

## Early church architecture in Scotland

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### ABSTRACT

*The early ecclesiastical monuments at Abernethy, Brechin, Egilsay, Restennet, Edinburgh Castle and St Andrews have been assigned dates ranging from the eighth century through the 10th and 11th to the early 12th. It is the contention of this paper that all of these structures belong between c 1090 and c 1130, in a period marked by the diversity of its building types and decorative forms.*

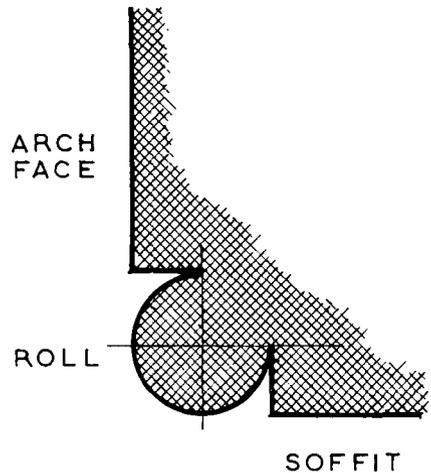
Scottish church architecture in stone before the middle of the 12th century is characterized by a wide variety of building types. There are, for example, the separate round towers at Abernethy and Brechin, the round tower attached to the west end of the church at Egilsay, the square western porch and tower surviving at Restennet, the two-cell chapel of St Margaret in Edinburgh Castle and the three-cell church of St Rule in St Andrews. The dates of these monuments have conventionally been related to the southern categories of Anglo-Saxon, Saxo-Norman and Anglo-Norman, and hence attributed to periods from the eighth century to the 12th. It is my view that these brackets are far too wide and that the buildings in question should all be dated to the late 11th and early 12th centuries and possibly entirely into the 12th.

The round tower at Abernethy is a free-standing structure with a single doorway some six courses above ground level and four bell openings near the top. Its date is a matter of dispute between the 10th or early 11th centuries, and the late 11th or early 12th centuries (Radford 1942, 3–4). The Irish round towers, to which family Abernethy obviously belongs, cover the period from the 10th century to the 13th (Hare & Hamlin 1986, 135–45), and hence do not as a group resolve the disagreement. There is, however, clear evidence of Norman influence in the form of the angle-rolls and the features like nook-shafts on the bell openings (illus 1 & 2) (MacGibbon & Ross 1896, 1, 178). This implies a date after the 1070s and probably after 1100, as the earliest angle-rolls in Normandy are of the 1060s, at St Stephen's in Caen (Calvados) (Liess 1967, 183; Conant 1974, 449, 451) and in England of the 1090s, at Durham Cathedral. The doorway is different, with flat stripwork instead of mouldings and shafts bordering the opening (illus 3, 4 top). This is a much older or at least simpler type of design, like the stripwork of the late Anglo-Saxon period or the continuous band found on Irish buildings, yet the masonry of the tower indicates that the doorway was built at the same time as the bell openings. There are two kinds of stone, a greyish one in the first courses excepting the doorway, and a yellowish one for everything else, including both the doorway and the bell openings.<sup>1</sup> As subsequent examples will show, this contemporaneous use of forms of apparently different dates is characteristic of Scottish architecture around 1100.

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ILLUS 1 Abernethy, tower: bell opening. Photograph c 1890 (copyright Gordon Petrie; by kind permission of the RCAMS)



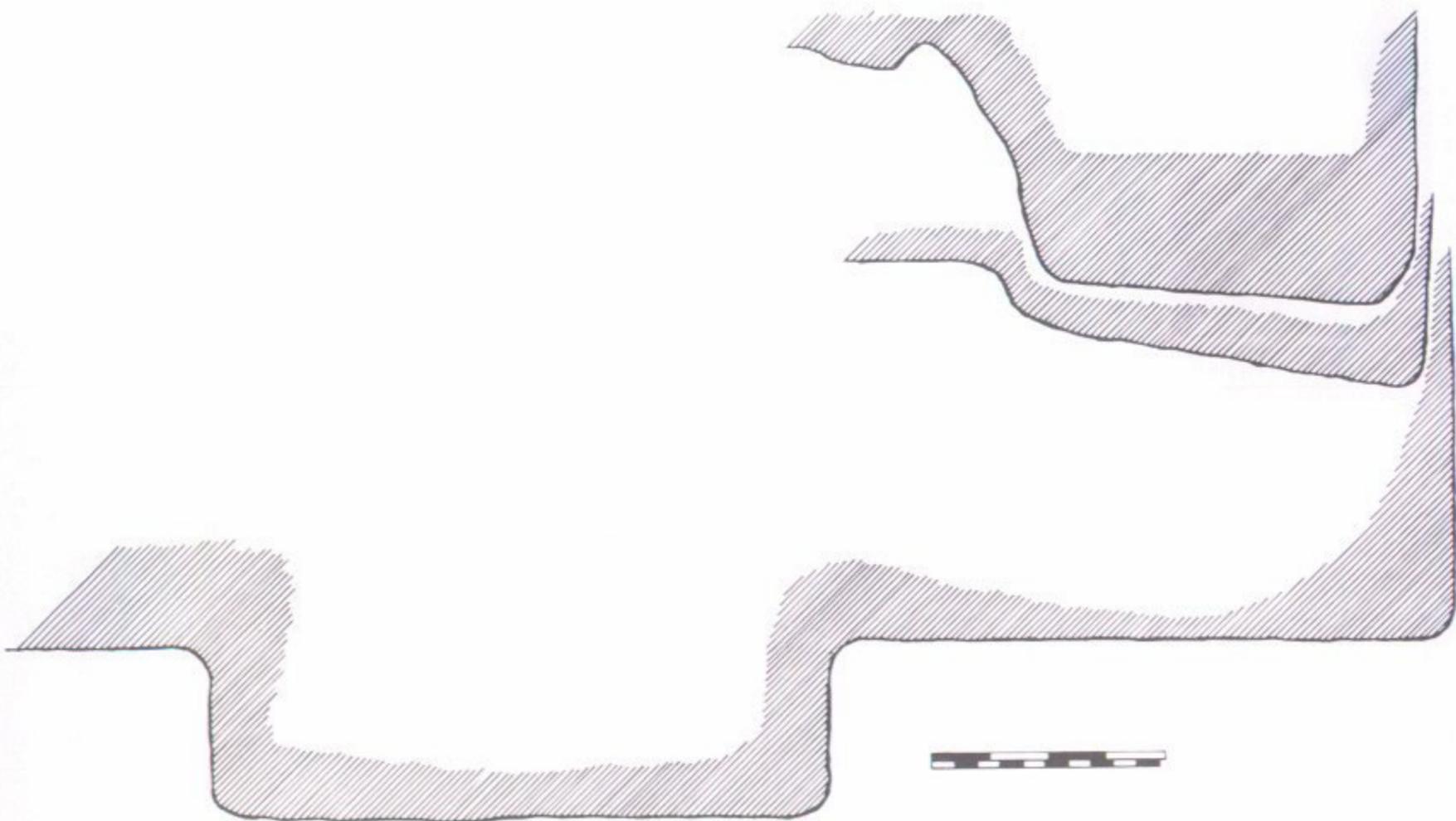
ILLUS 2 Angle roll

The tower at Brechin, now attached to the south-west corner of the cathedral but originally free-standing, is very like that at Abernethy in shape and in the number and position of its openings. Its construction has been linked to the statement in the Pictish *Chronicle* that Kenneth II (971–995) gave the great city of Brechin to the Lord (Haddan & Stubbs 1873, 149 and n; Radford 1942, 3–4) while others have claimed it as Norman or specifically of the 12th century (Billings & Burn 1852, 1, 2–3; MacDonald 1985). The later dating is supported, once again, by the form of one of the openings (illus 5), as the flat, unbroken and edged band surrounding the doorway occurs on the churches of Killeshin and St Peakan's in Ireland, both dated to the 12th century (illus 6) (Leask 1955, 106; Henry 1970, 156–7, pl 91). Given the date of these comparisons it is not impossible that the tower was occasioned by the establishing of a see at Brechin, which probably took place in the reign of David I.

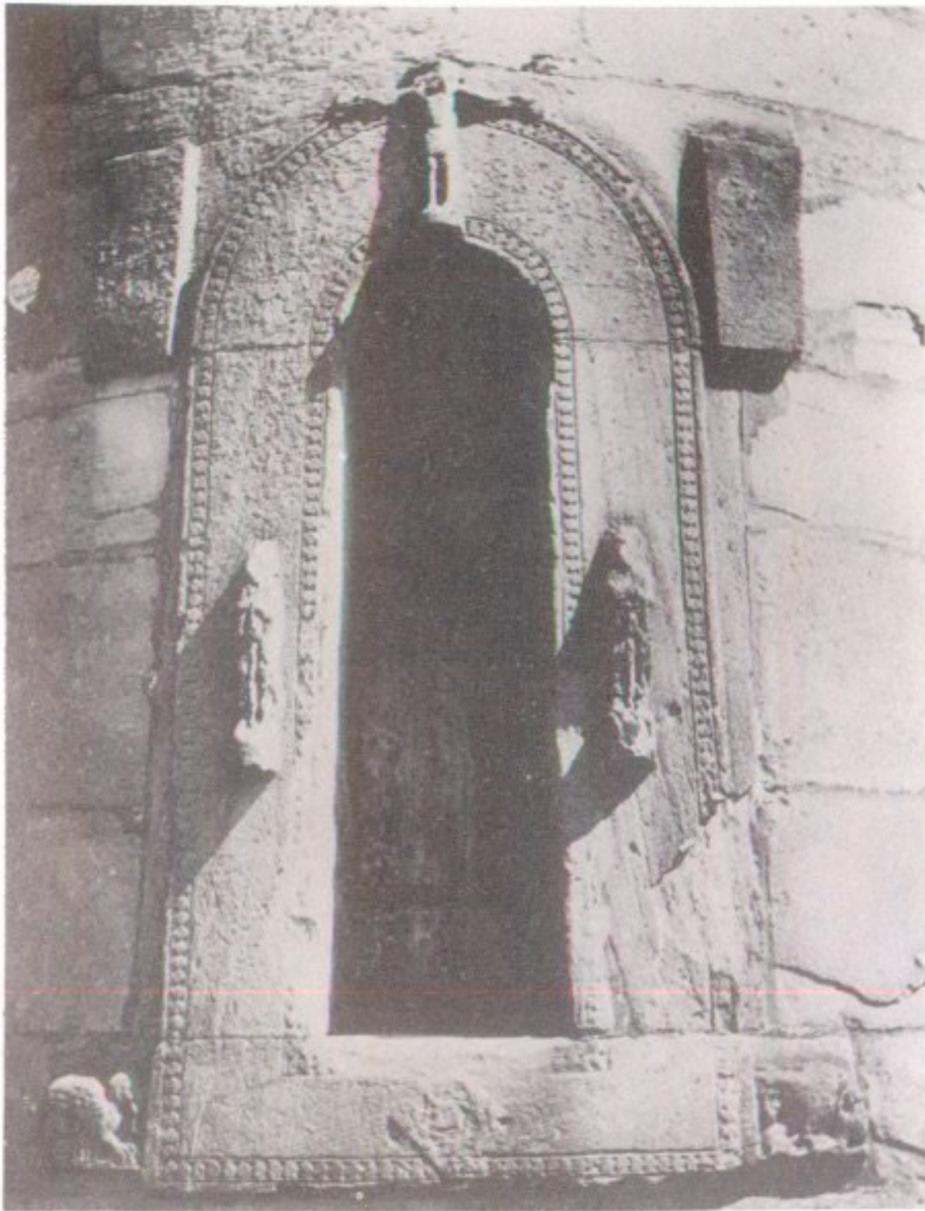
The church at St Magnus on Egilsay in the Orkneys (illus 7) has a round tower attached to its western face which has on occasion been ascribed to the same family of Irish towers as Abernethy and Brechin (Marwick 1952, 32; Ritchie & Ritchie 1978, 68). There are, however, a number of features which suggest that the tower does not belong to the Irish group. First, it is not free-standing and there is no sign of a break in the masonry between it and the nave. The fact that it is built of smaller stones is due not to it being a separate construction, but to the restrictions imposed by its cylindrical form, as the large, long blocks which occur in the walls of the nave would have required shaping to avoid them forming a broken and uneven surface. Secondly, the



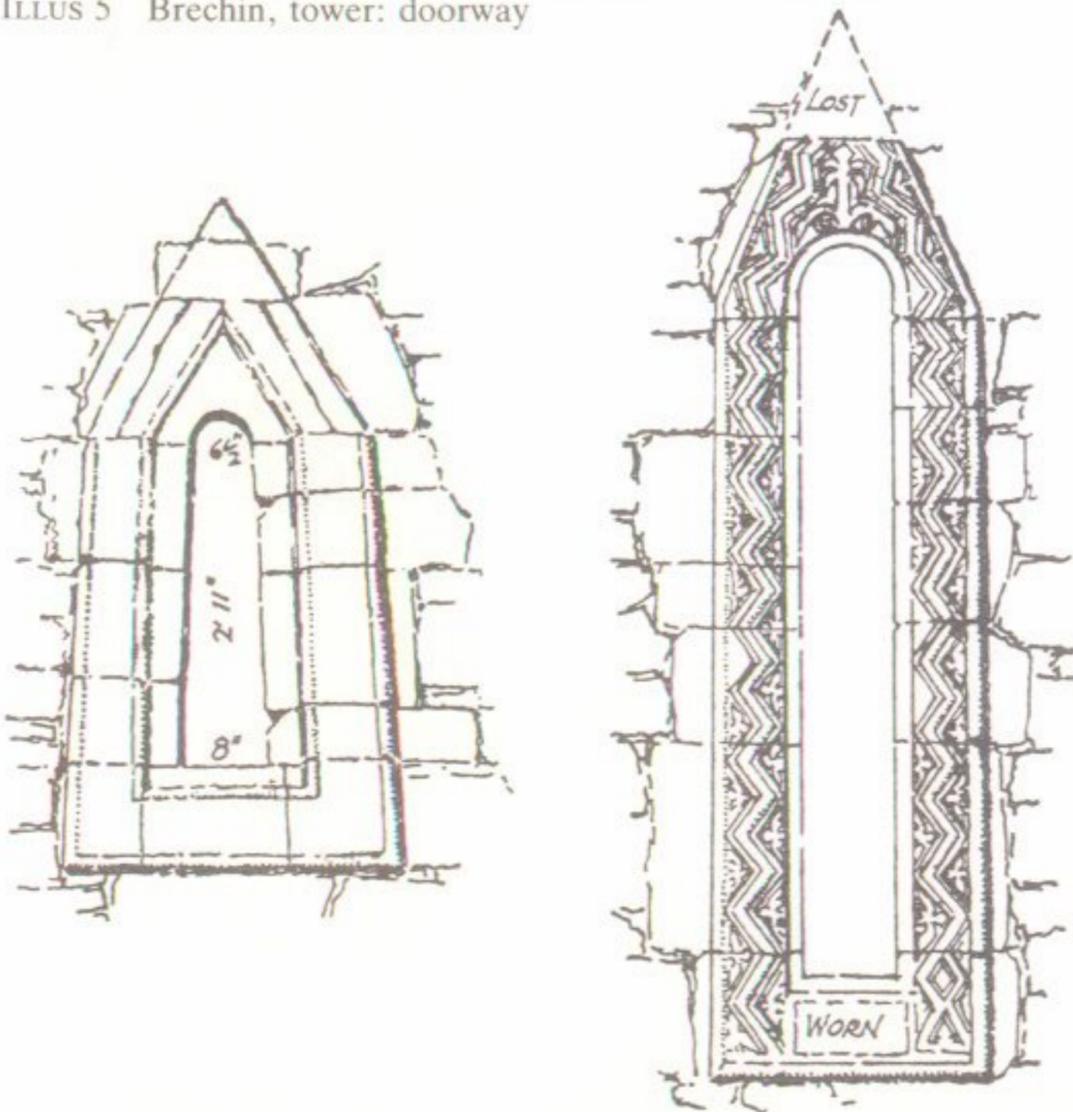
ILLUS 3 Abernethy, tower: doorway



ILLUS 4 Top: Abernethy, tower: doorway, left jamb  
Middle: Restennet, tower: doorway  
Bottom: Barton-on-Humber, nave: west doorway, east face, left jamb



ILLUS 5 Brechin, tower: doorway



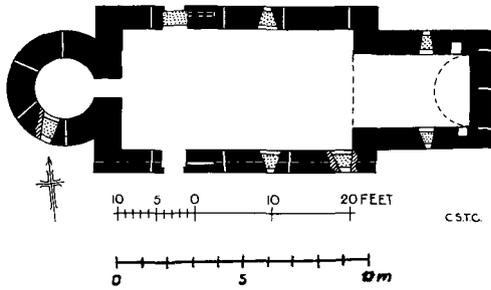
ILLUS 6 Killeshin and St Peakan's (Ireland): windows. (After Leask 1955)

dimensions and proportions are different from those of the Irish type. The tower at Egilsay narrows more quickly and is squatter in its proportions (17 feet by 64 feet (5.18×19.50 m) at Egilsay – RCAMS 1946, 229 – 16 feet by 72 feet (4.87×21.94 m) at Abernethy and 16 feet by 85 feet (4.87×25.90 m) at Brechin – Brash 1860, 307, and 1862, 189). Thirdly, its position on the axis of the western face of the church is unparalleled in Ireland. While there are a few Irish examples of round towers attached to a church they are positioned along one of the sides, as at Temple Finghin, Clonmacnois, of the middle of the 12th century (Henry 1970, 158–9, pl 66). Fourthly, the tower at Egilsay was not designed for defence. It is entered through a doorway from the nave at ground level and by another under the gable, while the nave itself is easily accessible through two doorways, not to mention the roof.

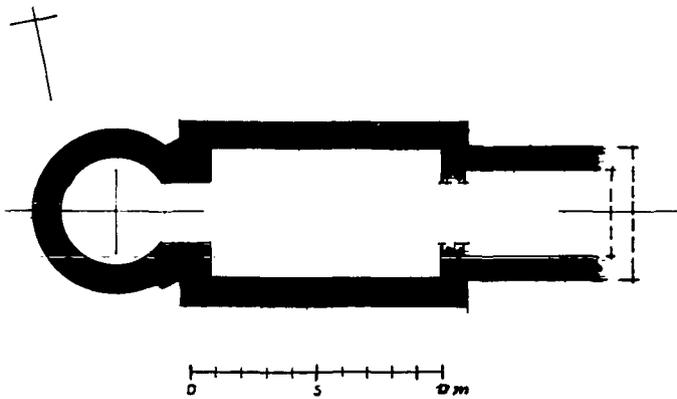
If the source is not Irish, to which tradition does St Magnus belong? The three-cell church consisting of chancel, nave and western tower is ubiquitous in England and Scotland from the 10th century onwards; within this type St Magnus is related in particular to the group of three-cell churches with round western towers, of which the overwhelming majority are in Norfolk (MacGibbon & Ross 1896, I, 134). These in turn point to a wider family as they show a marked similarity to a group of churches in north Germany, with one or two outliers in Sweden (Heywood 1977, 25, and forthcoming). Hales in Norfolk, St Julian's in Norwich, Johannisberg in Hesse and Ratekau in Schleswig-Holstein exemplify the type, into which Egilsay fits with ease (illus 7, 8 & 9). St Magnus's is thus a member of a far-flung group of buildings set around the North Sea in a way which suggests that they were connected by water rather than by land (Donaldson 1985, 3).

St Magnus's must have been built between the late 10th century and the early 13th because on the one hand Egilsay was in pagan hands from 876 to 998 and because on the other the church contains nothing of a Gothic character. There is little evidence which might enable one to narrow the date down within these brackets. The earliest dated example of a round-towered church is that at Heeslingen near Bremen (Niedersachsen), where Abbess Hatui, 973–1013, is recorded as having built a church of stone and excavations have established that the earliest church on the site had a round western tower. Other examples in Germany can be dated to the 11th, 12th and 13th centuries (Oswald 1966, 410, 132). It is likely that a few of the churches of this type in Norfolk were built before 1066, but the great majority can be dated with certainty to the Norman period, most of them into the 12th century and a few into the 13th (Heywood 1977, 22–39). A possible indication of the date of construction is provided by the murder of Magnus on Egilsay in 1117. He is reported as having spent the night in a church on the eve of his death, and if that is taken to be the present building then 1117 is the *terminus ante quem* for its construction (Donaldson 1985, 3). On the other hand, given his subsequent canonization and the dedication of St Magnus, one might expect the church to have been rebuilt in his honour (RCAMS 1946, II, 229). The start of work in a decorated Norman style at Dunfermline in the 1120s and Kirkwall in the 1130s is no bar to a similar date for Egilsay, as dozens of the East Anglian round towers appear to have been built with minimal decoration at the same time as the great Norman priories at Castle Acre, Binham and Wymondham. However, while a date after 1117 seems likely for St Magnus's, it has to be acknowledged that there is no certainty to the matter.

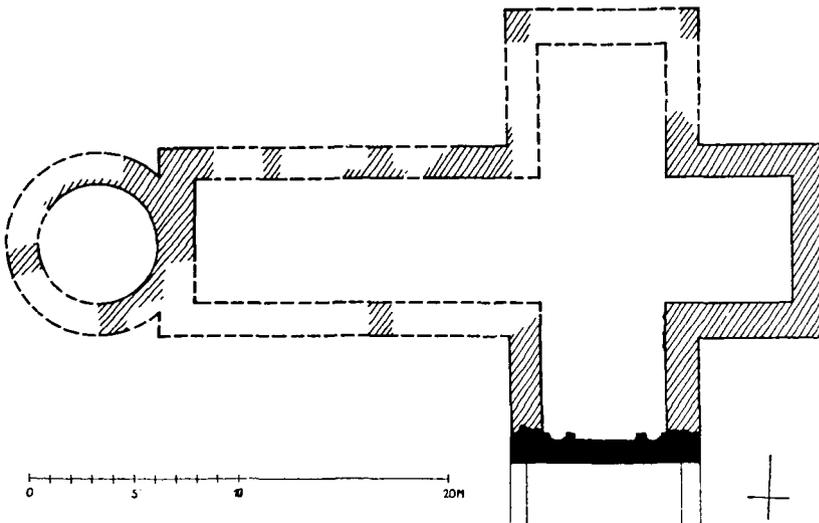
The chamber at the base of the tower in the church of Restennet near Forfar has been related by a number of scholars to the request of Nechtan King of the Picts, in or around 710, to Ceolfrith, abbot of Monkwearmouth, for '*architectos . . . qui iuxta morem Romanorum ecclesiam de lapide in gente ipsius facerent*' (Bede, *Hist Eccles* v, 21; Simpson 1963). Despite this there is little doubt that the structure belongs to the late 11th century or the early 12th (Brown 1925, 67; Fawcett 1985, 24). The stripwork on the south doorway (illus 4, middle) has been taken as an



ILLUS 7 Egilsay, St Magnus's: plan (by kind permission of the RCAMS)



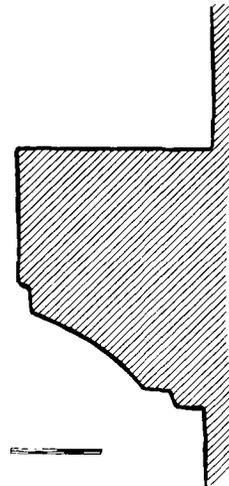
ILLUS 8 Norwich, St Julian's: plan



ILLUS 9 Johannisberg (Hessen): church, plan. (After Oswald *et al* 1966)

indication of Anglo-Saxon workmanship and hence of a possible eighth-century date, but while the feature is common in Anglo-Saxon churches it does not occur on any monument securely dated before the Viking invasions of the ninth century, and is on the contrary confined to those which are normally dated to the 10th and 11th centuries. St Peter's at Barton-on-Humber of around the year 1000 has strip-work comparable to that at Restennet (illus 4, bottom), but the closest parallel is provided by the doorway to the tower of Abernethy (illus 3, 4 top) which, according to the arguments presented above, should be dated around 1100. This parallel also calls attention to the important fact that the stripwork at Restennet lies flush with the through face of the jamb, whereas in the Anglo-Saxon examples it is set out a few inches. This placing makes the Restennet arch comparable with the continuous band used not only at Abernethy but also at Brechin and in Ireland, though, because the sill lies level with the ground, there is no face across the bottom.

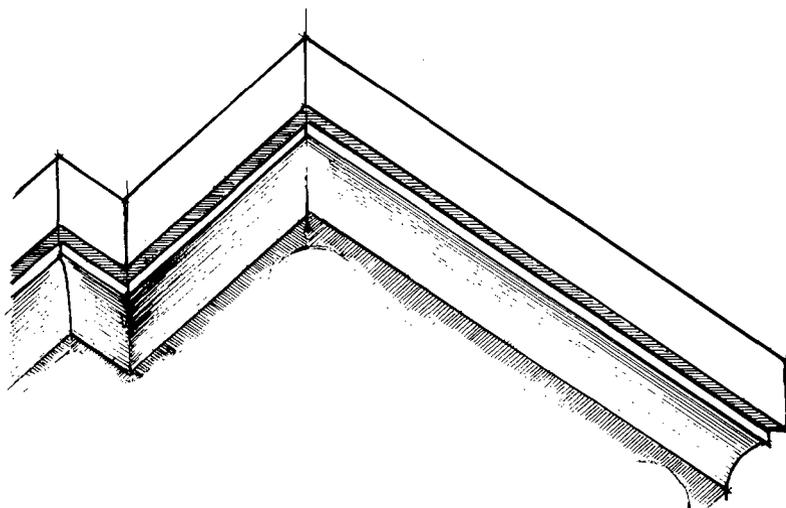
Despite the indication of a late date from Abernethy the stripwork does not of itself permit one to place the chamber more accurately than between the late ninth century and the early 12th, but the imposts on the eastern arch narrow these brackets dramatically. The large archway opening eastwards into the nave is an original part of the fabric. Along with the south doorway it forms part of the first build, as that is distinguished by the less evenly cut and laid masonry which rises some 14 feet (4.26 m) to the top of the chamber before giving way to the better cut stone of the later tower. The imposts which carry the arch of this opening have a distinctive profile consisting of a concave chamfer separated by a quirk from the vertical face of the block (illus 10, 11). This is a formula common in Norman buildings of the 11th century at, for instance, the abbey of Bernay (Eure, first half of the 11th century) (illus 12), and St Stephen's in Caen (Calvados, 1060s to 1080s) (Liess 1967, 166 and 183). In the British Isles the earliest surviving example appears to be in the monastic buildings erected at Jarrow after the re-settlement from Winchcombe in 1074 (Symeon, II, 201). This evidence corroborates a date around 1100 already suggested by the comparison of the stripwork with Abernethy.



ILLUS 10 Restennet, church tower: profile of south impost of eastern arch



ILLUS 11 Restennet, Church tower: south impost of eastern arch

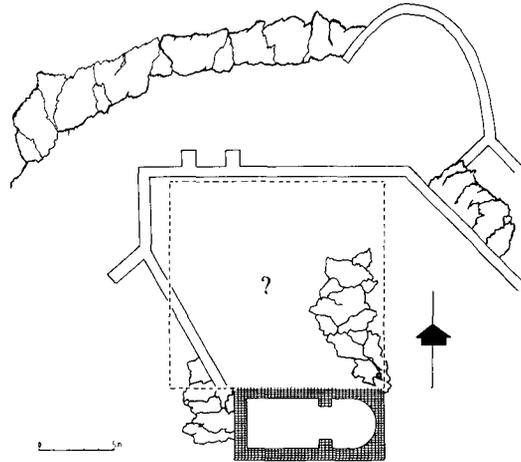


ILLUS 12 Bernay (Eure), Church: impost of capital in nave

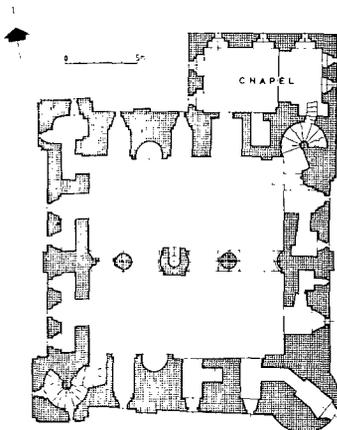
The building known as St Margaret's Chapel in Edinburgh Castle is a small rectangular structure consisting of an apsed sanctuary and a nave separated by a chancel arch decorated with chevron moulding (illus 13). The interior is whitewashed but the tooling indicates that the walls are original and the vaults modern work. On the exterior squared masonry like that of the walls on the interior runs in a reddish and grey band round all sides except the north. It would be unusual if the original building had not had a vault over the apse, but there is no agreement over whether there was one on the nave. The argument has see-sawed: the vault gives no indication of

the original arrangement as it is obviously modern, whether of the mid 19th-century restoration or of the preceding period when the building was used as a powder magazine (RCAMS 1951, 15; Fawcett 1985, 33; but the heads of the windows curve forward as part of the vault, therefore a vault was originally intended (Wilson *in* Gifford *et al* 1984, 92); but the heads of the windows are themselves in restored stone and are therefore inadmissible as evidence for the original form. It is likely that this will remain an open question.

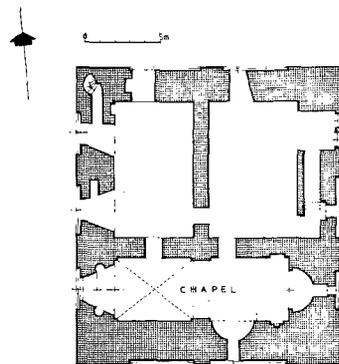
The form of the east end, a curved apse set into a rectangular exterior, is common in a flanking position in Norman buildings, as on the ends of the choir aisles of St Stephen's in Caen of the 1060s, or Lincoln Cathedral in the 1070s, but it is unknown in Normandy or Britain as the culmination of a single or main liturgical space. The nearest examples of this type are the axial chapels of the cathedrals of Auxerre in northern Burgundy (Yonne, 1031ff) and Santiago in north-west Spain (Galicia, 1077ff) (Conant 1974, 155-6, 158-9). While the form of these examples is similar to that of St Margaret's, the context (radiating off an ambulatory at the east end of a great church) could hardly be more different, and an alternative explanation is offered by the likelihood that the chapel formed part of a larger secular structure such as a house or tower (Richardson & Wood 1953, 4). This is suggested by the lack of parallels for a free-standing chapel



ILLUS 13 Edinburgh Castle, St Margaret's Chapel: plan



ILLUS 14 Rochester, Castle: plan of second floor (after Brown 1977)



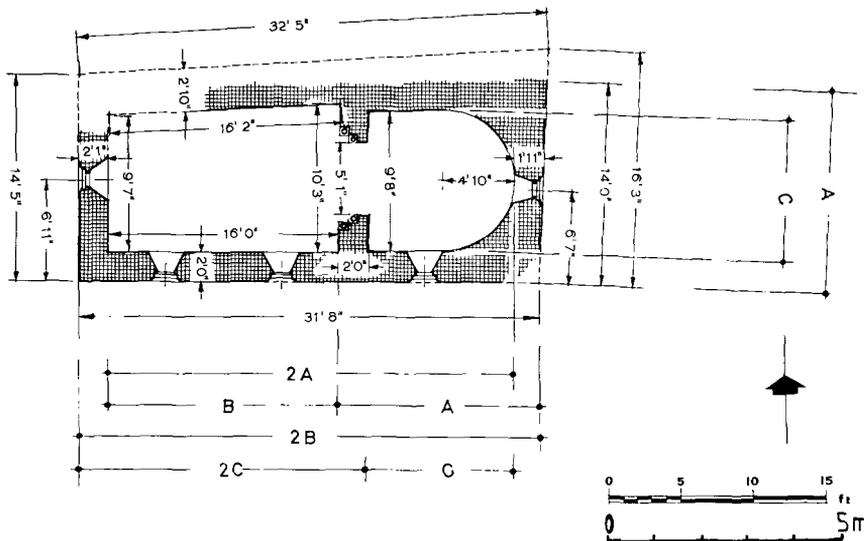
ILLUS 15 Bamburgh, Castle: plan of first floor (after Renn 1973)

on this small scale and by the complete lack of original masonry along the entire north face, including the north-west and north-east corners. The structure could not have been very large since there is only 40 feet (12.19 m) between the north face of the chapel and the edge of the platform on which it stands, but numerous parallels suggest themselves in contemporary castles. The castle at Rochester, of the 1120s, has a chapel on the second floor of its entrance block attached to the main building on one side only, it is similar in size to St Margaret's and consists of a sanctuary (albeit rectangular within) and a nave with a chancel arch between the two (illus 14) (Brown 1977; Renn 1973, 299–303). More directly relevant, the keep at Bamburgh, which may date from before the siege by David I in 1138, has on the first floor a chapel with an enclosed apse like that of St Margaret's (illus 15) (Renn 1973, 98; Colvin 1963, II, 554–5). In both of these examples the chapel is situated above ground level, but the ground-floor setting at Edinburgh could be explained by what must have been the small size of the whole building and by its secure situation near the top of the Castle rock.

Despite its apparent simplicity the dimensions of St Margaret's Chapel reveal it as a design of some sophistication, with a handful of lengths repeated and interwoven on different axes, as follows (illus 16). Allowing for irregularities, the interior is 10 feet wide, the sanctuary 10 feet long, the nave 16 feet long, and the whole 28 feet long.<sup>2</sup> The exterior (allowing the same thickness for the lost north wall as the 2-foot thickness of the south wall) is 14 feet wide, the sanctuary 14 feet long, the nave 20 feet long and the whole 32 feet. Thus in tabulated form:

- the interior length of the whole=twice the exterior width (2A & A, 28' & 14'),
- the exterior length of the whole=twice the interior length of the nave (2B & B, 32' & 16'),
- the exterior length of the nave=twice the interior width of the whole (2C & C, 20' & 10').

In addition the apse has a radius of 5 feet (making it half a circle inscribed in the 10-foot square of the sanctuary), the chancel arch is 5 feet wide, and the chancel wall, like the three surviving outer walls, is 2 feet thick.<sup>3</sup>

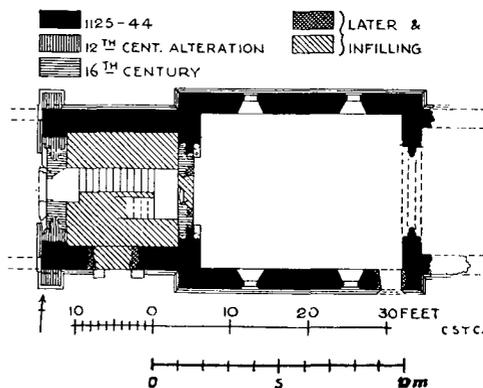


ILLUS 16 St Margaret's Chapel: plan with dimensions

The date of the chapel is disputed. It has traditionally been identified as the *oratorium* mentioned in Margaret's *Life*, which would place it earlier than her death in 1093 (*Vita* xiii, 252). The chevron decoration on the chancel arch is not, however, compatible with an 11th-century date since the first dated occurrence of the motif in the British Isles is in the later parts of Durham Cathedral, begun in 1093 and completed in 1133, suggesting c 1110–15 for its introduction there (MacGibbon & Ross 1896, 230). It also occurs, in a form very like that on the chapel, on the south doorway into the nave of Holyrood Abbey, which was founded in 1128. Since David I (1124–53) was responsible for Holyrood it seems likely that St Margaret's was built in the second quarter of the 12th century.

One or two writers have conducted a rearguard action in defence of the traditional date by arguing that the chancel arch is an insertion, because it is not properly bonded to the flanking walls and because it is set off the centre of the apse (Wright 1957, 3). There are, however, four reasons for disagreeing with this conclusion. First, while bonding between two walls is an almost sure sign that they were built together, lack of bonding cannot be taken as a sign that the two parts are not contemporary. Secondly, other aspects of the layout are slightly irregular, so the placing of the arch does not set it apart from the rest of the building. Thirdly, the dimensions of the building suggest that the chancel arch is an integral part of the design. Finally, one should beware of the proposal that, if part of a building does not fit one's argument, one removes it by defining it as an insertion. In arguing against an 11th-century date, however, it is worth reflecting that if a connection had not been drawn between the chapel and Margaret in the first place, there would not have been sufficient interest to ensure its survival after its discovery by David Wilson in 1846 nor its restoration by the War Office (largely at the instigation of this Society) in the early 1850s (RCAMS 1951, 13; *Proc Soc Antiq Scot*, 1 (1851–4), 70 & 157). It is, in other words, open to doubt whether the Society would have been so successful if it had been defending 'an interesting piece of 12th-century Norman work'. In this sense it may be legitimate to see the building as enjoying the special protection of Margaret herself.

The standing remains of St Rule's chapel consist of a rectangular nave and a tall western tower, with three large arches, one at the east end of the nave, one in the middle between the nave and the tower, and one in the western face of the tower. (I shall refer to these as the chancel arch, the tower arch and the western arch respectively: *illus* 17.) There is evidence of two lost



ILLUS 17 St Andrews, St Rule's: plan (by kind permission of the RCAMS; the names of the sanctuary, choir, tower and nave have been removed to avoid confusion with the nomenclature used in this article)

parts: to the east a chancel, with the roots of its walls visible flanking the chancel arch and with foundations seen in the 18th and late 19th centuries (Martin 1787, 206; Fleming 1910, 89); to the west a new, larger nave indicated by an added roof-line and by signs that the western arch is an insertion.

Before the middle of the 19th century the dates proposed for this building were romantic guesses, like the attribution to one Hergustus, fourth-century king of the Picts (Martin 1787, 193). Serious analysis of the monument began with the work of Joseph Robertson who, in 1849, linked it to a description in the Legend of St Andrew of the building activity of Robert, bishop of St Andrews from 1127 to 1159 (Robertson 1849, 120–1). In 1912 Gaetano Rivoira concluded that the nave, the tower and the chancel and tower arches were all built at the same time, while the western arch had clearly been broken through to link the original church with an added (but now lost) new nave. He also noted the close similarity between the rich mouldings of the chancel arch and the inserted western arch and concluded that the western alteration must have been carried out very close in date to the original construction. Finally John Bilson, in a brilliant paper (Bilson 1923) pointed out the close similarities between the mouldings of the chancel arch and the western arch to those at Wharram-le-Street in Yorkshire, sealing the connection by noting that Bishop Robert was an Augustinian from Nostell Priory in Yorkshire, and that Nostell had acquired Wharram-le-Street in the early 12th century.

This traditional view was challenged by the Taylors in 1965 (Taylor & Taylor 1965, 711–13). They argued that the chancel arch was also an insertion, so that the 12th-century Norman arches comparable to those at Wharram-le-Street were Robert's additions to an older fabric consisting only of the tower and the attached rectangular cell. They dated this building to the first half of the 11th century because of the archaic qualities of the plan and details such as the arched lintels over the windows. This analysis, with dates proposed at various points in the 11th century, is the currently accepted view in the literature (Cruden 1986, with the traditional date, being an unaltered re-issue of the text of 1950).

Despite this consensus the arguments from the material evidence in favour of an attribution of the whole fabric to Bishop Robert appear to me to be incontrovertible. The status of the



ILLUS 18 St Rule's: north jamb of the chancel arch, east face

eastern arch is pivotal: if it is an insertion as the Taylors claim then the basic structure is earlier than Robert; if it was built with the wall then the structure was raised by Robert. A close examination of the fabric leaves no doubt that the arch was built with the wall, since, 1) the rectangular jambs (as opposed to the shafts, which are often treated differently) course perfectly with the walls (illus 18), by contrast with the arch inserted into the western face of the tower, and, 2) the north plinth course returns eastwards without a break. (Illus 17. The middle course in illus 18 is also that in illus 22.)

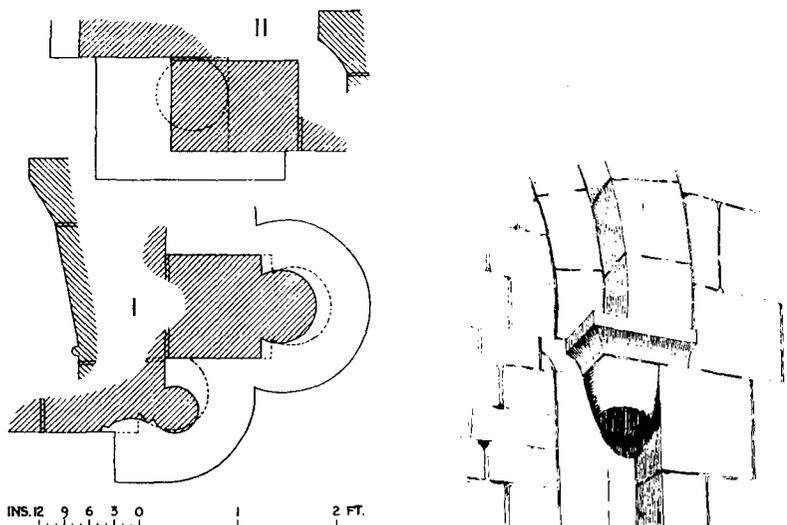
These two observations are sufficient in themselves to establish that the arch was not inserted, but there are many other supports for the contention, in particular a comparison with the tower arch (that between the tower and the nave). No one has argued that this is inserted. The Taylors contrast it with the richly moulded eastern arch and conclude that the two must be of different dates. Yet there is no basis for the view that all arches of a particular date must have the same degree of decoration; on the contrary arches at all periods are made plain or decorated because of differences in their position, which makes it entirely fitting that the arch into the chancel is more heavily decorated than that into the tower. When the new nave was added to the west the arch then inserted into the west face of the tower would have become the new chancel arch, which explains why it has an almost identical moulding to the old one. Much more important than that, however, is the fact that the chancel arch is simply a version of the tower arch (ie the middle arch) with decorative mouldings in addition. As is evident in illustration 19, if one removes the angle rolls and concave mouldings the form which remains is indistinguishable from that of the tower arch. Further, as Bilson pointed out, the tower arch of St Rule's is virtually identical to that at Wharram-le-Street (illus 19 & 20). They share the following features:

- inclined jambs with nook shafts and tall capitals,
- a horseshoe-shaped arch with both radial and non-radial voussoirs,
- the arch composed of two square-edged orders constructed in two separate layers,
- abaci with a hollow chamfer except on the north-south face of the inner order, which is flat.

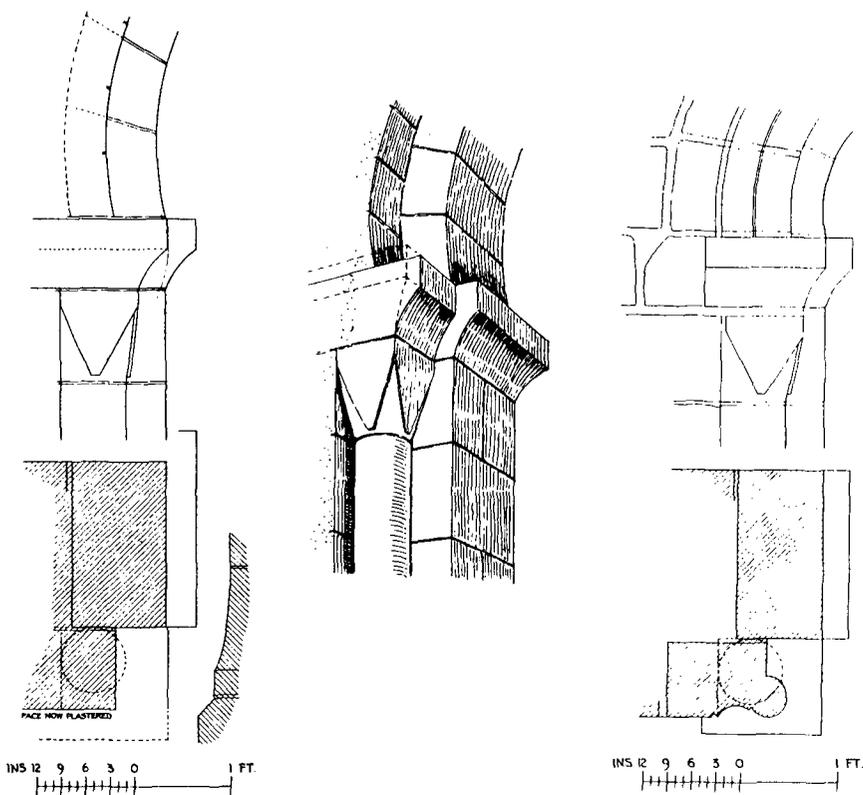
Abaci with a flat section on the inner order are known only in these two buildings, constituting a 'Morellian detail' which almost amounts to proof that the two arches were built by the same mason. Thus, if the arches at Wharram-le-Street are 12th-century (and everyone including the Taylors agrees that they are) then the tower arch at St Rule's is 12th-century and the fabric is 12th-century. Further, since the mouldings of the chancel arch are all but identical to those of the inserted western arch, the initial construction and the enlargement cannot be many years apart, and since Robert is both the link with Wharram-le-Street and the person responsible for enlarging the church it seems clear that the two building operations should have taken place in his period of office, between 1127 (or 1124) and 1159.

There remains the objection, often raised in this and similar contexts, that buildings of very different form and character cannot be contemporary, that St Rule's for instance, cannot be contemporary with David's abbey at Dunfermline. Yet such contemporaneity is not a problem so much as a demonstration of the fact that historical events are nearly always less disciplined than the typologies constructed for them, as with the examples of varied but contemporary architectural detail at Abernethy and Restennet already discussed. There is, more importantly, the possibility of a difference of function, that St Rule's was designed with a different purpose in mind from Dunfermline Abbey.

St Rule's is very small beside Dunfermline (76 feet (23.16 m) in total external length against 120 feet (36.57 m) internal length of the nave alone at the abbey), indeed so small that one may



ILLUS 19 St Rule's: I, chancel arch; II and right, tower arch (Bilson 1923; by kind permission of the Society of Antiquaries of London)



ILLUS 20 Wharram-le-Street: left and centre, tower arch; right, west doorway (Bilson 1923; by kind permission of the Society of Antiquaries of London)

ask whether we are comparing like with like. David's building is a great church, a basilica designed for monastic services and royal burials; St Rule's has a nave internally 26 feet (7.92 m) long, which it is hard to believe would have been considered adequate at any date for the central space of a country's premier cathedral.

If St Rule's was not a cathedral, what was it? Ronald Cant has described 'the old church of St Andrew' (as it was known before the 15th century), as first and foremost a shrine for St Andrew's relics – the three fingers of his right hand, an arm bone, a knee cap and one of his teeth – with the tower serving as a landmark for pilgrims (Cant 1974, 77; Anderson 1976, 6 n45; Skene 1867, 183). Seen in this light St Rule's appears more as a martyrrium than a congregational church, a container for things rather than people (or for one person, St Andrew, rather than a congregation). It is thus not an undersized cathedral but a huge casket.

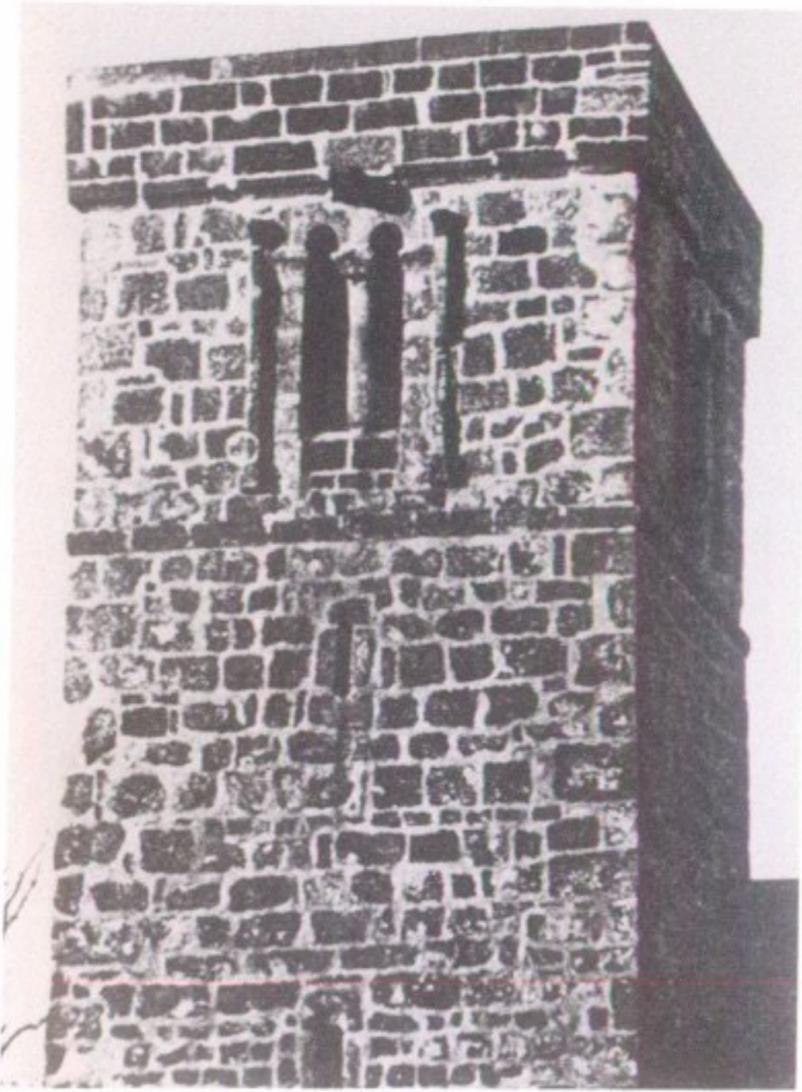
This notion is underlined by the quality of the workmanship evident in the fabric. The foundations are much more impressive than is usual with buildings of this size, consisting of boulders packed with clay extending to a depth of 6 feet (1.83 m) over the whole site (Fleming 1910, 89). The dimensions indicate great care both in the regularity of the setting out (the north wall of the nave, for example, is exactly the same length as the south wall), and, it can be argued, in the proportional relationships divided between the different parts of the building.<sup>4</sup> The masonry is of a standard which will stand comparison with anything of the 11th and 12th centuries in the British Isles. In so far as the blocks have beds rather than nodes, a number of them are laid against the bed, making their excellent state of preservation somewhat ironic given the deleterious effects which such laying is supposed to produce (Thoms 1912, 428). One can contrast St Rule's with, for example, Wharram-le-Street, which looks third-rate in comparison (illus 21 & 22) or even more tellingly with the much less regular masonry of the nearby cathedral of the second half of the 12th century, at which point one is forced to ask, what price typology as a means of determining date?

All this material evidence needs to be examined in conjunction with the documentary sources, in order to establish whether Robert might have built one type of church – the reliquary casket – shortly after his election in 1124, and abandoned it by enlarging it into another – a eucharistic church – shortly after the establishing of the priory in 1144.<sup>5</sup> The earlier building, Robert's first conception, deserves such clarification, since it is an architectural gem, a first-class piece of construction worthy of housing St Andrew's relics.

According to conclusions proposed here the six buildings analysed in this paper should all be dated in the four decades between c 1090 and c 1130. If these dates are correct then the chief characteristic of the period is its extraordinary diversity, a diversity which can be seen as a reflection of the variety of views of the people who built the buildings, whom they were trying to impress, and how best they thought they could achieve their aims.

## NOTES

- 1 Despite the arguments of Brash (1860, 313) the coursing between the two types of stone is regular enough to suggest that they form part of the same build. While there is one instance of change in the size of a course at the join between the two types of stone (to the right of the doorway) there is a similar change in course size *within* the area of yellow stone (to the left of the arch of the doorway). The grey stone could have been used at the base because it was thought to provide a strong foundation, and the yellow stone for the remainder because it was thought easier to work and hence more appropriate for doorways and bell openings. A petrological analysis would assist in elucidating this point, as there is reason to believe that the grey stone is harder and less susceptible to weathering.



ILLUS 21 Wharram-le-Street: tower (Bilson 1923; by kind permission of the Society of Antiquaries of London)



ILLUS 22 St Rule's: north face of nave

- 2 To avoid confusing the text and the illustrations metric equivalents of the lengths in question are listed below:

1' 11"=0.58 m	10' 3"=3.12 m
2' 0"=0.61 m	14' 0"=4.26 m
2' 1"=0.63 m	14' 5"=4.39 m
2' 10"=0.86 m	16' 0"=4.87 m
4' 10"=1.47 m	16' 2"=4.92 m
5' 0"=1.52 m	16' 3"=4.95 m
5' 1"=1.55 m	20' 0"=6.10 m
6' 7"=2.00 m	28' 0"=8.53 m
6' 11"=2.11 m	31' 8"=9.65 m
9' 7"=2.92 m	32' 0"=9.75 m
9' 8"=2.95 m	32' 5"=9.88 m
10' 0"=3.05 m	

- 3 The interdependence of these lengths, and in particular the 2-foot wall thickness, can be demonstrated by calculating the effect of thinner and thicker walls on the design. A thickness of 1 foot with an interior width of 10 feet (C in illus 16) will give an exterior width of 12 feet (A) and therefore an interior length of 24 feet (2A); but the exterior length of the nave has to equal 20 feet (2C, twice the interior width) leaving only 4 feet for the chancel. Conversely, a thickness of 3 feet with an interior width of 10 feet (C) will give an exterior width of 16 feet (A) and therefore an interior length of 32 feet (2A); but the exterior length of the nave has to equal 20 feet (2C) so that its interior length will be 14 feet (20 feet minus two sets of 3 feet) and the exterior length of the whole (which according to the formula is twice the interior length of the nave, B) will be 28 feet, with the consequence that exterior length will be 4 feet shorter than the interior length. From these two calculations and their resulting absurdities it would seem that the walls can *only* have the thickness which they do.

- 4 The use in the Middle Ages of the proportion between the side of a square and its diagonal has been established by the work of Dr Peter Kidson, the Society's Rhind Lecturer for 1986 (Kidson 1956). This formula appears to have been applied at St Rule's, where the interior and exterior dimensions of the tower – 14 feet 6 inches (4.42 m) and 20 feet 6 inches (6.25 m) respectively – relate in this way. It is possible that the external length of the whole building – 75 feet 8 inches (23.06 m) using Brown's figure for the length of the chancel – bears the same relationship to the unusual height of the tower – about 107 feet 6 inches (32.76 m) – but the question can only be settled if the position of the eastern wall is determined by excavation.

It is also in place to note at this point that despite what has been said about them, for example by the Taylors (1965, 712), the two buttresses at the western corners of the tower are an integral part of the fabric: the plinth follows their profile, all courses run between them and adjacent faces of the tower, and there is even an odd joggling of stones alternately to left and right of the corner, exactly as at the junction between the tower and the nave.

- 5 The documents in question are, 1) part of the Legend of St Andrew (Skene 1867, 191) and, 2) the foundation charter of the Priory (Haddan & Stubbs 1873, 221), with which see Barrow 1973, 171–2 and 222, and Anderson 1976, *passim*. Both texts say that Robert enlarged the church, but the status and date of what preceded the enlargement remain unclear.

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This may also be an appropriate point at which to offer (as it were in recompense for the lack of Pictish dates among those proposed above) a possible answer to an old chestnut, namely Bede's report that the Picts are said to have come from Scythia ('... *contigit gentem Pictorum de Scythia, ut perhibent, ... extra fines omnes Britanniae Hiberniam pervenisse ...*', *Hist Eccles* i, 1). Wainwright (1980, 10) sums up the consensus on this odd statement by saying that the story must be dismissed as legend or literary invention. Yet it may be neither, and instead a simple misreading. Strabo (*Geog*, 2.5 7-8), at the start of a discussion of the farthest reaches of the inhabitable world, says the following: 'Now the Roxolians, the most remote of the known Scythians, live beyond the Borysthenes, though they are further south than the most remote peoples of whom we have knowledge north of Britain ...'. It is clear that Strabo was making a comparative statement to the effect that the Roxolians are not as distant, on an absolute scale of lines of latitude, as those who live north of Britain, but one can also read it as meaning that those who live south of those north of Britain (that is, those *in* the north of Britain) are Roxolians, who are Scythians.

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