

Early stone emplacement in three Scottish ecclesiastical national monuments

John F Potter*

ABSTRACT

The stonework at three well-known Scottish ecclesiastical buildings has been examined in detail. In each, the orientation of the bedding layers in individual stones in certain quoins and arch jambs, and in two instances the wall faces, indicate when these buildings were first erected. In England, the period of construction would have been described as Anglo-Saxon; in this paper the work is referred to as being of 'Patterned' style. On this evidence each building is ascribed to a particularly early origin.

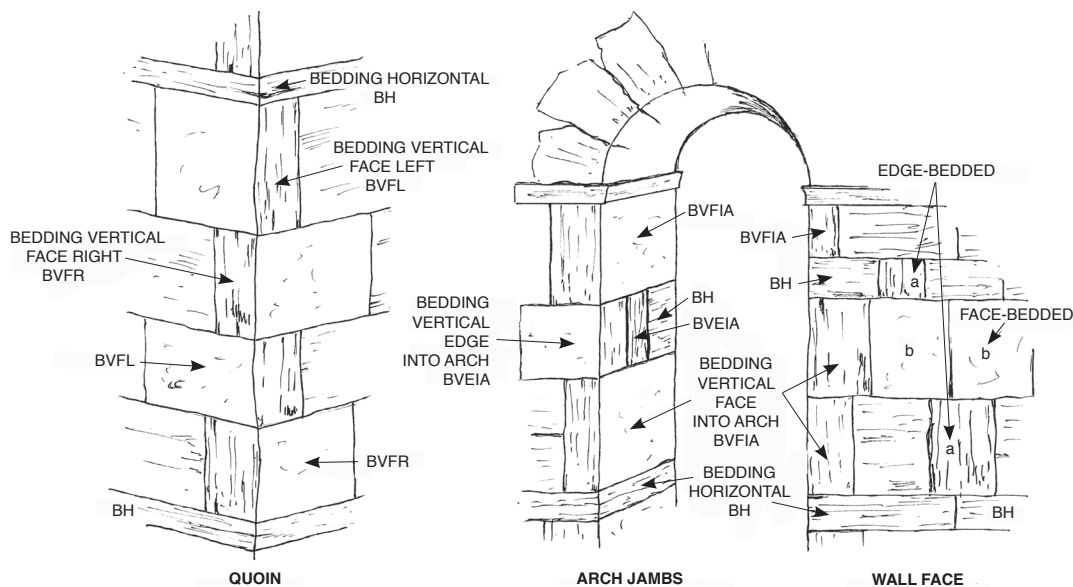
INTRODUCTION AND TERMINOLOGY

Studies, initially involving the churches of south-east England (as Potter 2003), provided the first strong indications that Anglo-Saxon masons in that country used their stone in techniques unlike those of either the Romans or post-Conquest workers. This interpretation was confirmed following a comprehensive countrywide study of early English churches (Potter 2005a). Typically, in the walls of buildings, most masons place rocks with their bedding or stratification in a horizontal orientation, for in this position the stone is normally less susceptible to weathering and more able to withstand the vertical pressures within the wall. *It must be emphasised that bedding orientation is not the same as stone orientation.* A stone may be in the shape of a cube or sphere but it may still possess pronounced bedding which will exhibit orientation. Similarly, an elongated stone may have its bedding orientated parallel to a short axis in the stone. The English, pre-Conquest stonemasons, when constructing principal structural and wall features like quoins, arch

jambs and pilasters, probably for purposes of ornamentation, chose to set many of the stones, with the rock stratification or lineation orientated vertically. This required a sound knowledge of the physical characteristics of the rocks which they employed and, in turn, the careful selection of the stone used. For the purpose of describing the orientation of stones placed in different styles in wall quoins and jambs a simple new nomenclature has been devised (see illus 1 and Potter 2005a; 2006b; 2007b). The Anglo-Saxon architectural masons' use of stone in wall features in this manner has been shown to be widespread (for example: Potter 2003; 2005a; 2005b; 2006a; 2006b; 2007a).

Recently, it has been indicated that Anglo-Saxon stone use involved other additional aspects of wall enhancement. For instance, many stones were cut back in order to exaggerate the appearance of the decorative elements of quoins, arches and pilasters (Potter 2006c). Again, where rock lithologies were suitable, the wall faces themselves were elaborated (Potter 2007b). This was undertaken by means of colour wall banding, which required a suitable local source

* Department of Archaeology, University of Reading, Reading RG6 6AB



ILLUS 1 Possible stone bedding orientations are illustrated, in a quoin, in arch jambs and in a wall face, and a nomenclature is given for their description. In a quoin, the bedding or lineation of the stones may be; with bedding horizontal (BH), or with bedding vertical, either facing to the left (BVFL), or to the right (BVFR), as viewed. In arch jambs, the bedding will typically be horizontal (BH), but in Anglo-Saxon or Patterned style jambs a number of the stones will be set vertically with the face of the bed normal to (ie at right angles to) the wall surface (facing into the arch) or (BVFIA). Not present in Anglo-Saxon or Patterned style jambs, but common in Norman or Romanesque workmanship, is the third possible orientation, bedding vertical edge into the arch (BVEIA). To the right of the arch is a small section of wall. In the wall, stones are customarily set (BH), but vertically bedded, edge-bedded stones (a) or face-bedded stones (b), may also be present. It is rare for bedding to be as clearly visible in natural circumstances

of two distinct stone colours. Alternatively, in walls built of sub-ashlar or ashlar stone which possessed strong planar bedding, the insertion of stones in varied face-bedded, edge-bedded and horizontally bedded orientations was used to produce a decorative result. When first applied, these styles of banding would have been very much more evident than they are today, for lichen, dirt and time have taken their toll. All these aspects of style can be determined by means of a detailed *geological* scrutiny of the rocks involved.

The author has examined an extensive selection (about 300 in detail) of early Scottish churches (Potter 2006b). This study revealed that the Anglo-Saxon fashion of vertically

bedded stone emplacement was evident also in the fabric of a considerable number of churches north of the Border. The stone churches identified which adopt this style now provide evidence of a supporting ecclesiastical craftsmanship to the long-recognised, vast array of Scottish early Christian stone artefacts that have been discovered.

Evidence suggests that an Anglo-Saxon style or fashion of stone emplacement in England and Wales was followed by a different post-Conquest, 'Norman Romanesque' style within a matter of but a few decades. The author has demonstrated that a particularly conclusive fashion change occurred in the uses of stone at the time (Potter 2007b).

The vertical stone bedding emplacement practices adopted by the Anglo-Saxons, south of the Scottish Border, therefore, provide a definitive upper time limit to their style of building. South of the Border, it now seems evident that ecclesiastical masons altered their building styles in the wave or fashion of a new 'Norman influence'. This change in building practices has long been recognised in terms of architecture (Brown 1903; 1925; Clapham 1930; Taylor & Taylor 1965). In expressions of the carving and ornamentation of church stonework the distinction is perhaps less precise, but still considered to be apparent (cf, for instance, Fernie 1983 with Fernie 2000). It seems probable that this remarkably sudden change in building fashion south of the Border was determined by what was to become the new practice of covering external walls with lime-wash or plaster. There was no further purpose in the masons providing a stonework ornamentation to their walls (Potter 2006c; 2007b).

Progressing into Scotland, and indeed, Ireland, it is now apparent that, subject to the availability of suitable rock lithologies, the same change in style in the methods of use of stone evident in England also occurred in these countries (Potter 2006c; 2007b). The advent of the new fashions in church building, however, here strictly should be described differently, for the terms 'Anglo-Saxon' for the former style, and 'Norman Romanesque' for the latter, can be adversely criticised. Indeed, in an earlier paper in this journal (Potter 2006b) the term 'Anglo-Saxon style' was used with some trepidation. Clearly, a fashion in stone use prevailed, for which the name 'Patterned' has been proposed (Potter 2007b). In this text, therefore, the terms 'Patterned' and 'Romanesque' are used to reflect the change in fashion. The principal elements of stonework which may now be employed to identify the Patterned style are listed in Table 1.

The change in these building fashions appeared to sweep across England within a

very short period of time. The uncertainties related to determining precise dates for the original construction or modification of individual ecclesiastical buildings (for few can be dated precisely from supporting literary or documentary evidence) make it difficult to ascertain how rapidly the new styles swept across Scotland. The limited supporting evidence would suggest that the change occurred within the period of the second half of the 11th and the first quarter of the 12th centuries, and more especially in the earlier part of this period.

It should be made clear that the change in building styles was not considered to be the result of itinerant or immigrant masons travelling to areas of Scotland or Ireland from England. It was instead, by the resident masons implementing a change in fashion, for from a stonemason's point of view the new style was very much simpler to construct. As may be illustrated by the fashions of today (eg the rapid changes that occur in modern building practices), the adoption of a new advantageous trend was likely to have been relatively rapid. This particular early change in building practice resulted from the new Norman influence.

Three ecclesiastical sites in Scotland which exhibit elements of the Patterned style of stonework are of particular national and historic significance. For this reason some detail of the stone emplacement in each is now described. In each building, the structural and architectural interpretation has been one of controversy, with many different authors contributing to the issues involved.

ST MARGARET, EDINBURGH CASTLE, EDINBURGH (NT 253 735)

The chapel of St Margaret stands on one of the highest points of Edinburgh Castle rock. The limited recorded history of the building and its rediscovery in 1845 are described in

TABLE 1

A simplified assessment of some stonework features which are believed to distinguish churches of Patterned (in England, 'Anglo-Saxon') style. In all instances these characteristics were dependent on the availability of rocks of suitable lithologies. The full details of these features are described in Potter 2005a; 2006b; 2006c; and 2007b

<i>Architectural or Stonework Feature</i>	<i>Exemplified in parts of</i>	<i>Typical Rock Lithology</i>
<i>A) Long recognised features</i>		
Long and short quoins	England	Well bedded, moderately massive, easily worked limestones and sandstones
Megalithic quoins	Northern England, but depends on rock types	Massive, difficult to work, harder rock types
Double-splayed windows	South and east England	Easily workable rubble (rare exceptions)
'Escomb-style' doorways	England	Similar to long and short quoins
Pilasters, pilaster-strips	England (not extreme north)	Similar to long and short quoins
Other features (eg string courses, plinths, etc)	(See Taylor & Taylor, 1965)	Varies according to feature
<i>B) Newly observed features</i>		
Vertically bedded stonework set to specific styles in quoins and arch jambs	Wherever rock type suitable	Well bedded or lineated, workable, moderately massive stone
Vertically bedded stonework set in pilasters	England	Well bedded, easily worked stone, particularly limestone
Cut back stonework to produce apparent equality of width	England	Similar to pilasters
Polychrome banding	South-east England	Rubble church walls
Face-bedded banding	Scotland, Ireland, northern England	Very well bedded or lineated rock types as fine grained sandstones to work as ashlar
Megalithic face-bedded stones	Scotland, Ireland	As face-bedded bands, but massive, and often more slaty rock types

the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS 1951: 13–15). That the building has undergone substantial alterations is evident from a view of the south wall where at least three levels of different coursework are clearly visible (illus 2). The RCAHMS (1951: 14) suggested that the lowest level of these occurred ‘some date after 1573’ when, in part, the ‘basalt’ (strictly, dolerite) rock foundation was removed and the building was underpinned on three sides. On the south wall this underpinning rises from the ground level for 2.5 to 3m. It gives way above this to two, or sometimes three, courses of stone. These courses were described as constructed of ‘cubical rock’ (ie squared blocks of similar size) of the same, pale red, sandstone lithology as the rocks used in the underpinning. The stone courses, being partially traceable on two of the three other walls (but not the east wall), and occurring just above the building’s floor level, may be interpreted as early fabric, for, on the south wall, they rise in a further seven or eight courses of similar ‘cubical rock’ of grey Lower Carboniferous sandstone. The RCAHMS tended to regard ‘cubical’ ashlar wall facing as of ‘Norman Romanesque’ origin and in their description (1951: 14) write of a band of ‘ten courses’, with no reference to the colour discrepancy. In England, colour banding in church walls of this nature is thought to reflect work of no younger date than the Saxo-Norman period (*c* 11th century, Potter 2007b). Careful scrutiny of many of the cube-shaped rocks

reveals that they are often face-bedded, that is, they are placed with their bedding vertical and parallel to the face of the wall. Stone insertion in this manner is typical of pre-Conquest (ie Patterned) workmanship (Potter 2007b). Above the ashlar cubical rock courses the south wall rises to roof level in relatively modern, irregular stonework.



ILLUS 2 The south wall of St Margaret’s Chapel, Edinburgh Castle. Different styles of wall construction are clearly exhibited. Lower stonework represents underpinning but this gives way to ten regular courses of ‘cube-shaped’ stone. The lowest two courses of this stone show red colouration unlike the grey sandstone which comprises the higher eight courses. The more recently fabricated highest portion of the wall resembles the style of the underpinning in its construction

The chapel is unusual in possessing an eastern apse which is set into a rectangular exterior. To explain this Richardson & Wood (1953: 4) proposed that possibly the chapel once formed part of a larger structure. However, the site is topographically cramped and any larger building could only fit with difficulty to the northern wall. Rallying to support this suggestion, Fernie (1986: 402) advised that the whole of the north wall lacked originality. For this there is no evidence (see below) and

the colour banding and face-bedded stonework remains present on the north wall.

Other aspects of the RCAHMS (1951) site description require little supplement. It should be noted, however, that the detail of the chancel arch is depicted as no earlier 'than the first decade of the 12th century' and more likely between 1110 and 1120 (MacGibbon & Ross 1896: 230). Very noticeably, whilst the chancel arch remains centred to the nave it is not centred with the east window and it 'does not seem to have been bonded ... into the side walls'. This provides an argument, noted and negated without reason by the RCAHMS (1951: 15), that the arch might have been inserted into an earlier fabric.

Most commonly, authors, such as Fernie (1986: 403) who proposed that the building dated from the second quarter of the 12th century, have used the Romanesque aspects

of the chapel, as the chancel arch, to give it a 'Norman' origin in an English sense. Gifford et al (1984: 91) dogmatically stated 'architectural evidence rules out a date earlier than c 1100', and Fawcett (2002: 27) considered the chapel, and more especially the chancel arch and the apse, to be 'early 12th century'. Wright (1957: 3ff), however, presented arguments for the building having been founded by Queen Margaret c 1070. In the 1999 reprint of Wright's guide, the date and these arguments have been omitted. The nave roof and semi-domed apse vaulting is generally accepted as reflecting the form of the original cover (Hoey & Thurlby 2004).

Three of the principal quoins in the chapel exhibit evidence of early stone emplacement, particulars of which are given below (Table 2). The south-east quoin has apparently been completely rebuilt.

TABLE 2
Each quoin set on a dolerite foundation

<i>Stone(s)</i>	<i>NW quoin</i>		<i>Stone(s)</i>	<i>NE quoin</i>		<i>Stone(s)</i>	<i>SW quoin</i>										
Eaves																	
16–18	BH (Replaced?)		19–26	BH (Replaced?)													
15	BVFR		18	BH													
14	BH		17	BVFR													
13	BVFL		13–16	BH (Replaced?)													
12	BVFR		12	BVFL													
{ <table style="display: inline-table; vertical-align: middle;"> <tr><td>11</td><td>BH</td></tr> <tr><td>10</td><td>BVFR</td></tr> <tr><td>9</td><td>BH</td></tr> <tr><td>8</td><td>BVFL</td></tr> <tr><td>7</td><td>BH</td></tr> </table>	11	BH	10	BVFR	9	BH	8	BVFL	7	BH	} See illus 3	11	BVFR				
	11	BH															
	10	BVFR															
	9	BH															
	8	BVFL															
7	BH																
10	BVFL	10	BVFL														
9	BH	9	BH	12–?	Uncertain												
8	BVFL	8	Replaced	4–11	BH (all replaced?)												
7	BH	7	BVFR														
6	BVFL	3–6	Small, BVFR	3	BVFR												
5	BVFR	2	BVFR	2	BH												
4	?	1	BVFR	1	BVFL												
2–3	Replaced																
1	?																

(Note: The BH stones, when of identical lithology and set within a column of vertical stones, help to tie the vertical Patterned stones into the wall and are of the same age.)

None of the quoins exhibits its original stone emplacement in entirety and it is very probable that the lowest three stones in the south-west quoin are re-set. However, in the north-west quoin, stones 5–15, display particularly clear English ‘Anglo-Saxon style’ (ie Patterned style) settings (illus 3).

The architrave to the blocked west doorway is chamfered and probably of 17th century date (RCAHMS 1951: 14), but the lowest three stones in the north jamb are placed BVFIA and are probably redressed early stones.

In summary, the chapel has been very extensively altered in its history and there is evidence that the east end has been significantly

rebuilt, but the northern quoins, together with the possible evidence from the squared ashlar coloured wall banding, tend to support a late Patterned date for the building’s origin.

ST PETER, RESTENNETH, ANGUS (NO 482 516)

The ruins of Restenneth Priory, a short distance to the north-east of Forfar, consist of an unbuttressed tower to which is adjoined a wider chancel. The north chancel wall is the more laterally displaced. That this chancel was erected in the 13th century is reflected in the architectural style of the windows, a date of *c* 1250 being typically agreed. Evidence that a comparable and similarly aligned nave once existed to the west of the tower may be observed from the markings of its roof on the tower and limited visible foundations. Attempts to date the origins of the church involve the tower, the structure of which is controversial.

Typical of those advocating an early origin are Simpson (1963; 1969) who proposed that the lowest portion of the tower was built by masons from Wearmouth about 710; Taylor & Taylor (1965: 710–1) who suggested ‘probably period C’ (ie 950–1100); and Cruden (1986: 5) with a date of ‘as early as *c* 710 or *c* 950–1050’. In contrast, Brown (1925: 67) proposed the period of ‘Saxo–Norman overlap’; Simpson (1952) a Romanesque date; Fernie (1986) ‘about 1100’, based on the form of the stripwork to the south doorway and the impostes to the east arch; and Fawcett (2002) offered the date of foundation of the priory, ‘*c* 1153’. Cameron (1994: 375), drawing comparison with certain churches in northern England and assessing the stripwork around the south door, believed the tower could be dated to the late 10th or early 11th century.

Stone emplacement in two of the four principal quoins to the tower appears to reflect its original construction and their lower portions may be described as follows (Table 3):



ILLUS 3 Stones in the north-west quoin of the Chapel of St Margaret at Edinburgh Castle are emplaced in Anglo-Saxon or Patterned style. Stones 7 to 11 are figured and in ascending order these are set BH, BVFL, BH, BVFR, BH. The oblique lighting displays the bedding in stone 8 the most clearly

TABLE 3

<i>Stone</i>	<i>SW quoin</i>	<i>Stone</i>	<i>NW quoin</i>
11	BH (red)		
10	BVFR (red)		
9	BH (red) ?		
8	BVFR (red)	8	BVFL
7	BH	7	BVFR
6	BVFR	6	BVFL (red)
5	BH (small)	5	BVFR (red)
4	BVFR (red, with bench mark)	4	BVFR
3	BVFL	3	Diagonal (FR)
2	BVFR	2	BVFL
1	BH Plinth	1	BVFR

The Lower Devonian, Old Red Sandstone rocks of which the quoins are constructed vary in colour from greenish-grey to red, with the greyer lithologies generally being more massive and slightly coarser. The ornamented Patterned style workmanship of these quoins suggests that the tower was originally built before any period of 'Norman' or Romanesque influence.

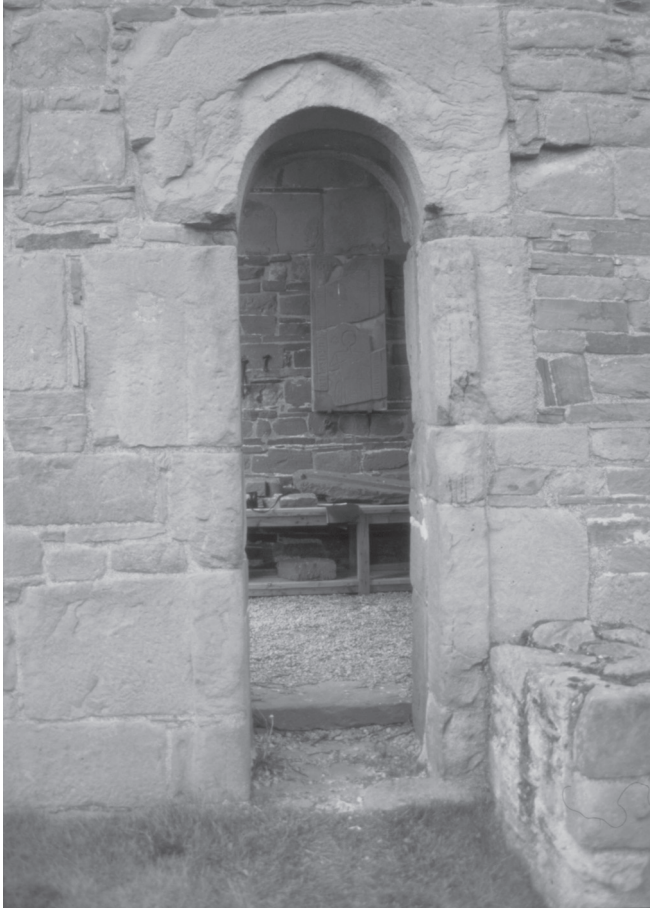
Many of the previous estimates for the tower's date were based on the early structure of its south doorway. The doorway, however, offers conflicting evidence (illus 4 and 5). Simpson (1963) provided a photograph to show that as recently as 1868 the doorway remained infilled and no doubt some alterations possibly occurred at the time of its unblocking (Galloway 1877). In architectural character the doorway is tall and narrow and of English, Anglo-Saxon or Patterned appearance. The jambs in the south external face have been cut back to form a pilaster-strip (or architrave), a feature of many late Anglo-Saxon doorways in England (Cameron 1994: 375; Potter 2006c). In typical Patterned style the width of this cut

back has been determined by the width of the narrowest jamb stone (stone 3, east jamb).

Both Fernie (1986: 399 and illus 3) and Cameron (1994: 375) have referred to this architrave or pilaster-strip, using the term stripwork, to determine a suggested age for the tower (see above). In particular, Fernie used the measurements of the width and depth of the architrave cut backs to make comparisons with other architraves elsewhere. Both these measurements depend on the chance sizes of the enclosing stonework and it is little wonder that these authors' comparisons provided different answers.

The round-headed arch, both externally and internally, has been cut out of large individual lintel stones each set BVEIA. The arch and the upper part of the doorway are constructed in three thicknesses of stone and closely resemble in structure the Anglo-Saxon south doorway of St Patrick, Heysham (SD 409 616), in Lancashire. However, other aspects of the doorway are more characteristic of the later Romanesque style. Apart from the west impost there are no through stones (an unusual error in Taylor & Taylor 1965: 111, observations). The majority of the vertically orientated stones in the jambs are placed BVFIA in Patterned style, but four of the larger jamb stones are set BVEIA. Three of these larger stones are on the south face and are appropriately cut back. All four would appear to be replacement stones (and the doorway has some evidence of repair), where, on the external surface, the mason concerned chose to add a copy of the English, Anglo-Saxon style ornamentation at the time of the doorway's restoration.

The principal arches to the tower are to the west and east; that to the west has been completely rebuilt, it has been displaced to the north and the vertically orientated stones in its rebuilt south jamb are often placed BVEIA, in a style observed in some Romanesque structures. The eastern arch leading to the chancel has been less altered.



ILLUS 4 The controversial south door of the tower at St Peter, Restenneth, Angus, viewed from the exterior. The cut back pilaster-strip (architrave) is clearly visible and cut to the width of the third stone above the ground in the right (east) jamb

Careful examination of the jambs of this arch indicates that, although the through stones remaining are likely to be original, replaced stones are set in a later style. Below the impostes and above the plinths, in the south jamb, only stones 1 (BH), 3 (BVFIA) and possibly 5 (BH), and in the north jamb only stones 1 and 5 (both BVFIA), are original. Where individual courses in the jambs are represented by two or more stones, replacement stones are set in typically Romanesque style of BVEIA. This is well

exemplified in the north jamb in course two above the plinth, where from the exterior face of the jamb inwards the stones read: BVFIA (part of original greenish-grey, sandstone block?), black replacement mudstone set BVEIA, and red sandstone set BVEIA.

Low in the tower the eastern quoins have been replaced and most other aspects of the ruins have been described elsewhere by previous authors. In synopsis, at ground level, the western quoins of the tower reveal the most uncontroversial and clear evidence for a late Patterned style origin for the tower.

As Simpson (1952; 1963; 1969), in particular, claimed that the tower had been built in a number of different periods, an attempt to determine the extent of the earlier ornamented-style workmanship over the tower's height was undertaken. Viewed in good oblique light through powerful binoculars, each of the four quoins of the tower to the level of the second string course generally appeared to have its stones set in Patterned, vertically bedded, side-alternate

style. The high level door on the east face of the tower and the majority of the tower windows (the lower window on the south face is a replacement) show typical Patterned style jambs with stones set in BVFIA/BH orientations (Potter 2005a). Furthermore, the triangular-headed windows in the N, S, and W, faces of the tower exhibited late Patterned cut back architraves. This evidence would suggest that, despite some alterations to the walls at low level, throughout most of its height the tower is of comparable early origin.



ILLUS 5 The interior (north side) of the tower door at Restenneth as illustrated in *illus 4*. The west jamb, as the east, shows an absence of through stones and that the original structure was probably created from a thickness of three stones

ST RULE, ST ANDREWS, FIFE (NO 515 167)

Set in the walled enclosure of the ruined cathedral, the tower and chancel (or choir) of St Rule (or otherwise, St Regulus) display excellent features of Patterned style stone emplacement. The tower and chancel are contemporary, but to the west of the tower and to the east of the chancel there is clear evidence of extensions. There are also Romanesque additions to the

earlier standing structures, particularly in relation to the arches, and these together with other modifications to both the original tower and chancel, have caused various authors to consider that the whole site reflects work of this later period (such as Bilson 1923; RCAHMS 1933: 228; Cruden 1950; Fernie 1986: 403; Heywood 1994). Fernie (1986) provided information on the descriptions of the site by authors prior to 1923.

Bilson (1923), compared the limited similarities of the tower at Wharram-le-Street, Yorkshire (SE 863 659) with those at St Rule, to give both an 'earlier part of the twelfth century' date. Records that the Augustinians first proposed to utilise the site at St Andrews in 1124, permitted Fawcett (2002: 345) to suggest an origin for the buildings of slightly post this date. Brown (1925: 441–2), on architectural evidence, pronounced the building as 'a singularly good example of the Saxo-Norman overlap'. Taylor & Taylor (1965: 711–13) provided a comprehensive description of the ruins to

conclude that the tower and chancel, 'which probably represent the whole of the original fabric' could probably be dated 'period C' (ie 950–1100). Taylor & Taylor (1965: 647–53) also described Wharram-le-Street tower to conclude that although its main fabric was Anglo-Saxon, the arches were later insertions. This view concurs with the findings of the present author, for the stones of the western quoins of the Wharram-le-Street tower and the

nave are set in Patterned, Anglo-Saxon style, but in the tower’s west doorway this is not the case.

Cameron (1994) provided a complete analysis of most of the above-mentioned views, examining the detail of certain surviving stylistic features of the building and more critically reviewing the historical evidence. He concluded that the facts placed the date of construction of the original St Rule fabric as prior to the 12th century. Previously, the historical evidence had tenuously related Wharram-le-Street church to Nostell Priory

in Yorkshire, to which it was given, and the subsequent transition of one of the monks of the Priory to the position of Bishop of St Andrews in 1127 (Bilson 1923). Anderson (1976) had presented a counter view that the historical evidence extended the original building back into at least the 11th century, for, correctly interpreted, the bishop enlarged rather than built the church.

Each of the four quoins of the early chancel of St Rule is well displayed, revealing stone settings, in walls 21 ashlar courses high (Table 4):

TABLE 4

<i>Stone</i>	<i>NW quoin</i>	<i>Stone</i>	<i>NE quoin</i>	<i>Stone</i>	<i>SW quoin</i>	<i>Stone</i>	<i>SE quoin</i>
20–21	BH						
19	BVFL						
17–18	BH						
16	?						
15	BVFL						
14	BH	14–21	?				
13	?	13	?				
12	BH	12	BVFL			12–21	?
11	BVFL	11	BVFR	11–21	?	11	BH
10	BH	10	BVFL	10	BVFL	10	?
9	BVFL	9	BVFR	9	BVFR	9	?
8	BH?	8	BH	8	BVFL	8	BVFR
7	BVFL	7	Diagonal	7	BVFR	7	BVFL?
6	BVFL	6	BVFR	6	BVFL	6	BVFR
5	BVFL	5	BVFR	5	BVFR	5	BVFL
4	BVFR	4	BVFL	4	BVFL	4	BVFR
3	BVFL	3	BVFR	3	BVFR	3	BVFR
2	BVFL	2	BVFL	2	BVFL	2	BVFR
1	BVFL?	1	BVFR	1	BH	1	BVFL?
	Plinth		Plinth		Plinth		Plinth

} See
illus
6

The side-alternate quoins are constructed, as are the walls, in quality ashlar blocks of Lower Carboniferous, fine greyish sandstone. The quoins of the tower on its eastern side are visible only above the roof level of the chancel, for the chancel and tower were built as an integrated, bonded structure (illus 7).

There is a critical relationship between the west wall of the tower and the extension (herein referred to as the nave) that once existed to the west. The east wall of this nave remains in part as two buttress-like structures to the tower. Each of these buttress structures rests on a plinth that abuts against the tower

plinth, an indication that the nave is the younger (see Taylor & Taylor 1965: 712 for description). However, the stone courses of the east nave wall coincide with those of the tower and chancel. Moreover, the nave was of comparable width to the chancel and the orientation of the lower, early quoin stones of the nave again reflect Patterned style insertion which can be discerned as follows (Table 5):

TABLE 5

<i>Stone</i>	<i>NE quoin of nave</i>	<i>Stone</i>	<i>SE quoin of nave</i>
		Higher	?
		12	BH
		11	BVFR
		10	BVFL
Higher	?	9	Diagonal
8	BVFR	8	BVFL
7	BVFL	7	BH
6	BVFR	6	BVFL
5	BH	5	BVFR
4	BVFR	4	BVFL
3	BVFL	3	BVFR
2	BVFR	2	BH
1	BVFL	1	BH
	Plinth		Plinth

From this information it must be concluded that the nave was built during the Patterned style period (if slightly later than the remaining tower and chancel). It is of interest that this interpretation tallies well with the representation provided on the 12th-century seal which figures the church (RCAHMS 1933: 228; Fawcett 2003: 6). The Royal Commission also proposed that the interval between the building of the tower and the nave was probably very short. Both the buttress-like structures have been altered on their western faces, probably at the time of the destruction of the nave, for they incorporate a number of reset stones in their western quoins.



ILLUS 6 The detail of the plinth and stones 1 to 5 in the south-west chancel quoin of St Rule, St Andrews. Above the plinth the stones in ascending order are set with their bedding orientated, BH, BVFL, BVFR, BVFL, BVFR, in Anglo-Saxon or Patterned style

Other structures readily visible at ground level include the west and east tower arches, and the south doorways to both the tower and the early chancel. In three instances the openings have been subsequently blocked, and the orientation of the stones forming the jambs of all four indicates that a date of English, 'early Norman', or Romanesque age is applicable. Where their orientation can be determined, although vertically emplaced stones are present, in nearly every instance they are orientated with the edge of their bedding into the arch (BVEIA) in Romanesque style (see caption, illus 1). Taylor & Taylor (1965: 712) observed that the outer square order of the eastern tower arch appears to



ILLUS 7 A view of St Rule, St Andrews from the north-west to show the relationship of the tower and chancel

be contemporary with the main fabric of the tower's east wall. The bedding orientations of the stones forming this arch prove particularly difficult to read for the jambs are always in shadow. In this outer order the jambs certainly include a number of stones set BVFIA but it seems probable that many of the stones were re-set at the time of the rebuilding of the inner 'Romanesque', style arch. The impost, for instance, cover both orders of the arch.

A further arch at the eastern end of the chancel remains unblocked. It has been extensively rebuilt and is closely comparable to the arch in the west side of the tower. In the absence of any appreciation of the importance of stone bedding orientation to the distinction between Anglo-Saxon (Patterned)

and Norman (Romanesque) masonry, those attempting to determine the original date of construction of St Rule have been particularly reliant on this arch. As Cameron (1994: 369) wrote, 'Previous discussion of the building has largely been polarised between those who believe the east arch to be integral, and those who consider the opening of which it forms a part has been inserted.' Cameron (1994: 370–1) then offered evidence to show that although the jambs of this arch were original, the opening had been increased in height. This permitted him to allow 'Anglo-Norman arch mouldings' to exist within an earlier wall.

Without devoting a prolonged discussion to the inconsistency in the interpretation of the age of the architectural styles seen in the three great arches; that is, to determining the age (whether Anglo Saxon or Norman) of the various shafts, moulding, capitals, etc of each; it can be stated that no two authors tend to fully agree. This may be illustrated simply. Cameron (1994: 369) wrote that the central arch (that on the east side of the tower) was 'universally agreed to be original'; Taylor & Taylor (1965: 712) for the same arch, that 'the outer order and its jambs seem to be contemporary with the main fabric' but that the 'inner order is almost certainly a later addition'; Cruden (1950) that all three arches were erected by 'a master-mason unfamiliar with the constructional principles involved in his building and with but a superficial understanding of the new Norman detail'; and Fernie (2000: 216) that there 'is no convincing evidence'. It is the author's belief that the orientations of the bedding of the jamb stones (as far as visibility would allow), whether they are BVFIA/BH (Patterned) or BVEIA/BH (Romanesque), permit the correct interpretation. This follows Cameron's detail (1994) for the chancel eastern arch and Taylor & Taylor (1965) for the remaining two arches.

The four double-splayed windows in the early chancel have been noted by others as

strong evidence of ‘Anglo-Saxon’ or Patterned style workmanship. An observation made by the RCAHMS (1933: 229) that the masonry of the walls was ‘built of ashlar, out- and in-band, without visible packing’ is also of significance. The expression refers to the geometrical shape of the ashlar blocks and their bonding in the walls. In placing the long axis of certain ‘in-band’ blocks into the wall, the ashlar skin can be better attached to the rubble wall core. The technique was frequently used by Norman stonemasons in England. The ‘Anglo-Saxon’,

or Patterned, use of the technique appears, however, to have been more specialised, often involving an element of wall embellishment. In the north and south walls of the chancel especially, where more extensive areas of wall are visible, it can be noted that many of the visibly geometrically long-axis, ‘out-band’ stones have been laid face-bedded, that is with their bedding orientated vertically and parallel to the face of the wall. (English, Norman and later masons would have placed such stones with the bedding horizontal.) Most of

TABLE 6

Patterned stonework features recognised in the three churches described.

<i>Church</i>	<i>Patterned feature displayed</i>	<i>Where displayed</i>
St Margaret, Edinburgh	Vertically bedded stonework in quoins Vertically bedded stonework in door jamb Colour banding Face-bedded pattern	Best in northern quoins Poor, in north jamb of blocked west doorway Three principal walls Poor, in certain walls
St Peter, Restenneth	Vertically bedded stonework in quoins Vertically bedded stonework in door jambs Vertically bedded stonework in arch jambs Vertically bedded stonework in window jambs Cut back stonework in doorway architrave Cut back stonework in windows	West quoins of tower, at higher level all quoins South doorway (but altered), east doorway tower Tower east arch (much altered) Most high level tower windows South doorway (incomplete) Triangular-headed windows
St Rule, St Andrews	Double-splayed windows Vertically bedded stonework in quoins Vertically bedded stonework in arch jambs Face-bedded pattern	Chancel Each of four chancel quoins, east nave quoins Outer order of jambs of eastern arches (poor) Chancel walls in particular

the ‘in-band’ stones in these walls are also face-bedded. (Again, ‘Norman Romanesque’ masons, or those in Scotland using this style, would have placed ‘in-band’ stones with their bedding either horizontal, or vertically but edge-bedded.) The distinctive patterned ‘Anglo-Saxon’ or Patterned wall building style is well displayed in the lowest four courses of the south chancel wall, where, excluding the quoin stones, every stone but two is face-bedded. Similar walling can be observed at the long-recognised Anglo-Saxon churches of Escomb and Jarrow, in Durham, England (Potter 2007b). Appropriate rock availability determines the presence of this wall masonry style and it is considered to be unlikely that the masonry at St Rule is of the same 7th–8th century origin as the two Durham examples.

In summary, six major quoins, the four double-splayed chancel windows and aspects of the wall fabric, all point to St Rule being initially built in Patterned style and, therefore, dating from this period.

CONCLUSIONS

The author has recently examined a large number of Scottish ecclesiastical sites. In particular, the sites were studied to determine the precise manner in which building stones in quoins and arch jambs were emplaced with respect to their bedding orientation. In a number of instances the technique of stone emplacement in terms of bedding orientation related to an English, Anglo-Saxon style (Potter 2006b). In this paper this style is referred to as Patterned, for it is impossible to confirm its exact time equivalence with the workmanship in England. The three sites described in more detail here, each reflect this style in certain aspects of its structure, so that, on balance, the buildings must now be regarded as having first been built in a period prior to that which in England would have been termed, in the context of this paper, ‘Norman’ or Romanesque.

The three sites only exhibit a limited range of the stonework features detailed in Table 1. This is to be expected, for each of the listed features is dependent on the availability of rocks of a suitable lithology. In Table 6 the identifiable features of Patterned style that have been described are listed for each church. Of particular significance is the fact that only one of the long established characteristics itemised in Table 1 is identified in Table 6, this being the double-splayed windows at St Rule (although the structure of the tower’s south doorway and the presence of triangular-headed windows at Restenneth might also have been included). The importance of the ‘newly observed features’ becomes immediately apparent, with four (St Margaret), six (St Peter) and three (St Rule) of these different diagnostic features being noted respectively, enabling the Patterned origin of the churches to be readily identified.

Each of the three church buildings shows extensive later alterations. These, in turn, have helped to make the determination of the date of each original building complicated. That all the churches appear to be of Patterned origin from the evidence of the preserved stone bedding orientations now seems certain. This statement provides no precise answers, for the exact date when the Norman fashion or influence impacted on Scotland may never be known. Insufficient work has yet been undertaken on the dates of introduction of the various stone bedding techniques listed in Tables 1 or 2 to state any more than that their origins appear to relate to the later Patterned times (ie post-950).

In each of these churches past assessments of the age of the building, based largely on architectural analysis, have provided a range of answers. The more detailed review of the last of the three sites, St Rule in St Andrews, touches on something of the complexities that still remain in distinguishing precise differences in architectural styles in sculpture

and stone working that occur on either side of the time of introduction of Norman (Romanesque) influence. A more accurate distinction would appear to be provided by the scrutiny of stone bedding orientations in suitable structural features.

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