

RECENT ARCHAEOLOGICAL WORK IN THE MINSTER

Talk by Dr Philip Dixon 13th January 1996

Archaeologists are interested in why and how the church was built, e.g. why parts are not quite straight (Fact Sheet No.57). Whilst the archaeologist's aim is pure research, he co-operates with and assists people with different aims, e.g. to create an exact record of a building in case of disaster. The authorities at York Minster did not have a complete record of the South Transept when it was struck by lightning in 1985, and there are parts of the Minster for which we still do not have a complete record, e.g. the nave roof.

Techniques used :

At this point, Dr Dixon showed drawings he had made of various parts of the outside, showing every single stone and marking repairs, replacements, cracks and other damage. These are based on photogrammetry as a basis, for the sake of accuracy. This cannot be used for plans, which he has made of the Minster at various heights above ground level. These are based on electronic distance measurements, taken from fixed points marked by minute bronze plugs in the floor (e.g. one just inside the south door). Eventually it is hoped to put all these measurements onto computer disks, which will eventually be used to make a 3-D computer model, on which the drawings can be "draped". This will be accurate to 1 cm per 1 km, and will monitor the way the building "behaves" - eg. the structure moves slightly if it is very full of people.

Study of Foundations

1 Started in Chapter House, because

a) Famous enough to attract funds.

b) Some cracking needing investigation

Little holes made on the outside were to find out how deep the foundations were.

2 Romanesque foundations were very good, and deep; but the East End foundations are only about 18 ins deep, and we are not sure why it has stood without any problems since 1234!

Important not to disturb the ground, eg. by putting in drains. Ground consists of thin layers of lias and clay; if water is taken out of clay, it contracts and this would cause trouble.

Church is in a better state now than for some time, but the East End needs careful watching.

The Anglo-Saxon Church

We know from documentary sources that a church was built in the 10th century as a mother church for Notts - comparable to Stow Church for Lincs. Probably something like Stow: cruciform, and with a maximum length of about 100 ft. Probably sited from present South Transept westward.

1 Foundations - 5 years ago, Dr. Dixon surveyed the churchyard and found that along a diagonal line (roughly along the path from the Refectory, continuing through church site), there was a natural "cliff" or drop in level. A "raft" of broken stones and mortar, making a weak concrete, raised the eastern part of the site to the higher level.

2 The mosaic pavement is Anglo-Saxon, though the tesserae (pieces of mosaic) are probably Roman from the villa site. It is not an actual Roman mosaic, as it is in the wrong place, at the wrong level, the wrong alignment, and has no pattern.

The whole 10th century floor may have been made like this, though no other mosaic or tiled Anglo-Saxon floor is known. Even if there were a 7th century church, and we have no evidence of one, this was unlikely to be part of it [Warwick Rudwell thinks there may have been a church attached to the villa - but again, no evidence].

3 Dimensions

3 easternmost pillars of the southern nave arcade are out of alignment with the rest. This suggests the Norman nave was built around the Anglo - Saxon church, which was only demolished later. The Anglo-Saxon church's West end was probably level with the third pillar. When the nave reached this far west, there was a pause in building; the South wall shows a "building break" at this point. The builders were probably waiting for further funds from York! There are other such freaks. It may have been nearly a century from the start of the Norman nave to the completion of the South West tower, with its pointed arcading.

4 A note on the Medieval measures

- a) The human foot - illustrated by a picture of a row of people with their feet in a line.
- b) Layout done geometrically in Pythagorean units.
- c) Knotted ropes; but mistakes could be made, e.g. by miscounting knots.
- d) Masonic codes of measurements developed from theories of how Solomon built the Temple; these had mystical overtones and included the use of "auspicious" numbers, e.g. 7 and 9.

The session concluded with A Tour of the Minster

Among many other things, Dr. Dixon commented on

- a) The arch within the arch, on the East wall of the South Transept - probably taken from a window of the demolished building.
- b) South Quire aisle - vaulting not aligned with windows and therefore on the skew - particularly noticeable in the East window. Central rib also not straight.
- c) Unusual to have a single arch - a "super arch" enclosing both triforium and clerestory of Quire. Only half a dozen others like this known. It gives an appearance of extra height to a vault not particularly high.
- d) Some cracking between the eastern and western halves of the Quire: western half built on existing foundations, but eastern half on new foundations, which would have to settle.