

AYLESBURY CHURCH IN 1848.

ARCHITECT'S REPORT.

GENTLEMEN,—I have in compliance with your wishes made a second and more minute survey of the Tower of your Church, adding to it an examination of the condition of the building in general.

My former Report having been addressed more particularly to the Committee for the Restoration of the Church, it will perhaps be better for me not to refer back to it, but to describe the state in which the building is, and the measures I would recommend, though in doing so I may be in some degree repeating what is contained in that Report.

The entire structure appears to have been re-erected at one date, probably between A.D. 1200 and 1250. The existence of an earlier building may be inferred from the beautiful Norman Font and the existence of some fragments of the same age. It is, however, pretty clear that the Church was re-planned and re-built during the above-named period, though it has been subjected to numerous subsequent alterations. I mention this as it tends to account for the universal failure of the foundation of the

original portions, the whole having probably been laid at one time, and with one prevailing defect.

It cannot fail to strike every one who examines the Church, that there is scarcely one wall or pillar of the original date, which has not gone out of the perpendicular.

The four great piers of the Tower are buttressed up in all directions to keep them standing, while the arches adjoining them have been early walled up for additional security.

The pillars of the Nave lean westward to a frightful extent. The western wall has probably been partially rebuilt to correct a similar defect. The south wall of the Nave is terribly crooked; and even the Porch, trifling as its weight is, follows the general fashion of the building by spreading on both sides. The Chancel leans sadly on the north, while the south wall has been rebuilt, as have probably the end walls both of the Chancel and of the Transepts, with some other parts, and indeed every part which is not in a failing state.

It at first struck me as most extraordinary that so universal a failure should exist in a building said to be founded on a rock, and this, as well as other reasons, has led me carefully to examine the foundations of the Tower piers. These are probably a fair specimen of those of all the original parts, at least it is hardly to be supposed that those which had to carry the greatest and most concentrated weight would be *worse* than those of the lighter portions of the building, and from my examination I should doubt the possibility of the latter being *worse* than the parts I have exposed.

I find that from the surface of the rock to nearly the level of the floor of the Church (a depth of four or five feet or more), the foundation consists of a mass of loose stone and earth, thrown in without order and without cement, so that the whole being composed of parts readily moveable among themselves, presents no resistance to any tendency to change of position in the superstruction, which fully accounts for the anomaly which I have mentioned, as though the Church is in one sense founded: upon a rock, there intervenes between the rock and the walls a stratum of perfectly loose and moveable material, so that all the advantage of the natural strength of the foundation is lost.

The failure of the foundation would naturally first show itself in a serious manner in the piers carrying the central Tower, as the weight is there the greatest, and the outward thrust the strongest. The thrust of the great arches would have but little effect to the eastward, on account of the longitudinal walls of the Church, but in other directions it would be less resisted, and would be helped by the foundations of the smaller piers, which would deprive the Tower of their aid as subsidiary abutments.

The Piers were unfortunately of a material of but little strength, and would be quite incapable of supporting the oblique and partial pressure thrown upon them from the time when they began to deviate from the perpendicular, so that there is little doubt that they became very seriously cracked, if not in some parts actually crushed. We find accordingly proofs that the Tower piers began to fail at an early period, and that from time to time various expedients were resorted to, to strengthen them.

An Arch between the south-east pier and the transept must evidently have been frightfully crushed as early at least as the 15th century, when it was blocked up by the very curious wall which now fills it, and the pier buttresses both towards the transept and the little chapel at the back. At the same time the southern and eastern arches of the Tower itself appear to have been much injured, and to have lost their true curves.

It might possibly have been about the same time that the arch on the west side of the transept was walled up, and the south-west pier of the Tower buttressed on its south side. At a much later period (as is shewn by the date 1596 upon the stonework) the remaining sides of this pier were encased in stonework. A little later still (1599) the same operation was performed on the north-west pier, and probably at the same time the arch abutting against it was walled up. In 1622 the south-east pier underwent a second buttressing, and at perhaps some other period the casing was built round that to the north-east, and its arches walled up. This is proof that in one instance at least (that of the south-west pier) the second casing failed at an early date, as is shewn by the large cramps which have been added to it, and subsequently there have been continued failures in casing of both of the western piers.

It will be seen from the above that there has been a consecutive series of failures, repairs and re-failures, from a very early to a very recent period, and when it is recollected that during at least the last two or three centuries burials have been going on immediately round the piers, many of them cutting into the rock below the level of the foundations, and others cutting off the projecting masses of loose rubbish before described, and thus increasing its weakness, it is rather to be wondered at, that the Tower should have stood so long, than that it should now evince symptoms of immediate danger.

The more recent signs of failure consist of the cracking of the casing which encloses the two western piers, and of the arches which have some years been opened in the north transept, to which may be added the increase of the numerous old cracks in the walls surrounding the staircase leading into the upper stories, and of some cracks in the upper part of the Tower itself. It is clear that these recent signs of movement have been gradually increasing, and still continue to increase; and when it is considered how constantly progressive has been the failure of the piers, and that the stone-work, from time to time erected to strengthen them, is now itself rapidly failing, it must be clear that immediate danger is to be apprehended, and that immediate steps *must* be taken to prevent the most serious consequences. It is now about five months since I made my first survey, and during that time the cracks have unquestionably increased—another such period, or perhaps a much shorter one, might render the case hopeless if steps be not taken to avert the evil.

In my former Report I have described the means which I would recommend for the restoration of the piers to a sound and substantial state.

My subsequent examination has only altered my views so far as regards the foundations, which being so much less substantially executed than I could have anticipated, will probably require to be somewhat differently treated. I then recommended that all the surrounding graves and bodies should be removed, and the entire surrounding area filled in with a solid bed of concrete abutting all round upon the old foundations, and so keeping them from bulging under the weight they have to carry.

Finding them, however, to be so entirely unfit to support the superincumbent weight, I am rather disposed to suggest that they should be under-built from the undisturbed surface of the rock, with massive and closely-jointed stonework, which would not only serve to keep the whole mass together, but would in great measure replace it, and carry the weight which now rests upon it—even this stonework it would probably be advisable to surround by a mass of concrete. So that the removal of the bodies, either wholly or to a great extent, from that part of the Church would still be necessary.

I need hardly say that this must be done to only one pier at a time, and that very substantial shoring would be required before commencing upon it, which will be rendered the more difficult from the insecurity of the present surface, even for the support of the shoring, so that much skill and consideration will be required. I am inclined to think that masses of concrete must first be laid for the support of the shoring, spaces being left round the piers, to be filled in one by one after the stone under-building of these foundations is completed. In this case much of the shoring which would be used during the restoration of the foundations may continue during that of the piers above.

It is needless to trouble you with details of the mode of shoring by which the piers must be relieved from the weight and secured during the operation. This is, however, a part which will require the greatest care, and on which no feeling of false economy can be safely brought into exercise. The security of the Tower would be increased by the insertion of four massive iron ties about the level of the present ringing floor.

When sufficiently shored, the stone casing must be gradually removed from the pillars, taking them *singly*. The original stonework will have then to be cut away, supporting each part by temporary shoring, distinct from the main shoring before alluded to. The pillars will then be in great measure rebuilt with new and hard stone,* giving the lower courses a firm bearing upon the new

* I would recommend one of the harder of the Derbyshire stones. That from Darley Dale would answer admirably, though somewhat costly. I am decidedly of opinion that none of the varieties of Bath stone would answer.

stonework before described, and continuing the operation in portions at a time till the pillar is reconstructed to its whole height, when the same operation must be carried on successively with the others. The arches abutting against the pillars will then have to be either wholly or in part rebuilt, and in such a manner that they may assist in strengthening the Tower. The curious features which fill the arch on the east side of the south transept may be replaced, as possessing considerable interest, but the other arches should be left open.

The cracked portions of the Staircase of the Tower, and of the walls above, must be substantially repaired and bounded. I would recommend the re-opening of the lantern or triforium story of the Tower, which would greatly add to the beauty of the Church. The Clock can in that case be removed to the lower part of the leaded spire, where it would be nearer to its work.

The Timbers of the Spire will require some repairs, including the insertion of four new beams.

Besides the above repairs, I would recommend that the pillars of the Nave should be restored to their perpendicular position, which would not only be removing a painful disfigurement, but would tend materially to strengthen the Tower.

The Roof of the Nave is in a seriously decayed and defective state, the wall plates being thoroughly decayed, and three of the beams more or less broken, besides many other serious defects. It has never been a good roof, and from its present state I am of opinion that any attempt at reparation would be hopeless, though if taken off some of the present timbers may be used again. I would therefore recommend its reconstruction in oak, according to the original form, with some improvements, which might be derived from the roofs of the transept.

The Clerestory Walls being bulged in some places, should be repaired at the same time.

The Roofs of the Transepts require some repairs and restorations, particularly one of the beams of that in the north Transept, of which the end is decayed.

The Roof of a part of the North Aisle of the Nave is much decayed, and should be removed.

The wider Roof at the eastern end of the same Aisle requires some repairs, but is in the main sound. The ornamental work of this roof requires restoration.

The above are the most urgent matters which require consideration; many other restorations would clearly be desirable, but I have limited myself to those which require immediate attention, or result directly from absolutely necessary works.

I have the honour to be,

GENTLEMEN,

Your most obedient Servant,

GEO. GILBERT SCOTT.

20, Spring Gardens,
November 4th, 1848.