snake bodies, are due to the final tooling of the wax models before casting. The conclusion to be drawn from this is that the St. Germain and the Gausel mounts were made for the same reliquary, and the Gausel fragments are all that is preserved from the one gable end, when the St. Germain mounts belonged to the other. The St. Germain mounts have no recorded provenance. It has been suggested that they may have belonged to the treasures of some French church, cathedral or monastery, secularized in the French Revolution. They have been torn with force from the wood they were fixed to, and this brutal deed has also been credited to the Revolution. The Gausel fragments tell the rest of the story, or we have to guess it. The St. Germain mounts were not torn off the wooden shrine in the French Revolution. The shrine, which must have been one of the most magnificent of the Celtic Church, house-shaped and of a man's length, was plundered by Norwegian Vikings. The wooden box and the saint inside could not be used for anything, but the splendid bronze gilt mounts, which Françoise Henry regarded as outstanding masterpieces of Irish art in metalwork, were brutally torn off. To explain why the mounts went different ways, one may presume that the Vikings divided the loot between them: so that the mounts from one gable end came to Norway; but the mounts from the other gable, which show no signs of ever having been buried in the earth, may have fallen into Irish hands again after one of the defeats of the Vikings, and then brought to Gaul by some Irish refugee, who deposited them in some church or monastery.

Note: Another Hiberno-Saxon buckle was found (1961) at *Fyling*, Gaular, Sogn og Fjordane, in a rich double grave for a man and woman. Only small remains survive of this tenth-century bronze buckle and sheet-bronze buckleplate, which was doubled back through the hoop and ornamented with ribbon interlace in line engraving technique. Cf. the buckleplate from Uig, Lewis, Hebrides, *Viking Antiquities*, vol. ii, Fig. 43.

7

CHARACTERISTICS AND DATING OF ANGLO-SAXON CHURCHES

H. M. Taylor

A. INTRODUCTION

Post-Conquest Architecture

Prior to the nineteenth century there was little appreciation of the sequence of the various styles of medieval architecture in England, and it is to Thomas Rickman that we owe a reliable classification of buildings into styles and broad bands of dates, which he put forward in 1817.[1] It was he who proposed the names which are still generally used for the principal periods, namely: Saxon, Norman, Early English, Decorated, and Perpendicular.

Rickman gave good evidence for dating these different styles of post-Conquest buildings; and since his time the architectural history of post-Conquest England has become almost an exact science, with many examples of each style accurately dated by written records such as monastic histories or parish account-books.

Pre-Conquest Architecture

For the period before the Conquest, the position is quite different. With one or two notable exceptions, it is impossible to say that any building was erected by a particular person at a particular date; and even when we know from historical sources that a church was built at a particular time and place, there is usually no straightforward evidence to show that any part of it survives in the church which stands in that place today.

The eighteenth-century writers often described any buildings with round arches as Saxon; and in 1817 Rickman very correctly pointed out that the buildings concerned were either known to be Norman, or were so like Norman buildings that there was no real difference. However, with great perception he went on to say that there might be some real Anglo-Saxon work, as yet undiscovered, surviving in some obscure country church. Indeed, he tentatively advanced arguments for believing that the lower parts of the towers of Barton-on-Humber (Lincolnshire) and Clapham (Bedfordshire) were Anglo-Saxon.

[1] T. Rickman, *An attempt to discriminate the styles of architecture in England* (London, 1817).

Primary dating

Rickman's argument about Barton-on-Humber is fundamental to the principle of archaeological dating of churches and may be summarized thus:

> The topmost belfry is like an early type of Norman workmanship. The whole of the lower part of the tower is quite different in workmanship, and has many features that are unknown in any Norman church. The lower part was therefore built at a separate time by separate workmen, and this must have been a pre-Norman time because the upper belfry is at the latest early Norman.

We have cited this argument at length in order to show how it establishes the pre-Norman date of the lower part of the tower, not by any reference to style, but by its being obviously prior in date to the upper part which can be reliably dated as Norman or earlier. This type of dating is obviously the most reliable, and for it we shall use the term *primary dating*.

Pre-Conquest Characteristics

The next step in the search for pre-Norman churches is to look for the special features of such buildings as have been dated by primary methods, to list those features that are common to such buildings, and to accept as Anglo-Saxon or pre-Norman features such of them as do not occur in any Norman buildings. Features which Rickman thus noted as characteristically Anglo-Saxon and to which reference will be made later in this discussion are:

Double belfry windows with a mid-wall shaft supporting a through-stone slab.
Triangular-headed doorways or windows.
Strip-work panelling of wall surfaces.
Long-and-short quoins.

Secondary dating

Having established a list of pre-Norman characteristics, the next step in the search for pre-Norman churches is to look for other churches which possess these features and then to claim these churches as pre-Norman on the strength of their containing pre-Norman features. This is clearly a less reliable method of dating and for it we shall use the term *secondary dating*.

B. EVIDENCE OF MORE THAN ONE PRE-CONQUEST DATE IN ONE BUILDING

Brigstock

At Brigstock, between Thrapston and Corby, a pre-Conquest church of considerable interest has been greatly enlarged in the fourteenth century

and is at first sight a fine parish church of that period, with a west tower and spire. But closer inspection shows the long-and-short quoins of the tower and of the nave, which serve as indications of secondary character that the church has an Anglo-Saxon core. Internally, there is primary evidence of pre-Conquest date, for the Norman north arcade cuts away the lower part of a blocked, single-splayed window and thereby proves it to be pre-Norman.

Two similar round-headed single-splayed windows have survived, one in each of the north and south walls of the tower, where they are now enclosed within the westward extensions of the aisles. These windows are complete, and are of exactly the same construction as the partially destroyed window in the north wall of the nave. All three are of excellent workmanship, with tall upright stones for their jambs externally, and with closely-jointed, well-executed voussoirs for their arched heads. They show that the parts of the church in which they stand were built at a single period by expert stone-masons who took a pride in making several high-grade windows all of a single type.

In sharp contrast to these single-splayed windows of well-dressed stone, there are, in the north and south walls of the upper part of the tower, double-splayed windows of very rough workmanship, with jambs and heads of rubble, and displaying no knowledge whatever of the proper use of radial voussoirs. It is impossible to believe that these are the work of the masons who built the splendid single-splayed windows; and one is therefore presented with two alternative possibilities, either that they are later insertions in the west tower which was all of one date, or that they and the upper parts of the walls of the tower are all part of a later tower raised upon the walls of an early west porch. The latter solution seems to us to be the correct one. In the first place we have been able to see no evidence whatever to suggest that either of these double-splayed windows is a later insertion; and in the second place, although long-and-short quoining extends up the whole extent of the quoins of the tower, we see a distinct change in the character both of the quoining and also of the rubble fabric itself at the level where we believe the original porch ended and the later tower began. Below this level the pillar-stones of the quoining are square in plan, whereas above the junction they are rectangular in plan and are laid with their longer faces alternately along the two adjoining sides of the tower. Moreover, the walling is of squarish rubble in the lower part, whereas the later addition is of rough and flatter rubble with sharp edges.

We think Brigstock church may therefore be claimed as of more than usual interest. Its nave gives primary evidence for the pre-Conquest character of the single-splayed windows, and its tower gives primary evidence for assigning an earlier pre-Conquest date to these windows than to those of double-splayed form. Moreover the tower shows that the fashion for long-and-short quoining persisted in Northamptonshire throughout both building periods.

Deductions regarding early-Saxon and late-Saxon characteristics

Some churches show even more evidence than at Brigstock of their having been built and added to at a whole series of different pre-Conquest dates. From a study of such churches it is possible to build up a list of features which are characteristic of the earlier Anglo-Saxon period and a list of features which are characteristic of the later Anglo-Saxon period. By contrast, some features seem to have been used throughout the whole period, and these therefore do not serve to distinguish dates; moreover even the features listed below must be used with caution.

(a) *Characteristics of the earlier period*

Megalithic side-alternate quoining.
Large single-splayed windows, particularly with monolithic pseudo-arched exterior heads.
Simple, narrow doorways, particularly with jambs which slope together towards the top.
Very tall naves.

(b) *Characteristics of the later period*

Double-splayed windows.
Long-and-short quoins.
Pilaster-strips.
Belfry towers with double windows and through-stone slabs.
Irregularly laid out plans.

C. LOCAL VARIATION OF STYLE

Another difficulty which faces the student of Anglo-Saxon architecture is the quite wide variation of styles from place to place about the kingdom of England. If, however, it be remembered that until the time of Alfred the Great there was no single kingdom of England, it is easy to understand the reason for these local variations. The unifying influence of a single church is, perhaps, the reason why these local variations are not greater, but they are very real and have been an important source of confusion in the past.

It will be sufficient at this stage to mention only a few important examples, to which we shall refer later. The ançient kingdom of Northumbria will provide us with three examples which are of considerable interest. First, in spite of the prevalence of long-and-short quoining elsewhere in England, there is only one instance of its use in Northumbria, namely at Whittingham, on the River Aln. Secondly, the common late-Saxon, double-splayed type of window is almost absent from Northumbria. It appears only at Skipwith, which is close to the Humber, and at Jarrow, and there in an unusual form, built of ashlar in a way that is found elsewhere only in the south-west of England. Thirdly there is in Northumbria an interesting group of towers in which the double belfry windows are

outlined by a frame of strip-work which is carried up the sides of the window and round its head in a way that suggests to us a very special local fashion which gives good evidence for grouping these towers into a fairly short period of time.

Another special local form of tower is to be found in Lincolnshire, and it will be our purpose to show that these are Anglo-Saxon in date as well as character. That is to say it will be our purpose to show that Professor E. A. Freeman was wrong when in 1875 he put forward the claim that the Lincolnshire towers were built by Saxons after the Norman Conquest.

And finally, yet another special local form of tower is to be found in Norfolk, namely round towers, circular in plan, of which there are 201 in England as a whole but only eighteen outside East Anglia. Of course only a handful of these round towers have any claim to pre-Conquest date, but those that have are of some considerable interest.

D. LINCOLNSHIRE TOWERS

Lincolnshire is very rich in pre-Conquest or Saxo-Norman towers, for of the total of 124 in England as a whole, thirty-four are in Lincolnshire, that is to say well over one-quarter of the total number. Moreover many of these are of a form that is special to Lincolnshire, of a very tall, rather gaunt design, in two stages. The lower stage is always much taller than the upper and is usually free from any form of decoration. The upper stage contains tall, double belfry windows with mid-wall shafts and through-stone slabs of the sort which were noted as Anglo-Saxon in type by Rickman in 1817 and of which in his list of twenty churches in 1836 he gave three examples, namely Barton-on-Humber, Oxford, and Cambridge.[1]

There has, therefore, for more than a century been good evidence of a secondary nature, for regarding the Lincolnshire towers and their double belfry windows as of Anglo-Saxon character; but doubts about their pre-Conquest date have persisted since Professor E. A. Freeman claimed, at a meeting of the Lincoln Architectural Society at Grantham on 16th June 1875, that the two noblest towers of the group, those that stand beside Lincoln's High Street, were built by a Saxon named Colswegen after the Conquest but before the compilation of Domesday Book in 1086.[2] The Domesday Book indeed records that 'outside the city he (Colswegen) has 36 houses and 2 churches to which nothing belongs, which he built on the waste land that the king gave him and that was never before built upon'. It is therefore clear that Colswegen's churches were built after the Conquest, but it is not clear that they are to be identified with St. Mary-le-Wigford and St. Peter-at-Gowts as Freeman claimed. These two churches are on the south of the city, separated from the old city by

[1] T. Rickman, 'Further observations on the ecclesiastical architecture of France and England', *Archaeologia*, xxvi (1836), 26–46.

[2] E. A. Freeman, *English Towns and Districts* (London, 1883), pp. 210–13.

the River Witham, and Freeman's speech, as recorded in his *English Towns and Districts*, greatly strengthened his identification of the churches by saying that Colswegen had received from the Conqueror a grant of land *beyond the river* on which he built two churches. But the words *beyond the river* do not occur in Domesday and therefore the only evidence which it provides is that Colswegen's churches were outside the city. This fact was first pointed out by Canon Venables in 1890,[1] when he also gave evidence from the records of St. Mary's Abbey, York, to show that Colswegen's son Picot gave to that Abbey a church on the east of the city of Lincoln, to which the Abbey presented clergy until the fifteenth century, when the parish had become depopulated and the church was abandoned. There therefore seems little doubt that Colswegen's churches were to the east of the city of Lincoln and that they have vanished.

St. Mary-le-Wigford

Moreover, the church of St. Mary-le-Wigford has beside its west doorway an inscribed stone with a dedicatory inscription in Anglo-Saxon, recording that 'Eirtig had me built and endowed to the glory of Christ and St. Mary'. It is therefore clear beyond doubt that this church was *not* built by Colswegen, while the apparently Danish name of its builder and the use of Anglo-Saxon rather than Latin in his inscription can be regarded as giving support to a pre-Conquest date.

The tower itself is typical of the class, particularly its tall lower stage, its slightly narrower belfry stage, and its tall belfry windows. It should be particularly noted that the tower has side-alternate quoins, since this is true of all the towers of this Lincolnshire class, even when they have been added to churches which themselves have long-and-short quoins.

St. Peter-at-Gowts

At St. Peter-at-Gowts this difference of quoining is clearly to be seen. The nave has well-defined long-and-short quoining, whereas the tower has side-alternate quoining of smaller stones and is clearly a later addition to an earlier nave, being simply built against the west wall of the nave, and not in bond with it. The belfry windows at St. Peter's are much more archaic in character than those at St. Mary's; in particular it should be noted how their jambs are built of very large flat stones which pass through the full thickness of the wall and which are laid alternately upright and flat, in the manner which Baldwin Brown named 'Escomb fashion'. This is a feature which by all ordinary rules would be accepted as giving overwhelming evidence of pre-Conquest workmanship.

Important further evidence for a pre-Conquest date for this tower is given by the western window in the lower stage. This is a tall, narrow,

[1] E. Venables, 'Remarks on Mr. Brock's article on the churches of the city of Lincoln', *Journal of the British Archaeological Association*, xlvi (1890), 25–28.

single-splayed window of a type which at first sight is difficult to date. But its construction is almost identical both externally and internally with that of the south window of the south transept at Stow, near Lincoln. Internally both windows have jambs that are formed with long-and-short quoins. These features give strong support to a claim that the windows are the work of a single mason, or at least a single period, and there is good evidence for regarding the upper part of the south transept at Stow, including the window, as a work of the first half of the eleventh century, in the time of Eadnoth I, Bishop of Dorchester.[1]

Victorian restoration

The difficulties of interpreting the Anglo-Saxon towers of Lincolnshire have been greatly increased by the Victorian restorers who, almost without exception, inserted Norman features into these churches during the course of their restorations. At Corringham, near Gainsborough, Bodley almost completely re-built the belfry in 1883 and provided cushion capitals of Norman form. At St. Peter-at-Gowts, in Lincoln, the west doorway provided a stumbling block for Baldwin Brown who regarded the enriched semi-circular tympanum as a distinctly Norman feature which led him to regard the church as having been erected after the Conquest even though he did not attribute it to Colswegen.

Since so much of the misconception about the true pre-Conquest character of these Lincolnshire towers stems from Freeman's false attribution of the two Lincoln examples to Colswegen, it is with great pleasure that we are able to call upon Freeman's writings to show that the west doorway at St. Peter-at-Gowts is a Victorian insertion and therefore of no value as evidence of the date of the tower. In his *History of Architecture*, Freeman said of St. Peter's, 'In this tower, a distinctively Norman doorway has been added in modern times, to the possible confusion of all history.[2]

Another particularly bad example of the confusion that can be caused by Victorian restoration is to be seen at Waithe, near Grimsby, where the present neat ashlar fabric of the tower caused Professor A. H. Thompson to regard it as of post-Conquest date although with some Anglo-Saxon features. But a description and a picture published in 1843 make it clear that the present neat ashlar of Norman character dates only from Mr. Fowler's restoration in 1861, for the description says that 'the tower is of very rude ragstone with large quoin-stones' and the picture shows the belfry windows in just such a rough rubble wall, quite at variance with the present ashlar.[3]

Long-and-short quoining in Lincolnshire

Having established the pre-Conquest date of the Lincolnshire towers, we may next turn to their impact on the dating of long-and-short quoining

[1] A. W. Clapham, 'Stow', *Archaeological Journal*, ciii (1946), 168–70.
[2] E. A. Freeman, *History of Architecture* (London, 1849), 213.
[3] Anonymous, 'Saxon churches', *The Ecclesiologist*, iii (1843), 138.

in Lincolnshire. Almost without exception the Anglo-Saxon towers in Lincolnshire show a complete absence of long-and-short quoining, whereas several of them can be shown to be later additions to naves whose quoins are in the long-and-short technique. We therefore secure a clear indication that by the time these tall, gaunt towers were being built, long-and-short quoining had gone out of fashion *in Lincolnshire* and side-alternate quoining had come into fashion in its place.

The one tower in Lincolnshire which has long-and-short quoining fits admirably into this pattern, for in it, at Barton-on-Humber, the upper belfry stage is of the later Saxon type with side-alternate quoining, whereas the earlier fabric below is of markedly different character, no doubt from an appreciably earlier building period, so that its long-and-short quoining and elaborate strip-work ornament can be regarded as of the period when long-and-short quoining was in fashion elsewhere in Lincolnshire, as is shown by the naves of St. Peter-at-Gowts in Lincoln, and at Branston.

E. TIME SEQUENCE IN DOUBLE BELFRY WINDOWS

It is not possible within the scope of this account to give a full description of the evidence for building up a time-sequence for the Anglo-Saxon double belfry windows. We therefore confine ourselves to describing the outcome of our investigations, to showing a number of supporting examples and to disposing of what has been regarded on one hand as a notable exception and on the other hand as evidence for doubting the whole structure.

The earliest type of double windows may be described as those which have simple monolithic heads, and simple mid-wall shafts without bases or capitals. Perhaps the earliest of all have turned baluster shafts, as at Cambridge, Oxford, and Barton-on-Humber, but the majority have simple circular cylinders as mid-wall shafts. In these early windows the jambs are of through-stones, either of monolithic type or built of alternating upright and flat stones in the 'Escomb fashion' of Baldwin Brown. A particular variant of this earliest group we have already mentioned, in which the whole window is outlined by a round-headed frame of plain strip-work, as a Northumbrian fashion.

An intermediate phase is exemplified at St. Peter-at-Gowts in Lincoln, where the jambs are still of 'Escomb fashion' construction, with through-stones, but the heads are arched instead of being cut from single stones, and the mid-wall shafts have bases and capitals. It should, however, be noted that these bases and capitals show no resemblance to any of the forms that are current in Norman churches.

The latest type of Anglo-Saxon double window has arched heads like those of the intermediate phase, but the jambs have lost the characteristically Anglo-Saxon construction of through-stones laid in 'Escomb fashion' and the capitals have become close in character to those that were common in Norman buildings, particularly the well-known cushion capital.

Characteristic examples of this latest period are to be seen at Alkborough, near the Humber, in Lincolnshire, and at Dunham Magna, near Swaffham, in Norfolk.

Barton-on-Humber

Perhaps the best supporting example of the time-sequence of the Anglo-Saxon belfry windows is provided by the tower of St. Peter's church at Barton-on-Humber, where the uppermost belfry is of the latest pre-Conquest type whereas the two lower and therefore earlier storeys of double windows are of the earliest type.

Monkwearmouth and Jarrow

A second supporting example is provided by the twin monasteries of Monkwearmouth and Jarrow, of whose early history there is a detailed account in the works of Bede, while brief notices of their later history both before and after the Conquest are given by Symeon of Durham. This recorded history shows that, having been founded as a single monastery by Benedict Biscop towards the end of the seventh century, these churches remained under unified control even after the Conquest when, having lain desolate for some years after William's harrying of the north, they were brought back into use by a Saxon monk Aldwine, who came from Winchcombe in Gloucestershire and refounded both monasteries about 1073. He and his band of monks were, however, moved to Durham in 1083, after which the churches at Jarrow and Monkwearmouth became mere cells of Durham. The history of unified control throughout the active life of the two churches would lead one to expect that there would be similar architectural treatment of corresponding features at the two establishments except when these features were built at different dates. Since the towers at the two churches are markedly dissimilar, there is therefore a strong presumption that they were built at different periods.

The uppermost stage of the tower at Jarrow is Norman in character with double windows constructed like the arches of a Norman triforium, in which the main outer arch has two smaller arches recessed beneath it and supporting it on a tympanum. By contrast, the stage next below is markedly different, with double windows of the general form of the latest Anglo-Saxon type. Their arched heads are not recessed, but are supported on Saxonic through-stone slabs and, although the absence of capitals on the mid-wall shafts indicates an intermediate period, the built-up jambs give support to a late date.

On the south face of the tower a modern external ladder now forms the only approach to the upper floor of the tower, through a doorway which was originally a double-splayed window. The companion window on the north has survived intact, and is of neatly-jointed ashlar. The character of these two openings gives a strong indication that the upper stages of the tower were the work of Aldwine, for they are the only double-splayed

windows of ashlar in the whole of Northumbria; and, whereas double-splayed windows are a common late-Saxon feature elsewhere in England, they are normally built of rough rubble, and it is only in the south-west of England, whence Aldwine came, that one finds double-splayed windows of ashlar. We may therefore regard the upper stages of the tower at Jarrow as the work of Aldwine in the period 1074–83.

At Monkwearmouth, the tower is so completely dissimilar as to be clearly the work of a different period. It cannot be later than Aldwine, for the small community which remained after 1083 would have been unlikely to dissipate their meagre resources in building a tower and would in any event have been likely to build in the developed Norman style then current in Durham. We therefore believe that the tower at Monkwearmouth must date from before Aldwine, and indeed from appreciably before the Conquest.

F. NORTHUMBRIAN HOOD MOULDINGS

The specially Northumbrian form of double belfry window with its round-headed outlining frame of strip-work survives in six churches, well scattered over Northumbria, namely Bywell, Ovingham, Monkwearmouth, Billingham, Wharram-le-Street, and York (St. Mary Bishophill Junior). According to our system of dating, all these towers should date from about the tenth century, since they all have plain cylindrical mid-wall shafts and simple monolithic heads to their individual lights. But in 1922 John Bilson produced a closely reasoned case, which has received general acceptance, for believing that one of these towers, at Wharram-le-Street, near Malton in the East Riding of Yorkshire, was built after the Conquest, about the beginning of the twelfth century.[1] If Bilson's argument were correct it would throw serious doubt on our system of dating of these double belfry windows, and it is, therefore, important to look more closely at his argument.

Wharram-le-Street

The west tower at Wharram is very similar to all the others in the Northumbrian group except that the uppermost parts of the belfry, including the semi-circular hood-mouldings over the windows, appear to have been lost and to have been replaced at some later date by a simple parapet. It also differs from the others in having had a western doorway, now blocked, with an elaborately moulded, round, arched head. The fabric of the tower is of roughly squared rubble, with larger stones for the side-alternate quoining, and the jointing of all this masonry is wide, in marked contrast to the west doorway and tower-arch, both of which are of closely-jointed, well-wrought stones. The belfry is like all the others of

[1] J. Bilson, 'Wharram-le-Street Church, Yorkshire, and St. Rule's Church, St. Andrews, Scotland', *Archaeologia*, lxxiii (1923), 55–72.

the Northumbrian group except that the top of the hood-moulding has been lost, as mentioned above, and except also that the mid-wall shafts have rudimentary capitals.

Passing next to the interior, the tower-arch is tall but quite wide, with capitals like those of the west doorway, cubical above and reduced to the round shape of the shafts below by a process of chamfering, with triangular features on each face. The arch is of 'horse-shoe' form, consisting of distinctly more than a semi-circle; and another unusual feature, which also occurs in the west doorway, is that the outer order does not rest on the inner but is a separate arch standing parallel to it.

Arguments for a twelfth-century date for Wharram and St. Regulus

Bilson's argument for the dating of the church and tower depends on recorded history and also on the special character of these arches. He pointed out that Domesday Book records that the manor of Wharram, consisting of twelve carucates lying in waste, was held by Nigel Fossard. Now this Nigel's son Robert later gave a number of churches, including Wharram, to Nostell Priory, in Yorkshire, and it was from Nostell that there came to Scotland a group of monks, including a certain Robert, who, as Bishop of St. Andrews from 1144, was one of that Cathedral's great builders.

Now the remarkable fact to which Bilson drew attention is that, in addition to this remote historical connection between Wharram and St. Andrews, there is a close architectural connection because St. Regulus's chapel in the grounds of the cathedral has arches with the same unusual mouldings as those at Wharram, the same horseshoe form, and the same peculiarity that the inner order does not support the outer but stands independent and parallel to it. Bilson argued that the similarity of construction of the arches was to be explained in terms of the known historical connection of the two places by saying that masons from Nostell must have been employed to build both churches. Since the monks from Nostell had come to St. Andrews early in the twelfth century and since Robert Fossard had given Wharram to Nostell at the close of the eleventh, Bilson claimed that both churches were built about the turn of the century. This date is indeed consistent with the mouldings on all the arches, for which there are close parallels in parts of the cathedrals at Lincoln, Durham, and Norwich, all of which are known to have been erected between 1090 and 1096.

We therefore have no quarrel with Bilson's dating of the arches, but we do not agree that this serves to date the main fabric of the church or tower at either place, for we believe that all of the arches can be shown to be later insertions in the fabric in which they stand.

Contrast between Wharram and St. Regulus

A very simple general argument should perhaps be mentioned first, namely that if the two churches had been built by the same group of

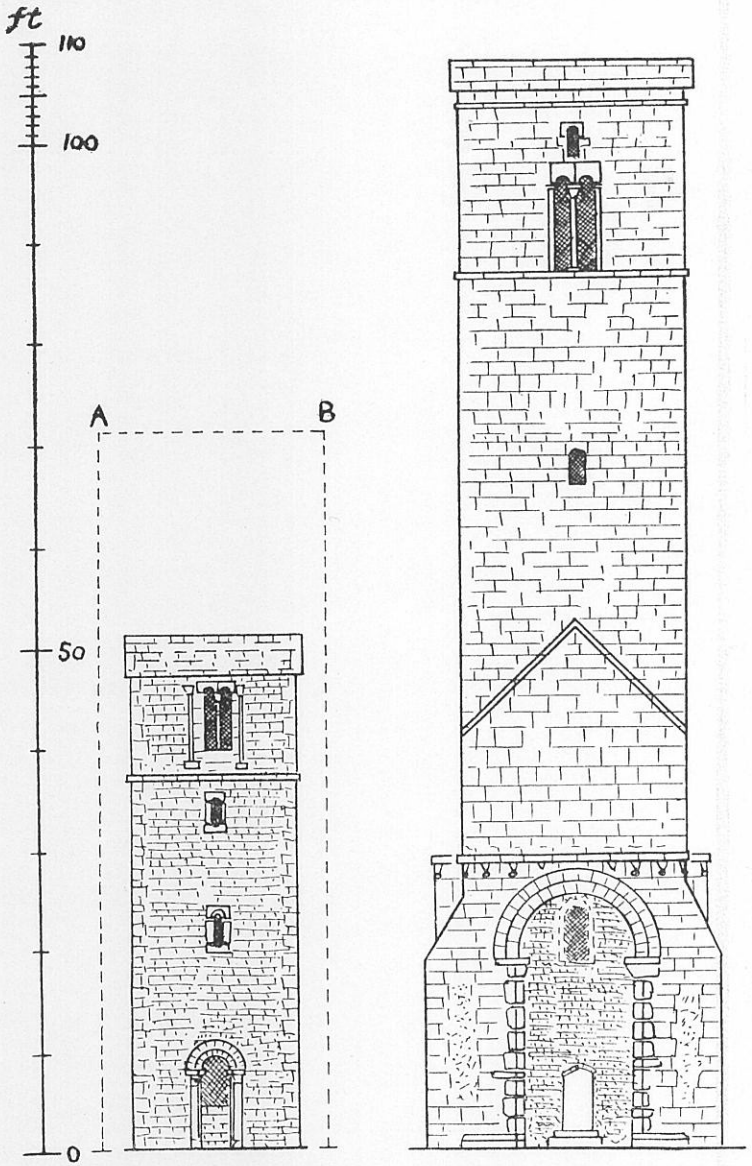

FIG. 1. *Wharram-le-Street and St. Regulus, St. Andrews.* This drawing of the two towers at one and the same scale shows in very striking fashion how different they are in size and proportions. The dotted outline AB surrounding the tower of Wharram shows what would be its height if it were to be enlarged proportionately so as to be of the same width as the tower of St. Regulus. Note also how St. Regulus is of coursed ashlar throughout, whereas Wharram is only roughly coursed, with bigger stones for the quoins and for the facings of the windows.

masons one would have expected other similarities besides the arches, whereas, in fact, the two churches are remarkably dissimilar. Whereas Wharram is of smallish rubble, with larger side-alternate quoins, St. Regulus is of ashlar, of very large stones, most carefully coursed, and with side-alternate quoins which form part of the same courses. Whereas the tower at Wharram is somewhat squat, that at St. Regulus is quite exceptionally tall; and whereas the Wharram belfry windows were outlined by strip-work in the peculiar Northumbrian manner, those at St. Regulus were recessed and had angle-shafts in the recesses.

Evidence that the main fabric is earlier

The detailed argument that the arches are later insertions is most easily to be followed at St. Regulus. In the first place, the head of the western arch cuts away part of an elaborate pre-existing string-course which otherwise runs round the building. In the second place, and even more important, the jambs of all the arches are out of bond with the walling, whereas the quoins and the jambs of the double-splayed windows are most carefully built in the same courses as the main fabric. To us it is inconceivable that the skilled masons who built the main fabric so carefully could have been so careless in the construction of the jambs of these great arches, where strength and good bonding were clearly of more importance than in the comparatively small windows.

At Wharram it is not so easy as at St. Regulus to see that the arches are insertions, for the rough rubble wall does not allow any similar arguments to be made about irregular jointing of the jambs. But one important piece of evidence has already been mentioned, and was indeed noted by Bilson himself although he did not appreciate its significance, namely, that whereas the main fabric is of widely-jointed masonry, the two arches have closely-fitted joints.

It should also be noted that the unusual construction of the arches, both at Wharram and at St. Regulus, of two independent orders set side by side, is a trick of construction which would be particularly convenient for the insertion of an arch into a pre-existing wall.

Since Bilson's argument shows that the arches themselves were built about 1100, it therefore follows that the churches into which they were inserted must have been built before that date. Since Domesday Book records that Wharram was lying in waste at the time of the survey, it seems reasonable to deduce that the main fabric of the church is a pre-Conquest structure that was taken over in derelict condition by the Fossards and was brought back into use at the turn of the century by the masons who later worked at St. Regulus's chapel at St. Andrews.

G. NORFOLK ROUND TOWERS

One of the most pronounced local variations of architecture is the use of round towers in East Anglia, and particularly in Norfolk. Of a total of

201 round towers in the whole of England, all but eighteen are in East Anglia, 139 in Norfolk and forty-four in Suffolk. Of these round towers, there are only twenty in Norfolk and two in Suffolk that can reasonably be claimed as Anglo-Saxon or Saxo-Norman, and it therefore follows that the circular plan in itself is no guide to pre-Conquest date.

The absence of good building stone was probably a factor which contributed to the choice of the circular plan, for, by reason of its round shape, the tower has no need for good stone to face any salient angles. On the other hand, the choice of a circular shape cannot have been conditioned solely by a desire to avoid salient angles, since many of the pre-Conquest round towers incorporate decoration or enrichment with raised pilaster-strips which are formed of the same flint fabric as the tower and which introduce quite unnecessary salient angles into the construction.

Colney

These features are to be seen at Colney, on the western outskirts of Norwich, where the pre-Conquest character of the round tower is indicated, on secondary evidence, by blocked, round-headed, double-splayed windows below the later belfry stage. The rectangular pilaster-strips which run up the tower beside its junctions with the west wall of the nave have well preserved salient angles of plain flint construction, and the north-west angle of the nave is also formed without any use of dressed stone.

The tower-arch at Colney is of disappointingly Norman appearance, but it is in fact merely a plaster restoration by nineteenth-century workmen, for John Gunn described it thus in 1849[1]:

> The tower-arch is of very rude and primitive construction, formed of flints of the shape best adapted to make an arch, and the abacus of several pieces of rough stone is also remarkable.

Haddiscoe Thorpe

At Haddiscoe Thorpe near Yarmouth the belfry is Norman, but the lower part of the tower is of quite different construction and may therefore be deduced as pre-Norman by the same primary method of argument as Rickman used at Barton-on-Humber. It should be particularly noted how this lower part of the tower is decorated with arcading, in a manner not unlike the pilaster-strips at Barton-on-Humber, but with the remarkable difference that the raised arcading is executed in the same flint rubble as the main fabric of the walling. That this arcading has survived some nine centuries of weathering is a remarkable tribute to the good quality of the cement used by its builders. It should also be noted how the awkward junction between the nave and the tower is concealed by a

[1] J. Gunn, 'Ecclesiastical architecture in Norfolk supposed to be of the Saxon period', *Archaeological Journal*, vi (1849), 362.

quarter-round pilaster-strip and how this is neatly finished off at the top with a conical 'candle snuffer' of dressed stone.

It is often claimed for these Norfolk round towers that they originally stood free like many round towers in Ireland and that churches were later built against them. This is seldom, if ever, true of the Norfolk towers; and is certainly not true of Haddiscoe Thorpe, for within the tower it can clearly be seen, particularly on the upper floor, that the walls of the tower have been built with a straight joint against the pre-existing west wall of the church.

High up in the west wall of the nave, and now blocked by the tower but visible within the church, a double-splayed, circular window has survived. The fact that it is blocked by the addition of the Anglo-Saxon or Saxo-Norman tower gives primary evidence that this type of circular double-splayed window was used in Norfolk before the Conquest.

Hales

A particularly interesting feature is to be seen in the round tower of the small church at Hales near Bungay, a church which is notable for its fine Norman north and south doorways and its arcaded Norman apse. Two circular double-splayed windows have survived in the tower and, although they are blocked externally, their interior faces are of outstanding interest, for they still contain, in good condition, the conical basket-work frames which served to support the wet concrete of the walling until it set hard. As long ago as 1883 Mr. Ponting deduced from a conical array of holes in the stone window-frames at Avebury in Wiltshire that such a basket-work template had been used for the construction of the circular windows at Avebury[1]; but, so far as we know, it was not until Mr. Kent directed attention to these windows at Hales in 1927 that an instance was reported of the survival to this day of the basket-work frames.[2]

[1] C. E. Ponting, 'Saxon work in the Church of St. James, Abury', *Wiltshire Archaeological Magazine*, xxi (1883), 188–93.

[2] E. A. Kent, 'The Saxon windows in Hales Church, Norfolk', *Journal of the British Archaeological Association*, 2nd ser., xxxiii (1927), 187–8.