AN ARCHITECTURAL APPRECIATION by Steven J Pilcher

Introduction

This small, former, church elicits surprise and delight to the beholder, whether layman or expert. The fanciful front facade, imaginative handling of structural polychromy (multicoloured brick work) and the innovative timber roof trusses altogether make this building one of Tower Hamlet's and London's most important buildings. On entering St Paul's one is struck by the elegance of the modern design for the stained glass and the light space created by the raised clerestory roof. The elegance of form is striking. The light from above the timbers shows them and their role to good advantage. there is little other decoration inside the church, but the aesthetic effect is complete.

Origins and construction

Apparently there had been a Presbyterian mission in the area in the 1840's, but it foundered after a couple of years. A new mission started around 1856, based in hired rooms. A site was acquired from the Earl of Strafford in 1859 and the church constructed to the design of T.E. Knightley. The foundation stone was laid by John Scott Russell, the Scottish builder of the ship "Great Eastern", who ran the nearby shipyard at Burrells Wharf. The church was built by J.& F.J. Woods of Mile End for a cost of £750, excluding the cost of extra foundations.

It was intended that the church would eventually be extended to provide seating for 520, which would have been more than double its initial capacity. Attendances never rose sufficiently to justify this plan. In 1866 attendances had fallen to six, but possibly due to the effects of a depression, there were more than 100 worshippers by the following year. This resulted in the construction of a gallery at the west end. In 1906 a nondescript two storey addition was added to the rear to provide space for a vestry, classrooms, and a kitchen. The extension was designed by T Phillips Figgis and built by the Limehouse firm of Harris and Wardop.

The church was built on what has proved to be a thick subsoil layer of peat, and despite being built with extra foundations, it has had a history of structural problems, largely caused by subsidence. Similar problems have been experienced at other sites close to the river in the borough.

Decline

Following the closure of the London Docks large parts of the Isle of Dogs went into a phase of decline. St Paul's ceased being used as a church in 1972 and the congregation moved to a new church at Island House, Castalia Square. The building was then used by the owners of the adjacent site for testing crane components. A large steel girder structure was inserted inside (and subsequently removed in the recent restoration of the church). In addition a large window in the south elevation was removed and the two large doors that are seen today inserted. The building became vacant in the late 1980's and its then owners (Trafalgar House Developments), were encouraged to give it to the newly formed St Paul's Arts Trust, along with a significant (50,000) cash donation to assist with the cost of repairs.

Restoration

By the late 1980's the building was structurally in a poor condition. Nevertheless its architectural and artistic merits were still evident to all who cared to look. As with any run down historic building its future could be transformed if a viable use could be found and responsibility handed to a determined new owner. In 1989 a locally based group of individuals created the St Paul's Arts Trust with a view to taking responsibility for the building, restoring it and creating a venue for the arts on the Island. The success of the Trust has owed a lot to the knowledge and energy of its Project Director (Robert Richardson) who had significant experience of projects of this nature and has seen the scheme through from start to finish. A first phase of underpinning and emergency works was completed in 1993. Work on the restoration and conversion began in 1994 to the designs of architects Claxton 'Auvergne Collings of Fulham. The external works were undertaken by the now defunct local firm of R.W. Bowman Ltd and the interior works by Pirin Plc of Chingford. Significant grant funding was given by various bodies including the London Docklands Development Corporation, English Heritage, the London Borough of Tower Hamlets, the Heritage of London Trust, the Pilgrim Trust, Esmee Fairbairn Charitable Trust and the National Lottery, via the Arts Council of England.

Architectural assessment

The Survey of London attributes the west front as being "a pastiche (copy) of that of Pisa Cathedral". The cornice of the ground floor front carries round to become an impost-band to the side windows, which contain the original cast iron tracery, with separately cast colonettes on the outside; the original glazing was destroyed by bombing in 1916.

Structurally the main point of interest are the three semi circular ribs of laminated timber that are used instead of roof trusses. English Heritage has confirmed that to the best of their knowledge these are the earliest known examples of this method of construction to survive. The ribs are formed of 11 laminations. Each laminate is made from two lap jointed pitch pine planks of 6in by 1in section, the joints being concentrated towards the centre of each arch. No glue was used, screws, set in staggered pairs about a foot apart, being the only fixings. The wrought iron tie bars are later insertions.

Thomas Edward Knightley – architect

Thomas Knightley (1824 – 1905) was an architect of some note He was District Surveyor for Hammersmith for over 40 years. His practise was in Cannon Street EC1. His most famous building was Queen's Hall, Langham Place (1890) which was the home of the Henry Wood Promenade concerts until it was destroyed by enemy action during the night of 10 – 11 May 1941. Queen's Hall is remembered by musicians and Concert-goers today for its remarkable acoustics. St Paul's is one of the few early examples of his work to survive and is amongst his most interesting buildings. St Paul's has little in common with any other work he produced and it is interesting to consider whether there was any influence from either Brunel or Scott Russell on the design of the building, bearing in mind that Knightley was at this stage a relatively young architect.

Laminated Timber – historical background

The use of laminated timber is now commonplace, mainly due to its cheapness and flexibility. The first known usage was in Germany between 1807 and 1810, in France about ten years later and in Britain in the 1830's.

In Germany Carl Friedrich von Wiebeking used laminated timber in the construction of road bridges. The individual laminates were substantial and secured together by bolts(with one notable exception at Altenmarkt which was glued). It was in France that the advantages of using curved members for other structures was recognised. Armand Rose Emy submitted a design for a roof using thin horizontally laminated timber arches in 1819, but did not use the method until 1825 in a trial at Marac, near Bayonne. The trial was a success and the "invention" made public by Emy in his own publications and by the French "Society for the encouragement of National Industry" in March 1831.

In Britain there is evidence that the technique was being considered independently at about this time. The technique was suggested for a bridge over the River Tyne in 1827 – this was not built but the technique was picked up for use on other bridges. The technique was then applied to public buildings, but was relatively short lived. By 1850 wrought iron, which was both certain and economical, had replaced cast iron for most applications and was to replace timber as a structural engineering material for almost 100 years. The early laminated structures experienced difficulties with rot and glues and there were widely publicised difficulties with the very big laminated arches at Kings Cross, which could also have contributed to its fall from favour.

All early examples of laminated timber arches are particularly valuable. Very few examples from this period survive in the UK and St Paul's is believed to be the oldest. It is also believed to be unique in that they arches support a glazed clerestory. In the nineteenth century laminated timber construction was one of a host of experimental structural ideas to be tried out. Many of these were found to be impractical but once again it has become an established modern practice in the construction industry. It continues to provide evidence that this building construction system is based on sound principles, is strong, durable and economical.

Myths and other thoughts

The question of whether Brunel was connected to the church springs to mind. None of the research carried out to date has found any direct link. The Great Eastern was built at John Scott Russell's yard, barely a quarter of a mile from St Paul's. It was finally launched after much difficulty on 31 January 1858 and first sailed from Millwall in September 1859. Brunel died shortly afterwards on 15 September 1859. Brunel was a frequent visitor to the area during the construction of the ship. He and Scott Russell had worked together on other projects, however the relationship between him and Scott Russell degenerated into outright hostility by the time the ship was completed. It seems highly improbable that Brunel and Scott Russell would have become involved in yet another project together at this time. The other intriguing thought was that why were laminated timber trusses used given that the nearby shipyards were using cast and wrought iron on a regular basis? A subject for further thought and research perhaps.

The St Paul's Arts Trust and the future

The building is now listed Grade II. The Trust's aims include the preservation of the former church as a building of historic and architectural importance and to develop its use as an arts centre to serve the local and wider community as a whole. Regular programmes of events are organised by the Trust and the building is available for private hire. The name "The Space" has been developed in order to give the centre a simple memorable name. The Trust is pleased to include Sir Ian McKellen as its principal patron and is a non-profit making registered charity. It is entirely reliant on grants and its own fund raising efforts. Volunteer help is welcomed and encouraged. Since the Trust does not have any major benefactors, all financial support is welcomed.