

St. George's Chapel, Windsor.

By THE VERY REV. THE DEAN OF WINDSOR, D.D.

The Restoration of St. George's Chapel has been unique in character, since the problems it presented have, I believe, no parallel, and could only be fully understood as the work went on. The stone vaulting was originally an experiment, and was never again attempted. It is by far the flattest vault ever built, at least over a wide span, and the lateral supports were, as Christopher Wren pointed out, only just sufficient for safety; leaving no margin of strength. The Henry VII Chapel, though less flat, is supported by an almost clumsy mass of supports, but our choir has only light buttresses, and for the transepts, though raised to two stories and having very little solidity in their walls, no lateral support was provided at all.

Before the vaulting could be touched, these questions of stability had to be dealt with. In the choir, the buttresses had been hidden by cement for 150 years, and when they were uncovered we found that they were very much decayed, and were visibly giving under the strain; they had therefore to be rebuilt. For the transepts, very reluctantly, for no one wished to alter the building, Mr. Brakespear, after long consultation with Sir Giles Scott and an eminent engineer, whom they called in, decided that new buttresses must be built before the vaulting could be made safe. It was further noticed that the South wall of the Choir had given more than the North. We had therefore to examine the foundations, and found that the builders had, on the South side, left from 2ft. 6in. to 1ft. 6in. of clay between the foundations and the rock. These buttresses were therefore underpinned. Another preliminary work that had to be done was in connection with the wooden roof. The great beams had never been quite long enough, resting only eight inches on the wall. The ends of all had decayed, and two had completely perished, owing to the action of the beetle. Wren had temporarily supported them on struts resting on the stone vaulting. The two decayed beams we replaced, and new ends were spliced on the others, of adequate length. The walls on which they rest, which had never been properly finished,

were also put in order. The stability of the building being thus secured, it was possible to deal with the vaulting. This had dropped in the middle, and was cracked from end to end; Wren saw this, and ran lead into the cracks. However, the evil went on, though invisibly, for in the 18th century the vaulting was covered, above and below, with a thin layer of plaster, hiding the cracks. Examination, however, showed a state of things unsuspected even by Wren. The strength of such vaulting depends obviously on the springers being well bonded into the walls. To our astonishment, we found that the builders of the time of Henry VII inserted the vaulting without bonding it at all into Edward IV's walls. There was therefore no scientific reason why it has ever stayed in its place at all, and it might have fallen at any time. After long consultation, the decision was arrived at that the only satisfactory course was to take the vaulting down, stone by stone, numbering the stones according to plan, and then to rebuild with all necessary securities. This course was pursued, and the work carried out with the most beautiful perfection.

In the crossing and transepts, rebuilding has been avoided. The springers have been rebuilt and the vaulting is being grouted. Humanly speaking, the vaulting will, when it is completed, be absolutely safe, and the building will be in an infinitely more stable condition than it has ever been since its foundation.

There have been many minor points of great interest, of which I can only mention one. The tracery of the windows was in a very bad condition. Through the centuries they had been repaired in a curious way. Decayed stone had been cut out, and thin bits of stone laid in, till most of the transoms were bundles of five or six such bits of stone, held together with nails and string embedded in cement. Often no stone was visible at all, and none of the original stone remained anywhere. These have been replaced by well wrought stone.

It is an interesting fact that, throughout the building, hardly any stone of the time of Edward IV and Henry VII has had to be replaced. The decayed stone was that used in various restorations, especially the Caen stone used in George III's restoration, and the Bath stone used by Gilbert Scott, the latter being by far the worst.