# THE CHURCH OF ALL SAINTS CHURCH METTINGHAM MTT 044

A REPORT ON THE TOWER RECORDING, 2008



Tower recording: All Saints Church, Mettingham

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## Acknowledgements

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The field work was carried out by David Gill and Fiona Gamble from Suffolk County Council Archaeological Service, Field Team.

## **Summary**

A survey to record the round tower of All Saints church, Mettingham was undertaken as part of project to repair and stabilise the structure. The survey results suggest that the original nave and tower and belfry were constructed in three closely spaced phases in the period between the Norman conquest and *c*.1200. The church continued to be developed and enlarged throughout the 14th - 16th centuries to arrive at its present form. The fitting of the present bell-frame in the late medieval period required the opening up of the top of the tower to lower the bell frame in before rebuilding the belfry around it. Dendro-chronological analysis is to be undertaken to confirm the date of this event.

## **SMR** information

Planning application no.	N/A
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# Introduction

A survey to record, internally and externally, the tower of All Saints Church Mettingham was undertaken during August 2008 by members of Suffolk County Council's Archaeological Service, Field Team. The survey was part of a project of ongoing repairs to the tower funded by English Heritage and the Heritage Lottery Fund through the Places of Worship Grant Scheme. The survey was commissioned by Arthur Paxton of architects Whitworth and Co Partnership and completed in accordance with an outline brief prepared by Bob Carr of Suffolk County Council Archaeological Service and archaeologist on Diocesan Advisory Committee.

The survey was commissioned following the discovery of a connecting door to the nave and a blocked west window in the first floor tower room, made during an initial phase of repairs to stabilise cracks in the masonry. Examination of the tower made during the preliminary recording of these discoveries identified further and ready evidence of the towers form and development. Some of these details were likely to be obscured by the remedial work which highlighted the need for a fuller survey and analysis of the structure. It was hoped that from this work the understanding of the original form of the tower and its subsequent development would be improved. The detailed survey was undertaken in advance of the completion of the repair work to make the tower structurally sound and weather tight.

# The site

The round tower church of All Saints stands at TM 3625 8998 on the top of a prominent north facing slope overlooking the road into Bungay and the flood plain of the river Waveney (Fig. 1). The village is now dispersed mainly along the road on the edge of the floodplain and there are few houses in the immediate vicinity of the church.



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Figure 1. Site location plan

The county Historic Environment Record (HER) identifies the medieval green as lying just to the west of the church with the 14<sup>th</sup> century Mettingham Castle and former college of priests, (MTT 003) situated 1.3km to the south (Fig.1). A church at Mettingham is mentioned in Domesday and D.P Mortlock (1992) in his guides to Suffolk Churches suggests that the absence of limestone in the primary fabric may indicate the building has Anglo-Saxon origins, however the earliest architectural features suggest a Norman start date is the more likely.

# Methodology

The survey consisted of a drawn and photographic record of both the internal and external faces of the tower and included plans and cross-sections at key levels.

A series of numbered surveying targets were attached to the external face of the tower and west wall of the nave to create a grid against which the building could be photographed. The positions of the targets were recorded using a Total Station Theoldolite (TST) which also recorded the outlines of the belfry openings, the windows and changes of build. The outside of the tower was photographed from an elevating platform using high definition digital and large-format film cameras. Each of the photographs was framed to include at least three of the targets to enable a photogrammetric image to be produced. The photographic survey results are in the archive and have not been reproduced for this report.

A scale drawing at 1:20 was made of the inside of the tower. The drawing included the elevation from the existing tower room floor to the top of the belfry although above the bell frame this was completed with a measured sketch. The drawings were annotated describing the fabric and outlining the phases of build and areas of recent repair. Architectural details were photographed using a scale and a general photographic record of the whole building taken.

Plans were drawn of the internal circumference of the tower at a variety of heights using the TST and this was linked to the external recorded data to create a series of cross-section through the tower. The internal and external faces of the west wall of the nave were also recorded this way. The survey data was downloaded using LisCad, processed in Auto Cad and converted into MapInfo V8.5 tables, which were used to produce scale plans and drawings for the report.

The survey data, photographs and site records have been archived in the small and main stores of Suffolk County Council Archaeological Service at Bury St Edmunds and with the County Sites and Monuments Record under the parish code MTT 044. A copy of the report has also been lodged with the OASIS on-line database (ref suffolk c1-48235).

### General description of the building

The Church of All Saints comprises cells of nave, chancel and south aisle with a round tower at the west end of the nave (Fig.2). The porch on the south aisle was extended in the 19th century and serves as a vestry.



Figure 2. South view of All Saints Church.

The exterior fabric of the nave includes flint work strongly coursed in horizontal layers that appear to run continuously round the tower suggesting that the two are contemporary. On the north side the nave has an ornate Romanesque doorway with engaged columns and orders of

chevron and billets in the arch (Fig.3). The flint coursing runs up to the edge of the door stones in unbroken layers suggesting that the door is a primary feature and seems to confirm a post-conquest date for the building's origins.

The height of the north nave wall has been raised in the 14th century when tall Perpendicular windows were added. The original Norman nave height can be distinguished by the coursed work, including the north west quoin made up of large flint nodules above which a limestone quoin was added when the nave height was raised (Fig 3). The original angle of the Norman roof can also be identified in the west gable.



Figure 3. NW corner of the nave and nave north door

A south aisle and chancel were also added in the 14th century when the nave remodelled. The chancel is almost as large as the nave, the wall lines are continuous but there is a clear, full height butted joint at the junction of the two cells (Fig. 5).

The chancel was later altered in the 16th century by raising the wall heights, replacing the window with large perpendicular windows with flattened arches (the south one of which is now blocked). An original blocked window and the former wall height can be seen on the north wall and the lower wall height is reflected in the position of the buttress tops (Fig. 4). On the north side of the nave there is evidence that an external rood stair has been removed but the entrance to the loft still remains on the inside wall as does the rood beam and above it a timber arch which have survived the chancel alterations (Fig. 5).



Figure 4. North side of the chancel



Figure 5. Junction of the nave and chancel and view of the chancel arch

### The Tower

The tower is constructed in well coursed flint similar to the nave and has a slightly irregular bulging profile. The top third of the tower is built with a smaller circumference creating a step in the wall face just below the belfry (Fig. 6). Three of the four belfry openings are framed in a mixture of limestone for the verticals, topped with brick to form a two-centre arch. The south opening is entirely in stone and re-uses the surround from a Decorated tracery window. A two light window was added at ground floor level to the west side of the tower in the 15th century and an iron band was fixed around the girth during the 19th or 20th century.



Figure 6 West view of the tower

Inside the tower arch has a two-centre head, straight chamfers and small ornamented capitals to the shafts, which suggest a date within the 13th century. The crown of the arch rises to, and has removed, part of the lower sill of an opening through the West wall into a first floor tower room. The lower part of the tower interior up to the present first floor has been rendered and painted and all early fabric is obscured. The existing first floor is a replacement and has been inserted above the level of the original, it is now accessed from within the tower by a vertical iron ladder. There is no ceiling to the first floor space which rises to the base of the bell frame within the belfry at the top of the tower.

## **Survey Results**

The exterior of the tower was recorded with a series of close range photographs taken from an elevating platform to ensure a viewpoint that was square on to the tower. Selected images have been used to illustrate this report, the remainder being stored in the site archive. The electronic survey recorded main architectural details from the five linked survey stations both inside and outside the church. This enabled all survey data to be accurately combined to create cross-sections of the tower and to compare exterior and interior features in elevation.

#### The Tower

The tower is 14.8m high and has an external diameter of 5m and internal one of 2.7m. There are four distinct phases of construction these can be identified by fabric, building technique and changes in plane of the internal and external faces. The early phases of the tower are built entirely of bonded flint with stone and brick only appearing in final phase of remodelling when the belfry was rebuilt and the west window added. The cross-sections (Fig. 10) show that the tower is a flattened oval and that the wall thickness reduces as the tower gains height. It is also shown to lean towards the north west. The floor level within the tower is 0.6m lower than the external ground level due to the rise in the surface of the graveyard.

A primary aim of the project was to determine whether the tower and nave were constructed together. The main architectural style, particularly the use of flint to form the NW corner of the nave and the edge of the embrasures in the tower windows, would indicate that the two are contemporary. This is supported by the strong lines of coursed flint and the general sorting of flints by size that can be followed from the nave through to the tower. In addition there is the coincidence of the lift lines between the two which demonstrate that the tower and nave were raised in the same increments during each building season. This is most easily seen at the finishing height of the original nave eaves, a line that can be traced to a clear lift line at a similar height on the tower. The flint and mortar fillets that occur in the angle of the junction of the tower and the nave, whilst they obscure the actual join between the two, are also believed to be an original feature as they stop at the level of the Norman roof pitch.

#### **Tower Room**

The tower room is lit by splayed windows piercing the north, south and west walls. The west window has been infilled but was identified during the first stage repair work. The round headed openings and external lancets do not have limestone frames and have been finished in flint (Fig.7). The heads of the internal arches show the impressions of shuttering boards and a clear lift line can be traced around the wall at the springing point of the window heads. There is no doubt that the windows are original features contemporary with the basic fabric.

Externally the windows have been diminished in size by later brick fillings giving an appearance



Figure 7. Interior and exterior of a tower room window

akin to vent holes in historic barns. The bricks are similar in size and fabric to those used on the later phase belfry openings and this alteration to the windows is thought to be contemporary with the belfry's re-construction in the 16th century.

On the east side of the room a straight sided doorway gives onto the body of the nave above the tower arch. Like the windows, the opening on both faces is edged in flint. The square-headed top of the doorway is formed by a wooden lintel, the existing timbers are likely to be later replacements using reused timbers – this is to be tested by dendro-dating - but pockets cut in the side of the door opening and undisturbed core material above the door suggest that the style and height of the opening are unchanged. Within the opening, the sides have been pointed flush with the face of the flints (Fig. 8); this pointing does not exist within the tower room where the flints are left projecting. Curving around the nave side quoin, a secondary fine textured render survived beneath the current topcoat of lime plaster. The render predates the blocking in the doorway and is likely to be the original internal finish of the nave.





Figure 8 Tower room doorway from the nave, showing surface treatments and timber lintels

The present floor is later than the doorway and lies 0.77m above the original threshold. It is supported on joists that sit on the sills of the tower room windows and extends into the door opening as far as the rear of the daub infill that until recently blocked the door. The impression of the daub can be seen in Figure 8.

Within the tower room the wall surfaces are not rendered and the strongly coursed flint work is visible. Approximately 2m above the present floor, the internal tower face is set back by the width of one flint nodule forming a ledge c.10cm deep (15, Fig. 9). This does not extend to a complete circuit of the room and does not occur at the junction with the nave. Just above the ledge, at the mid point between the windows, are in filled pockets for the beams that would have created a ceiling and second floor (16-19, Fig. 9). Evidence suggests that the roof or ceiling joists were arranged to form three sides of a square, with the timber meeting to form corners in the elongated pockets found on the west side of the tower. Above the tower room the flint work displays a slight variation from that below; it is still coursed but less markedly so.



Figure 9. Internal face of the tower, unfurled.

- 1. Door overlooking the nave
- 2. Timber lintel, made up of re-used oak planks
- 3. Cob packing infilling setting for the lintel
- 4. Exposed core original masonry indicating that the original opening was square-headed and not arched
- 5. Original floor level of the tower room
- 6. Original Norman N window, splayed
- 7. Joist supporting current floor set onto the window sill
- 8. Current floor level
- 9. Infilled Norman W window.
- 10. North Norman window, shuttering impression clearly visible on underside of the arch
- 11. Lift line, distinct end to a phase of build below the springing point of the arch
- 12. Face of the tower rendered over below current floor all details obscured
- 13. Curving right angled corner where round tower joins the nave
- 14. Curving right angled corner where round tower joins the nave
- 15. Change in wall thickness, forming a shallow ledge along this line

- 16. Wide socket in the masonry, infilled with mortared flint
- 17. Repair section covering socket opposed to 16. Existence of socket evidence by a break in the coursing
- 18. Probable socket recently (2007) infilled
- 19. Probable socket unclear
- 20. Norman facing, large flints laid in well defined courses
- 21. Norman facing, mixed flints coursed wall thickness less than 20 creating ledge at 15
- 22. Impression of vertical, square post preserved in small area of render
- 23. Blocked belfry S opening
- 24. Blocked belfry W opening
- 25. Blocked belfry N opening
- 26. Inserted paired principle timbers, running N-S and supporting bell frame. A to A and B to B opposite end of single timbers
- 27. Bottom rail of the bell frame
- 28. Corners of the bell frame set into earlier belfry openings
- 29. Repair patches of mortared flint, setting for timbers

- 30. Wall face chopped away to accommodate to allow fro the timbers 26 to be let in
- 31. Belfry openings
- 32. Intact wall face, closely spaced large rounded flint cobbles, predominantly brown flint
- 33. top of the belfry wall
- 34. Timbers supporting shallow pitched roof rafters
- 35. Horizontal steel girders propping up the bell frame

As a result of being constructed off the reverse of the nave wall, the tower room is not circular or entirely symmetrical in plan, but is sub-square with readily discernible SE and NE corners (Fig. 10). Below the tower room, the floor plan has been altered by the addition of the tower arch and it is not until it is above the tower room, where it is clear of the nave, does the tower become circular.







Figure 11. Tower room from the belfry.

# Tower Phases of Construction *Phase 1*

The lower part of the tower is constructed in well coursed flint. The flints are unworked rounded nodules in a mix of pale grey and brown flint with a frequent use of round sandstone pebbles. The flints appear to have been sorted for size and although all sizes are used, they appear to be banded. At the base of the tower larger (10-12cm) cobbles, laid at 12-13 courses per metre, are used, whereas at the top of the coursed work much smaller stones have been used (Fig.12). The flints are bonded with a pale brown sandy lime mortar; the sand is very coarse with inclusions of up to 1cm flint.



Figure 12. Changes of build and ceiling level within the tower room

The tower has been re-pointed flush with the face of the flints and in places this becomes almost a render and obscures the coursing. The tower has been re-pointed on several occasions but what appears to be the earliest, a high chalk lime mix, extends over the nave and south aisle gable suggesting that this, at the earliest, is a post-15th century treatment of the surface and the tower's original appearance is likely to have been one where the flints stood proud. Because of the re-pointing it is difficult to identify the junction between building lifts (the amount the tower was raised is a single episode of construction before it had to be left to allow the mortar to 'go off'), but there are distinctive lines of flint which occur at regular intervals of between 0.8 and 1.2m. The top of the first phase of the construction of the tower can be identified at a height

approximately 7m from the ground surface (Figs. 12 and 13) at which height the flints are no longer clearly coursed. This division is a distinct horizon and can be followed right around the circumference of the tower and coincides with the shallow ledge on the internal face of the tower which distinguishes the ceiling height of the tower room (Figs. 12 and 13). It is also at this height that the gable wall of the Norman nave becomes the same width as the internal diameter of the tower. The coincidence of these factors suggests that this was deliberate and because of this it is possible to project the supposed ridge and pitch of the original Norman roof over the tower in an uninterrupted line (Fig. 14). The existence of the sockets for timbers in the tower indicate that a ceiling or a roof structure certainly occurred over the tower at this height, and it could be assumed that the masonry at this point was calculated to accommodate this. Roofing the building at this stage would suggests that the tower remained at this height for some time and may explain why, when building resumed that the Phase 2 structure had such a different appearance.



Figure 13. West elevation of the tower

- 1. Ground floor inside the tower
- 2. Flint laid in horizontal courses

- 3. Lift line on the tower, continuous with original Norman eave level
- 4. Norman eave height and lift line in gable

- 5. Flint cobbles on corner to eave height
- 6. South edge of Norman nave. South aisle stitched into nave with limestone blocks
- 7. Top of the gable line of Norman roof
- 8. Limestone quoins, nave height raised during C14-15th
- 9. (red) Inserted floor; current floor level in the tower room
- 10. Lift lines
- 11. Repair patch, infilled tower room window
- 12. Distinct change in build, top of the Phase 1
- 13. (red) top of the tower room inside the tower
- 14. Projected line of the Norman nave roof

- 15. Top of phase 2. Distinct change of build step in the external face of the tower where the external; diameter becomes smaller
- 16. Planned cross-section of the tower drawn at the base of the original belfry openings
- 17. Iron band
- Phase 3 build. Heavily point/rendered face although suggestion of coursing to the flint work
- 19. Position of original belfry openings
- 20. Top of the phase 3 build. Level of large, closely spaced putlock holes circumventing the tower
- Late medieval 15-16th<sup>th</sup> century belfry openings
  Phase 4 top of the tower constructed after the installation of the bell frame



Figure 14. Indicative sketch of the building at the end of Phase 1

#### Phase 2

The second phase of the tower build extends between the heights of 6.7m and 9m from the ground. When the building construction resumed this section of the tower was thinner-walled than the phase below, which created the shallow ledge around the internal face (Fig 10). The exterior face is on the same plane but is distinguishable from Phase 1 as the flints appear no longer to be laid in definable courses; although on the inside the coursed work continues. It is at this level that the internal plan of the tower also becomes circular and contrasts with the subsquare floor plan of the tower room just below. This is due to the now narrower contact area between the tower and the nave, which means that the circles of the inner and outer face of the tower to be completed within the thickness of the shared wall. The raising of this section of the wall must have been undertaken with the cross beams of the Phase 1 roof still in place, and enclosed the timber ends to create the now infilled sockets

The change in build from Phase 2 to 3 can be seen as a lip on the exterior of the building (Figs. 12 and 13) as above this point the tower has a smaller circumference. On the inside of the building the distinction between the Phase 2 and 3 builds is not apparent but this point corresponds with the base of the redundant belfry openings just below the current bell frame; the openings themselves are not part of the Phase 2 build, but part of the later build above.

There is no evidence to indicate whether the recorded top of the Phase 2 works was ever a finished build and formed the top of the tower, or whether it was truncated to this level when a previous bell frame was added or altered. The top of the Phase 2 build would have taken the tower walls to or just above the projected ridge of the Phase 1 nave roof.

#### Phase 3

The earliest material evidence of a belfry is found within Phase 3. The evidence consists of the wide openings, now blocked, that were added in the lifting of this phase. Because of their size it seems likely that these are openings to a former bell chamber, rather than windows and these occur just below the current bell-frame. Like the tower room windows the sides of the openings are edged with flints, larger than those used in the body of the wall and are easy to see. The edges of the opening all started at the same level however the sills were not defined by masonry and it was impossible to indentify the base of the openings as the flint and mortar with which they had been later blocked, was near identical to wall material below. There was no evidence of an opening on the east side, overlooking the nave roof. This could be because the position of the projected ridge line of the early nave would have been at or very close to the base of the belfry openings. This may indicate that this phase predates the remodelling of the nave and the

similarity of the quoins to the windows below, that the Phase3 construction occurred within the Norman period.



Figure 15. Belfry west and south openings

It is impossible determine the top of the Phase 3 build from the inside of the tower or the height of the Phase 3 belfry openings. This potential information was lost when the inside of the tower was cut away to accommodate the present position of the bell-frame. On the exterior there is a clear change of build in both coursing and flint size that occurs at mid height of the current belfry windows and at which point the thick pointing/render which covers most of the tower stops (Fig. 15). Also at this level there are a series of infilled, closely spaced, square putlock holes. It is likely that these features indicate a break in construction and the top of the Phase 3 build; and probably the former top of the tower.

#### Phase 4

The raising of the tower to the present height, the insertion of the belfry openings and the setting of the bell-frame all occur in Phase 4.

The exterior of the tower is constructed of closely spaced un-coursed large, and predominantly brown, flint. The thick pointing that occurs lower down the tower is not used here and the flints are proud of the mortar bed.

The current belfry openings are directly above, and probably slightly overlap, the Phase 3 ones and were constructed when the current bell-frame was fitted into the tower. The heads of the openings are two centre arches; internally these are stepped with a recessed lower arch, the lower arch forming the external opening. On the inside the openings are in flint and the heads both internally and externally are constructed of brick. The bricks are plain handmade, sandy reds measuring  $9\frac{1}{2}x 4\frac{1}{2}x 1\frac{5}{8}x$  suggesting a 15th century date; a similar brick is used to reduce the tower room windows. Externally the belfry openings are edged in Barnack stone which is likely to have come from elsewhere on the building and, on three of the openings, the arch heads are constructed in brick similar to the interior ones. On the south side however, the head of a Decorated tracery window and a drip hood have been used (Fig.14). The shape of the window suggests that it dates to the 14th century, it is a two-centre arch and the remnants of the tracery indicate it is the same pattern as the south aisle window just to the east of the porch.

#### Fitting of the bell frame (the numbers in brackets refer to Figure 9 drawing)

A pair of square sectioned timbers (26), aligned N-S were fitted retrospectively into the tower to support the new bell frame. To fit these and the bell frame the internal face of the tower was chopped away (30), reducing the thickness of the wall, increasing the interior diameter of the space and creating a ledge all the way around the tower, just below the bell frame. In addition to this, long vertical gouges and elongated pockets (29) were cut to manoeuvre the timbers into place; and the pockets infilled with mortared flint to secure the beam. The measurement of the diagonal of the bell frame is greater than the internal diameter of the tower, it was therefore necessary to turn the bell frame at an angle of 45° to the axis of the tower in order that the corners of the frame could sit in redundant opening of the earlier belfry (Fig. 16). So close is the fit that the infilling of the earlier belfry windows is little more than one flint thick at the corners of the frame. Beneath the frame secondary timbers have since been added to augment the main cross beams (26), these are shorter than the tower diameter allowing them to be fitted from below and run from tower edge to mid-beam.

The cutting away of the inner face only occurs on what has been suggested as Phase 3 masonry and above this all masonry identified (on the exterior the wall) as Phase 4 is intact. This suggests that the top of the belfry, from the mid-point of the belfry openings was built after the bell frame was put in place. Externally at the junction between the Phase 3 and 4 build, large putlock holes were recorded indicating that a large scaffold or hoist was once secured to the tower at this level.

In the recent past an iron band was fixed around the outside of the tower. The level at which this is fixed is the same as the cross timbers that underpin the bell frame. There are metal straps fixed to each side of the cross beams and these correspond to the four wrought iron threaded fixings that hold the band in place. The ends of the timbers are decayed and not securely fixed into the flintwork. It seems, therefore, that the iron band is not counteracting a bulge in the masonry, but appears to be there to hold the timbers in place.



Figure 16. Sketch of bell frame



Figure 17. West wall of the nave, internal elevation.

- 1. Tower arch 13<sup>th</sup> century
- 2. Change in build, identified by slight change in the plane of the wall
- 3. Change in the face 13<sup>th</sup> century
- 4. Tower room entrance
- 5. Inserted floor
- 6. Norma Nave roof line, identified as a shadowy line
- 7. Wall height raised in the 14<sup>th</sup> century
- 8. Truss form the Arch braced roof
- 9. Top of the tower room, as surveyed from within the tower
- 10. Line of the tower internal wall
- 11. Sill height of the former belfry openings

#### Interior west wall of the Nave

The west wall of the nave was surveyed using the TST and the survey data was integrated with data collected from the exterior surveys to produce the elevation drawing shown in Figure 17.

The elevation illustrates the relationship of the 13-14th century tower arch and the entrance to the tower room. The crown of the arch partly cuts away the threshold of the door into the tower room and this suggests that the two were never open at the same time

Combining the surveys confirms that the slight step in the plane of the interior wall aligns with the top of Norman build on the exterior of the north nave wall. This level is the top of the eave and demonstrates that a phase of construction of the early building finished here. This level is also the just below the level of the original tower room floor as suggested by the threshold of the entrance and would have been the level at which the floor joist would have had to have been inserted.

It is also just possible to pick out the line of the original roof but this less clear and may be influenced by the knowledge of where it is on the exterior of the building. A large crack is developing in the north corner of the building; probably as a result of the thrust of the roof which is forcing the side and gable walls apart.



Figure 18. Interior nave west wall

## Discussion

The survey recorded clearly identifiable phases and build line within the fabric of the church which illustrate the stages in which the nave and the tower were raised. The evidence strongly suggests that the tower and the early build of the nave were constructed simultaneously, as the coursing of the flints and the increments by which the church rose within a building season are common to both. Mortlock (1992) suggests that the church may have Saxon origins but the Romanesque door on the north side of the nave appears to be an original setting and seems to indicate a Norman date for this building. The use of well carved limestone around the door demonstrates that both stone and the resources to employ the skilled masons were available. If this was the cases, why was stone not used in the quoins and window settings? Whilst there is no clear evidence that this door has been moved its presence in the north wall rather than the south, conventionally the position of the nave's main entrance, is also noteworthy and raises the

question of whether there was an original south entrance that was lost when the later south aisle was added.

Within the height of the tower there appears to be clear breaks in construction suggesting that the tower was raised in two or three stages. The consistency of the architectural style throughout phases 1-3, including some evidence of coursed flint to a height of c.12m and the flint edged internal embrasures on both the lower belfry openings and the tower room windows would suggest that the intervals between the periods of construction must have been quite short. The church which was started at some point after the conquest had gained a full height and a belfry before the end of the 12<sup>th</sup> century. What the exact full height of the Norman tower was is unknown as the top of the present belfry is a later replacement.

When completed the Norman tower was divided into three, the belfry the tower room and a tall bottom cell, with no access into any part of the tower other than through the nave. The tower room is a small cell, with a low ceiling and contrasts with the more lofty portions of the other spaces within the tower. Tower rooms are a common feature of early churches and can been found in most of the Saxo-Norman churches in the region. It is believed that the room would have been the quarters of the incumbent priest and through the door, (Fig. 19) a view of the altar would allow him to make his regular devotions throughout the strict cycle of the 24 hour religious day. It is well lit with three windows, compared with the lower ground floor space and this would have allowed light for study.



Figure 19. View of the altar from the tower room

The evidence shows that the tower room's original floor was level with the eaves height which places the room wholly above the nave and within its roof space. Although still connected to the nave the siting of the room just here rather than lower in the tower appears to be a deliberate separation of the more prosaic parts of the priest existence from his liturgical duties.

Below the floor of the tower room, the tower does not appear to be further divided, although this must be qualified by the fact that it is rendered over obscuring any details. The large west window is a later addition, this may have replaced an earlier Norman opening, but otherwise there is no evidence that this area ever was ever lit when it was first constructed. The large tower arch is a later addition and the original is unlikely to have been any larger than the nave or tower

room door. This apparent lack of a need for light or a west door may suggest that the function of the tower was primarily to elevate the tower room. If this is the case the tower would function at the end of Phase 1 and would better justify what appears to be the decision to initially roof the tower at this level. The construction of isolated cells from the body of the church has its origins in the very earliest churches and the ground plan of the possible Middle-Saxon church at Brandon (Tester, forthcoming) shows an attached but separate cell at the west end of the building.

There is no evidence of a setting for a bell frame below the earlier belfry openings. This suggests that the bell or bells of the original belfry were not housed in a massive bell-frame like the existing late medieval one and that the tower probably held fewer or only one bell. The evidence suggests that the top of the tower was removed to lower the current bell frame into place from above and the belfry and parapet rebuilt once it was in place. The date of the bricks within the rebuilt belfry would suggest that this occurred in the 15th or 16th century, at a time when the chancel was being remodelled and, along with other parts of the aisle, re-fenestrated. The date of the current bell-frame will be more closely dated by dendro-chronology and this is to be undertaken as part of the project.

# Conclusion

The survey has indentified and recorded a sequence of construction and suggests that the original nave and tower were constructed in the period between 1066 and 1200 in three closely spaced phases. The church continued to be developed and enlarged throughout the 14th - 16th centuries to arrive at its present form. The fitting of the bell-frame in the late medieval required the opening up of the top of the tower to lower it in before rebuilding the belfry around it and the date of this event may be confirmed by dendro-chronological analysis. The study has illustrated that details of the church building construction can be readily gleaned and the potential for understanding their development exists.

David Gill September 2008

## References

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