

Excavations in the Church of St Augustine's Abbey, Canterbury 1955-58

By A. D. SAUNDERS

Chief Inspector of Ancient Monuments and Historic Buildings, Department of the Environment

THE EXCAVATION of Anglo-Saxon structures below the W. end of the 11th to 12th-century nave of the church of St Augustine's Abbey, Canterbury, occupied three seasons between 1955 and 1957. Further, small-scale, excavation took place subsequently on the site of the pre-Conquest church of Sts Peter and Paul to test particular points. The need for the excavations in 1955 arose unexpectedly out of routine consolidation of the upstanding remains (which are in the care of what is now the Department of the Environment), when there were discovered by chance the voussoirs of an arch a few inches below ground level in the ill-defined mass of masonry at the extreme SW. corner of the Norman church.

THE GENERAL HISTORY and layout (FIG. 1) of the pre-Conquest churches of St Augustine's Abbey are well known.¹ The main church of Sts Peter and Paul was begun soon after 597 following the grant to St Augustine by King Aethelberht of land outside the walls of the former Roman city of Durnovoria wherein he had established his episcopal see. The church formed part of a monastic establishment but was also intended for royal and episcopal burials. The building had not been finished when Augustine died, 604 × 609, and he was given temporary burial outside; but as soon as the church was dedicated the body was brought inside and re-buried in the N. porticus.

Immediately to the E. of the main church stood a smaller church built by Aethelberht's son, Eadbald, dedicated to St Mary c.619 × 624. Much further yet to the E., but still within the monastic precinct, was another church, dedicated to St Pancras.

The original church of Sts Peter and Paul was enlarged subsequently by extending northwards the porticus of St Gregory. This has been interpreted as being intended to provide further space for the burial of archbishops and for this reason is dated between 731 (when Archbishop Berhtwald was buried in the nave) and 792 when Jaenberht was the last archbishop to be buried at St Augustine's. Secondary also to the original construction was the westward extension of the church. This involved throwing the narthex into the nave and building a new

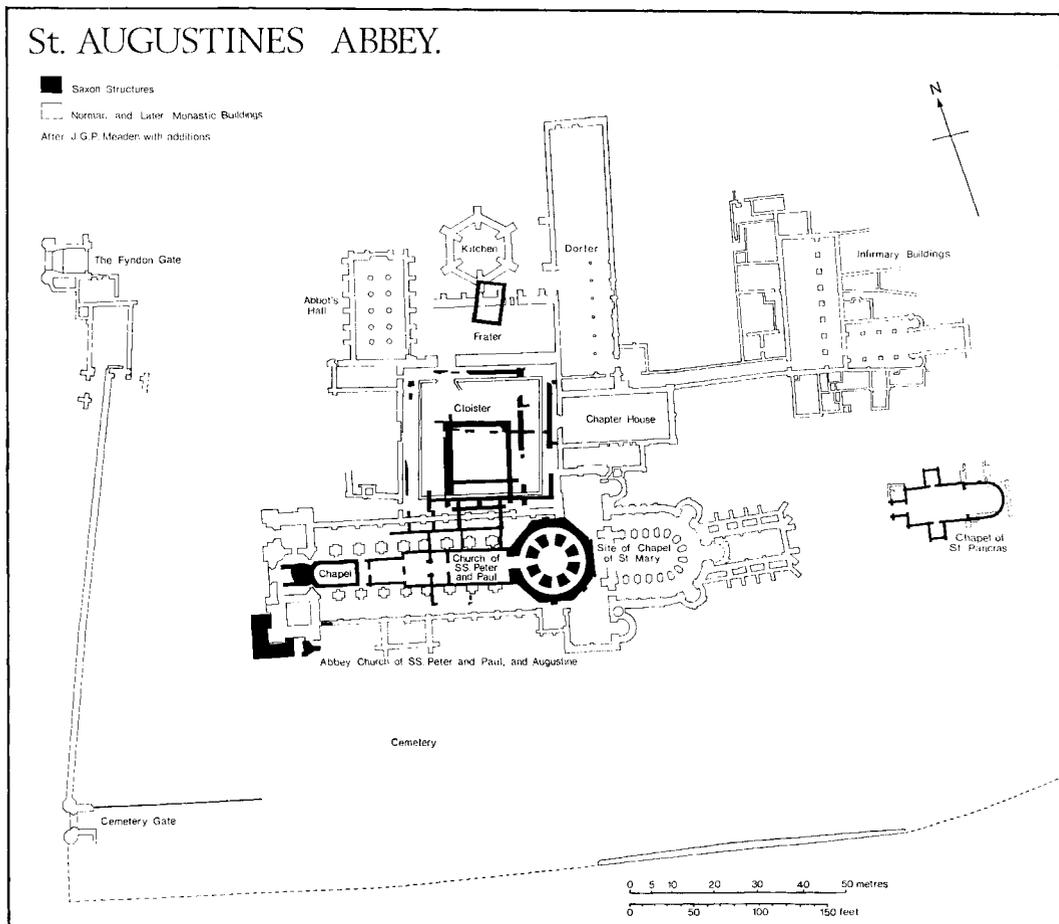


FIG. 1

Plan of the SW. portion of the monastic precinct showing the principal extant or excavated buildings

double narthex further W. This has been interpreted as being associated with Archbishop Dunstan's re-dedication of the church in 978, but there is no archaeological dating to confirm this.

Between 1049 and 1061 Abbot Wulfric undertook a grandiose scheme for linking the church of Sts Peter and Paul to that of St Mary by means of a large octagonal rotunda. The precise purpose of this is uncertain, and while it may have been intended to provide a more effective setting for the relics of St Augustine and his companions, it would have been in practice rather inconvenient for other liturgical functions. As it was, the project was abandoned incomplete on Wulfric's death. The remains of these structures were excavated, together with much of the abbey by Sir William St John Hope and Canon R. O. Potts during the first quarter of the present century but their work was never fully published. The

surviving pre-Conquest masonry is now about 3 ft. below the floor level of the Norman church begun by Abbot Scotland around 1073 and continued under his successors Wido and Hugh. Where pre-Conquest remains have not been totally removed by the construction of the late 11th-century foundations which carried the aisle arcades, they lie under the nave and part of the crossing. Of the Norman and later abbey church little remains above floor level: only the N. wall of the nave and the decayed stump of the Ethelbert Tower at the NW. survive to any height.

The excavations of the 1950s have produced fresh evidence for the pre-Conquest building history (FIG. 2), and can be divided conveniently into three areas. The first was centred on the mass of masonry at the SW. corner of the Norman building and indicated the existence of an earlier tower of pre-Conquest origin; the second, in the W. part of the nave of the Norman church, yielded the remains of a small 11th-century chapel with an added western apse, the third, in the E. part of the nave, revealed several successive floor layers and an eastern cross wall of the earlier church of Sts Peter and Paul.

EXCAVATIONS AT THE WEST END OF THE ABBEY CHURCH

CATALOGUE OF LAYERS. Sections A-B, C-D, E-F, G-H, J-K (FIGS. 3, 4)

	<i>Trench No.</i>	<i>Section</i>
(1) Backfill of 1920s excavations		
(2) 18th-century robber trench		
(2A) 17th-century backfill		
(3) Garden soil	IV	G-H
(4) Light brown soil and rubble	IV	G-H
(5) Grey-brown loam	IIA	C-D
(6) Foundations of Norman church. A raft composed of layers of buff mortar and rubble with tips of black soil, brown clays and spreads of mortar between the upper part of the foundation trench and the solid mortar and rubble raft		
(7) Chalk and yellow mortar	IX	C-D
(8) Dark grey loam	IX	C-D
(9) Mortar and gravel floor	IX	C-D
(10) Grey-brown loam	IX	C-D
(11) Black soil	II	C-D
(12) Orange mortar	II	C-D
(13) Black soil and human bones. The upper part of this layer was generally lighter in colour		
(14) Chocolate-brown loam (R-B make-up)		
(15) Light brown loam (R-B make-up)		
(16) Orange clay	I	J-K
(17) Chocolate-brown loam	I	J-K
(18) Orange clay	I	J-K
(19) Grey-green loam	I	J-K
(20) Grey-green silt	I	J-K
(21) Mixed grey-brown loam	I	J-K
(22) Dark grey-brown loam and charcoal	I	J-K
(23) Dark grey loam		

	<i>Trench No.</i>	<i>Section</i>
(24) Light grey clay		
(25) Yellow clay	II	C-D
(26) Gravel	IX	C-D
(27) Foundations of S. wall, layers of chalk and gravel	VIII	C-D
(28) Foundations of N. wall, chalk with courses of flints	VIII	C-D
(29) Apse foundations, layers of chalk, buff mortar and gravel	VIII	C-D
(30) Dark grey loam below medieval wall	VIII	C-D
(31) Chapel wall core, buff mortar, gravel and rubble	XII-XIII	A-B
(32) Orange clay	XII-XIII	A-B
(33) Buff mortar floor	XII-XIII	A-B
(34) Chalk and rubble foundations of chapel	XII-XIII	A-B
(35) Black-brown clay	XII-XIII	A-B
(36) Brown clay	XII-XIII	A-B
(37) Black soil in grave	XII-XIII	A-B
(38) Mortar and flint foundation for vestibule wall	XII-XIII	A-B
(39) Black soil (within vestibule)	XII-XIII	A-B
(40) Orange clay (within vestibule)	XII-XIII	A-B
(41) Light brown clay (within vestibule)	XII-XIII	A-B
(42) Black-brown clay (within vestibule)	XII-XIII	A-B
(43) Yellow buff mortar over layer of oyster shells	VIII	E-F

The re-excavation of the W. end of the abbey church (FIGS. 5, 6) began with the close examination of the vaulted structure which had been found by chance at the SW. corner of the Norman church (PLS. IX, X). The voussours of an arch over a soil filling were observed in the southern arm of a roughly L-shaped mass of flint and ragstone masonry now standing only about 4 ft. high above turf level. A similar vaulted structure was found subsequently in the western arm of masonry. The masonry takes the form of walls 9 to 10 ft. wide. These roughly built walls would appear to clasp the SW. angle of a tower that may have balanced the Ethelbert Tower at the W. end.

A trench (I) was cut at right angles to the arched structure in order to establish its character and its relationship to the early 12th-century foundations in this area. Section J-K (FIG. 4) was drawn on a line through the crown of the vault. Later, a section C-D (FIG. 3) was drawn on a line running N. and S. through the W. end of the church.

ROMAN LEVELS

Trench I, Section J-K (FIGS. 4, 5)

The foundation trench for the Norman work had been taken through 10 ft. of redeposited soil and clay, predominantly Roman in date, before an undisturbed level was reached. The natural light brown brick-earth capping hard brown gravel was, at its lowest point, 14 ft. 9 in. below the present turf which had been laid approximately at the floor level of the medieval church following the earlier excavations. Below a massive foundation raft of superimposed layers of buff mortar and rubble (6) was a thin layer of black rapid silt washed into the trench

from the Roman layers into which it had been cut. The silt contained an indecipherable 4th-century A.D. Roman bronze coin (ex catalogue). Beneath this silt the natural gravel had been disturbed by the cutting of a shallow gully filled with a mixed light grey clay (24). The gully with varying depth ran diagonally across the trench. The gravel immediately S. of it was black in colour but although it contrasted sharply with the more usual brown colour there was nothing to suggest that it was not natural.

A full cross-section of the Roman levels could be recorded S. of the early 12th-century raft under the 'vault'. The undisturbed brick-earth capping the gravel at this point did not have a uniform level. There was a fall towards the W. and a rise of nearly 1 ft. in the SE. corner of the 'vault'. The greatest depth of made-up ground below the crown of the 'vault' was 12 ft. 3 in. The upper 5 ft. had been disturbed at a later date but the lower layers were of compact loam or clay. Above the brick-earth was a continuation of light grey clay (24) with a thick deposit of dark greenish grey loam over it (23). Above were layers suggesting small quantities of tipped material (15-22) interleaved with a more substantial layer of light brown loam (15) which levelled off roughly 5 ft. above the natural. The direction of the tipping was from the S. These layers varied in colour from grey-green, orange to a chocolate brown. In them were scatters of small flints and some charcoal. There was no distinction in date between them or the grey-green loam beneath them. The amount of pottery found in them was considerable but very mixed in date. The bulk belonged to the 3rd and 4th century, yet it included some 2nd-century types. Above these more complex layers the make-up took on a more regular character. While containing a spread of flints and gravel there was a fairly uniform chocolate-brown loam (14) with a thick deposit of black soil (13) above.

The levelling off may mark an interval of time during the build-up of material.

Trenches II, IIa, VIII, IX, Section C-D (FIGS. 3, 5)

A similar build-up of loamy material of Roman date was traced across the whole of the area of the W. end of the early 12th-century church and indeed seems to extend towards the E. end of the nave. The depth at which the natural brick-earth or gravel occurred below the nave floor level varied from 13 ft. 6 in. on the S. (trench II) to 10 ft. below floor level in the NW. tower (trench IX). In IX there was as much as 4 ft. of brick-earth over the gravel. The gravel lay at a fairly uniform depth throughout the W. end. The varied thickness of brick-earth capping it, particularly towards the S., where it was non-existent in places, would suggest the deliberate quarrying of brick-earth over a wide area in Roman times. An indication that the top of the layer of brick-earth in IX may have been near Roman ground level was a gravel-filled gully, possibly a foundation trench (26) 11 in. deep and at least 21 in. wide (the northern edge of the gully had been cut away by later building operations). The gully was cut into the brick-earth and was aligned E. and W. Above it and the general level of brick-earth was a

thin layer of chocolate-brown loam (14) which produced pottery probably belonging to the 3rd century A.D.

The undisturbed Roman make-up became progressively deeper towards the S. and in II was 4 ft. deep. There was more evidence here for a gradual accumulation of material though not necessarily over a long period of time. The dark grey loam (23), the light brown loam (15) and chocolate-brown loam (14) are clearly 4th-century in content with colour-coated and imitation Samian wares.

Trenches III, V (FIG. 5)

In trench III, under the second 'vault' found in the W. side of the above-mentioned L-shaped mass of masonry, the natural brick-earth was found 6 ft. 9 in. below the crown of the vault, roughly 10 ft. 6 in. below nave floor level. Above it was a dark grey loam (23). In V, further E. than any trench so far mentioned, the natural brick-earth was 8 ft. 3 in. below nave floor level. Over this was light brown loam (15) with greenish grey loam spread unevenly over it. Capping this and only 7 ft. 6 in. below medieval floor level was a burnt dark brown clay 4 in. thick containing chalk, and burnt red tile. Chalk and tile with fragments of wattle and daub construction were particularly frequent in the SW. corner of the trench and may have come from a structure nearby. This and the layers below contained redeposited Romano-British material.

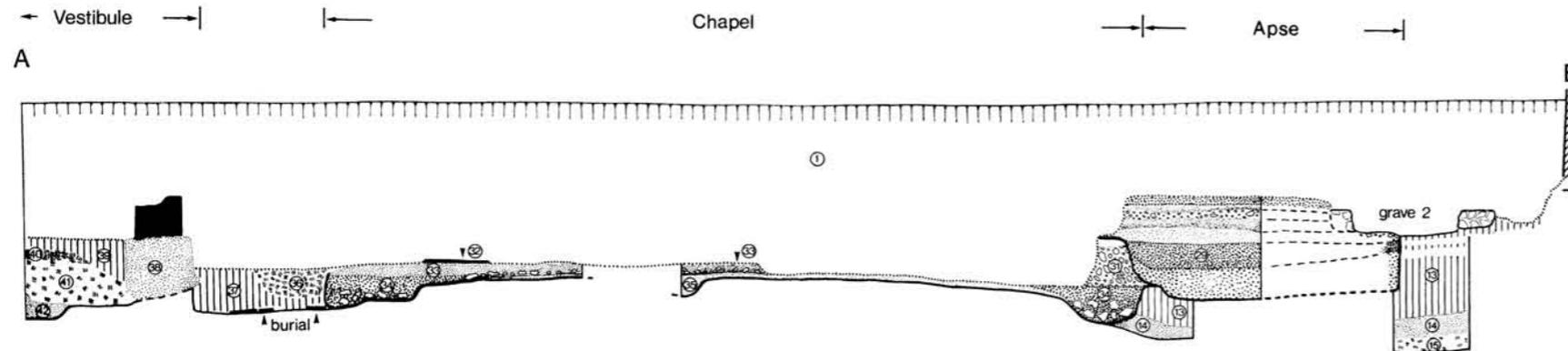
SAXON CEMETERY

Trench I (FIG. 5)

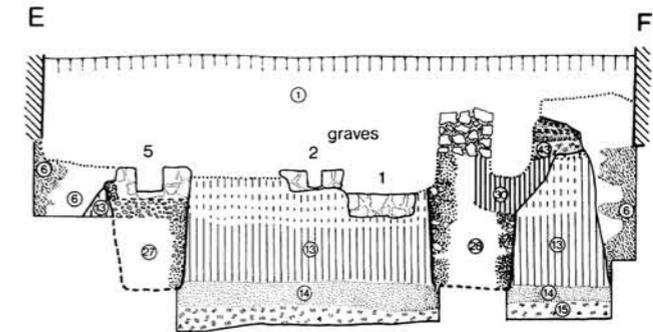
The arched, vault-like structure under which a full cross-section of Roman and later make-up could be seen extended through the thickness of the flint and ragstone masonry. At the springing level of the arch the 'vault' was 4 ft. 6 in. wide. The width steadily diminished as the side walls tapered inwards the lower they went. The upper 5 ft. of filling below the 'vault' had a similar loamy texture to the Roman levels below. Immediately under the arch there was a good deal of building rubble, flints and mortar. The upper 3 to 4 ft. of make-up was a lighter soil varying from dark brown to black in colour (13). Separating this well defined layer from the chocolate-brown loam (14) below was a scatter of gravel and grit and a thin band of orange clay.

The upper 5 ft. of make-up (13) had been much disturbed by the use of the ground as a cemetery. There had been considerable reburial so that many of the burials found were jumbled and disarticulated. Within the area of the 'vault', 10 ft. 3 in. by 4 ft. 6 in., in a total depth of little more than 2 ft. 6 in., parts of fourteen articulated skeletons were found. In addition a great quantity of disassociated human bones were recovered including a total of nineteen skulls or parts of skulls. The uppermost articulated skeleton occurred 2 ft. 3 in. below the crown of the arch, or about 4 ft. below floor level of the later medieval church. The lowest articulated skeleton was 4 ft. below the vault and there were other scattered human bones a few inches lower than this. Such an accumulation of graves and bones suggests that the use of the burial ground continued over a

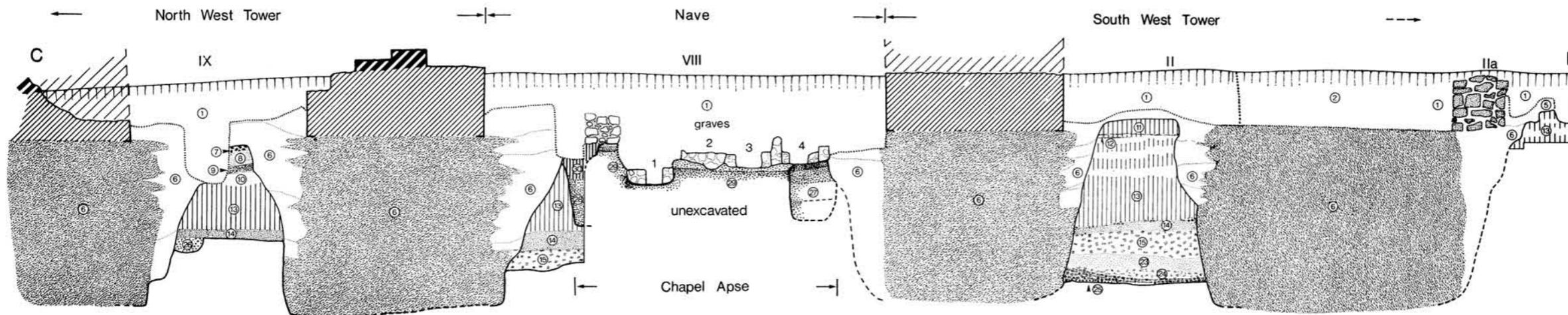
SAXON CHAPEL AND LATER GRAVES



Section A-B Trenches XII and VIII



Section E-F Trench VIII west side



Section C-D Trenches II, IIa, VIII, and IX.

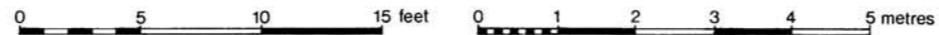


FIG. 3
W. END OF ABBEY CHURCH
Sections A-B, C-D and E-F

St. AUGUSTINES ABBEY.
Pre-Conquest Structures

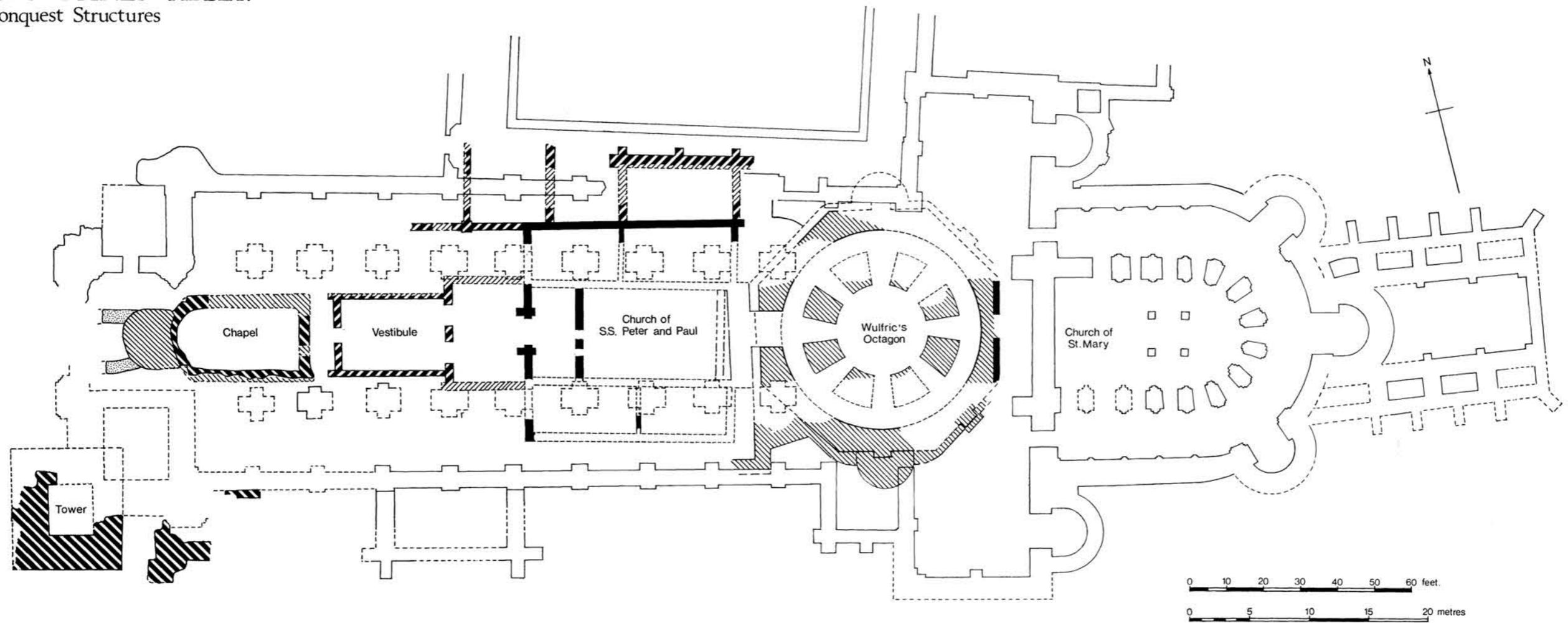


FIG. 2
THE ABBEY CHURCH
showing the pre-Conquest structures
(Black 6th-7th century; cross-hatched, right to left 8th-10th century, left to right 11th century;
stippled indeterminate)

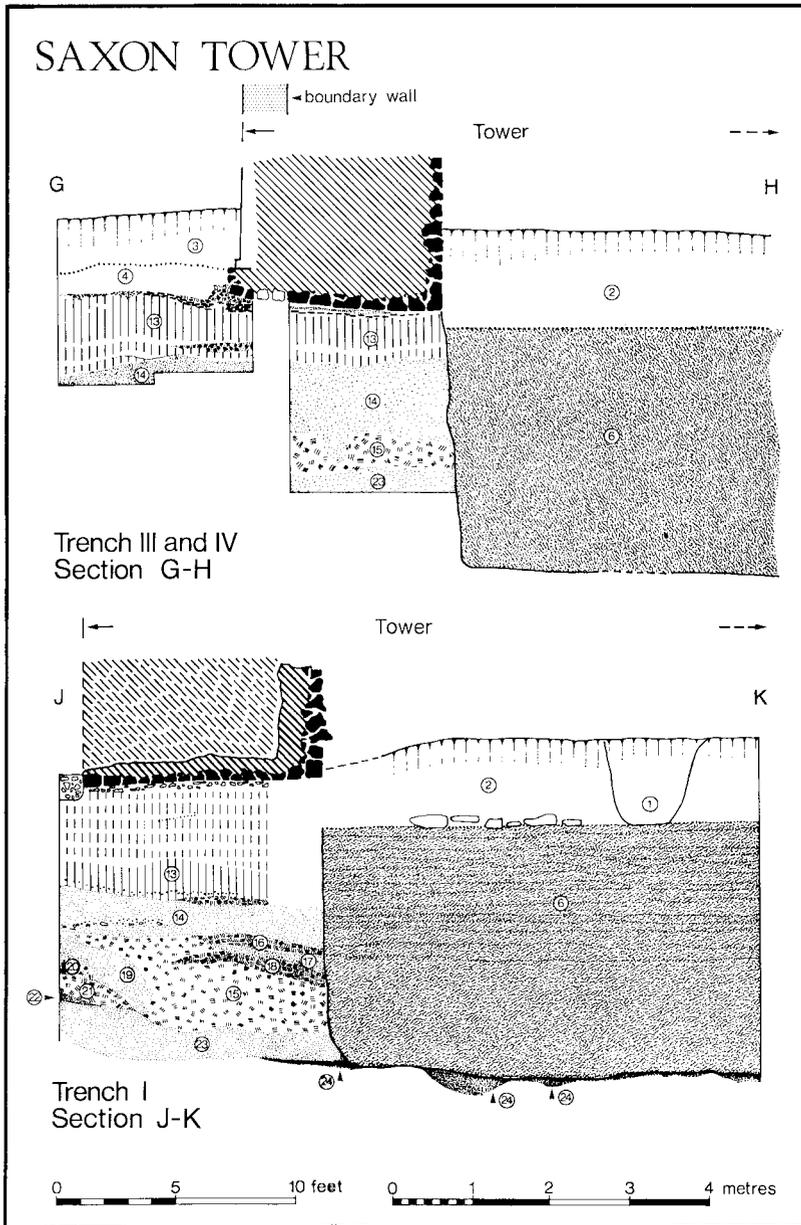


FIG. 4
SAXON TOWER
Sections G-H and J-K

number of years with little concern shown for earlier graves. The articulated skeletons were orientated with the feet to the E. The pottery associated with them was mainly 4th-century in date but included a wide range of Middle Saxon pottery (see Appendix 4) and an enamelled polychrome bead of Saxon type was found near the bottom of (13), 4 ft. 10 in. below the vault. Also thirteen 4th-century Roman coins were found (see Appendix 1).

Trenches II, IIA, IV, VIII, IX (FIG. 5)

As in Trench I a thick layer of generally black soil, though more dark brown higher in the layer, covered the purely Roman levels throughout the areas examined at the W. end of the church (13). Towards the W. in IV this black soil contained a good deal of Roman tile and rubble. Fourth-century pottery of good quality abounded but there were also Middle Saxon wares (see Appendix 4) including a sherd from a pitcher decorated with incised pendant triangles filled by impressions of a grille stamp from below the vault in III (FIG. 13, no. 2) group (IV) 6.

This Saxon cemetery extended across the W. end of the later medieval church and in the black soil (13) approximately 4 ft. to 7 ft. 9 in. below the turf were many burials. Inhumations were less numerous further to the N. and E. but nevertheless had been sufficiently concentrated to cause a good deal of disturbance among earlier burials. Disassociated bones were frequent within the 'vault' in III, only one articulated burial was found and the skull of another individual. This burial was the only one found unorientated. It was of an adult, lying on one side in a crouched position with head to the S. In II only one undisturbed grave was found but in VIII there were parts of four articulated burials and two skulls besides. In V the almost complete skeleton of a young person was found in a clearly defined grave. Nearby were the remains of another grave. The burial appeared to have been made in a wooden coffin of which one iron clench nail was recovered.

THE PRE-CONQUEST 'TOWER' (PL. IX)

The L-shaped mass of masonry in the SW. corner of the abbey church (FIG. 5) clearly preceded the laying of the foundation raft and therefore may reasonably be supposed to precede the laying out of the nave of the Norman church.

The excavation and removal of the 'vault' fillings (I and III) provided an opportunity for examining this enigmatic structure. The 'vault' in I arched over the space between two massive piers of masonry (PL. IX, A, B). The trenches for these piers had cut through the articulated burials of the Saxon cemetery, through the Roman make-up down to the gravel on the E. side. On the W. the builders were not so scrupulous and stopped 2 ft. short in the grey-green loam (23). The southern end of the E. side was 1 ft. 6 in. higher than the N. The sides of the construction trenches had been undercut substantially in order to produce a broader base for the piers. It was a feasible proposition, albeit a risky one, because of the stable character of the loam. The masonry piers where they were visible

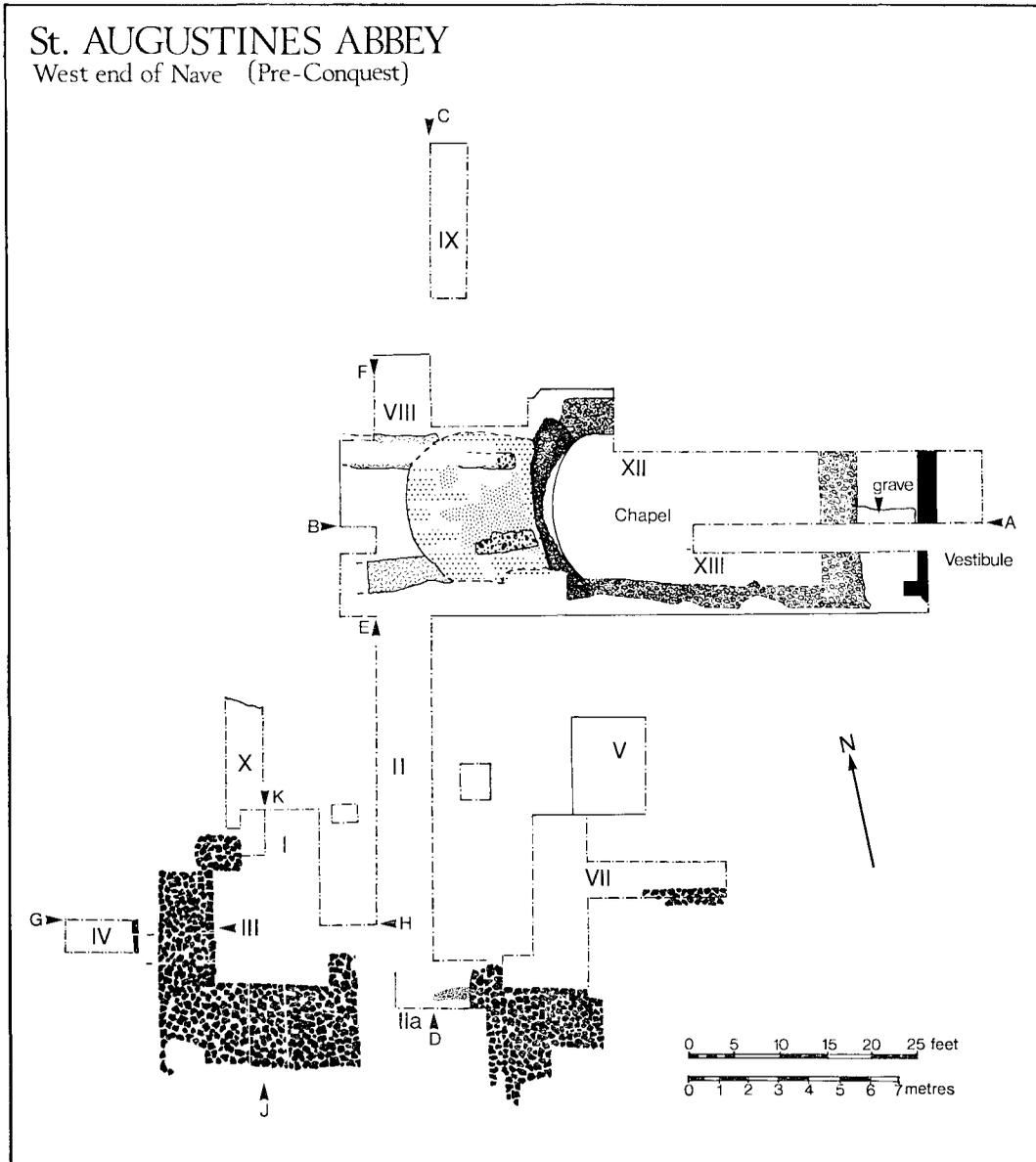


FIG. 5
W. END OF NORMAN NAVE
showing trench plan and pre-Conquest structures

were therefore battered by more than a foot. This had the effect of making the 'vault' opening in full elevation appear kite-shaped. At its bottom the 'vault' was little more than 3 ft. wide; in length 10 ft. 3 in.

The masonry piers were built unevenly almost entirely of flint and ragstone rubble as well as some re-used Roman material and were bedded in hard orange mortar. There were frequent bulges in the masonry where the sides of the trench had been uneven. Nearer ground level the masonry was better built with courses of large water-worn pieces of rag between the predominant flints. A good deal of mortar was poured into the trenches during construction. It was squeezed against the sides and adhered to the ends of the chopped-off bones of the burials. The arch of rough pitched stones had been constructed over the earth without any benefit of timber centering. The spring was uneven with the W. side about 1 ft. lower than the E.

Trench (III) was cut alongside the western arm of the L-shaped mass and was parallel to I. As a result the second 'vault' was discovered. It was constructed in a similar manner to the first except that the two piers were linked by a half arch. The masonry was similar but less care was taken with the foundations; neither pier was taken down to the natural brick-earth let alone to the firm gravel. The S. side was 7 ft. 1 in. below the springing of the arch, the N. was 6 ft. 9 in. Immediately below the arch within the 'vault' there was a mass of building rubble: three layers of light yellow mortar with a number of flints and Roman flue tiles beneath.

In order to discover the width of this piece of masonry and to expose the outer face of the vault, Trench IV was cut on the opposite side of the boundary wall separating the former St Augustine's Missionary College from the abbey site. The outer wall face was found, roughly and clearly trench-built. It had a width of 9 ft. The layer of Roman tiles and building material immediately under the vault continued beyond the line of the wall on top of the dark brown-black soil (13). Above this layer were remains of building rubble and chalk footings belonging to a comparatively modern structure, but below the chalk was a yellow mortar spread over a layer of tiles which did not extend into the section G-H. The 'floor' was associated with the massive wall. The western arm of masonry was 12 ft. 6 in. long internally with returns along the S. and N. The southern arm which contained the first-mentioned 'vault' (II), was of similar length. This arm also returned along the E. so that it can be inferred that the structure enclosed an area 12 ft. 6 in. square internally but with some irregularity in the angles if, as appeared, most of the N. and E. sides were abbreviated by the construction of the Norman foundation raft which butts up against the ends of the masonry. This suggested square structure may be the foundation for a tower employing massive and very irregular corner piers arched over at ground level thus tying the piers together. The rough masonry foundations were of unequal width since the southern side was more than twice as wide as the northern. Above ground level the 'tower' remains stood to a height of between 3 and 4 ft. Within the two remaining sides of the 'tower' on the surface of the foundation raft were a few stones from the robbed out Norman masonry foundations. It was perfectly clear

that the foundation raft and the masonry piers had been constructed at different times and that the raft was secondary. The raft and the largely robbed out foundations above it had been built against a pre-existing structure.

Another more shapeless mass of similar masonry stood 6 ft. to the E. and further E. again another mass appeared beneath the modern boundary wall on the S. side of the abbey site. The outer face of the masonry on the W. side was uncovered in IIA but it was not examined down to the bottom of the foundations. The masonry had the same character as that of the 'tower' to the W. with a hard orange mortar and trench construction. At ground level the early masonry had been refaced in ashlar on a different line. Much of the ashlar had subsequently been robbed but similar refacing which has survived to a much greater extent had been applied to the abbreviated ends of the 'tower' walls SW. of the Norman nave.

In the 6 ft. wide space between the two structures were the traces of a floor above the black soil (13) of the Saxon cemetery. All that was left was a tongue of white mortar made up with stone chippings and lying on a layer of broken Roman tiles, flints and fragments of *opus signinum*. Very little of this floor survived. The tongue of white mortar floor extended westwards from the face of the eastern masonry mass and was clearly associated with it. It had been cut by the digging of a grave to the S. and on the N. by the construction of a wall across the gap between the two masonry masses at some time in the later Middle Ages. The wall was 3 ft. 6 in. wide built of chalk bonded with a hard, fine textured, pale orange mortar.

The southern face of this second mass of masonry was traced (VI) for a length of at least 9 ft. 6 in. before the boundary wall prevented further examination. Although similar in every other respect to the western 'tower' there was no evidence of a vaulted construction in this length of foundation wall. Examination of the most easterly outcrop of masonry (VII) produced an eastern side to what may have been a square tower-like structure similar to that identified further W. Further excavation is in progress (1978) to elucidate the character of the eastern mass of masonry and its relationship to the western 'tower'.

Further to the E. within the Norman S. aisle ephemeral traces of structures in the same stratigraphical relationship as the Saxon buildings in VII, XII and XIII as well as the 'tower' were recorded in V. A band of chalk 2 ft. 3 in. to 1 ft. 9 in. wide extended in a N. and S. direction across the trench immediately E. of the 15th-century foundations. At right angles to the chalk was a band of burnt clay with a straight edge, the other having been removed by the Norman foundation trench. Burnt daub and charcoal associated with the clay suggested the former existence of a wattle and daub structure.

THE TWELFTH-CENTURY WEST FRONT

The nave of the Norman church was eleven bays long, and, closing the end of the N. aisle, stand the remains of the NW. (Ethelbert) tower, much of which until 1822 remained almost to full height. Several drawings have preserved the

former grandeur of this tower before its collapse. Sir Alfred Clapham considered it among the most ornate and elaborate examples of enriched Romanesque work in the country and that its loss was a major artistic disaster. It was built about 1120-30. Part of the ground story remains today with some indications of its stone vault. Early drawings show that there had been a tower at the W. end of the S. aisle of much the same plan as the Ethelbert Tower but that it had collapsed by the 18th century and its fallen fragment was removed when the Hospital was built in 1791-3.²

In order to elucidate the complicated structure at the SW. it was decided to examine the foundations of the Ethelbert Tower at the NW.

NW. (Ethelbert) Tower, Trenches VIII and IX, Section C-D (FIGS. 3, 6)

The S. wall of the tower and its foundations were examined in detail and also the inner face of the N. wall. The construction of the two sides was identical. A wide trench had been dug through the loam make-up of Roman and Saxon date and the natural brick-earth until firm gravel was reached. The foundation trench was over 13 ft. wide at its bottom and about 20 ft. wide at the top (6) and was largely filled by the lime concrete and rubble foundation raft. The sides of the trench were cut back on a slope of varying angles. The bottom 3 to 4 ft. were soundly packed with a yellow-buff mortar. Above this a growing quantity of the excavated loam was back-filled at the edges of the trench in a controlled operation which allowed the various tipplings of mortar to wash over the loam and form lenses of mortar within it. Black soil was tipped in first against the trench sides and above that a dark brown clay. Mostly it was a mixed filling of grey-brown loam which produced sherds of the ubiquitous Romano-British wares. The foundation raft had more and more flints, Roman tiles and building rubble mixed in the mortar. The rubble was usually put down in layers and nearer the top the yellow buff mortar was divided by bands of orange sandy mortar. At a point between 3 ft. 9 in. and 4 ft. 6 in. below the nave floor level the mortar raft was levelled off and on it masonry foundations 4 ft. deep were constructed. The masonry foundations of both the N. and S. walls were 11 ft. wide and set back roughly 2 ft. from the edge of the raft and 3 ft. 6 in. to 4 ft. 6 in. from the edges of the foundation trenches. The masonry foundations were built free standing and were well constructed in roughly coursed ragstone.

SW. Tower, Trenches VIII, I, II and IIA, V, VI and X, Sections C-D and E-F (FIG. 3)

The foundations at the SW. end of the Norman nave are closely similar to those of the Ethelbert Tower except along the S. side where they abut the earlier masonry. For the N. wall there was a widely splayed trench 17 ft. wide at the top and just over 20 ft. deep. The bottom 5 ft. was solid yellow-buff mortar but above that mortar and rubble had been tipped back in conjunction with the filling of loam against the edge of the trench.

The character of the foundations for the S. wall is much different although along part of its northern side there is a similar back-filling of loam between the

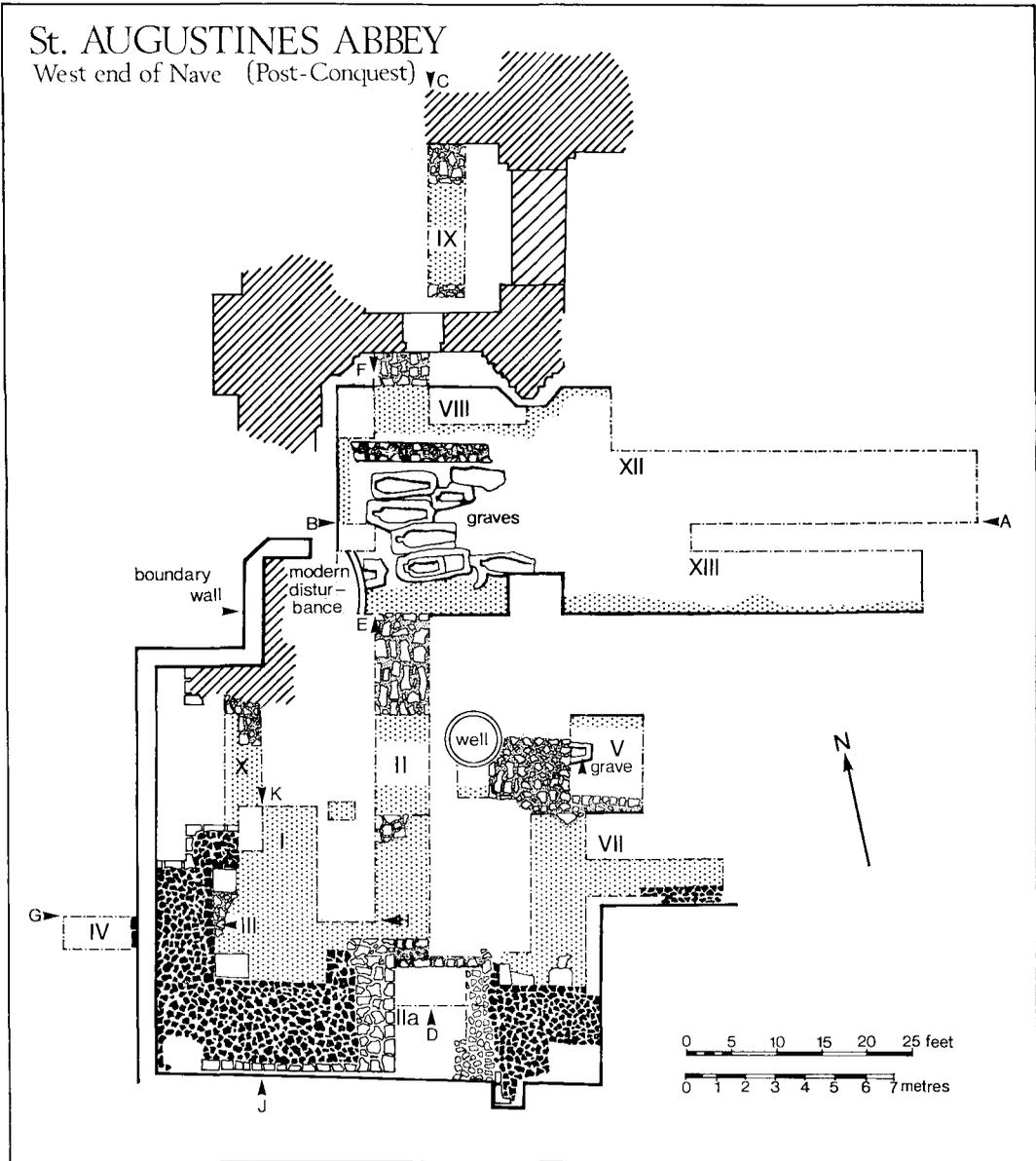


FIG. 6
 W. END OF NAVE
 showing post-Conquest structures

mortar raft and the trench side that has been noticed elsewhere. The foundation raft's greatest width was 19 ft. and here, where it filled the interior of the pre-Conquest 'tower', it became considerably more massive. At the point where the southern side could be examined (against the Roman make-up within the vault in I) the foundation trench side was nearly vertical and there were no tongues of mortar interleaved with back-filled loam and clay. Very little of the masonry foundations above the raft such as were found in the Ethelbert Tower survived. On the evidence of clay pipes in the backfill these had been almost entirely robbed out in the 18th century with the exception of three large blocks of Kentish Rag in which lewis holes had been cut and which were presumably of Roman origin (PL. X, A). These large stone blocks had been laid in the internal angles of the western and eastern 'towers' on the very edge of the raft, and abutting the face of the earlier masonry. The largest block in the SW. corner was 4 ft. 2 in. long, 2 ft. 8 in. wide and 1 ft. 10 in. high.

The line of the western face of the nave foundations was traced in X. They followed the pattern set in the NW. tower. In V, foundations containing dressed Caen stone and flints in a very hard orange mortar for a later 15th-century wall closing the S. aisle from the interior of the SW. 'tower' were found. This was paralleled by a similar wall in the Ethelbert Tower; part of a major remodelling of the W. end of the church. The foundations in V had cut a stone-lined grave built in flint and white mortar. The foundation trench for the S. aisle had mutilated another grave cut into the black soil which contained an articulated skeleton of a youth (noted above).

THE PRE-CONQUEST WESTERN CHAPEL (PLS. X, B; XI; XIII)

The trench (II, VIII, IX), originally cut across the length of the Norman W. end in order to compare the plan and foundations of the N. and S. towers, led to the discovery of features unrecognized by earlier excavators and to the consequent extension of the excavations to re-examine the W. end of the nave of the Norman church (PL. XI).

In the 1920s the discovery of a number of empty graves S. of a masonry wall 56 ft. W. of the enlarged church of Sts Peter and Paul recalled to the excavators the words of the chronicler Goscelin, who wrote that Abbot Scotland, when pulling down St Mary's Church in the 1070s, transferred the remains of those bishops and abbots who had been buried there, together with the remains of three kings of Kent, and a king of the West Saxons, with their queens and children, and placed them in the western tower of the monastery before the altar of St Mary until the new church was rebuilt.

The graves found in the 1920s and the site of the supposed western tower of the pre-Conquest monasteries were re-examined (Trench VIII) and, when cleaned, a semicircular area of chalk and mortar was visible beneath the graves (PL. X, B). In addition, two roughly parallel lines of chalk footings extended east and west across the trench. This discovery led to the re-excavation of the whole western end of the Norman nave between the aisle foundations as far E. as the

western end of the extension, known as the 'vestibule', of the Saxon church of Sts Peter and Paul. Two main cross-sections were established. The first (C-D) N. and S. across the graves and the semicircular area of chalk and mortar below them, and the second (A-B) E. and W. down the centre of the nave.

Trench VIII, Section C-D (FIGS. 3, 5, 7)

At the western end of the nave, the earlier excavation had been taken to a depth of 6 ft. below church floor level and had been back-filled with a light brown soil and rubble (1). Marked out in the turf in mortared flint rubble was the plan of the supposed W. tower of the Saxon monastic complex.

The masonry footings for the N. and S. aisles and its western closure survived to turf level. They were 11 ft. wide and 3 ft. 6 in. to 4 ft. 7 in. in depth. These masonry foundations were set, as has been described above, on massive rafts of yellow-buff mortar and rubble (6) and were identical N. and S. A certain amount of pottery was found in the layers of clay between the raft layers and the sides of the foundation trench but it was all residual Roman wares with no Norman fabrics which could be associated with the construction of the church.

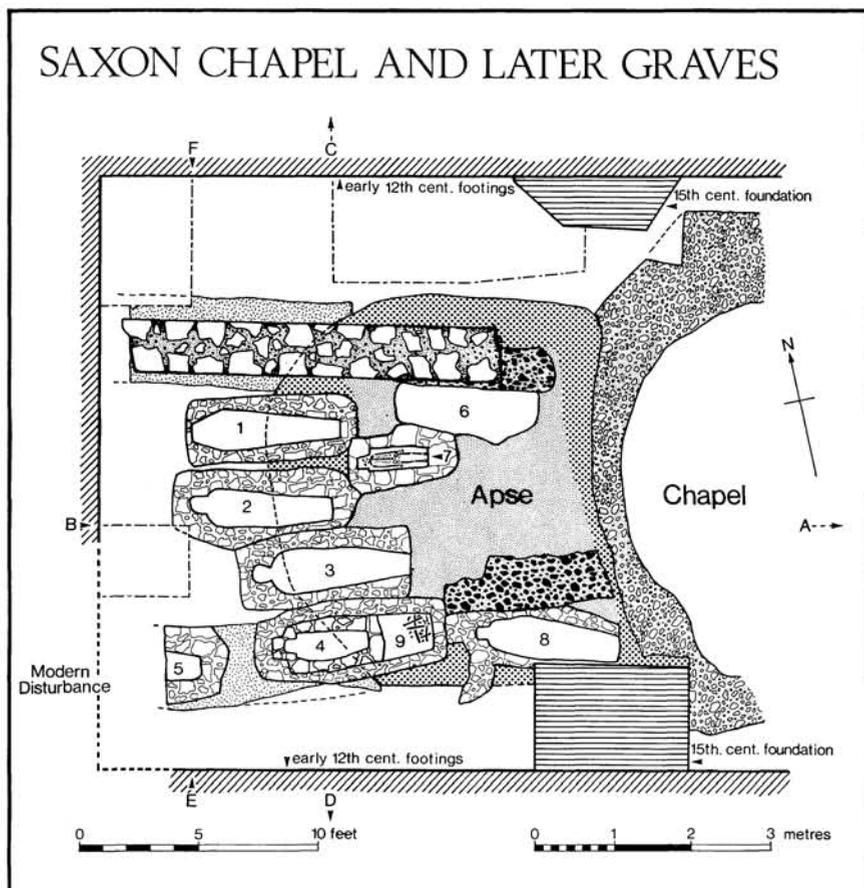
The trenches for the foundation rafts had been cut through the thick deposit of black soil (13) and chocolate-brown loam (14) which were continuous across the W. end of the nave. However, in II and IX there were later layers which survived in small patches. In II two thin spreads of a greyish mortar remained; these were above an upper layer of black soil (11) which was separated from (13) by a spread of yellow mortar (12). In IX there was a succession of mortar and gravel spreads with rubble layers (7), (8) and (9) over a grey-brown loam (10).

Graves (FIG. 7; PL. X, B)

Between the aisle foundations in VIII were the graves discovered in Canon Potts's excavations. The graves, with the exception of No. 6, were lined with masonry walling which had formerly enclosed the burials themselves. There were nine graves in all. Immediately to the N. of them was a well-built wall, 17 ft. in length. The graves had the following characteristics:

1. 'Coffin-shaped' with tapering sides, 6 ft. 9 in. long, 1 ft. 11 in. at its widest point, tapering to 9 in. Built of flint and chalk blocks with a reddish orange mortar distinct from that of other graves. The walls were roughly rendered externally in mortar and were 1 ft. to 1 ft. 2 in. deep. Internally the walls were covered with white plaster which retained the impressions of wood fibres from the coffin. The grave had been cut into the black soil (13) and had no distinct bottom or floor. However, the eastern half of the grave was set on a layer of chalk. There was no burial remaining.

2. South of No. 1 and distinct from it. The grave outlined in masonry was 'body' shaped with a recess for the head. It was 6 ft. long and 1 ft. 6 in. at greatest width. The surrounding walling was 9 in. to 1 ft. in depth and of irregular width. It was built with flints and ragstone with a yellow mortar and had been built against the N. side of No. 3. The inner face was roughly rendered and there was no distinct bottom, other than the black soil (13) into which the grave was set and a layer of chalk and rubble at the east end. There was no burial remaining.



3. Similar in form to but earlier than No. 2 and slightly more 'naturalistic' with rounded head recess and curved shoulders. It was 6 ft. 6 in. in internal length and 1 ft. 10 in. at greatest width. The surrounding masonry walls were roughly finished externally and on the S. side had been built against No. 9. They were 11 in. to 1 ft. deep and built with a yellow-buff mortar. The inner face was finely constructed with small pieces of limestone rubble and plaster. Like the other graves there was no bottom to the lining except for a flat stone laid for the head recess. No burial remained.

4. Child's grave 3 ft. 6 in. long and 1 ft. 3 in. wide inserted into an adult's (No. 9). The lining, 9 in. deep, consisted of flints and re-used tiles set in a whitish mortar. The form was 'body' shaped with a squared head recess. No burial remained.

5. The eastern end only of a burial which had been largely removed by post-Dissolution disturbance in the SW. corner of the nave. It appeared to be that of an adult and, if this was so, had been constructed hard up against the foundation of the W. wall of the Norman church. The walling was bonded with a yellow-buff mortar similar in character to that of No. 3. The top of the masonry surround had been covered with a white plaster. The walls were 10 in. to 1 ft. 2 in. thick and 1 ft. deep.

6. A grave pit without a masonry lining, irregular in shape; 6 ft. 2 in. long and dug up against the masonry wall bounding the graves to the north. There was, again, no trace of a burial.

7. Child's grave roughly 'body' shaped but with squared head recess and square 'shoulders', 3 ft. 2 in. long and 1 ft. 1 in. wide. The lining was built in large blocks of Caen stone and a whitish buff mortar. It was apparently earlier than No. 1 and No. 2 and had had a stone lid.

The grave contained an articulated skeleton of a child no more than five years old.

8. Adult's grave with very irregular grave lining, clumsily built in ragstone with a yellowish buff mortar. 'Body' shaped with small squared head recess, 6 ft. in total internal length, 1 ft. 9 in. wide and sides 10 in. high. The S. side of the lining had been built over by the foundations for the 15th-century western alteration.

9. Adult's grave and perhaps the earliest to be constructed. 'Body' shaped with square head recess. The lining was roughly built of flints and some re-used tile with a yellow mortar similar to No. 2. The walls were only 7 in. to 8 in. thick and had been rendered with a white plaster. The grave was 6 ft. 9 in. long and 2 ft. 6 in. wide. It had been re-used for grave No. 4. Bones from the original burial had been piled at the foot of the grave, presumably when the child's grave was inserted. The sides had been corbelled out to produce a continuous cover which had been flat topped. Very little of this remained. In the modern backfill over these graves were two limestone coffin lids. One of them belonged to a child's tomb and was almost 4 ft. long, 1 ft. 7 in. wide and 6 in. thick. The stones showed marks of diagonal tooling but no inscription.

The black soil (13) into which the stone-lined graves had been partially dug, itself contained the remains of the Saxon cemetery mentioned above (p. 30), with burials generally about 1 ft. below the top of the layer. There were the partial remains of four articulated burials correctly orientated with feet to the E. in accordance with Christian practice. The skeletons were incomplete. The upper part of all but one of the bodies had been removed when the Norman foundation trench for the W. end of the church was dug and, in the other case, when the earlier curved chalk foundations on the E. side of VIII were constructed. As well as these articulated burials there were the disturbed remains of earlier inhumations including a crushed human skull and remains of a child's skull and ribs.

The Saxon Chapel, Trenches VIII, XII, XIII, Section A-B (FIGS. 3, 5, 7)

The structures found in VIII below the stone-lined graves belonged to three, possibly four phases. The first phase consisted of two roughly parallel chalk wall footings 10 ft. apart (PL. XII, A). There was no evidence to prove that they were contemporary, but this interpretation is suggested. These foundations were constructed in trenches of similar depth which had cut through and were later than the Saxon burials mentioned above. The northern of the footings (28) was 3 ft. 9 in. wide and composed of rammed chalk with courses of flints. The southern one (27) was slightly narrower and constructed in layers of chalk and gravel. Both wall footings were curtailed on the W. by the Norman foundations and more particularly by modern disturbance to the S. On the E. they were cut by a curving line of foundations subsequently recognized as an apsidal extension to a chapel (PL. XII, A). These foundations had also been built in layers (29): 4 in. of chalk, 4 to 12 in. of buff mortar and over 10 to 15 in. of gravel. The section C-D (FIG. 3) does not fully illustrate the fact that the apsidal structure cut through

the parallel footings, forming a subsequent phase. On top of the apse foundations was a buff mortar with traces of tile, chalk and flint.

A third phase is represented by the stone wall aligned E. and W. seen by the earlier excavators, and identified by them as part of a Saxon western tower. This wall is built over the northern chalk and flint foundation at the point at which it is cut by the foundations of the apse (PL. XII, A). Here too the apse's northern edge had been cut by a pit filled by grey-brown soil and chalk (30) with the wall overriding the filling. The masonry wall is 2 ft. 3 in. wide, strongly built with a yellow pebbly mortar bonding flint, ragstone and some dressed Caen stone. The masonry contains some re-used architectural fragments including part of a jamb with a double chamfer with pinkish mortar adhering to it. The presence of re-used Caen stone strongly suggests that the wall is post-Conquest. Its late date is also confirmed by the fact that the western end of the wall oversailed the edge of the filling of the 12th-century foundation trench. To the N. of the wall and only visible in section E-F (FIG. 3) was an irregular spread of yellow-buff mortar over a layer of oyster shells (43) which was completely dissociated from any other feature by the later disturbance on either side of it. It had been cut by the north aisle foundation trench but was later than the infilled cut into the N. side of the apsidal extension to the chapel (30). It presumably belonged to an indeterminate phase between the destruction of the Saxon buildings and the setting out of the Norman W. end of the church.

Almost the whole of the western end of the Norman nave between the aisle foundations was re-excavated. The eastern limit of the excavated area included the western wall of the 'vestibule' of the church of Sts Peter and Paul (Trenches XII and XIII, Section A-B; FIG. 3).

When the modern back-filling was removed and the whole area cleaned, a uniform spread of mortar and gravel with the mutilated remains of a western apse could be seen (PL. XI). Against this apsidal end, and surviving at a higher level was a roughly D-shaped apsidal extension with its surface cut by the stone-lined graves already noted above. The earlier apsidal structure was identified as a small church or chapel.

The remains of the chapel were little more than its floor plan with a little upstanding wall core to the W. The southern side of the chapel had been damaged by the cutting of the Norman foundations and, elsewhere, the remains had been partially removed by the excavators in the 1920s. There was, however, sufficient evidence to suggest that the internal dimensions of the chapel were approximately 32 ft. long by 16 ft. wide. The upstanding walling in the western apse consisted of a core of layered construction containing buff mortar, gravel and rubble, re-used Roman tile and lumps of *opus signinum* with a thin layer of light brown mortar capping it (31) (PL. XIII). The core rested on a foundation of chalk and rubble 4 ft. 6 in. wide and nearly 2 ft. deep (34). The wall had presumably been faced internally but this as well as its outer face was missing. Enough of the core remained to project the line of a rather flattened apse.

The chapel floor consisted of a layer of whitish buff mortar with a bottom of flints (33). Roughly two-thirds of the floor area of the chapel remained. The

mortar was similar to that used in the core of the apse wall. At the western end where a good deal of this mortar base had been removed a foundation of chalk and rubble 1 ft. 3 in. deep and 4 ft. 3 in. wide was visible along the southern side of the chapel similar to the foundation below the apsidal wall. This foundation of flints and chalk for the side walls was traced along the southern edge of the floor where it had not been cut away by the Norman foundations. On the N. the outer face of the foundations could be seen and it could be established that they had been trench built into the black soil (13). The chapel floor was generally even, with only occasional flints, tile or ragstone projecting through the surface. How far the even nature was due to the effect of earlier excavation was difficult to judge. The make-up of the floor contained a few bones, oyster shells and painted Romano-British wall plaster. A small sherd of 'Stamford' ware was also embedded in the mortar suggesting a construction date unlikely to be much before the mid 11th century (see Appendix 4, viii). Above the floor were patches of orange clay (32) and also a spread of chalk. Between the floor and the natural brick-earth and gravel was an uneven and irregular layer of dirty black clay (35), 1 to 2 in. thick containing some sherds and human and animal bones.

The D-shaped addition to the chapel (PLS. X, B, XIII) was built against the core of the earlier apse and lapped over its remains (a thin layer of black soil separated the two). As was recorded in VIII the foundations of the added apse were built in a layered technique — a thick layer of brown gravel resting on the black soil (13), a thick layer of chalk followed then flint and mortar, buff mortar, gravel and flints, light brown mortar and capped by chalk (29). The foundation was 4 ft. 6 in. deep in all. The floor of the apsidal extension was marked by a thin spread of light orange mortar over the chalk and it was this surface which had been cut by the stone-lined graves Nos. 1-9. This floor was 3 ft. 3 in. above the floor of the chapel itself. On the floor surface were two fragmentary walls, parallel and 7 ft. apart, each 1 ft. 9 in. to 2 ft. wide (PL. XII, A). The northern of the two walls was partly obscured by the later masonry wall riding up over the remains.

In order to discover the relationship between the small western facing chapel and the previously excavated remains of the various western extensions of the church of Sts Peter and Paul, XII and XIII were extended beyond the wall of the 'vestibule'. The W. wall of the 'vestibule' consisted of four roughly laid courses of flint with some re-used tile bonded by a whitish grey mortar. It was slightly less than 2 ft. wide with no regularities. The W. or outer face was rendered with mortar and had an offset. The inner face had a distinct batter and was slightly curved. Below the offset were trench-built foundations 2 ft. 6 in. to 3 ft. deep with much re-used material including an enormous sarsen or sandstone block at least 9 ft. 6 in. long. The foundations had been dug into an earlier grave. At the SW. corner was a thin buttress bonded into the W. wall. The internal floor level of the 'vestibule' was clearly above the level of the offset but nothing of it survived. It was likely to have been nearly 2 ft. above floor level in the western chapel. There was no stratigraphical relationship between the 'vestibule' and the chapel. Whatever might have existed had been removed in the earlier excavations.

Between the 'vestibule' and the chapel, and earlier in date than either, was a

grave (37) containing the skeleton of an adult whose head and neck had been removed in the construction of the chapel (PL. XII, B). The grave was notable for the deliberate positioning of stones about the feet of the skeleton. The left foot was pressed up against a small stone at the end of the grave, the right foot lay on a stone and another stone was found between the legs about 2 in. above the ankles. Staining on the clay bottom of the grave suggested decayed fabric, possibly of a shroud (see Appendix 8). The black soil XII (37) contained a sherd of an Ipswich type cooking pot (see Appendix 4, vii).

Within the 'vestibule' beneath layers of black soil (39), orange clay (40) and light brown clay (41) was a pit in the SE. corner of the trench filled with dark brown clay (42) containing flecks of charcoal. The pit filling had been cut by a grave. Only the western end of the grave was visible in the section, sufficient to expose the top of a skull resting on a large flint and a piece of tile with two large flints below that as if the skull was resting on a pillow of stones. A large square-headed nail came from the grave filling.

EXCAVATIONS IN THE PRE-CONQUEST CHURCH OF STS PETER AND PAUL

Following upon the work at the W. end of the abbey church some small-scale trenching was done in 1957 and 1958 to establish particular points with respect to the original monastic church of Sts Peter and Paul and to obtain comparative evidence for floor levels.

In the N. porticus about 6 in. of rubble was removed in the very limited area available N. of the original church. This was sufficient to expose the external wall face of the church and the stubs of the walls of the additional N. porticus clearly butt-jointed against the porticus of St Gregory. It was also clear that there was a constructional difference between the additional N. porticus and the undated N-S. wall further to the W. The former was built in ragstone and flint, bonded with pink mortar; the wall to the W. had a distinct white mortar. The previously published plan shows the existence of a bench against the outer face of the early church between the two northern additions. The only surviving evidence for this now is a solitary block of ragstone.

Among the unpublished plans of the early excavations is one by 'W.S.' which shows the extent of the surviving floor surface in the nave and narthex of the first church and the extent of later disturbance generally due to grave digging (FIG. 8). A comparatively modern well was recorded in the plan, and this was relocated in order to obtain a section through the church floor with the minimum of further disturbance or destruction.

CATALOGUE OF LAYERS

- (1) 1920s backfill
- (2) Pink crushed brick floor
- (3) White mortar over broken tiles
- (4) Dark red concreted brick chip floor
- (5) White mortar

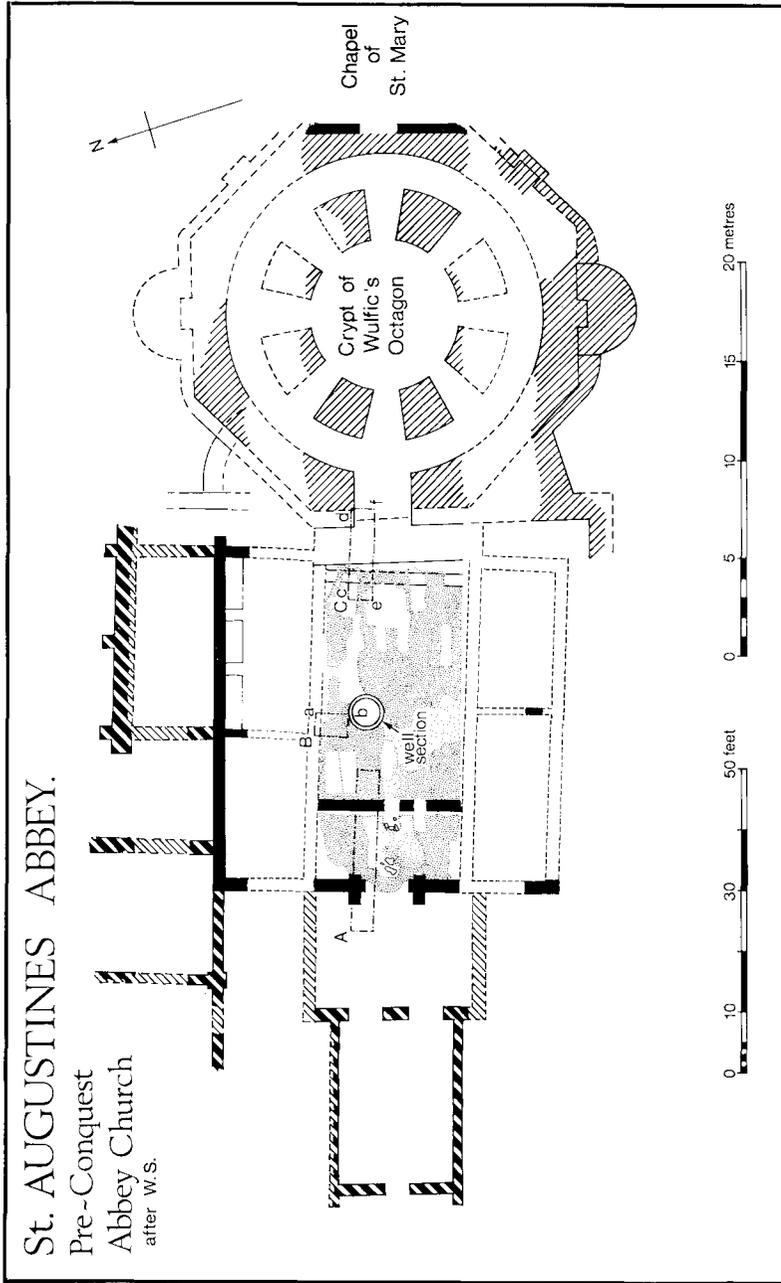


FIG. 8
PLAN OF PRE-CONQUEST ABBEY CHURCH
after W.S.

- (6) Buff mortar
- (7) Concreted brick chip floor
- (8) Mixed brown loam
- (9) Black soil
- (10) Chocolate-brown loam
- (11) Pink-buff mortar
- (12) Yellow sand with red surface
- (13) Chalky-white mortar
- (14) Purple-white mortar and flints
- (15) Wall foundations
- (16) Post-hole, mixed earth and mortar filling
- (17) Rubble foundations, buff mortar
- (18) Rubble, chalk and gravel foundations
- (19) Chalk
- (20) Grey loam
- (21) Brick-earth (natural)

Well Section (FIG. 9)

Part of the brick well-lining was removed to provide a section 2 ft. wide. The early church floor was 3 ft. below present grass level and the earlier excavation backfill (1). The turf represents approximately the floor level of the Norman church. There were three distinct superimposed floor surfaces below. The latest (2) was a level floor resembling *opus signinum*, light red in colour, and containing a considerable amount of chalk as well as brick chippings. The surface was a thin layer about 2 in. thick. Towards the W., this floor was laid directly on an earlier floor of concreted brick chippings containing more brick in its make-up and with a black to dark red finish (4). This floor was uneven and stepped down 3 in. towards the E. The intervening space between the earlier and the later floor was made up by a layer of broken tiles over white mortar containing specks of charcoal (3). Below the earlier floor (4) was another layer of white mortar (5) separated on the eastern side from a thick layer of buff mortar (6) by a skim of black soil. In the centre of the section was more broken tile and to the W. a wedge of brown loam below the white mortar. Underneath these layers was a third floor surface of concreted brick chippings (7) a little more than $\frac{1}{8}$ in. thick laid directly on a mixed brown loam (8). Again there was a step up to the W. which was reflected in the floor above. Below the mixed brown loam was a similar pattern to that recorded at the W. end of the church: black soil containing Roman pottery (9). But here, at any rate, there was no trace of burials. Below the black soil a chocolate-brown loam (10) capped the natural brick-earth.

Subsequently three trenches were opened to confirm particular relationships within the nave of the Saxon church. The trenches were of a very limited nature since the objective was to re-open the work of the 1920s, to examine the nave floor and such walling as was visible, and only to excavate below floor level at the points where it had been previously cut by graves or earlier trenching. As a result only certain general observations can be made.

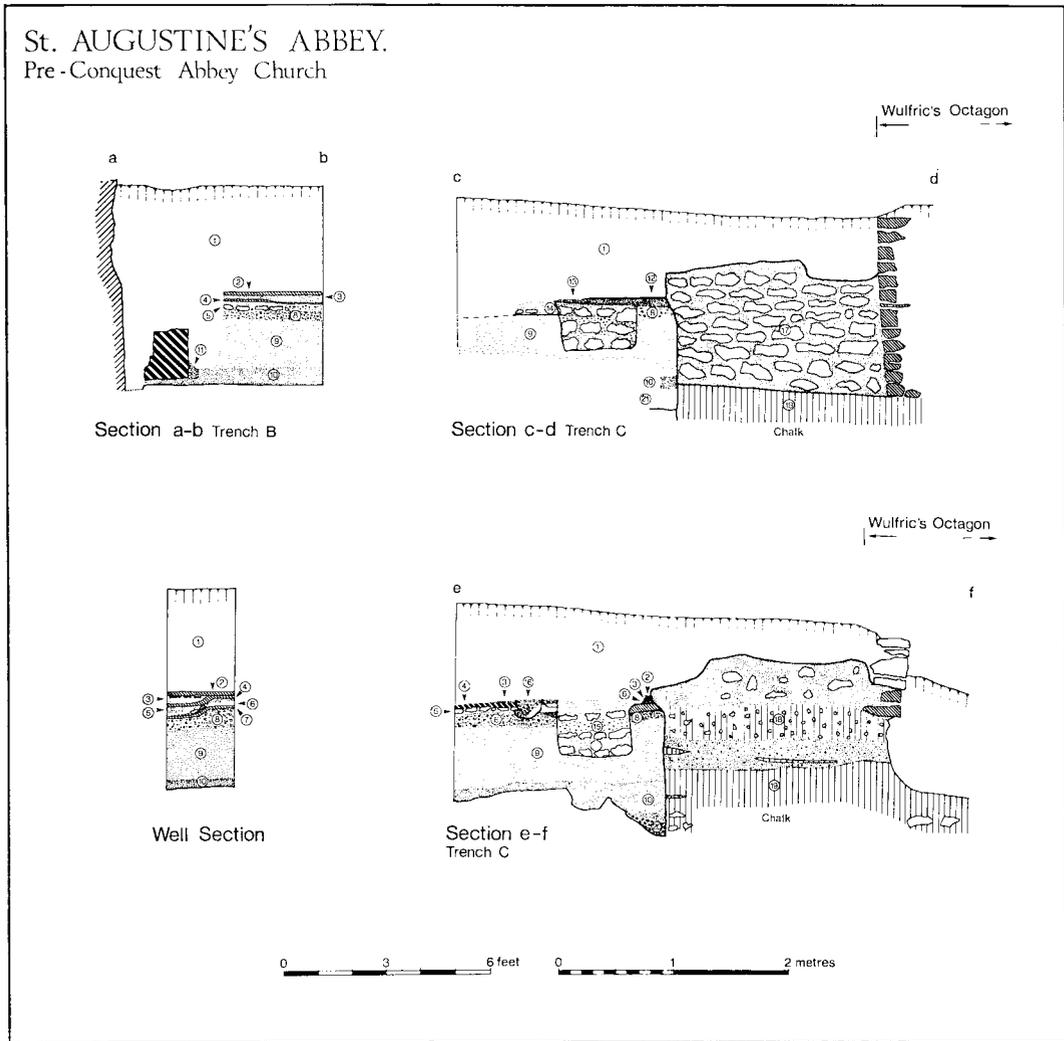


FIG. 9
CHURCH OF SS PETER AND PAUL
Sections a-b, c-d, e-f and the well

Trench A (no section) (PL. XIV, A)

Trench A was taken across the first and into the second narthex. The western entrance of the first narthex was floored with a hard white concrete mixed with chalk and gravel with a thin layer of broken brick over the top. It is difficult to relate this to either (2) or (4) and it is probable that this was a remaking of the floor which, in the doorway, was likely to have had most wear. Below the concrete was mixed soil and rubble over a layer of tiles. These lay on a layer of compacted

chalk which suggested a line of continuous footings below the W. wall of the church. The doorway is represented in the published plans as buttressed inside and out. The northern external buttress appeared to be butt-jointed to the main wall. The footings of the door jamb were built on a chalk foundation. The second narthex appeared to have been about 4 ft. 6 in. below floor level of the church. Such of the interior as was observed had been much used for burials.

Trench B, Section a-b (FIG. 9)

A small trench was cut against the Norman N. aisle foundations to locate the previously known tomb of Archbishop Berhtwald and to check whether there was any surviving relationship between it and the sequence of floor surfaces observed in the side of the well. The outer face of the brick-lined grave had been cut away by the digging of the Norman foundation trench, but seven courses of tiles, laid in pale yellow, pebbly mortar remained in a grave cut into black soil (9) and chocolate-brown loam (10). Adhering to the bottom course and filling a foundation trench was pinkish buff mortar (11). The tomb had been separated from the floor layers within the nave by a robbing trench.

The nave floor, as elsewhere in the church, had been remade at various periods. The final version was a pink, crushed brick floor about $1\frac{1}{2}$ in. thick, with a very hard surface (2) bedded on white mortar (3). This was closely similar to the latest floor in trench A (2). Towards the eastern side of the trench this floor had been patched with a paler pink brick chip surface. Below was an earlier floor of brick chips, probably the equivalent of (4), less well compacted than the later floor and bedded on white mortar and a foundation of re-used Roman tile fragments (5). It had become worn in places and had been patched with chalk and yellow clay. It had also small areas of burning and traces of burnt wood on the surface. Below (14) was a layer of mixed loam and gravel (8) covering the ubiquitous black soil (9).

Trench C, Sections c-d, e-f (FIG. 9)

The purpose of trench C was to examine the junction between Wulfric's octagon and the E. end of the nave, and for this reason it overlapped the northern jamb of the western entrance into the crypt of the octagon. In St John Hope's account of the early excavations he writes: "Partly overlaid by the western wall of Wulfric's building and more or less in line with the eastern wall of Ethelbert's work is a broad concrete foundation nearly 7 ft. thick. It has a clear face to the E. but the W. side is very rough and much cut about. It appears to mark the eastern limit of the nave of the Saxon church but I am inclined to associate it with the 10th-century reconstruction of Ethelbert's work. Parallel with it to the west at a distance of about 2 ft. is the foundation of another wall $25\frac{1}{2}$ in. thick of doubtful purpose and date". Later, Clapham amplified the description of the remains of Wulfric's octagon but did not comment on the wall 2 ft. or so to the west.

Recent re-examination showed that this part of the early nave was very much disturbed and very little survived of the sequence of floor surfaces which was

observed elsewhere. From the limited evidence available it appeared that the floor make-up was similar to that described above.

The W. face of the octagon was built in rough courses of ragstone with orange mortar and against this face was a massive stone and mortar foundation (17) which is the "broad concrete foundation" mentioned by St John Hope. Although this foundation has every appearance of being intended for an additional buttress or thickening of the octagon it was constructed upon the same footing of rammed chalk (19) which continued eastwards under the masonry of the octagon itself (section *c-d*), and therefore appears to have been intended from the beginning. It is difficult to see this masonry as being earlier than Wulfric's work. The chalk extended to the S. side of the trench, and blocking the western entrance to the crypt was a continuation of the rubble thickening of the W. face of the octagon. Across the entrance, however, it took a different form (section *e-f*) (18). The blocking had been set in a layered technique with rubble and buff mortar laid on rubble and chalk with white mortar and gravel below. The eastern side of this foundation across the entrance had been revetted in ragstone.

The excavation for the octagon had been on a massive scale and taken through the build-up of Roman and later levels (9), (10) and (20) well into the natural ground. The bottom of the chalk base (19) was not observed. The construction trench had cut through the floor surfaces (2) and make-up (3), (6) and (8) in section *e-f*, but against the rubble foundation in section *c-d* was a layer of yellow sand with a red (brick dust) surface (12) over a layer of purplish white mortar and flints (13). This suggested a floor surface of a different character from those recorded elsewhere in the nave and might represent a late phase in the use of the Saxon nave.

This later floor (12) and (13) sealed the robbed remains of the cross wall observed by St John Hope immediately W. of the octagon in section *c-d*. The cross wall was only 2 ft. 6 in. wide and its foundations were layered, mortar and rubble at the bottom, followed by gravel and a layer of stones with another layer of whitish mortar and rubble above. The cross wall was not part of the original design of the Augustinian church. Its construction had cut the lowest of the floor make-up (4), (6) and (8) if not the later floor (2). It was, however, earlier than Wulfric's reconstruction having been demolished and sealed by floor surface (12) and (13). The unpublished plan by W.S. of the early excavations in the nave shows most of the wall further S. sealed by a floor. This floor must be (12) and (13).

A squared post 5 in. by 4½ in. had been set into the nave floor (section *e-f*) (16) within a 8 in. square pit, 8 in. deep. The pit was filled with mixed earth, mortar and yellow sand. It was clearly a late feature and may have belonged to the scaffolding for the construction of the octagon.

DISCUSSION

The area now occupied by the ruined W. end of the Norman abbey church is 185 yds. E. of the Roman city wall. With the exception of a flat-bottomed gully in trench IX under the Norman NW. tower, which may have been cut for a

timber sill, there are no signs of Romano-British structures. Indeed, the irregularity or absence of the deposit of natural brick-earth capping gravel over the area suggests that this material was quarried and the ground levels were subsequently built up with loamy soil containing a mixture of occupation debris. Pottery covering much of the Roman period was included as well as roof and flue tiles, some personal ornaments as well as more functional objects of bronze and iron and a variety of animal bones and oyster shells. The date of deposition of this material was late in the 3rd century and continued into the 4th. Leland³ mentions the existence of a Roman cemetery between the two gates on the western side of the later monastic precinct and the city wall but no firm indications of Romano-British graves were found.

The foundation of Augustine's monastery inevitably influenced the use of this area W. of the church of Sts Peter and Paul. It is not, therefore, surprising to find this area 90 ft. or so from the W. end of the first church used as a cemetery. The cemetery's centre of gravity lay to the SW. rather than on the axis of the two churches of Sts Peter and Paul and St Mary, and burials were most intensive in the SW. corner of the site. The cemetery had a long established use and earlier interments were not respected by later burials. This long use is borne out by the range of pottery fragments including both handmade, grass-tempered fabrics, Middle Saxon wares and wares with a date closer to 1000. The cemetery on the W. side of the Saxon church continued even later. This is established by the earlier discovery of an inscribed lead cross bearing the name of Wlfmaeg, sister of Wulfric, who died in 1063.⁴

Because of the restricted circumstances of the excavation and the fact that the cemetery had been severely cut about by the construction of later buildings, few observations can be made on it in general terms although some of the individual skeletons were worthy of comment. All save one of the articulated burials followed Christian practice and were interred with the feet to the E. In some graves the presence of nails suggested the use of wooden coffins.

Nearer the W. end of the early church the burials were less intensive and individual graves were undisturbed by later burials perhaps because these had been defined in some way. A grave between the late western-facing chapel and the 'vestibule' had special characteristics. The body appeared to have been wrapped in a linen shroud, a fragment of which survived, and a pattern of stones was arranged at the feet. The head had been removed when the foundations for the chapel were dug so it is impossible to record the treatment for the upper part of the grave, but the upper end of a grave within the 'vestibule' was exposed, in a section. Only the top of the skull was visible but it was enough to show that it was lying on a 'pillow' of stones.

The presence of stones at the head and feet of a grave is recorded elsewhere. In a Jutish cemetery at Lyminge, Kent, about a quarter of the graves had pillows of chalk lumps and in the cemetery of the Anglican nunnery of Hartlepool several skeletons were laid N. to S. with their heads resting on small square flat stones.⁵

The earliest Saxon structure in this part of the site is the pair of walls 10 ft.

apart and roughly parallel. Although the construction of the walls was slightly different they still shared the layered technique of building and the foundations were dug to a common depth. It is most likely that they were contemporary. Both ends of the structure had been cut away so that it is possible only to guess that it might have been a little building, perhaps only 10 ft. square internally. The significant factor is that the building was on the axial line of the Saxon churches, 105 ft. from the narthex of Sts Peter and Paul. Erected in a cemetery area this is probably a mausoleum or tomb chapel of someone of great importance. It cannot be one of the earliest archbishops because they are known to have been buried in the porticus of St Gregory and the foundations had cut through a long-used cemetery. But a mausoleum in this position is likely to have belonged to someone of similar rank. Comparisons can legitimately be made to the position of the grave of St Swithun outside the west door of the Old Minster at Winchester.⁶ Some funerary chapels also exist in several early French cemeteries.⁷

The next sequence of building cannot be established but it is probably logical to take the western-facing chapel next. Here we see another example of the English practice of building several separate churches or chapels on a common axis.⁸ Seven feet separated the western chapel from the end of the vestibule. The western apse is not unusual in that the chapel must have been seen as the final ecclesiastical building at the western end of the line. In churches of Carolingian times equal emphasis was often assigned to both ends of the church. Abingdon Abbey is one putative English example of a double apse though this belonged to a single building and not a detached chapel.

The chapel was designed as a semi-crypt, its floor being below the presumed floor level of the 'vestibule'. Peers and Clapham refer to a "flight of steps" from the 'vestibule' to the level of the 'forecourt' but no trace of these was found. The nature of the foundations implies a fairly slight, single-story building. It was not apparently used for burials and it cannot be compared to the massive and grand western structures added to major churches in the 9th and 10th centuries on the continent. Its date is a late one since the sherd of Stamford ware embedded in the mortar floor would point to a construction date not before the first half of the 11th century.

The massive D-shaped addition to the western apse is more puzzling. Its dimensions are reasonably close to the D-shaped additions to the N. and S. sides of Wulfric's octagon. There they are identified as the bases for stair turrets. It has been suggested that the western chapel is unlikely to have been a substantial or lofty building requiring an external stair turret: perhaps we have here an apsidal turret for bells. The western tower of Brixworth Church has a similar half round stair turret.

The reference made by Goscelin to the translation of the bodies of members of the royal house of Kent when St Mary's Church was demolished to make way for the choir of Abbot Scotland's church, speaks of their temporary deposit in the western tower of the monastery before the altar of St Mary.⁹ Perhaps this was the dedication of the chapel. It is certain, however, that the stone-lined graves cut into the apsidal extension to the chapel do not belong to these translated members

of the Kentish royal family. They are clearly much later in date and were not constructed contemporaneously. However, Goscelin's reference to the W. tower may refer to the early 'tower' and possible contemporary structures SW. of the site.

These three structures of different dates below the W. end of the Norman nave have one common characteristic. Their foundations or wall core were built in a distinctive layered technique with chalk, gravel, mortar and rubble in a contrasting sequence. The earliest Saxon building of Sts Peter and Paul did not set this fashion and the technique appears to have been adopted towards the end of the Saxon period. Foundations of a like nature were recorded by Biddle at the Old Minster, Winchester.¹⁰

The remaining pre-Conquest structures are those in the SW. corner. The massive westernmost structure, built on four large piers of masonry taken down to the natural ground and arched across at ground level can only imply a tower of considerable height. Excavation in the area immediately E. of this 'tower' in 1978 suggests the masonry, which could only be partially examined earlier, is similar in construction and the foundation raft butts against it as it does against the western 'tower'. However, the relationship of the eastern structure to the S. aisle wall suggests a more complicated building sequence here. The close similarity between the two masonry fragments supposes a grand, twin-towered entrance giving access to the court surrounding the western end of the Saxon ecclesiastical complex. The well-known plan of St Riquier shows a large forecourt west of the church with entrance towers in each of its three sides and Winchester also possessed a great tower over the entrance to the western forecourt.¹¹ The 'tower' must be fairly late in the building sequence. It cut through the cemetery, which, on pottery evidence, continued in use to about the turn of the 11th century.¹²

It is curious that the 'tower' in its abbreviated and somewhat shapeless condition was allowed to remain at the base of a Norman SW. tower. Yet there can be no doubt that the masonry piers are earlier than the Norman work and not a later buttress added to a SW. tower. The character of the Norman foundation rafts in the W. end of the church, and the relationship of the southern foundation to the 'tower' makes this quite clear. If a symmetrical Norman W. front is projected with the plan of the NW. tower setting the pattern for a SW. tower then the latter would have fitted into the SW. angle of the Saxon 'tower'. The length of the Norman church appears to have been determined by the need to enclose the western extremity of the sequence of Saxon churches and chapels. A Saxon western 'tower' may also have determined the plan of the Norman W. front and, apart from the two sides of the 'tower' which had to be cut away in order for the new building to fit, the remaining sides could be left, no doubt, as a convenient buttress. It only surprises the more tidy mind of the 20th century that so much of the Saxon masonry was left visible or encased when it was well within the resources of the later builders to remove all trace of it. An explanation which suggests itself following the 1978 excavations is that the early ground level SW. of the Norman church was very much higher and had been lowered later in the Middle Ages and later still. Perhaps these ragged lengths of masonry were covered and unseen.

APPENDIX I

COINS

By P. E. CURNOW

- | | | | | | |
|-----|--------|------|-----|---------------------------|--|
| 1. | T IX | (6) | 188 | Commodus
(180-93) | M + S 476 AE 2 Dup (? A.D. 186)
O/illeg [? M COMM ANT P FELIX
AVG BRIT] Head rad. r.
R/illeg [? P M TR P XI IMP VII COS V
PP SC. Victory advancing with
wreath & palm]. |
| 2. | T I | (13) | 170 | Volusian
(251-3) | M + S 140 Antoninianus A.D. 253
O/IMP CAE C VIB VOLVSIANO AVG
Bust rad. dv. r.
R/PM TR P IIII COS II Emp. Stg. 1
holding branch and short transverse
sceptre.
MM Romc. |
| 3. | T I | (13) | 139 | Gallienus
(253-68) | M + S 163 Broken coin
O/[GA]LLIENUS [AVG] Head red. r.
R/[AP]OLLINI CONS[AVG] Centaur
walking r. |
| 4. | T IX | (13) | 178 | Claudius II
(268-70) | M + S 266 Posth. A.D. 270
O/DIVO CLAVDIO Head rad. r.
R/CONSECRATIO Eagle r. |
| 5. | T II | (13) | 183 | Claudius II
(268-70) | M + S 269 Antoninianus Posth. A.D. 270
O/[DIVO] CLAVDIO Head rad. r.
R/AEQVITAS. |
| 6. | T I | (13) | 122 | Tetricus I
(270-3) | M + S 86 & 88
O/IMP TETRIC[US AVG] Bust rad.
circa V.
R/LAETIT[IA AVG] Laetitia stg. 1
with wreath & palm. |
| 7. | T VIII | (13) | 503 | Tetricus II
(270-3) | M + S 259
O/C P E TETRICVS CAES Bust rad.
dv r.
R/PIETAS AUGVSTOR Sacrificial
implements. |
| 8. | T I | (13) | 176 | ? II
(270-3) | Irreg. radiate
O/illeg rad. head of Tetricus I.
R/illeg Salus feeding snake. |
| 9. | T I | (13) | 101 | Constantine I
(306-37) | C 526 Follis A.D. 310-18
O/CONSTANTINUS PF AVG Bust laur
cuir 5.
R/SOLI INVICTO COMITI sol stg. 1.
M.M.: — T F (TREVERI).
STR |
| 10. | T I | (13) | 116 | Constantine I
(306-37) | H & K 60(s), C 254 AE 3 A.D. 330-5
O/CONSTANTI NVS MAX AVG Bust
laur (rosettes) cuir dv. r. |

				R/GLOR IA EXERC ITVS 2 standards 2 soldiers. M.M.: — <u>TREVERI.</u> <u>TR.S</u>	
11/12.	T I	(13)	114	Constantine I (306-37)	Do.
13.	T III	(13)	517	Constantine II (317-40)	H + K 33(s), C 165 AE 3 A.D. 324-30 O/CONSTANTINVS IVN NOB C Bust laur dv auv. L. R/PROVIDEN TIAE CAESS Gateway, star between turrets. M.M.: — <u>TREVERI.</u> <u>STRU</u>
14.	T IX	(13)	504	Constantine II (317-40)	H + K 353 (s), C 122 AE 3 A.D. 330-5 O/CONSTANTINVS IVN NOB C Bust laur, cuir r. R/GLOR IA EXERC ITVS 2 standards 2 soldiers. M.M.: — <u>SCONST.</u>
15.	T I	(13)	115	Constantine II (317-40)	H & K 107 C 117 AE 3 A.D. 337-41 O/CONSTANTINVS AVG Bust laur. rosettes cuir dvr. R/GLOR IA EXERC ITVS 1 standard 2 soldiers. M.M.: — <u>TREVERI.</u> <u>TRP</u>
16.	T I	(13)	180	Constantine I (306-37)	H & K 66(s) C 21 Constantinopolis AE 3 A.D. 330-5 O/CONSTANTINOPOLIS Bust of C. helmeted, etc., 1. R/CONSTANTINOPOLIS Victory on prow. M.M.: — <u>TREVERI.</u> <u>TR.S</u>
17.	T I	(13)	117	Do.	Do.
18.	T I	(13)	147	Do.	Do.
19.	T I	(13)	186	Do.	C 17 Urbs Roma AD 3 A.D. 330-7 O/VRBS ROMA Helmeted bust of Roma 1. R/ — wolf & twins.
20.	T IX	(6)	177	Constantius II (337-61)	H & K 375 (s), C 105 AE 3 O/FL IVL CONSTANTIVS NOB C Bust laur cuir dv. r. R/GLOR IA EXERC ITVS 2 standards 2 soldiers. M.M.: — <u>SCONST.</u>
21.	T I	(13)	118	Constans (337-60)	H & K 752 (s) AE 3 A.D. 333-5 O/FL CONSTANTIS BEA C Bust laur l. cuir r.

				R/GLOR IA EXERC ITVS 2 soldiers 2 standards.
				M.M.: — SISCIA.
				ASIS
22.	T I	(13)	138	Indeterminate
				Radiate Minim
				O/ . . . Rad bearded head r.
				R/ . . . female fig. with sceptre r.
23.	T II	(23)	146	Do.
				Radiate minim
				O/ . . . Su Radiate head.
				R/illeg.
24.	T VIII	(1)	179	William I
				Brooke type V
				Mint: ? Thetford, Moneyer? Osbearn.

APPENDIX 2

BRONZEWOR^K (FIG. 10)

Catalogue Nos. refer to Nos. in FIG. 10.

1. Needle, broken at the eye. T II (12).
2. Key ring, incomplete, *B.M. Catalogue of Finger Rings, Greek, Etruscan and Roman*, F. H. Marshall, 1907. *London in Roman Times, London Museum Catalogue* p. 102, fig. 30, no. 24. T I unstratified.
3. Fragmentary tag. T I (13).
4. Small stud or nail. T XII (39)
5. Folded sheet pierced by two small holes at the corners of one end. Probably for binding. T VIII (6).
6. Flat curved strip, thickest at outer edge. T III (13).
7. Flat strip, possibly part of a pair of tweezers. T I (13).
8. Plain, circular button with pierced flange on back. T II (14).
9. Circular domed stud. T I (13).

All are from Roman or disturbed Roman layers at the W. end of the abbey church.

APPENDIX 3

IRONWORK (FIGS. 10 and 11)

Catalogue Nos. refer to Nos. in FIGS. 10 and 11.

10. Decorative pin with arrow-shaped point and upper end decorated with three decorative bands. T II (6).
11. Shaft with broken end. At upper end are two parallel decorative lines. T I (14).
12. Latch lifter. T I (13).
13. Small scramasax with plaited silver inlaid strip along upper side of blade. T II (6).
14. Thin single-edged knife. T II (13).
15. Cramp or large staple. T I (13).
16. Masonry cramp or large staple. T II (6).

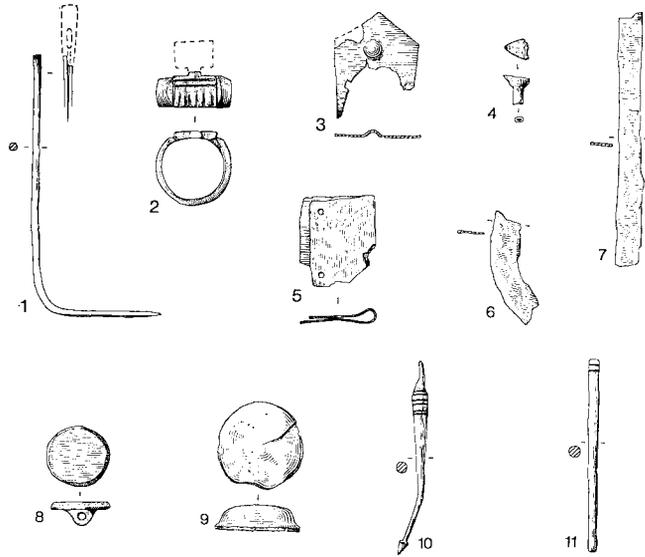


FIG. 10
ST AUGUSTINE'S ABBEY EXCAVATIONS. BRONZEWORK

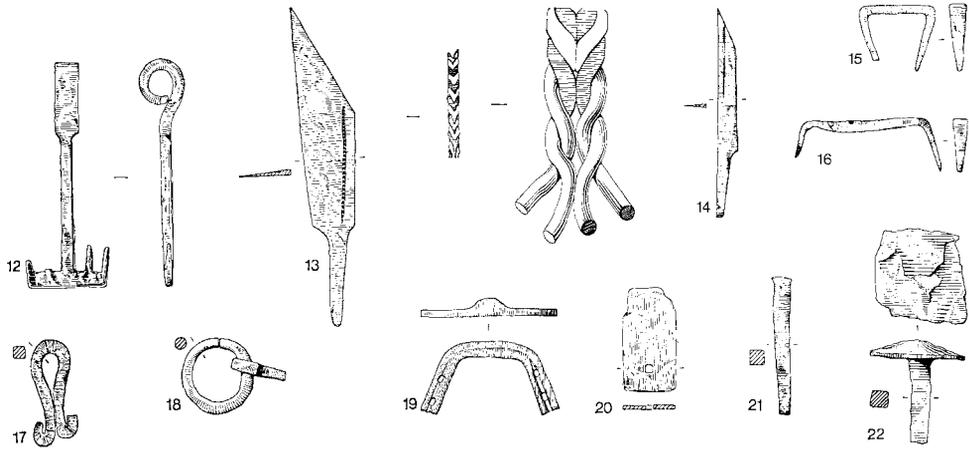


FIG. 11
ST AUGUSTINE'S ABBEY EXCAVATIONS. IRONWORK

17. Eye-loop, medieval. T II (1).
18. Ring with stub of attached shaft. T IX (13).
19. Pierced v-shaped plate possibly from heel of shoe. T II (1).
20. Square-ended plate pierced by small square hole for a nail or rivet. T I (13).
21. Possibly a punch. Square-sectioned with only a slight swelling at the head. T II (24).
22. Clench nail, possibly from coffin. T I (13).

APPENDIX 4

POTTERY (FIGS. 12 and 13)

ROMAN *By* MARION WILSON

The lowest Roman-British levels contain 3rd-century colour-coated wares and in general the Roman make-up contains 3rd and 4th-century types but includes some 2nd-century and occasionally 1st-century forms and Samian. The wares contain common forms without any unusual or distinctive types: dishes, bowls, jugs and platters. The exception is a handled pot in a pinky-red fabric with frilled rim and applied trails and figures, including a running stag. It is in the Hunt Cup style but is probably locally produced. (FIG. 12, No. 1). T I (19).

There are a few sherds which could be either late Roman hand-made pottery or Saxon.

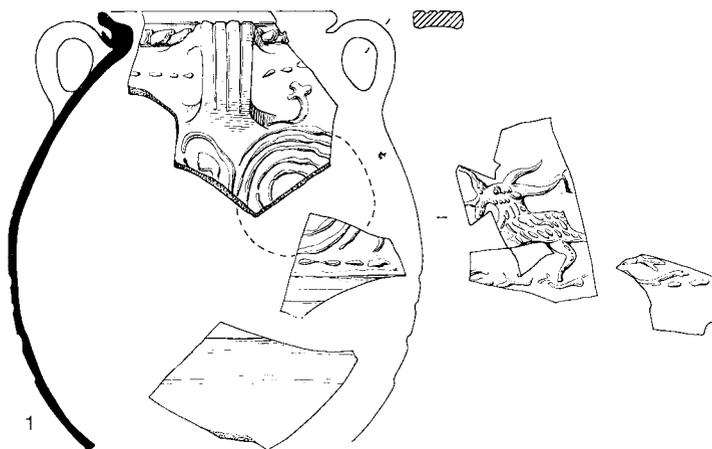


FIG. 12

ST AUGUSTINE'S ABBEY EXCAVATIONS. ROMAN POT

SAXON *By* SUSAN AMES (SUSAN ARTHUR)

The description of the Saxon pottery follows the classification used by J. G. Hurst, 'The kitchen area of Northolt Manor, Middlesex', *Medieval Archaeology*, v (1961), 255.

(i) *Grass-tempered hand-made ware* (c. 700-1050)

Soft black fabric, friable with smooth burnished surfaces (?). A few sherds with pale grey or brownish surfaces. Lumpish and uneven in shape. 9 body sherds from (13). 1 fragment of base (FIG. 13, No. 8). T IX (13).

(ii) *Black sandy fabric*

1. Fairly smooth internal surface and burnished black to grey exterior. Very smooth with one or two flint grits and uneven and lumpish surfaces. Hand-made. T I (13).
2. Brownish grey external surface. Grass or chaff marking on outside of base (FIG. 13, No. 14). T VIII (13).
3. Orange sandy surfaces, slightly smooth externally. 1 fairly abraded rim (FIG. 13, No. 5). T IX (6).

(iii) *Grey smooth fabric with medium quantities of grit*

1. Highly burnished black to grey, grey and uneven surfaces
1 sherd giving profile of shallow dish with upright sides and straight rim (FIG. 13, No. 13). T VIII (6).
1 rim, upright in shape (FIG. 13, No. 6). T II (6).
2. Burnished surfaces — black externally and orange internally.
1 small rim, slightly everted (FIG. 13, No. 11). T I (13).
3. Slightly burnished surfaces, black and grey. 1 body sherd, T II (13); 1 base sherd, T I (13).
Rim of fairly small vessel in a black friable fabric with greyish surfaces showing signs of grass-tempering or marking. This may be a spout fragment from an Ipswich (?) type pitcher. T VIII (30).

(iv) *Sandy wares with smooth and occasionally burnished surfaces (700-1050)*

1. Brownish lumpy fabric with: (a) black burnished surfaces, 1 small rim sherd very slightly everted (FIG. 13, No. 4), T IX (13); (b) orange external surface, 1 body sherd, T VIII (13).
2. Black to grey fabric with black or dark grey slightly burnished surfaces. All hand-made but in the 'Ipswich' traditions. 5 body sherds. T II, IV, VII (13), XIII (6).
3. Brown and black core with greyish brown and black surfaces, slightly burnished.
1 rim sherd with simple everted form. Possibly a wheel-thrown cooking pot (FIG. 13, No. 9), T I (13).
1 rim sherd, upright or very slightly turned outwards. Knife-trimmed interior, of most unusual type. (FIG. 13, No. 10), T II (13).
4. Grey core with red and black surfaces.
1 body sherd with grey internal surface and reddish brown external surface. T II (6).
1 body sherd with limestone (?) grits. Red-brown margin between grey core and black surfaces. Fine surface but not burnished. T VIII (13).
5. Dark grey core and very few soft grits. Dark grey outer surface and red-brown internal surface, fine but not burnished.
Small fragment of base, T XII (33) and a body sherd, T IV (13).
2 rim sherds of a large cooking pot, slightly everted (FIG. 13, No. 12) T I (13).
6. Brown sandy core with grey surfaces. Very well-made pot, decorated with incised pendant triangles filled by impressions of a grille stamp. Wheel-thrown, the fabric has sparse flint grits with suggestion of slight external burnishing. Sherd of Middle Saxon pitcher (e.g. Stamford and Ipswich types) (FIG. 13, No. 2). T III (13).
7. Grey sandy fabric with darker surfaces, brownish externally. A very hard fabric. Base sherd of very thick-bodied vessel. In contrast, the slightly sagging base is extremely thin (FIG. 13, No. 15). T I (13).

(v) *Gritty fabric (quartz?)*

- Brown and dark grey core with whitish brown internal surface and grey to brown exterior. 1 body sherd. T I (13).

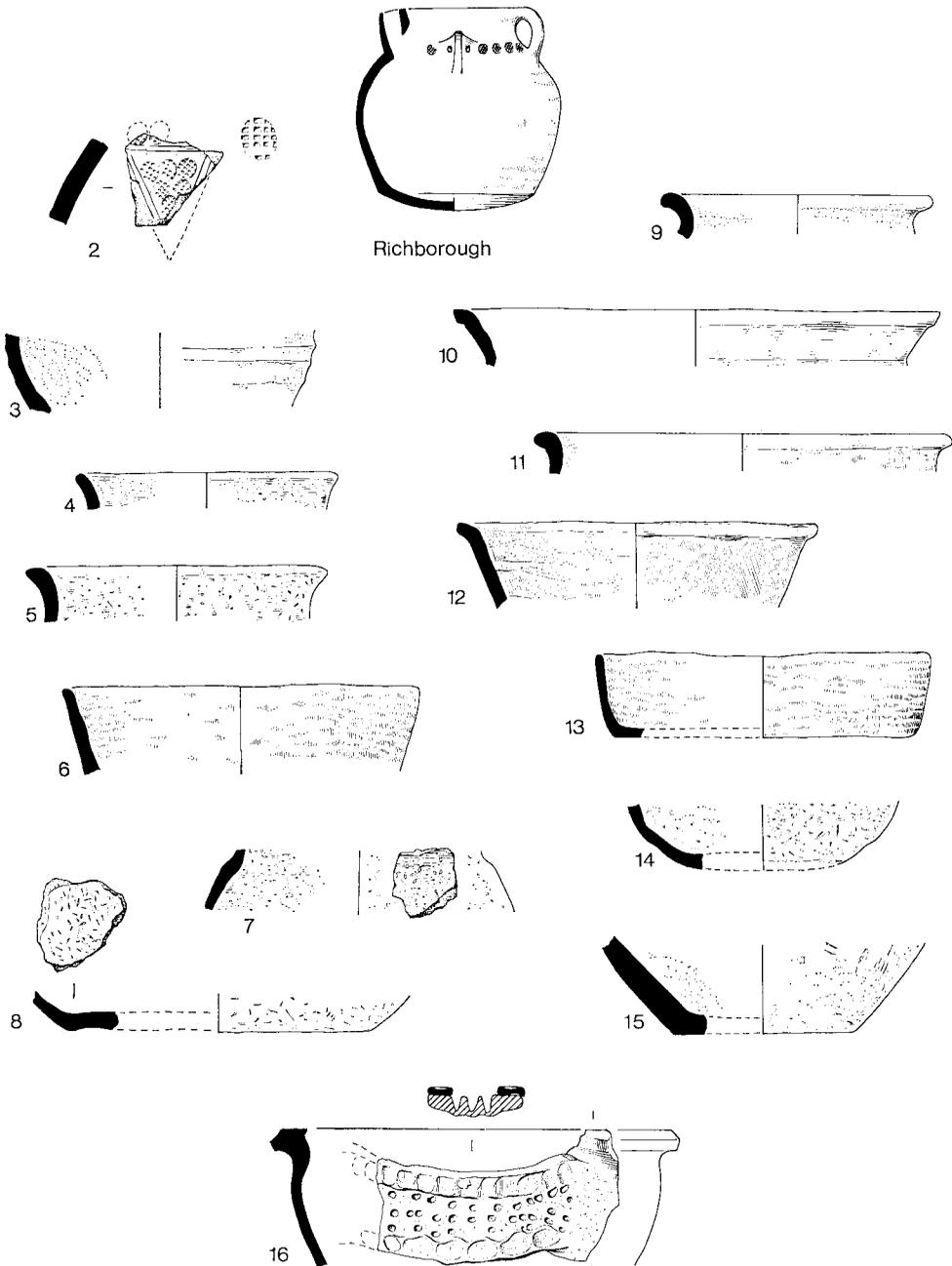


FIG. 13
ST AUGUSTINE'S ABBEY EXCAVATIONS.
ANGLO-SAXON AND POST-CONQUEST POTTERY

(vi) Shell-tempered

Black to purplish fabric with large amount of crushed shell. Black and purplish smooth surfaces. 1 body sherd. Possibly hand-made and therefore not the true St Neot's ware (e.g. Maxey) (FIG. 13, No. 7). T III (13).

(vii) Ipswich cooking pot

Charcoal grey sandy fabric (?) completely reduced. 1 body sherd slightly rough to the touch. Wide, shallow grooves on the outside and knife-trimming on the base of the sherd. Hand-made. (FIG. 13, No. 3). T XII (37).

(viii) Stamford ware

Fabric G, glaze 1. Presumably from a spouted pitcher. Comparable to dated examples of c. 1050-1125: it could go back somewhat earlier, into the first half of the 11th century (where there is an absence of comparable material), but not into the late 10th century. T XII (9). I am grateful to Mrs K. Kilmurry for commenting upon this sherd.

POST-CONQUEST

Curfew(?). Mid grey sandy fabric with red surfaces possibly showing evidence of burning. Sherd with strap handle and part of hole (?) and high shoulder. Strap handle luted on to cover, edges turned back over itself and thumb impressed, decorated with deep circular impressions. 12th or 13th century, more likely to be later. (FIG. 13, No. 16). T XII (unstratified). Shell-tempered. Grey core with red-brown surfaces containing a sparse amount of crushed shell.

Rim sherd of a large storage pot. T XII (unstratified).

APPENDIX 5

HUMAN BONES

Considering the fact that a Saxon cemetery lay beneath the W. end of the Norman church, the amount of informative material to be derived from the burials is pitifully small. Not only was the cemetery in long and intensive use with a great deal of disturbance of earlier graves by later interments, but the degree of later building construction of both Saxon and Norman date left only small pockets of the cemetery area intact and available for examination. Nowhere was a complete skeleton found and such was the disturbance that no realistic estimates of numbers could be attempted.

D. Brothwell, then of the British Museum (Natural History), examined the bones and reported on their sex and age where possible, commenting on any particular feature of interest. The cemetery contained men, women and children and was therefore not a burial ground reserved to the monastic community.

Some of the skeletal material showed rheumatic lipping on lumbar, thoracic and glenoid cavity of the scapular. In one adult female, two thoracic vertebrae were fused at the centrum, an adult male had considerable rheumatic damage on a phalanx and another had an elbow which showed considerable rheumatic distortion.

The most unusual case was the skull of a woman aged between 40 and 50 showing three trephined areas (PL. XIV, B). Two had been cut through to the brain, the other had not perforated the internal table. All three areas showed evidence of healing.

APPENDIX 6

ANIMAL BONES

By JUDITH KING (*British Museum, Natural History*)

Almost all the animal bones recovered derived from Roman or disturbed Roman levels. The collection was "in general rather fragmentary, but includes remains of ox,

sheep, horse, pig, dog and oyster. Ox bones are by far the most numerous and the few measurements taken show the bones to be from animals a little smaller than the Chillingham ox, while the single sheep bone measured is from an animal about the size of a Scots ram. There is only one dog bone — a humerus from a small dog about the size of a Cocker Spaniel."

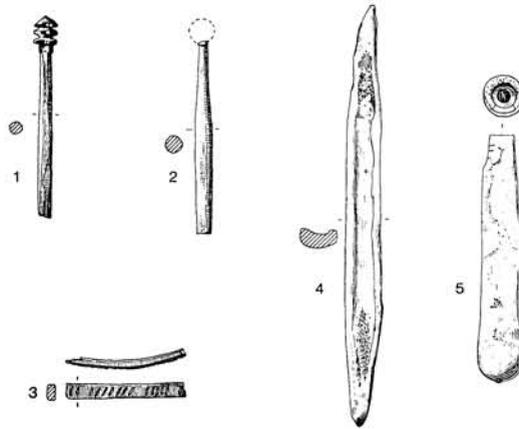


FIG. 14
ST AUGUSTINE ABBEY EXCAVATIONS. BONE OBJECTS

APPENDIX 7

BONE OBJECTS (FIG. 14)

Catalogue Nos. refer to Nos. in FIG. 14

1. Pin with faceted shaft with roughly decorated head. T I (13).
2. Fragment of needle, broken at either end with pronounced tapering to some form of terminal. T VII (15).
3. Fragment of bone strip decorated with oblique and parallel cuts, broken at either end. T I (13).
4. Broad needle from a longbone, pointed at either end and highly polished. Possibly used in weaving. T VIII (13).
5. Knife handle of 18th-century or later date. T VI (1).

APPENDIX 8

TEXTILES

By BEATRICE M. ABRAHAM (*British Cotton Industry Research Association*)

Fragment of textile found with skeleton in grave between chapel and 'vestibule', T XII (37).

"Examination with a low-power stereoscopic microscope revealed fragments of weave and yarn structure and numerous minute fibre bundles that have apparently broken away from the main yarn structure. The fibre bundles were made up of single ultimates that stained blue on treatment with Shirlastain A, indicative of the presence of cellulose. The microscopical appearance and the behaviour of the fibres when treated

with various stains and chemical reagents suggests that they are from a base fibre, in particular flax, but we have been unable to detect any surface features such as nodes or transverse cracks to confirm this. The average diameter of the ultimate (17 microns) is similar to the diameters of flax, hemp or jute, but owing to the smallness and brittleness of the samples, cross sections cannot be cut nor tests made to distinguish between these three types of vegetable fibre."

Dr Elizabeth Crowfoot describes the sample as "a fragment of textile 1.2 by 1 cm. at widest. Warp and weft both z-spun, possibly linen. Fine regular plain weave, count 18 by c. 15 per cm."

APPENDIX 9

STONWORK

By HELEN A. H. MACDONALD (*Geological Survey and Museum*)

1.	105.	T I (6)	Calcareous tufa, possibly of local origin from layers of Norman foundation raft.
2.	110.	T II (6)	Chalk tessera.
3.	130.	T I (6)	Foundation raft. Oolitic limestone similar to specimens in a collection of Bath stone.
4.	172.	T II (5)	Glauconitic calcareous sandstone similar to specimens from the Hythe Beds near Hythe.
5.	191.	T I (14)	Sandstone from the Thanet Beds.
6.	502.	T VIII	Graves. Cream, fine-grained limestone similar to specimens of Caen stone.
7.	532.	T I (14)	Quern fragment. Lava similar to specimens from the Niedermendig area, Germany.
8.	568.	T XII (39)	Stone from grave W. of 'vestibule' wall. Glauconitic Siliceous limestone — Folkestone stone.

ACKNOWLEDGEMENTS

The excavations were carried out entirely by the Ancient Monuments branch of the then Ministry of Works. I am greatly indebted to my colleagues, particularly R. Gilyard-Beer, at that time Inspector of Ancient Monuments for England, for wise advice and assistance in many ways. A. Burgess, formerly chargehand at St Augustine's, was most helpful in the handling of the actual excavation. I am most grateful to Dr C. A. Raleigh Radford, Professor S. Sheppard Frere, Frank Jenkins, Dr W. G. Urry, the late Roger Quirk, Dr H. M. Taylor, Dr Richard Gem and many others who have aided me in discussions of the evidence and its interpretation. Mrs Susan Arthur assisted in the co-ordination of the report, the Ancient Monuments Laboratory has arranged for the treatment and examination of the finds (individual acknowledgements are made in the text) and the Illustrators' section have provided the drawings. The Warden of St Augustine's College very kindly gave permission for some excavation to take place in the grounds of the College. I have been further helped by his allowing me to use the papers and notes of the late Canon Potts relating to the earliest excavation at the abbey.

NOTE

The Society is much indebted to the Department of the Environment for a grant towards the cost of publishing this paper.

NOTES

¹ W. St J. Hope, 'Recent discoveries in the abbey church of St Augustine', *Archaeologia*, LXVI (1914-15), 377; C. Peers, A. Clapham, 'St Augustine's Abbey church before the Norman conquest', *Archaeologia*, LXXVII (1927), 201; R. V. Potts, 'The plan of St Austin's Abbey, Canterbury', *Archaeol. Cantiana*, XLVI (1934), 179; H. M. Taylor, *Archaeol. Jnl.*, cxxvi (1969), 228; see also Bede, *Historia Ecclesiastica Gentis Anglorum*, Bks. I, II.

² R. J. E. Boggis, *History of St Augustine's College, Canterbury*, 18.

³ S. Frere, *Roman Canterbury, the City of Durovernum* (Canterbury, 1947), 16; J. Leland, *De Rebus Britannicis Collectanea*, ed. T. Hearne (London, 1770 ff.), IV, 9.

⁴ R. V. Potts, 'A Saxon burial cross found in St Austin's Abbey', *Archaeol. Cantiana*, xxxvii (1925), 211.

⁵ A. Warhurst, 'Jutish cemetery at Lyminge', *Archaeol. Cantiana*, Lxix (1955), 5; for Hartlepool see *Victoria County History, Durham*, I, 212.

⁶ M. Biddle, 'Excavations at Winchester, 1969', *Antiqs. Jnl.*, L (1970), 316.

⁷ A. Clapham, 'Romanesque Architecture in Western Europe' (Oxford, 1936); J. Hubert, *L'Architecture religieuse du haut moyen age en France* (Paris, 1952).

⁸ A. Clapham, *English Romanesque Architecture*, I, *Before the Conquest* (Oxford, 1934), 52.

⁹ *Archaeologia*, Lxxvii (1927), 202.

¹⁰ *Antiqs. Jnl.*, L (1970), 316.

¹¹ *Antiqs. Jnl.*, XLVIII (1968), 275.

¹² William Thorne (ed. R. Twysden, *Historiae Anglicanae Scriptores Decem*, London, 1652, column 1784) records a donation made c.1047 of *centum marcas ad turris aedificationem quae tunc fuerat in construendo* ('a hundred marks for the building of the tower which was then under construction') — *Editor (R.G.)*.