

Stone emplacement in early Scottish churches: evidence of Early Christian craftsmanship

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ABSTRACT

Although it has become customary to suggest that the first stone ecclesiastical buildings in Scotland date from the earliest 12th century, this examination of stone emplacement indicates that English Saxon-style craftsmanship is evident in a number of early Scottish churches. It seems probable that, as in England, pre-Norman Conquest masons in Scotland chose to emplace many of their stones, in structures like quoins and jambs, with the bedding orientated vertically. The recognition of the existence of pre-12th century stone churches in Scotland is consistent with the prevalence of other forms of early Christian stoneworking in that period.

INTRODUCTION

A recent examination by the author of all customarily recognized Anglo-Saxon churches in England (Potter 2005b), confirmed an earlier hypothesis that pre-Conquest church builders in ashlar stone used the stone for certain structural features in unusual and specific styles (Potter 2003; 2005a). Their techniques of stone emplacement prove sufficiently distinctive for their craftsmanship to be distinguishable from the work of others. In particular, the Saxon use of stone in quoins, arch jambs and pilaster strips followed characteristic patterns (Potter 2005b; 2006). For the benefit of Scottish readers of this paper these patterns are very briefly described below, and more especially in illus 1.

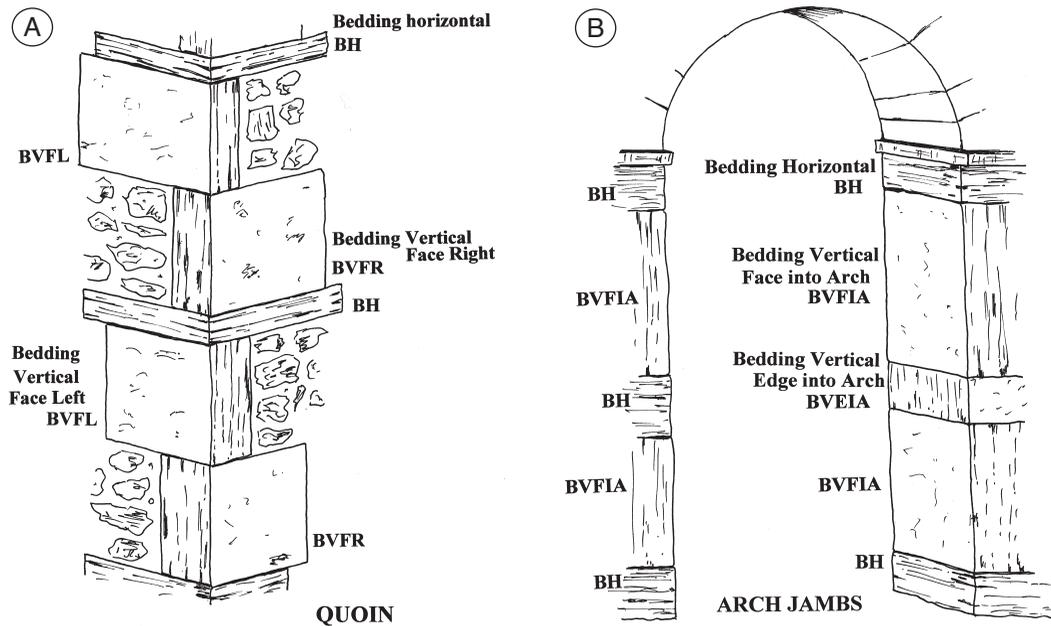
Sedimentary rocks (sandstones, limestones, mudstones, etc) typically reveal their depositional layers or bedding, which in natural occurrence is approximately horizontal. When quarried and incorporated into a wall this bedding is normally placed in its natural horizontal position, for in this situation the rock is usually significantly stronger to the vertical wall pressures and more

readily able to withstand weathering. In their structural features the Saxon masons, probably for decorative reasons, chose to orientate many of their stones with the bedding or depositional layers placed vertically. For successful use this required a sound understanding of the physical properties of the rock-types employed.

Certain metamorphic rocks, such as schists and phyllites, may also show a lineation due to the pressures they have undergone during formation. Very rarely too, igneous rocks may preserve flow structures or layering. Lineations of these types were used occasionally by Saxon masons in the same manner as sedimentary bedding.

Although the presence of pilaster strips has long been recognized as a characteristic feature of pre-Conquest building (Rickman 1817, 45), Taylor & Taylor (1965, 6) observed that they were absent from ecclesiastical buildings north of the River Humber. The workmanship in the creation of strip-work is moderately complex (Potter 2007) and is more easily undertaken in reasonably fissile rocks. The absence of pilaster strips, both in northern England and in Scotland,

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ILLUS 1 Possible stone bedding orientation in (A) quoins and (B) jambs of arch structures, and an abbreviated nomenclature for their description. Stones in both are normally emplaced with their bedding horizontal (BH). However, stonemasons in the Saxon period, probably for decorative reasons, frequently placed stones vertically in both quoins and jambs. As a result, in quoins, the bedding could either face to the left (bedding vertical face left, or BVFL), or to the right (bedding vertical face right, or BVFR). In vertically bedded stones used in arch jambs, the bedding face could either face into the arch (BVFIA), or be parallel to the wall containing the arch (bedding vertical edge into arch, or BVEIA). Evidence from England, which appears to be equally applicable in Scotland, indicates that the Saxon-style for arch jambs was to use only stones emplaced BH and BVFIA. Norman masons preferred BH, but sometimes used BH and BVEIA constructed jambs

probably relates to the lack of suitably fissile and easily worked rock-types for pilaster creation. In Scotland, however, it would seem likely that both the orientation of stones in early quoins and those in arch jambs would follow the patterns observed in the early Christian, pre-Norman, churches of England. This would involve many of the stones in quoins being set with their bedding planes vertical; possibly, for example, when the quoin is viewed (illus 1A), with the bedding plane face alternately to the left (BVFL) and to the right (BVFR) (illus 2). Similarly, the Anglo-Saxon style of erecting arch jambs might be expected to involve only two types of stone emplacement (illus 1B), that is, stones with their bedding horizontal (BH) and others with their

bedding-plane face directed into the centre of the arch (BVFIA) (illus 3).

Any attempt to seek these pre-Conquest stone orientation styles in Scotland would be fraught with the same difficulties as in England. In particular, as well as inaccessibility mainly due to height, these relate, externally, to lichen and grime cover and, internally, to lack of illumination and covers with materials like lime-wash.

THE SCOTTISH ENIGMA

Scotland presents an unusual ecclesiastical enigma. Both the extensive monumental



ILLUS 2 The south-west quoin of St Serf, Kirkton, Burntisland (Table 1), is built of relatively large, side-alternate quoin stones. From the ground level upwards the bedding orientation of these stones may be read with a hand lens as; stone 1, ?; BVFL; stone 3, ?; BH; BH; BVFL; BVFR; BH. The whole quoin structure is representative of Saxon-style workmanship

evidence in the form of stone crosses and early Christian inscriptions (such as those detailed by Allen & Anderson 1903) and the historical record, provide confirmation of significant Christian activity in Scotland from as early as the fifth and sixth centuries. Yet there has been very little indication or recognition of early ecclesiastical stone buildings to house and support this Scottish religious activity. As centres of early Christian influence, the claims of Iona and Whithorn are certainly as important as those of Canterbury and Lindisfarne in

England. In Northumberland, peripheral to Scotland, Anglo-Saxon stone churches are not uncommon. In contrast, lands immediately to the north once falling within the bounds of ancient Northumbria, such as the Scottish Borders, are normally regarded as being almost devoid of religious buildings of this age.

As in England, Norman written records describing the construction, modification and patronage of churches in Scotland are significant and far superior to those relating to the pre-Conquest period. With clearly



ILLUS 3 The northern jamb of the chancel arch of the ruined Preston church (Table 1) viewed from the nave. Constructed of well-bedded Upper Devonian sandstone, the visible jamb stones, from ground level upwards (pen for scale), can be read as BH, BVFIA (through stone), BH, BH (through stone). The arch stones have been replaced and are probably of Post-Reformation date

recognizable architectural Saxon features such as double-splayed windows, pilaster strips and long-and-short quoining rarely, if ever, evident in Scotland; it is understandable that the majority of authors should believe that most, or possibly all, existing ecclesiastical buildings in the country are of post-Conquest age. Cruden (1986, 24), for instance, wrote of Anglo-Saxon influences ‘... it would be unwise to think that there was any appreciable appearance of them in Scotland generally’; and ‘Until the end of the eleventh century Scotland was a disunited Celtic and tribal country’. Fawcett (2002) provides a comprehensive review of Scottish churches but describes no ecclesiastical structure of a date prior to the Conquest.

A few authors have provided arguments for providing a pre-Conquest age for a restricted number of Scottish ecclesiastical sites. Taylor & Taylor (1965, 710–13) proposed that the tower of Restenneth, the tower and chancel of St Rule, St Andrew’s, and the excavated church beneath Dunfermline Abbey were of Saxon origin. Fernie (1986) placed the two standing structures (Restenneth and St Andrew’s), together with four other early buildings (Abernethy, Brechin, Egilsay and Edinburgh Castle chapel) in the period 1090 to 1130. This early Norman period, as Cameron (1994) argued, raises questions about the relative backwardness of the first stone-built churches in Scotland.

It is evident that Anglo-Saxon builders relied extensively on very local stone in the construction of their churches (eg Potter 1999; 2001; Pearson & Potter 2002). If their counterparts in Scotland worked similarly with local materials, generally the rocks available for selection would be restricted to indurated and hard Palaeozoic and precambrian sediments, igneous rocks like basalt and granite, or metamorphic gneisses and schists. These rocks contrast radically with the rocks available for Saxon builders in England, where typically, for church structural features, relatively soft limestones and sandstones were employed. Some of the rock-types that were used in England, such as ferruginously-

cemented sand and gravel and tufa/travertine, were probably sufficiently soft to be cut from the original rock exposure. Subsequently, these rocks hardened with seasoning. English rock materials of comparable hardness to those characteristically available in Scotland are flint, Bunter quartzite (Potter 2002) and silcretes (Potter 1998). Such intractable rocks when used by Anglo-Saxon masons were left in their original unaltered shapes, or at best roughly broken. Although rocks suitable for building are in plentiful supply in Scotland, they are difficult to work. If pre-Conquest churches were built, complex architectural features were unlikely to be constructed and they would not, therefore, be present: the absence of pilaster strips in Scotland already having been noted.

Recognizing the above-mentioned difficulties, this study was initiated in order to try to determine if, from their remains, pre-Conquest Scottish churches once existed, perhaps in similar abundance to those in England. This would utilize any new evidence which might be available from stones set into quoins and arch jambs in an Anglo-Saxon style. Certain aspects of such a study were expected to be more complex than the corresponding studies in England, again due to rock differences. Many of the local sedimentary rock-types, like Palaeozoic greywackes or sandstones, in Scotland are too fine-grained or massively bedded to display obvious bedding planes. Experience in England suggests that in those rocks where bedding planes were difficult to elucidate because of the rock composition and structure (rather than for reasons related to extraneous surface covers, distance or insufficient light), the Saxon mason would have experienced the same complications and may have set the stones in an unintentionally haphazard orientation pattern. Put another way, the mason of the period could no more orientate any individual stone than could the modern researcher armed with a powerful hand lens. Such rare English instances could only be suspected on the evidence of other identifiable Saxon architectural features elsewhere in the

church fabric. The Scottish difficulties would be further increased where structural features like quoins were constructed of igneous or metamorphic rocks, neither of which possesses bedding planes (although on occasions they may show a lineation).

This study, therefore, was explorative. It was quite unnecessary to examine every church in Scotland to determine if early specialist stone orientations would reveal previously unrecognized traces of pre-Conquest churches. The geographical regions examined tended to be selected partly in accordance with local geology; in particular, areas were chosen where sedimentary rocks were likely to display bedding planes. It was also considered probable that the opportunity of discovering these early churches would be increased if the church fabrics on ruined sites were scrutinized, for in general such sites had been less extensively studied. Potential sites for examination (about 250 were viewed) were in many instances noted following a scrutiny of Ordnance Survey maps.

CHURCHES OF PRE-CONQUEST ORIGIN

Stone emplacement styles certainly indicate the presence of pre-Conquest church construction in Scotland. Those ecclesiastical buildings demonstrating clear evidence of 'English Anglo-Saxon' styles in their fabric are detailed in Table 1. Early in this survey it became apparent that, in addition to the difficulties detailed above regarding the determination of church stone orientations, other, particularly Scottish, complexities existed. It is important that these should be described.

The examination of the Scottish ecclesiastical ruined sites immediately drew attention to the extensive destruction which they had incurred in their history. The material destruction of the building fabric was, however, only in a small part the result of damage originating from Calvinist practices at the Reformation or the malevolence of English

invaders (see McRoberts 1968). Rather, the paucity of evidence of workmanship of early Christian origin in ecclesiastical buildings has been extensively determined by the post-Reformation practice of permitting vacated church sites to become personalized burial-grounds and mausoleums, in particular for the wealthy (see, Spicer 2000). In numerous instances, walls, doorways, windows and other structural features have been altered or supplemented to meet the requirements of individual burial and commemorative needs. This custom is almost unknown in England.

Probably, because of the ready availability of suitable stone, it is far more common in Scotland to observe buildings in which quoins, windows and doors are depicted with stone of a contrasting colour to the main wall fabric. The framing stone is typically a more easily shaped and moderately fissile rock, such as the Devonian, Old Red Sandstone or Permian, New Red Sandstone.

In Scotland, both unfortunately and unusually, about the mid-17th century, and apparently particularly prevalent in the 1730–1870 period, some masons chose to insert these contrasting stones in side-alternate fashion with, in many instances, the bedding planes set vertically, that is, they re-adopted the Saxon style. This type of workmanship may be observed at Edrom Church (NT 827 558) in the reconstructed south-west quoin to the nave and more especially in the hearse/coach-house in the cemetery (both probably constructed *c* 1732). Hoddomcross Church (NY 178 735) largely destroyed by fire in 1975 and built it is believed in 1817; and the remarkable ruined stone-built laundry at Abbotrue (NT 610 127), probably constructed around 1810, provide further examples. Fortunately, the time gap between pre-Conquest emplacement of stone and the later copy is sufficient generally for the two periods of workmanship to be distinguished.

Difficulties can arise, however, on ruined early sites where mausoleums (or other extensions) have subsequently been erected

TABLE 1
Ecclesiastical buildings in Scotland which clearly display appropriate vertically bedded stone orientation in quoins and jambs: these structures being sufficient to suggest construction in Anglo-Saxon style

<i>Church or Chapel/Locality</i> ¹	<i>Grid Ref</i>	<i>Pre-Conquest style stone emplacement detail</i> ²	<i>Rock types of quoin stones</i> ³	<i>Notes</i> ⁴
Abbotrule, Borders	NT 615217	North-east, south-east quoins below string course	Upper Devonian sandstone	Illus 4
Abernethy Round Tower ⁵ , Perth & Kinross	NO 190165	4 belfry windows (interior, north-facing repaired), main doorway (repaired)	Upper Devonian sandstone	And possibly Lower Carboniferous sandstone
Auld Cathie, West Lothian	NT 078760	South-west quoin	Lower Carboniferous sandstone	RCAHMS (1929) 'may be late 14th century'
Ayton, St Dionysius, Borders	NT 927609	South-west quoin below string course	Lower Devonian sandstone	Church much repaired/ altered ⁶ Ferguson (1890–1) 'before the close of the 12th century'
Borline, Loch Eynort, St Maelrubha, Skye	NG 375260	South-west, south-east quoins	Vesicular basalt	Side-alternate
Brechin Cathedral Round Tower ⁵ , Angus	NO 579602	Doorway	Lower Devonian sandstone	–
Cill Chriosd, Strath Suardal, Skye	NG 617207	North-east, south-east quoins	Liassic, Broadford Beds	RCAHMS (1928) suggested late 16th- early 17th century
Edinburgh Castle, St Margaret's Chapel,	NT 253735	North-west, north-east quoins; west doorway (modified)	Lower Carboniferous sandstone	Upper portions of quoins rebuilt
Eye, Uidh, St Columba, Lewis	NB 485323	North-east, south-east quoins (part modified)	Lewisian gneiss	RCAHMS (1928) suggest 14th century
Fetteresso, St Ciaran, Aberdeenshire	NO 854857	South-west (low) and south-east (in part) quoins	Lower Devonian sandstone	–
Glenearn, Perth & Kinross	NO 107164	4 principal quoins	Upper Devonian sandstone	–
Gullane, St Andrews, E. Lothian	NT 480827	South-east chancel quoin; north doorway east jamb	Lower Carboniferous sandstone	9th-century church once 'on site'
Inch, Dumfries & Galloway	NX 103609	South-west, south-east chancel quoins; south doorway	Permian sandstone	Atypical church orientation
Kildalton, Islay	NR 458507	North-east, south-west, south-east quoins (each in part)	Lower Devonian arkosic sandstone	Other rock types in quoins as replacements
Kirkton, Burntisland, St Serf; Fife	NT 232864	South-west quoin (part)	Lower Carboniferous sandstone	RCAHMS (1933) 'consecrated 1243'

TABLE 1
Ecclesiastical buildings in Scotland which clearly display appropriate vertically bedded stone orientation in quoins and jambs: these structures being sufficient to suggest construction in Anglo-Saxon style (*cont*)

<i>Church or Chapel/Locality</i> ¹	<i>Grid Ref</i>	<i>Pre-Conquest style stone emplacement detail</i> ²	<i>Rock types of quoin stones</i> ³	<i>Notes</i> ⁴
Lamberton, Borders	NT 968574	South-east nave quoin (low)	Lower Carboniferous sandstone	Church abandoned mid-17th century
Little Dalton, Dumfries & Galloway	NY 090747	North-east, south-east quoins	Permian sandstone	RCAHMS (1920) 'probably early 16th century'
Preston; Borders	NT 786570	South-east chancel quoin, chancel arch jambs (in part)	Upper Devonian sandstone	Ferguson (1890–1) 'church use ceased 1718'
Restenneth, St Peter, Angus	NO 483516	North-west, south-west tower quoins, parts of tower south doorway and east arch	Lower Devonian sandstone	–
Rothsay, St Mary, Bute	NS 085636	South-west nave quoin	Upper Devonian sandstone	–
Rudh' an Teampuill, Harris	NF 970913	North-west, north-east quoins	Lewisian Pyroxene Metagabbro	–
St Andrew's, St Rule, Fife	NO 515167	4 principal quoins of chancel, east quoins of now demolished nave	Lower Carboniferous sandstone	–

NOTES

- 1 Modern County/Regional locations are used. Where appropriate the sites are listed under the titles designated in the Royal Commission publications.
- 2 For a quoin or jamb to be included in this table it had to incorporate at least two, and generally more, clearly exhibited vertically emplaced stones. In nearly every instance only doors and arches at the ground-floor level were examined.
- 3 The rock types were identified by means of a hand lens often in poor light. More elaborate and detailed scrutiny, particularly involving rock cleaning, might possibly alter some identifications.
- 4 References cited may offer dates now believed to be incorrect.
- 5 The stone emplacement of the late Saxon-style Round Towers requires detailed description which will be published separately.
- 6 See details in text.

in the 17th to 19th centuries. Such an issue occurs, for example, at Ayton old church (Table 1): there the internal quoins to an 18th-century north aisle are constructed, in part, of vertically emplaced and similar stone to that in the lower portion of the south-west quoin. The occurrence and similarities create a level of reticence in the pronunciation of pre-Conquest origins to this church.

Taylor & Taylor (1965, 4–15) provide a fairly comprehensive list of those architectural features which assist in the distinction of Anglo-Saxon work in England. As explained above, the more indurated nature of the rocks made some of these features difficult to construct over the same period in Scotland. Many of Scotland's ruined ecclesiastical sites have been inexorably quarried for stone and today may stand with walls



ILLUS 4 What remains of the east wall of Abbotrule ruined church (Table 1) displays some interesting modifications. The string course fails to run parallel to the wall plinth (the south-east corner is 0.17m shorter between the two than the north-east corner). Stones above the string course are smaller and less well coursed, suggesting that the wall has been rebuilt above that level. This is confirmed when the quoin stones are examined. Below the string course at least three of the stones in each quoin have been emplaced vertically in Saxon-style. The absence of both the string course and the plinth in the north and south walls does, however, pose the possibility that the quoin stones may have been re-set

no more than one or two courses high with all or most quoin stones removed. In these church sites only one architectural feature remains, that of the wall plinth (in Scotland, sometimes referred to as the 'base' or 'basement' course). A number of early church structures itemized in Table 1 are supported on plinths which closely resemble their English Saxon counterparts: examples are, Auld Cathie (below quoin) and Glenearn (below east gable). Various other ruinous ecclesiastical sites examined possess plinths of simple square section indicative of possible pre-Conquest date. Some of these, such as Bassendean (NT 631 457) and Glenduckie (NO 300 184), support quoins in which there is limited evidence of vertically orientated stones. The church of Rodil (Rodel) in Harris (NG 047 833) is customarily considered to have been built in 'the early 16th century' (RCAHMS 1928, 33; Fawcett 2002, 343). Aspects of this church, however, suggest that it was rebuilt at this time, and in the vicinity

of the north transept the church walls are supported on a simple square plinth with the northern transept quoins each including some vertically orientated stones.

When all else fails, the approximate age of church sites preserving only limited elements of their wall fabric can be judged on the fabric itself. The present author has shown that in England the post-Roman, pre-Conquest church builders relied entirely on local stone for their wall fabric (eg Potter 1999; 2001); this not necessarily being true for builders in other periods. Saxon quoins are in only rare instances constructed, therefore, of more than one stone type. Furthermore, the degrees to which the stone in the wall fabric was worked

(in post-Roman times) in England give a good indication of any particular wall's age (Potter 1998). Whole or broken, large, marine beach cobbles incorporated into a wall provide a fairly reliable indication of Anglo-Saxon workmanship (eg Pearson & Potter 2002; Potter 2005a). In general, the same rules appear to apply in Scotland. For instance, in its publications, The Royal Commission consider courses of 'cubical stone' as indicative of Romanesque workmanship. A more intensive countrywide study of church walls of different known ages throughout Scotland, by different rock types, would provide clearer indications of the changes in methods of stone working over time.

The ruined Kilchiaran Chapel (NR 204 602), on Islay, exemplifies the manner in which such tenuous forms of evidence can be applied. In 1972, the building was ruinous with just the east gable standing to its full height and other walls to about a metre. Some indications of an

early origin to this church structure remain despite extensive reconstruction in 1972–3 (RCAHMS 1984, 194). The west gable stands irregularly on an earlier square plinth, simply constructed of blocks of local stone. The local stone is of Late Proterozoic rocks of the Colonsay Group, particularly, grey, quartzitic and phyllitic rock, which, where not replaced in the lowest few stones of each quoin, is in a number of instances emplaced vertically in Anglo-Saxon style. Possible traces of the original walls exist only in the lowest few stones about the eastern quoins, for the eastern gable appears to have been largely rebuilt early in its history. Such evidence is incomplete in itself, but is sufficient to place in question the currently accepted date of origin of within the ‘later Middle Ages’.

In this limited survey of Scottish church building fabrics the author, with far greater frequency than in England, encountered problems of identification of age of individual walls or portions of walls. Reasons for these difficulties have been given but the case of Kilchiaran highlights a further matter of significance. Ruins visited, on several occasions, were clearly in the process of being repaired or rebuilt. In certain instances the work was being undertaken, no doubt enthusiastically, with only limited precision. This paper has hopefully shown that even a feature such as stone bedding orientation is critical in the determination of diverse styles of workmanship, and it is suggested that variable styles of stone working and wall-building may ultimately, equally reveal different periods of construction.

RESERVATIONS AND CONCLUSIONS

The author wishes to acknowledge the limitations of this study. Certain early and controversial churches, such as Egilsay and Papa Westray in the Orkneys, have yet to be examined. Many others entail a much more extensive and detailed scrutiny, for in numerous instances, prior to

examination, the stonework requires extensive cleaning. Until very many more churches have been examined it will be impossible to fix a precise date for the re-introduction of vertically emplaced quoin stones, here put tentatively as in the mid-17th century. Not recorded in this work is the very significant number of ecclesiastical sites examined where all the stones in both the quoins and jambs were placed in the orthodox horizontal (BH) style: these conventionally built churches all being of Norman Romanesque or more recent construction.

Sufficient churches have, however, been examined in Scotland to confirm the existence of Anglo-Saxon styles of workmanship. This does not have to imply that certain Scottish churches were built by Anglo-Saxon masons: rather, that church builders of the period in Scotland followed the building fashion of the day. Where that fashion originated has yet to be determined. No attempt is made to describe the specific facets of the stone emplacement in any of the churches referred to in this paper. It is intended that the precise detail of the stone positioning will be provided for some of the better known ecclesiastical sites in a separate publication.

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