spur buckle, with missing pin and broken loop (cf. Whitehead 1996 no. 522 (c. 1620–1680)). Context 04.
3. Buckle, with integral D-shaped loop and forked-spacer and copper-alloy pin (cf. Whitehead 1966 no. 214 (c. 1350–1450)). Context 04.
4. Rectangular buckle plate with cut-out for pin and two attachment holes filled with corrosion from iron rivets. Bent in half. Context 04. From a composite medieval buckle.
5. Hooked belt-fitting comprising a shield-shaped plate pierced by two iron rivets for attachment, possibly a sword-belt fitting (cf. Gaimster 1988). Context 04. L. 31 mm, W. 12.5 mm.
6. Composite belt-fitting comprising two shield-shaped strap-attachments (as above) with pairs of iron rivets for attachment and with terminals looped around a central copper-alloy ring (cf. Gaimster 1988). Context 04.
7. Rectangular strap-fitting comprising two plates secured with 4 copper-alloy rivets. A central circular perforation pierces both plates, while the front example is elaborated with edge-nicks (cf. Woodfield 1981, fig. 5. no. 43). Context 04. L. 30 mm, W. 23 mm.
8. Pin with cast spherical head. L. 26 mm, Head D. 1.5 mm. Context 04.
9. Pin with cast spherical head and broken shaft. L. 12 mm, Head D. 1 mm.
10. Fragments from a further three pins, two fragments with small cast spherical heads. Context 52; recovered from environmental samples [2] & [8].
11. Shaft fragment from a pin. L. 8 mm. Context 58; recovered from environmental sample [1].
12. Fragmentary crotal bell, comprising 5 individual detached pieces of sheeting. Heavily corroded. Context 04.
13. Curving rim fragment from a bell. L. 56 mm, W. 28 mm, Th. 2 mm. Context 22.
14. Crudely formed disc. No surface detail present although one of the surfaces is heavily corroded. D. 35 mm. Context 04.
15. Crescent-shaped object cast with a convex outer surface and a protruding rib on the underside, one end of which carries a small circular indentation. Decoration, restricted to the convex upper side, comprises an engraved outer border with internal ribbing which mirrors the outline of the object. L. 36 mm, Max Th. 9 mm. Context 04. Unidentified.
16. Squashed copper-alloy tube. L. 35 mm. Context 52.

Lead-alloy

17. Lead/tin-alloy button with integral loop and a solid head with central projecting knob. Post-medieval. Head D. 17 mm. Context 04.
18. Lead musket ball. Context 04.
19. 5 fragments of lead window came with milled cavities. Post-medieval. Context 04.
20. 3 fragments of lead window came with milled cavities. Post-medieval. Context 51.
21. Fragment of a thin lead base strip with two lead shot attached. Shot D. 6 mm. Context 04.
22. Cloth seal inscribed with an 'A' on the obverse and a tab on the reverse incised with criss-cross pattern to emulate a pine cone. Issued from Augsburg, S. Germany, between 1620 and 1640, the most widespread category of cloth seal found in England.
23. Token. Obv. Initials 'S.W' in between borders of vertical ribbing. Rev. Sexfoil with central pellet. 17/18th century. D. 18 mm. Context 04.
24. Token. Obv. Initials 'H.W' with partial pelleted outer border. Rev. initials 'I.C'. D. 19 mm. 17th/18th century. Context 04.
25. Token. Casting sprue still attached. Corroded and illegible. D. 19 mm. Context 04.
26. Crudely formed disc lacking surface detail. Possible weight. D. 19 x 15 mm. Context 04.

Silver

9. Coin of Charles II (1670–84): threepence, very worn, Coins of England no. 3386. Context 04.

Composite

Bone knife handle with fragmentary iron tang. Several parallels from 18th-century contexts found at St Ebbes, Oxford (Egan & Henig 1984, 229, fig. 40, no. 9).

THE ANIMAL BONES By Naomi Sykes

Introduction

Excavations, by the Sussex Archaeological Society, at the site of Marlipins Museum, Shoreham, produced evidence for human activity spanning the 12th–19th century. For the purpose of this report the date range has been subdivided into three groups: 12th–14th century; 14th–16th century and 16th century +. Animal bones were recovered, in varying quantities, from all phases of the site. In total, 1277 fragments were recorded. The most substantial deposit, accounting for 63% of the assemblage, derived from a 13th- to 14th-century shaft (feature 22). Material from this feature was retrieved both by hand and through wet-sieving, with good recovery rates attested by the presence of fish and bird bones. Smaller assemblages came from a number of late medieval and post-medieval features; the 16th- to 17th-century pits (numbers 50 and 23) being the most productive. Animal bones were also recovered from garden soil layers but these have been omitted from the study owing to the mixed nature of the deposit.

Sample sizes are inadequate for individual contexts to be considered in detail, hence the results have been aggregated for much of the analysis. Despite this, the assemblage is too small to yield significantly novel information concerning the wider economy, but it does have the potential to provide an insight into the day-to-day diet and lifestyle of the site's occupants.

The East Sussex coast has been the subject of numerous investigations and areas in several medieval towns have been excavated (King 1975; Rudling 1976; Freke 1978; Rudling *et al.* 1993; Gardiner 1995). As such, it will be interesting to see how the Marlipins assemblage compares with those from other contemporary sites in the region.

Methods

The assemblage was recorded at the Centre for Applied Archaeological Analyses, University of Southampton, using Serjeantson's (1996) 'Zones' system. The resulting data provided the basic NISP (Number of Identified Specimens) and MNE (Minimum Number of Elements) counts; from which the MNI (Minimum Number of Individuals) was calculated, using the most common element according to the MNE and taking sides into consideration.

Where possible specimens were identified to species, with sheep and goat being differentiated following Boessneck's (1969) and

Payne's (1985) criteria, and brown and black rat being speciated on the basis of their skull morphology. For the mammal bones, undiagnostic skull fragments, ribs, and vertebra (except the atlas and axis) were placed in cat-size, sheep-size and cattle-size categories. Owing to time restrictions, fish-bones were examined only briefly, in order to provide a species list. Identifications were based solely on the premaxilla and vertebrae: there exists, therefore, the potential for further study of the ichthyological assemblage.

Bones that showed signs of burning or gnawing were noted and quantified. Butchery marks were recorded in detail using Lauwerier's (1988) system.

Cattle and caprines were sexed on the morphology of their pelves (Grigson 1982), sheep and goat according to their horn-core shape, and pigs on the basis of their upper and lower canines (Schmidt 1972). The presence/absence of spurs on domestic fowl tarsometatarsi was noted, and the femora of domestic fowl were also examined for evidence of medullary bone.

For the main domesticates, dental wear was recorded using Grant's (1982) system. This was undertaken for mandibles (with two or more ageable teeth), single deciduous premolars and third molars. Mandibles were placed into age groups following Payne (1973) for sheep/goat, Legge (1992) for cattle and Maltby (1993) for pig. Bone fusion was also recorded, and interpreted using Sisson and Grossman's (Getty, 1975) timings for epiphyseal closure.

Fused bones were measured following the standards set by von den Dreisch (1976) and Payne and Bull (1988): raw data are provided in Appendix II. Data accumulated by the Animal Bone Metrical Archive Project (Centre for Human Ecology and Environment, n.d.) were used for comparison.

Taphonomy

Bone preservation was excellent, with low rates of fragmentation and a high percentage (75%) of the hand-collected material being identifiable to taxon or size group. As bone-surface condition was good, modifications such as gnawing and butchery could be observed clearly (Table 1). Only one fragment was burnt.

Dog-gnawed remains were noted for all periods but were particularly abundant in the 16th century + material, suggesting that canids had access to the bones prior to their final disposal, either through scavenging or being deliberately fed. Brain (1967) has demonstrated that carnivores can have a considerable impact on bone assemblages, destroying all but the elements with the highest structural density. Skeletal frequency data for the Marlipins assemblage (Tables 2a–2c) indicate that, whilst dense bones (such as the mandible, tibia and humerus) are abundant, other more fragile elements (the pelvis, femur and scapula) are also well-represented, suggesting that carnivores did not have unlimited access to bone waste. Indeed, the 12th- to 14th-century assemblage demonstrates few dog-gnawed specimens (just 1.3%), whereas 12% of the bones exhibited rodent gnawing. This suggests that most of the 12th- to 14th-century bones were thrown into the pits quite rapidly, thus being out of reach of canids, but once discarded they were not buried instantly, since rats and mice had considerable opportunity to scavenge.

Many of the bones, from each of the periods, displayed butchery marks, but data are insufficient to reconstruct patterns of carcass disarticulation or systems of processing. Nevertheless, it would seem from the high frequency of chop marks and low presence of cuts that meat-cleavers were the preferred butchery tool.

Table 1. Taphonomy (hand-collected material only).

Date group	Total	% gnawed			% butchered		% burnt
		dog	cat	rodent	chop	cut	
12th–14thC	220	1.3	0.5	12	6	2	
14th–16thC	35	6	6		26		
16thC+	383	4	0.2	0.2	11	1.3	0.2

Taxa representation

Composition of the assemblage is shown, by phase, in Table 3. As is the case with most medieval and post-medieval assemblages, cattle, caprines and pigs are well-represented. Pig is the most numerous taxon in the 12th- to 14th-century assemblage, followed by sheep/goat and cattle. An opposing rank is demonstrated by the 16th century + material, where cattle bones are the most abundant and pig the least. Whilst the main domesticates are present, they do not always dominate the assemblage. Many other taxa are also represented, the wide range resulting largely from the samples. Cat is by far the most abundant species, their high frequency due to the presence of at least four partial skeletons, all of which were recovered from feature 22.

Wild mammals are present in low numbers. A fallow deer (*Dama dama*) tibia was retrieved from feature 23, with a roe deer radius and rabbit (*Oryctolagus cuniculus*) tibia being recovered from feature 22. This context also yielded a number of rat bones, including a skull which was identified positively as black rat (*Rattus rattus*).

Bird bones make up a considerable portion of the Marlipins assemblage. Domestic fowl are represented in all of the phases, with goose being present in just the 12th- to 14th- and 14th- to 16th-century material. A number of juvenile corvid bones were identified in the 16th century + assemblage but all the remaining bird species — including duck (*Anas/Ayantha* sp.), partridge (*Perdix perdix*) and pigeon (*Columbus* spp.) — came from the 12th- to 14th-century feature 22.

All of the fish bones recovered came from marine taxa. Most of the remains were recovered from sample 11, which contained specimens belonging to herring (*Clupea harengus*), eel (*Anguilla anguilla*), conger eel (*Conger conger*), whiting (*Merlangius merlangus*), haddock (*Melanogrammus aeglefinus*), mackerel (*Scomber scombus*). Pleuronectidae (flounder/plaice) and Sparidae (sea bream) were also recovered. Flatfish and ling (*Molva molva*) were identified in the 16th century + assemblage.

Table 2. Anatomical representation data, by phase, for a) cattle, b) caprines and c) pigs.

a) Cattle	12th–14th	14th–16th	16th+	b) Caprine	12th–14th	16th+	c) Pig	12th–14th	14th–16th	16th+
Mandible	1		1	Mandible		2	Mandible	2	1	5
Scapula			4	Scapula	1	5	Scapula		1	3
Humerus	1		7	Humerus		4	Humerus	1		1
Radius			2	Radius	2	3	Radius			
Ulna			1	Ulna	1		Ulna	1		1
Metacarpal		1	4	Metacarpal	1	1	Metacarpal	1		
Pelvis	1	1	4	Pelvis	1	2	Pelvis	1		2
Femur	1		4	Femur	1	6	Femur	1		1
Tibia	1	1	2	Tibia	2	7	Tibia	1		1
Astragalus			6	Astragalus			Astragalus			
Calcaneum				Calcaneum			Calcaneum	1		
Metatarsal	1		3	Metatarsal	4	4	Metatarsal	2		
Phalanx 1			5	Phalanx 1			Phalanx 1			
Phalanx 2			2	Phalanx 2			Phalanx 2	1		
Phalanx 3			2	Phalanx 3			Phalanx 3			

Ageing

Sample sizes were insufficient to allow the construction of cull-patterns but it was possible to gain some insight into cattle, sheep/goat and pig management strategies. No ageable cattle teeth were recovered, therefore results for this animal are based exclusively on epiphyseal fusion data. Table 4 shows that few ageable specimens were available for the 12th- to 14th-century material, with none dating to the 14th–16th century. Evidence for the 16th century + assemblage, however, suggests that a high percentage of individuals were slaughtered when juvenile: 10% of all the cattle bones from this period were from calves and Table 4 suggests that 23% of animals were culled before reaching 10 months of age.

Dental data for caprines are also limited with just two ageable mandibles being recovered: one (from a 15th/16th-century pit) was at stage F, the other (dating to the 17th century) was assigned to stage C (Table 5). Epiphyseal fusion data for both the 12th- to 14th- and 16th century + caprines suggest that, whilst a considerable percentage of individuals were culled prior to 2–2½ years, many survived beyond 3½ years.

Most of the ageing data for pigs came from mandibles: two dating to the 13th/14th century were assigned to stages 1 and 7, and six of the seven from the 16th century + material came from animals aged 14–21 months (Stage 5). This suggests that most pigs were culled before reaching skeletal maturity, a situation supported by the epiphyseal fusion evidence (Table 4c). Three neonatal pig bones were recovered from the 12th- to 14th-century material but none were found in the later deposits.

The cat remains came from individuals of ages ranging from neonatal to fully adult (Table 4d). A number of juvenile pigeon bones were also recovered.

Sexing

Available sexing information is presented in Table 6. Sample sizes are too small to reveal patterns of sheep/goat management, but all of the data for pigs point to the exploitation of male animals. Two domestic fowl femora could be checked for the presence of medullary bone. It was present in one of the specimens, suggesting that some female individuals were killed whilst in lay.

Anatomical representation

Skeletal frequency data, shown in terms of MNE, are provided for cattle, sheep/goat and pigs in Table 2. Where data are sufficient they suggest that each of the main domesticates are represented by most parts of the body, although there is an absence of cattle mandibles in the 16th century + material. By contrast, the 16th century + pig assemblages show a relative over-representation of jaw bones.

Table 3. Assemblage composition.

[illegible]

Partridge	1				1														
Pigeon	14				14														
Corvid													4		1			5	
Unidentifiable bird	14	6			20														
Fish																			
Herring		16			16														
Eel		1			1														
Conger eel		3			3														
Whiting		3			3														
Ling													4					4	
Haddock		3			3														
Gadid		2			2														
Mackerel		5			5														
Sea bream		10			10														
Flounder/ Plaice		1			1														
Flatfish														3				3	
Total	202	607	8	10	827	3	3	3	13	16	38	74	98	211	29	412			

Table 4. Epiphyseal fusion data for a) cattle, b) caprines, c) pigs and d) cats.

	12th–14th century		16th century+			12th–14th century		16th century+	
a) Cattle	F	UF	F	UF	b) Caprines	F	UF	F	UF
Scapula			2	1	Scapula				
D. Humerus		1	4	1	P Radius	1			
P. Radius			2		D. Humerus			3	1
Phalanx II			2	1	Phalanx I				
Total 10 months		1	10	3	Total 7–18 months	1		3	1

Metapodia			1	4		D. Tibia	1	1	2	1
D. Tibia	1		1			D. Metapodia	2	2	2	2
Total 1.5–2 years	1		2	4		Total 2–2.5 years	3	3	2	3
Phalanx I			5	2		Ulna	1			
Ulna						P. Humerus				
P. Femur				2		Calcaneum				
Calcaneum						D. Femur		1		1
D. Radius				1		P. Femur	1	1		
Total 2.5–3 years			5	5		D. Radius	1		2	
						P. Tibia		1	1	1
P. Humerus		2		1		Total 3.5 years	2	3	3	2
D. Femur		1	3							
P. Tibia	1			1						
Total 3.5 years	1	3	3	2						
	12th–14th century		16th century+				12th–14th century			
c) Pig	F	UF	F	UF		d) cat	F	UF		
Scapula			1			Scapula	1	2		
D. Humerus	1					Pelvis	3	2		
P. Radius						P Radius	3	1		
Phalanx II	1	2				D. Humerus	2	4		
Total 1 year	2	2	1			P. Femur	2	3		
						D. Femur	2	4		

Metapodia		2				Calcaneum				
Phalanx I						Total 7–8.5 months	13	16		
D. Tibia		1		1						
Calcaneum		1				P. Ulna	2	3		
Total 2–2.5 years		4		1		Phalanges	18	8		
						Total 10 months	20	11		
P. Humerus		1								
D. Radius						D. Metapodia	9	9		
Ulna						P. Humerus	3	4		
P. Femur						D. Radius	3	3		
D. Femur						P. Tibia	2	3		
P. Tibia		1				D. Tibia	2	4		
Total 3.5 years		2				Total 11.5 months	19	23		

Table 5. Dental ageing data.

DATE	Taxa	(Dp4) P4	M1	M2	M3	Stage
13th/14th	Pig				g	7
13th/14th	Pig	(a)	C			1
16th/17th	Pig	b	d	d	V	5
16th/17th	Pig	b	d	d	V	5
16th/17th	Pig	d	l	g		5
16th/17th	Pig	d	l	g		5
16th/17th	Pig	(e)	a	C		2
17th	Pig		j	b	E	5
15th/16th	Caprine				e	F
17th	Caprine	(f)	b	C		C

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Table 6. Sexing data

a) Caprine	Male/Castrate	Female
pelvis 12th–14th century	1	
horn core 16th century+		1
b) Pig canines	Male/Castrate	Female
14th–16th century	1	
16th century+	3	
c) Domestic fowl femora	Medullary bone present	Medullary bone absent
12th–14th century	1	1

Metrics

Sample sizes are too small to provide significant information concerning animal size and conformation. The only statement that can be made with confidence is that the cattle, caprines and pigs in the Marlipins assemblage were of a comparable size to those from other contemporary sites in southern Britain (Centre for Human Environment and Ecology, n.d.).

Discussion

The range of species represented in the Marlipins assemblage is very similar to the ranges from other sites in the region, although the relative frequency in which some taxa are represented is slightly anomalous. This is particularly true for the 16th century + material, which shows a much higher percentage of cattle (51% of the main domestic assemblage) than is generally found on sites along the Sussex coast. Nearly all the late medieval and post-medieval sites in this region have yielded caprine-dominated assemblages: on average sheep/goat account for over 60% of the main domestic remains, a situation which can be linked to the South Downs wool industry. Although Marlipins' high percentage of cattle remains deviates from local patterns, it is in keeping with national trends, whereby cattle frequencies rise through the late medieval and into the post-medieval period (Sykes in prep.). This shift was accompanied by move towards the slaughter of juvenile animals, and both changes have been attributed to an intensification of the dairy industry. It seems likely that the Marlipins material, which also contains a considerable number of calf remains, reflects this concentration on dairying. The late 16th-/early 17th-century deposits from the Phoenix Brewery site also produced a cattle-dominated assemblage, which was interpreted as tanning waste based on the quantity of horn cores (Clements 1993). No such anatomical pattern was observed for the Marlipins material, indeed, the absence of mandibles and presence of meat-bearing elements suggests that the deposit was food, rather than industrial waste. If this is the case, it is surprising that metapodia are amongst the best-represented bones, since these elements are commonly removed during primary butchery. Interestingly, four of the five ageable metapodia were from young animals, whereas the meat-bearing elements derived primarily from adults. This may suggest that the carcasses of juvenile and adult animals were treated differently, with veal carcasses arriving at the site only partially dressed whilst beef was imported as pre-butchered joints of meat.

Although sample sizes are small, the data suggest that pigs were managed differently in the earlier and later periods. For the 12th- to 14th-century assemblage the presence of neonatal bones and the fact that all part of the body are represented indicates that animals were raised, butchered and consumed within the household. By the 16th century +, however, it would seem that pigs were raised away from the site, and that male individuals aged approximately 14–21 months were selectively sent to provision the urban population.

Evidence for diet was particularly forthcoming from the assemblage taken from the organic fill of the foundation shaft, (22). This deposit seems to have been composed almost entirely of food refuse, as is indicated by the high percentage of meat animals — those that provide no secondary products, such as pig, roe deer, rabbit, pigeon, partridge and fish. The presence of juvenile pigeons ('squab') is interesting since, in the medieval period, the flesh of these birds was not considered to be 'meat' and so could be consumed, along with fish, on days of fast (Harvey 1993). It must be assumed that squab and fish were purchased especially for this purpose and it seems likely that the other wild and semi-domestic species were similarly bought from specialist fowl and game traders.

The range of fish species represented is typical for sites on the south coast — comparable assemblages having been recovered from the Phoenix Brewery in Hastings (Clements 1993), Denton (Rhodes 1979) and Seaford (Bedwin 1978) — and they provide an indication of the type of fishing techniques employed in the area and period. Eel and flounder bones were the least numerous and probably derived from individuals that were caught in the Adur estuary. The remaining species would have been caught off-shore. In the medieval period fish such as herring and haddock were commonly purchased in a preserved state - usually having been decapitated and salted - but the presence of head bones from both these species may suggest that the individuals represented in the Marlipins assemblage were eaten fresh.

Not all of the remains from (22) came from food animals. For instance, several rat bones, one positively identified as *Rattus rattus* were

retrieved, confirming the idea that this species was well-established in Britain by the 13th century (Armitage 1994, 236). A minimum number of four cats — two adults, one immature and one juvenile - were also represented. Cat skeletons are often found amongst medieval domestic rubbish — 5 were recovered from a 14th-century well in Church Street, Seaford (Brothwell 1979), with three more being found in 13th-century deposits at Denton (O'Connor 1979). Frequently the remains show skinning marks, indeed one of the skulls recovered from Marlipins displayed cut marks, suggesting that urban households frequently added to their income through the sale of cat fur.

The animal bone assemblage from Marlipins, although small, is not without interest. Perhaps most importantly it adds to the zooarchaeological data base for urban sites on the Sussex coast, but it also provides an insight into the day-to-day life in medieval and post-medieval Shoreham.

THE PLANT REMAINS By Lisa Gray

All available stratigraphic information is given in the Table 1, ordered by context to allow grouping of samples by feature type.

Methodology

All of the flots were completely scanned. The volume of each flot was measured and recorded in millilitres. Each flot was, in turn, sieved through a stack of geological sieves and scanned under a low-powered stereo-microscope with a magnification range of 10 to 40x. The abundance, diversity and state of preservation of organic remains in each sample were recorded onto paper record sheets for tabulation (see Table 2). Normally at post-assessment level charred remains would be counted, but owing to extreme time limitations, all that could be done in this case was to make estimates of abundance.

Table 1. Details of the environmental bulk samples.

Sample	Context	Date	Feature	Bulk volume (l)	Flot volume (ml)
8	26	1275-1375	fill of pit [25]	7	50
3	33	1325-1425	fill of pit [59]	4	200
201	33	1325-1425	fill of pit [59]	5	50
10	35	1300-1400	fill of pit [71]	4	100
2	52	1600-1650	fill of pit [50]	7	250
5	52	1600-1650	fill of pit [50]	7	500
6	53	pre-post medieval garden soil	in situ burning	3.5	50
7	53	pre-post medieval garden soil	in situ burning	na	50
4	54	pre-post medieval garden soil	in situ burning	0.5	25
1	58	1600-1650	fill of pit [50]	7	700
9	66	1600-1650	fill of pit [50]	7	350
11	81	13th and 14th century	fill of shaft [22]	21	250

Ranges for abundance and diversity are as follows:-

Abundance

1 = 'low/occasional' 1–10 individuals

2 = 'moderate' 11–100 individuals

3 = 'abundant/high' >100 individuals

Diversity

1 = 'low' 1–4 species

2 = 'intermediate/moderate' 5–10 species

3 = 'high' >11 species

In the text, contexts are put within square brackets '[...]' and samples are given triangular brackets '<...>'.

In addition to plant remains, the presence and potential of other organic, artefactual or mineral remains have been noted and tabulated separately. In this case very few of these additional remains were observed.

Possible contamination and residuality is low because the samples were taken from sealed deposits (G. Thomas pers. comm. 19/6/03).

The uncharred seeds observed in these samples are those with tough testas, such as elderberry (*Sambucus nigra* L.), which, can survive changes in preservation conditions. It is often difficult to determine whether these seeds are intrusive or contemporary. In this case these were present in low numbers and often fragmentary, so were not considered significant enough to include in the interpretations.

Table 2. Abundance, diversity and sample contents.

		ab	div	ab	div	ab	div	ab	div	ab	div	ab	div	ab	div	ab	div	ab	div	ab	div	ab	div		
1	58	-	-	1	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-bread wheat (<i>Triticum aestivum</i> L.) grain	
2	52	1	1	1	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-poorly preserved legume (<i>Lathyrus/Vicia/Pisum</i> sp.)	
3	33	-	-	3	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-rich grain assemblage including wheat (<i>Triticum</i> spp.), oats (<i>Avena</i> sp.) and possibly barley (<i>Hordeum</i> sp.) -occasional fragments of uncharred, probably intrusive, elder (<i>Sambucus nigra</i> L.) seeds fragments	
4	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-The only plant remains in this sample were flecks of charred wood.	
5	52	1	1	1	1	-	-	2	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	- charred grass seed - wheat (<i>Triticum</i> spp.) and oat (<i>Avena</i> sp.) grains - fragments of walnut (<i>Juglans regia</i> L.) shell	
6	53	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-oat (<i>Avena</i> sp.) grain fragments -occasional uncharred , probably intrusive elder (<i>Sambucus nigra</i> L.), fig (<i>Ficus carica</i> L.) and dandelion (<i>Taraxacum officinales</i> L.) seeds	
7	53	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	"Hand sample" of charcoal	
8	26	-	-	1	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-occasional barley (<i>Hordeum</i> spp.) grains	
9	66	-	-	1	1	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- poorly preserved wheat (<i>Triticum</i> sp.) grains - uncharred elder (<i>Sambucus nigra</i> L.) seeds, possibly intrusive	

Mytilus edule were retrieved from 8 contexts (4; 24; 26; 52; 58; 66; 97 & 303) and were represented by 13 individuals where the umbos were intact. The latter species weighed together with the fragments, 76 g. One fragment of *Aequipecten opercularis* was found in the garden soil (Context 4) and weighed 1 g.

The complete assemblage of the 6 edible species retrieved from the sealed contexts of the excavation (Table 1 – MPS03) were primarily from presumed rubbish pits (including a garderobe). Other contexts include a post-hole (19), a vaulted shaft (81) and the stone footings (18) of a medieval building. The date range of the contexts from which the marine molluscs were collected are of early medieval to early post-medieval date (12th–mid-17th century). The garden soil which largely seals the latter features is dated from the mid-16th century to the later 17th century.

Table 1. Quantification and identification of marine molluscs from earlier test-pits (MPS02).

Context number	Context type	Species	Quantity/Age	Evidence of encrustation (<i>Ostrea edulis</i> only)
209	Test Pit 2	<i>Ostrea edulis</i> <i>Cerastoderma edule</i> <i>Venerupis decussata</i> <i>Littorina littorae</i>	Oyster : 7 x left valves (lower) : 2 < 5 years; 4 : 5–15 years; 1 : 15years+; 6 x right valves (upper) : 2 < 5 years; 4 : 5–15 years; 1 x fragment Cockle : 1 x juvenile; Carpet shell : 1 x adult Periwinkle : 1 x adult	4 adult shells (1 x left valve; 3 x right valves) show evidence for the burrowing sponge : <i>Cliona celata</i>
210	Test Pit 2	<i>Ostrea edulis</i>	Oyster : 1 x left valve : 10–15 years; 1 x right valve : 5–10 years	No evidence of encrustation
303	Test Pit 3	<i>Ostrea edulis</i> <i>Mytilus edule</i>	Oyster : 3 x fragments; Mussel : 9 x fragments	
306	Test Pit 3	<i>Ostrea edulis</i>	Oyster : 3 x left valves : 5–15 years; 1 x right valve : 5–10 years; 1 x fragment	No evidence of encrustation
307	Test Pit 3	<i>Ostrea edulis</i> <i>Cerastoderma edule</i> <i>Littorina littorae</i>	Oyster : 7 x left valves : 2 < 5years; 3 : 5–15 years; 2 : 15–25 years; 5 x right valves : All < 5 years; 3 x fragments Cockle : 1 x adult (left valve); 1 x fragment Periwinkle : 1 x adult	1 x left valve shows evidence for the burrowing sponge : <i>Cliona celata</i>
309	Test Pit 3	<i>Ostrea edulis</i> <i>Cerastoderma edule</i>	Oyster : 1 x right valve : < 5years Cockle : 1 x adult (left valve)	No evidence of encrustation

Age analysis of all contexts (Tables 1–2) shows that c. 75% of all the collected oyster were in the middle to upper range (5–25 years) of the estimated ages. The majority of those which were less than 5 years in age were of sufficient size to be edible. Therefore virtually all could have been utilised as a food source.

In formal food preparation it is the left or lower valve of the oyster which is served. This means that in terms of rubbish disposal there may be some patterning in the occurrence of upper and lower valves. Interestingly, the only context which shows a significant disparity in the numbers of left and right valves is the sealed garden soil (Table 2: Context 4): 113 left/lower valves v. 13 right/upper valves. Assuming no bias in collection strategy has occurred, this strongly implies that this group represents formal food preparation or feasting. It is not possible to say whether this was a series of events or a single one. The number of left and right oyster valves from all the other contexts are in keeping with the disposal of everyday domestic rubbish.

Given the total number of oyster valves recovered (257), just c. 20% (52 individuals) showed evidence for infestation by polychaete worms (e.g. *Polydora ciliata*/P. *Hoplura*: 22 individuals) and the burrowing sponge (*Cliona celata*: 30 individuals). Most of these were restricted to the older species (10 years+). These numbers lie well within the normal parameters of oyster collected from healthy colonies. This is further corroborated by the very minimal number of valves showing distortion (just one individual: Table 1 Context 18). Distortion usually occurs in overcrowded colonies and low numbers of these may also suggest that the resource was not being over exploited. The latter is also supported by the low number of adhering shells (the carrying of infants) of which only 9 individuals were noted.

It is not possible to identify the source of the oyster, but they almost certainly derive from the estuarine location of the River Adur which only lies c. 150 m to the south and west of the site. We know that in the later post-medieval period during the latter half of the 19th century Shoreham possessed a large fishing fleet and that oysters were a very important component of this industry (Elrington 1980). There had previously been an underground pound for the storage of oysters on Ropetackle (Band pers. comm.). The location of farmed oyster beds close to the latter location may be seen on the 1st-edition O.S. map (1868). The prevalence of oyster at the Marlipins site and other recently excavated sites in the vicinity, suggests that oyster has been an important food resource in Shoreham from at least the 12th century.

The relatively low quantities of the other 5 edible species collected at the Marlipins excavation (Cockle; Mussel; Periwinkle; Carpet Shell and Scallop: Tables 1–2) indicate that these were probably only a supplementary food resource from the early medieval through to the early post-medieval period. Their relative importance as a food resource, however, may have fluctuated through time.

Table 2. Quantification and identification of marine molluscs from excavation (MPS03).

Context	Context type	Species	Quantity/Age	Evidence of encrustation
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number	(Area)			(<i>Ostrea edulis</i> only)
4	Topsoil/garden soil (Northern) Mid 16th C–Late 17th C	<i>Ostrea edulis</i> <i>Aequipecten opercularis</i> <i>Cerastoderma edule</i> <i>Mytilus edule</i> <i>Littorina littorae</i>	Oyster : 113 x left valves (lower) : 32 < 5 years; 63 : 5–15 years; 13 : 15 years+; 5 : adhering shells (infants); 13 x right valves (upper) : 6 < 5 years; 4 : 5–15 years; 3 : 15 years+; 9 x fragments Scallop : 1 x fragment Cockle : 2 x fragments; 1 x adult; 3 x juveniles Mussel : 1 x fragment; 4 x adult umbones Periwinkle : 2 x adults; 6 x juveniles	14 x left valves and 3 x right valves show evidence for polychaete worm infestation (<i>Polydora ciliata</i> /P. <i>Hoplura</i>); 8 x left valves and 2 x right valves show evidence for the burrowing sponge : <i>Cliona celata</i>
16	Context Type and Date not known	<i>Ostrea edulis</i>	Oyster : 1 x left valve : 5–10 years	Evidence of polychaete worm infestation (<i>Polydora ciliata</i> etc.)
18	Fill of stone footings (Northern) Early 14th C–Early 15th C	<i>Ostrea edulis</i>	Oyster : 6 x left valves : 3 < 5 years; 3 : 5–10 years; 3 x right valves : 1 : < 5 years; 2 : 5–10 years	1 x distorted left valve ; 1 x right valve showing evidence for the burrowing sponge : <i>Cliona celata</i>
19	Fill of post-hole (Northern) Mid 15th C–Mid 16th C	<i>Ostrea edulis</i> <i>Littorina littorae</i>	Oyster : 1 x left valve : 5–10 years Periwinkle : 1 x young adult	No evidence of encrustation
24	Upper fill of pit (Northern) AD 1550–1600	<i>Ostrea edulis</i> <i>Cerastoderma edule</i> <i>Venerupis decussata</i> <i>Mytilus edule</i> <i>Littorina littorae</i>	Oyster : 1 x left valve : 15–25 years; 3 x right valves : 2 : < 5 years; 1 : 5–10 years Cockle : 2 x right valves (1 x adult; 1 x juvenile) Carpet shell : 1 x adult Mussel : 2 x adult umbones Periwinkle : 2 x juvenile apices	Left valve shows slight evidence of polychaete worm infestation (<i>Polydora ciliata</i> etc.); 1 x right valve shows evidence for the burrowing sponge : <i>Cliona celata</i>
26	Fill of pit (Northern) Late 13th C–Late 14th C	<i>Ostrea edulis</i> <i>Cerastoderma edule</i> <i>Mytilus edule</i> <i>Littorina littorae</i> <i>Venerupis decussata</i>	Oyster : 29 x left valves : 7 < 5 years; 22 : 5–25 years; 22 x right valves; 8 : < 5 years; 14 : 5–25 years; 47 x fragments Cockle : 11 x adults; 21 x juveniles Mussel : 1 x adult umbo; 4 x juvenile umbones; 16 x fragments Periwinkle : 18 x adult apices; 1 x fragment Carpet shell : 3 x adults; 10 x fragments	1 x left valve has evidence for polychaete worm infestation (<i>Polydora ciliata</i> etc.); 2 x left/2 x right valves have evidence for the burrowing sponge : <i>Cliona celata</i> 2 x left valves have adhering shells (infants)
35	Fill of pit (Central) AD 1300–1400	<i>Ostrea edulis</i>	Oyster : 2 x left valves : 1 : 10–15 years; 1 : 15–25 years; 7 x fragments	1 x left valve showing evidence of burrowing sponge : <i>Cliona celata</i>
52	Central fill of pit (Northern) AD 1600–1650	<i>Ostrea edulis</i> <i>Cerastoderma edule</i> <i>Littorina littorae</i> <i>Mytilus edule</i>	Oyster : 6 x left valves : 3 : 5 – 10 years (one with adhering infants); 3 : 5–15 years; 3 x right valves; 3 : 5–10 years; 11 x fragments Cockle : 9 x fragments Periwinkle : 6 x adult apices Mussel : 2 x adult umbones; 17 x fragments	1 x left valve has evidence for the burrowing sponge : <i>Cliona celata</i>

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ABBREVIATIONS

SAC = *Sussex Archaeological Collections*

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