

Overview of Section D

Section page

FULL OVERVIEW
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The present church of St. Paul's, Bow Common

Final Features

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Final Features ...

Meeting room.

In 1962, Maguire wrote this: ⁶ *'In the single storey wing to the south-east of the church, there is a sacristy/vestry and a meeting room, which is used, inter alia, for a parish breakfast. This room was an important need for the parish, but there was no money available for such a room other than by combining its function with that of choir vestry and committee room.'*

The issue of limited War Reparation funds and a much reduced budget at a late stage need to be borne in mind always when critiquing this building. The forecourt broke up so badly and became a bit of a disgrace in my time in the parish and I remember Keith Murray describing how he and Bob had to achieve what they could with what limited resources as they had. Times were tough in those post-War years.

In the same article Bob Maguire also wrote this:

⁶ *'Materials.*

Fortunately, the cost of the building strictly limited the choice of materials. They had to be cheap; most of them would be found more usually in industrial buildings rather than in a church. The floor is of British Standard precast concrete paving flags. The walls are built in cheap Flint brick. The columns are finished in white-painted plaster. Originally the roof over the central space, as well as the aisle roofs, was to be in concrete, but owing to cost limitations and the comparative lack of craftsmanship in this country in concrete work, the main roof was eventually framed in steel, with a suspended ceiling.'

For me there is one interesting, small, but telling sign of the serious intent of the church in its inception! It was with a very serious and purposeful mindset that this building was created and, politically, committees were important instruments of people's governance. One contemporary little label, tucked away in the shadows of the corridor between the main church and what we came to call the church

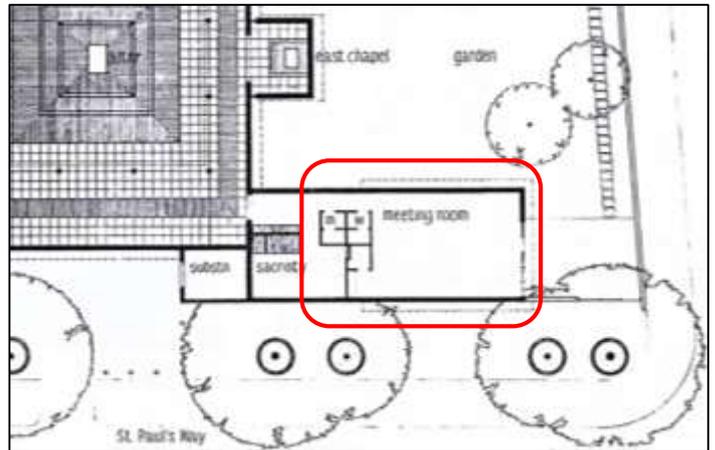


hall (Maguire's 'Meeting Room' above) is a switch panel for heaters in that room. You can see from the image here that in the beginning it was not styled 'church hall' or 'parish room' or even 'meeting room' but 'Committee Room'!

Again, within the constraints of what was possible, the parish room was used for tea and coffee after the Sunday service (and, in winter, to help people warm up a little!) and for social events and community groups.

The church had limited resources, it never had much more than a small congregation and even by the time I came to the church the building had not had much maintenance. The church heating had started to put out smoke a few winters previously and so was turned off with a warning to me not to turn it on!

I remember the thermometer I kept under the president's chair showing 1 deg C as a service began one Sunday two winters after I arrived. A few gas cylinder heaters made little difference in the church but gave some warmth if one sat near to them. We then decamped to the church hall the next winter but numbers had grown so we couldn't keep that up for another winter.



The church hall had some not very strong radiant wall heaters but the roof was low and by comparison with the church it was a welcome relief from the cold of a frigid church, but it was still a chilly place which seemed somehow to be in keeping with the asceticism of the rest of the building!

The cost of a new church heating system was prohibitive at £40,000. Astonishingly, the church was given an anonymous donation, large enough to install new heating in 2004! May endless blessings continue upon that generous individual!



A lot of community contacts grew in my first few years and we won the trust of the local major Housing Association, Poplar HARCA, who also ran a lot of community initiatives.

Regeneration hit our area of the parish in a big way from about 2008 and when the local community centre had to be demolished to make way for new housing and a new and very good community hub the church was approached in 2010 with a proposal from Poplar HARCA, which offered to come in, in a big way, on completely upgrading and modernising the church hall for use by their displaced community groups and then, for a period after the new facilities were built, to have a guaranteed amount of use of the new hall.



This was an amazing opportunity and in April and May 2011 the church facilities were transformed, especially to be disability compliant, with storage heating and a lot of general storage for the church and community groups. There had been no storage at all in the hall as built. This was an amazing thing to happen and on its own the church could not have done this.

The design was in the hands of our architect of the time, the excellent John Allan of Avanti. He had an extraordinary eye and instinct for the building and its resonances.

Thus he perfectly colour matched the paintwork, the tiling and the upholstery in the refurbished church hall to match the 'bull's blood' colour of the porch lettering and upper level fascia renovated the previous year in 2010 under his guidance. A whole new boost was given to the church and its service and engagement with the parish and community.





The 'new' church hall was now disability compliant externally as well as internally and now totally available to the whole community. A couple of months later, on 30th July just days after he had been consecrated Bishop, as the first engagement of his ministry the new Bishop of Stepney, Rt. Revd. Adrian Newman blessed and opened the hall and that crowned the whole enterprise.



Just before I retired, on 13th October 2013, I was greatly privileged when the church hall was dedicated as the 'Fr. Duncan Ross Community Hall' by the Most Revd. Dr. Rowan Williams, himself retired from his labours as Archbishop of Canterbury, but a friend of mine since theological college days. It was a great honour.



In 1962, just two years after the church had been consecrated, Bob Maguire noted these further features of the church:

6 'Music.

The organ will be on the west clerestory wall; the case for this was built with the church.

The organ console will be on the south side of the sanctuary, in the position now occupied by a harmonium. There is no fixed choir; a four-sided choir lectern has been provided for the choir, which is small and whose function is seen at St. Paul's as leading the congregation and occasionally to sing special parts with the celebrant in the liturgy.'

Images below are of the small organ installed in 1960 and then the Manders Organ as it now is.



6 'Electric lighting.

The electric lighting of the church consists mainly of specially made fittings around the four sides of the central space. These are made of cast prismatic crystal cylinders hanging one above the other in steel ladder frames and suspended from a bracket arm. These lights are intended to have some of the sparkle and gaiety which candles have though without in any way trying to simulate candlelight or the appearance of candles. The level of lighting is increased in one area just to the west of the sanctuary, by a row of more powerful lights behind louvres under the organ case. This is particularly convenient for those with bad eye-sight.'

In fact the spotlights under the organ are the main lighting for any congregation seated, as they normally are, to the west of the High Altar. They are impossible to access except from **underneath!** Thus



as the spotlights fail the bulbs cannot be replaced without installation of mid-height scaffolding. The perimeter lights simply do not illuminate the seating area and so as the spotlights continue to fail the seating area is seriously underlit, especially at night. The intention at the time of my retirement was to install low-energy long-life LED spotlights.



6 'Bells.

There are two bells mounted in a steel bell-frame on the south clerestory wall. These are rung from the south side, an arrangement convenient for the Sanctus and for announcing "small" services.'

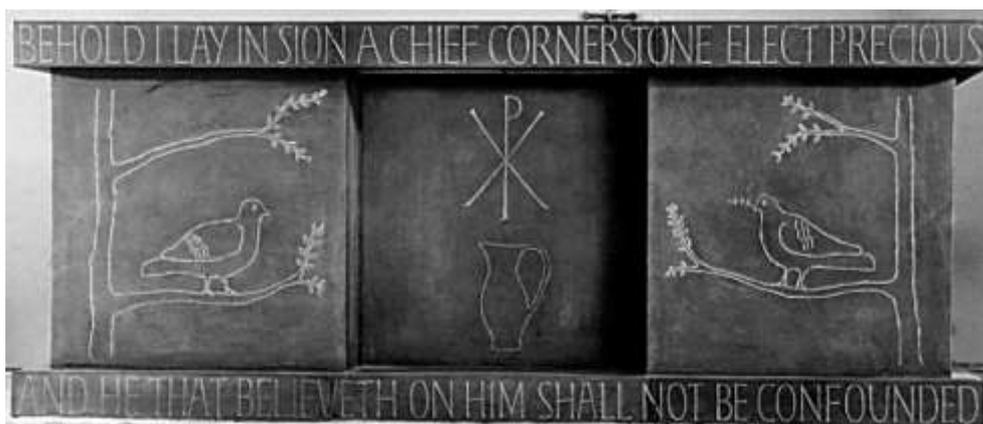


The ropes enter the church through the two circular apertures as shown. After so many years of use both ropes frayed and it would have needed a lot of safely erected scaffolding to reconnect them with health and safety limits. However one was restored for the Licensing of Mother Bernadette Hegarty on 4th October 2014.

I have found no descriptions or reference in any of the literature for the items which follow, but images are shown.

President's Chair

Almost certainly the President's Chair, together with the sanctuary seats and the credence tables and probably the legilium and choir lectern were all designed by Keith Murray and clearly share a commonality of design. The olive branches and doves on the President's Chair have a clear reference to Noah and the end of the Flood and the restoration of peace on earth. As can be seen these motifs (inlaid resin) have a close affinity with Ralph Beyer's incised motifs on the slate altar in the Chapel of St. Katharine's Foundation, as seen below. Did he design these elements?



Sanctuary Chairs



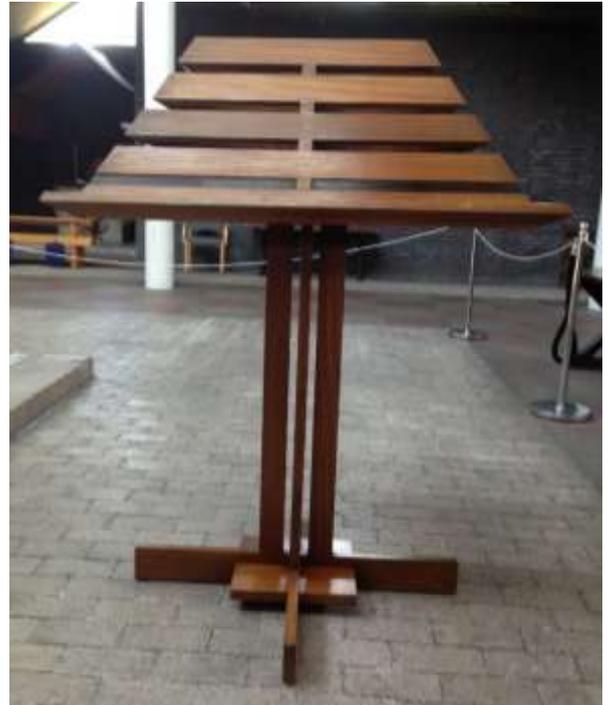
Credence Tables



Legilium

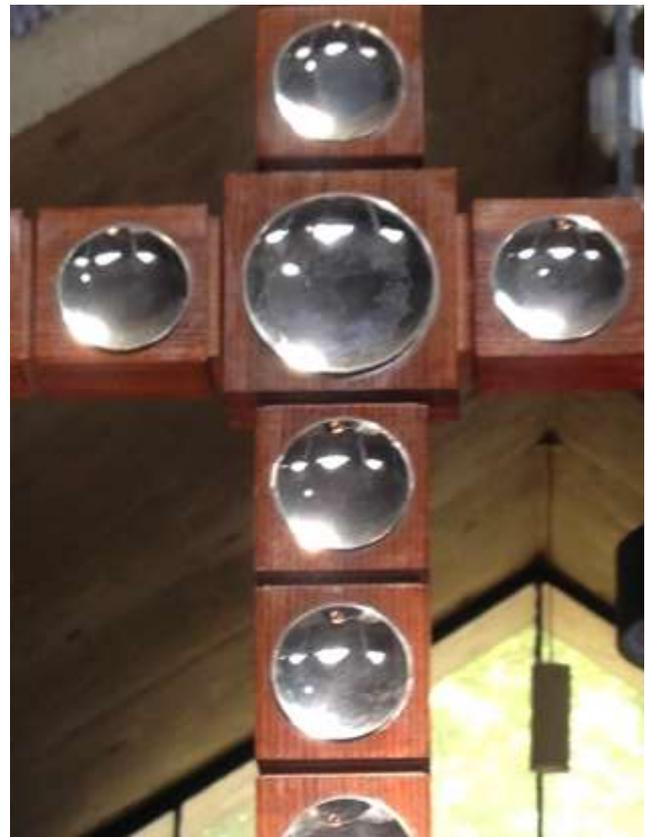


Choir Lectern



The origins of this kind of fitting are monastic and choral, where in a monastic church singers of the various parts of a psalter or chant could follow their parts on volumes laid open on each side with the upper part able to rotate. Given Fr. Kirkby's interest in Gregorian and other chant this was very likely his intention for liturgical accompaniment at Bow Common. Neither numbers nor the technical skills required were in abundance and this had long since become a rest for Bibles, Prayer Books and other sacred volumes. A reader standing at this lectern was hidden by it and so it could never be used as a lectern, as well as being heavy and difficult to move easily.

Processional Cross



This is one of the most striking and effective of the church furnishings at Bow Common and the work of Michael Murray. Many a visitor is convinced, when seeing it across the church for the first time, lit by the sun or even in daylight that there are very clever electric lights arrayed along the arms of the cross as the light catches the silver disks so strikingly.

When I arrived at Bow Common I was very clearly instructed in the traditions and ways of the church with no allowance for variation! One of the first firm instructions I was given was about this cross. During the weekday it was to be placed behind the Sacrament Altar at the east end of the church as the altar cross for that altar. Masses celebrated in that chapel were in front of that cross. Then, at weekends, in preparation for Sunday, the cross was brought out to stand under the eastern side of the iron corona, quite a way to the east of the High Altar and was effectively the altar cross for the central altar. Under NO circumstances was I EVER to place either candlesticks or an altar cross on the central High Altar! THIS was the altar cross! However, I soon saw how well this worked and valued it and continued to relocate the cross every week as intended. It 'worked' remarkably well.

From the archive, this view on the left shows the Dedication Mass for the opening of the new St. Paul with St. Luke School (also built by Maguire & Murray) on 1st May 1972 with Bishop Trevor Huddleston presiding and Fr. Kirkby assisting. The cross can be seen in position for a High Altar celebration, just behind the bishop. To the right is a view 40 years later from 2012, showing the cross standing forward.

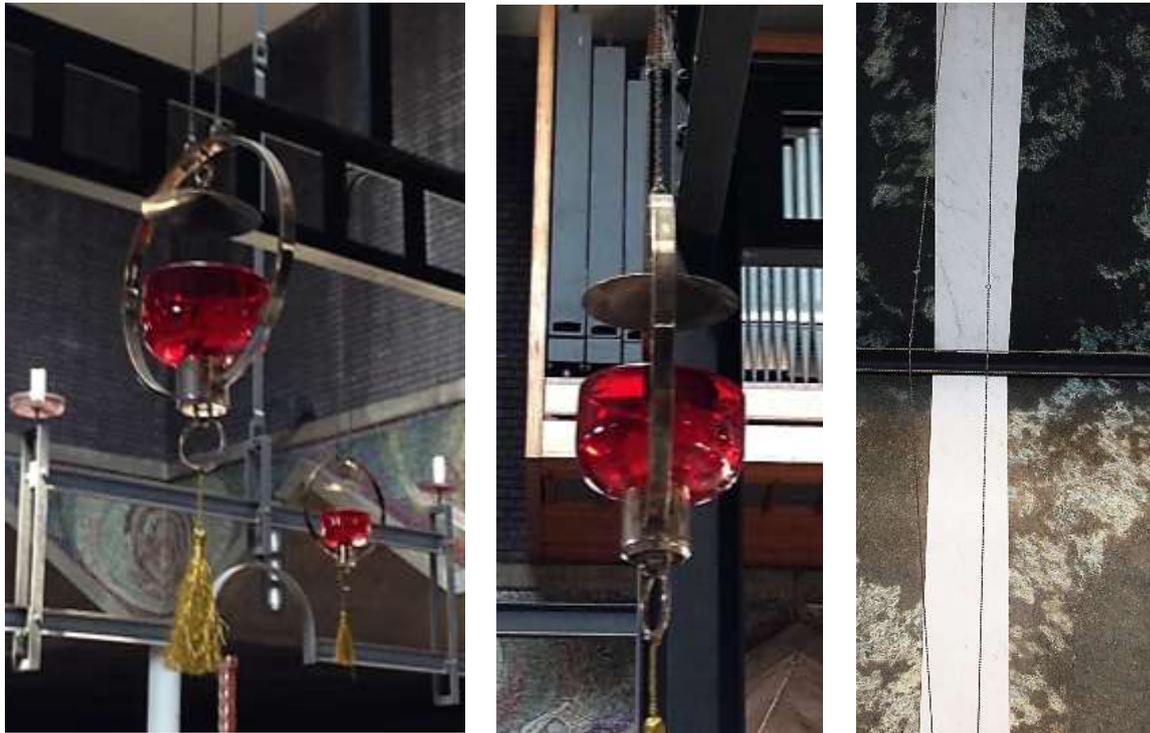


When not in such use the processional cross sits, as shown below, behind the Sacrament Altar as a visual and liturgical focus both for the Reserved Sacrament kept in this chapel and also for that altar when in use. In Lent a 'Lenten Processional Cross' is used, as also shown here. I suspect this was made at a later date.



Sanctuary Lamps

These very finely made lamps (again, almost certainly by Michael Murray) are part of the few small but beautiful elements of delicate, decorative work amidst the stark expanses of brick and concrete. Beautifully made they are also beautifully balanced! To light them one simply reaches up and pulls down each lamp. The opposite lamp on the end of a chain rises and remains suspended in perfect balance until the lit lamp is raised, all four lamps remaining in perfect balance throughout. It was always a pleasing exercise to carry out! Up to a couple of years after my arrival, oil was used in the red glass 'bowls' with a floating wick. In time this became perilous with oil occasionally being spilled and a lot of sticky residue being spread. Thereafter small wax votive lights have been used.



The third image shows the delicate chain system from below the roof of the ciborium, which supports and balances the lamps on all four sides of the High Altar.

Sconces

Again, the work of Michael Murray, these silver sconces served two functions. Clearly they are processional candles and designed to flank the Processional Cross when it is carried. They also serve the function of altar candles for the High Altar, though never placed upon it. The practice, which I continued, had long been that, when brought in by altar servers at the beginning of the service, they were placed on either side of the High Altar but at the level of the lower step. During the first part of the Eucharist (The Ministry of the Word) the High Altar is effectively not yet in use, the focus being westwards on the reading and preaching of the Word at the legilium. The earliest practice, indeed, was not yet even to dress the altar with its cloth until the action moved from legilium to altar – from Word to Communion.

There is rightly a great emphasis on the Sacrament of Communion, focussed on the elements of Bread and Wine but often this can seem to push the Sacrament of the Word into being not much more than a necessary preface to the action at the altar, of consecration of these elements. To counter act this, I think the intention was for not just the priest to move to the altar but for the people to follow and stand in the 'Standing Space' (see earlier). At this point the sconces were then raised up a step to flank the altar to honour what was then to take place upon it.

Over the years the sconces had been dropped and knocked and dented and came to look quite battered. They were therefore restored very carefully just before the 50th Anniversary Celebrations in 2010.



Thurible

I have seen nothing written about the thurible anywhere. I'm not at all sure whether it is the work of Michael Murray (I suspect not) or designed by Keith Murray. I do feel it was commissioned for the new church, however, with that tell-tale three dimensional cross on the lid! It clearly doesn't belong to the old church - there are much more traditional thuribles which the church still has from former use in Bow Common. However, the details of lettering on it (in Latin) do not sit alongside anything else in the church and are almost certainly not designed by Ralph Beyer. They say 'Laudate Deum Omnes Gentes' (Praise God All (you) People).



Crucifix

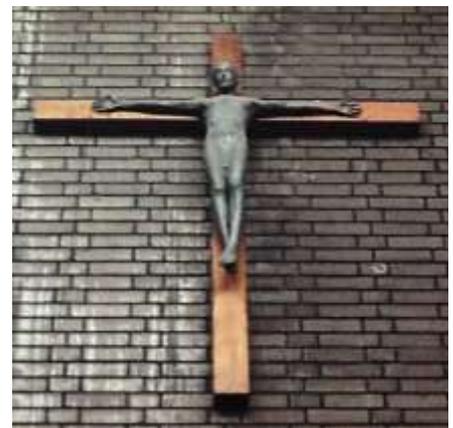
Many visitors fail to notice the crucifix high up on the south wall below the lantern. Nothing is recorded about this except that it was sculpted by **William Figgis**. In vain does one search for any biographical details of him or how this commission came to be given to him. Given the very spare decorative scheme for the building it might seem something of a surprise to see such a sizeable figurative presence at all.



Early on I learned that initially there was some debate about where it would be placed. I was told that Keith Murray wished for it to be placed on the upper east wall so that as one stands at the west end it would appear above the high altar and ciborium.

However, or so Keith told me, Bob Maguire's view prevailed, which was that Michael Murray's

silver processional cross was already prominently visible as a cross above the high altar and that two crosses in one line of sight would be excessive. The image shown here does show how the silver cross is very effective in this way (also see previously) and so the crucifix then found its place high up on the south wall.



In 2005 when roof repairs were being carried out and the church was filled with scaffolding (see 'Repairs & Revelations,' later) there was a unique opportunity to inspect the crucifix at close quarters. I found myself rather admiring its quiet dignity and feeling regret that it was now such a marginal feature of the church.

Alongside is a selection of close up views of the figure taken by me at that time. In the context of the whole church and its rationale, in such a lean and spare space, the ten great figures of Charles Lutyens' Heavenly Host for



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Altar Dressings



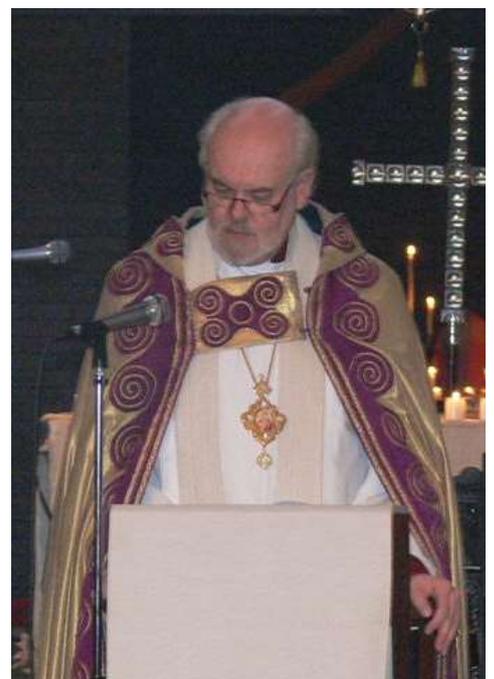
Keith Murray was a skilled designer and, as Managing Director of Watts in his 20's, designed copes (decorative cloaks) worn by clergy at the Coronation of HM Queen Elizabeth II in 1953. Keith was to have executed the mosaics of the 'Heavenly Host' in the spandrels left blank for them. Some of his sketches for these can be seen under the section on the mosaics which, in the event, were designed and executed by the remarkable Charles Lutyens who became a great friend in my time at Bow Common.

What Keith did leave were these two altar frontals which he designed to be laid on the altar very easily and quickly at the point in the service where the focus changed from 'The Word' at the lectern, to 'The Sacrament' as the priest and people moved to the altar.

I remember Keith telling me that an important part of the design was the ease and speed with which the altar could be dressed with the frontal - two large seasonally coloured 'flaps' at front and back joined by a plain broad strip of lined linen of the same dimensions as the slate top of the altar. He also produced a matching set of red vestments. These have become really quite frail and, to be honest, of curious medieval conical shape for the priest's chasuble which was uncomfortable to wear with a lot of material bunched around one's neck! The white altar frontal had no matching vestments (or none surviving at the time of my arrival in 1995).



Some years before I left the church I came to know the present Managing Director of Watts, David Gazely. Having witnessed at first hand Maguire, Murray and Fr. Kirkby meeting and working on the church at Watts he was a mine of information. With great kindness he made a gift to the church of the last cope that Keith Murray had designed. For interest, details of that garment are shown here. The cope was never made for this church but the purchaser sold it back to Watts who then kindly donated it to the church. The Bishop of London is also seen wearing it on the occasion of the church's 50th Anniversary celebrations.



In normal use the High Altar is dressed throughout the year according to the prevailing liturgical 'season.' Through ancient usage the most joyful seasons are celebrated with white or gold (Easter, Christmas, certain major feasts and saints); red for Pentecost and the Holy Spirit, also for Good Friday, martyrs and sacrifice; purple for penitential seasons such as Lent and Advent, and for mourning; and green for the 'ordinary' times of the year, green being the colour of nature (in countries blessed with rain, at least!). There are also special sets of vestments often for Passiontide (which leads up to and includes Holy Week), the Virgin Mary, and 'Refreshment' Sundays in Advent and Lent - rose pink - when the rigours of the penitential season are slightly eased. At Bow Common there are the red and white altar frontals designed by Keith Murray and also a series of boards designed by Fr. Kirkby - some are shown here ... as is the 2008 Christmas frontal created by the congregation



Passiontide



'Ordinary' Time



Advent

The Advent frontal board. This picks up the colours of the Advent vestments which are worn in the church during that season of preparation and looking forward to Christmas



Christmas altar frontal created by members of the congregation during Advent workshops 2008 and assembled by artist-in-residence Lucy Brennan as the 'Child of Light.' If this is the Child of Light then I reasoned He would have a 'shadow of light' which I created with lit candles

Early comments on the furnishings and fittings...

In 'Church Building' of 1962, following the article by Maguire and Murray already heavily quoted above, there was an editorial 'Comment' on the building, including the earliest opinion in print on some of the furnishings above. Some of these comments may have already been presented but are gathered here for interest and a 'final' word on the building, even if some of the earliest written!

6 'COMMENT:

The site of St. Paul's Church is at the corner of St. Paul's Way and Burdett Road. Burdett Road is a main road from the docks to the North, and carries very heavy traffic. On the site next to the church there are single-storey prefabs ; otherwise at present the houses in the immediate vicinity of the church are three-storey terraced houses. This makes the present scale of the church in relation to its environment rather peculiar. It was however designed with the L.C.C. development programme for the area in mind in which it is proposed that the adjoining sites should be used for towers of flats of possibly 11 storeys. On the opposite side of Burdett Road there will be a large public park. Perhaps the most important permanent feature in the neighbourhood of the building is the 'tough' railway viaduct crossing Burdett Road to the north of the site. So while at the moment the scale of the church is too massive for the surrounding buildings, as far as one may judge it will be able to hold its own against the much taller flats when and if they are built.

*The relationship between the **lantern** and the brick box of the nave is disturbing in photographs. In fact, the crystalline lightness of the lantern allows it to sit on the cube of the nave most convincingly. It is probably because we are used to the classical relationships between domes, cupolas and spires and the kind of buildings they 'sit' on, that the unclassical relationship here is at first disturbing.*

*The cube of the **nave** has great strength in consequence of its simplicity. The **capping of the wall**, however, is a strip of aluminium, and gives the cube a slightly unfinished look at the top. Another unfortunate external feature is the treatment of the surfaces of the aisle roofs. It is a pity that they could not have been in ribbed aluminium sheet like the roof of the lantern. The relationship between the roofs and walls of the aisles emphasises the structural logic of the folded slab roof and the enclosing character of the flat-topped brick wall. This wall, incidentally, has a 6-inch concrete capping as a bearing for the roof; the resulting strength in contrast with the weak top of the nave wall makes an architectural object-lesson.*

*The **bell frame** on the south clerestory wall is an asset; it has a simple direct relationship to the wall (a frame 'hung on ') which is convincing. On the other hand, the lightning conductor at dead centre of the north clerestory wall is most surprisingly disturbing, taking away much of the quality of the brickwork and the proportions of the wall. The **church notice board** on the west aisle wall, though well-designed in itself is in some way unsatisfactory in relation to the wall (floating, not obviously hung on).*

***Porch.** The main entrance to the church is through a complex little building which has a bivalent relationship with the main building. Part of it, the inscribed roof on four columns, is entirely separated from the church, while the octagonal walls underneath it are an extension outwards from the walls of the church. The two are divided by a narrow gap filled with glass. This is in the architects' own words a mannerist solution to the problem of 'getting in '. The roof on columns conveys the idea of an entrance and the octagonal space is a convincing narthex to the church internally.*

*The **lettering** on the porch has been criticised from two points of view: some say that the large inscription in itself is tub-thumping (or not nice?), others object to the letters as being arty, unlike the building itself. It is however convincing if seen in the context of the whole building. The lettering has a kick, like Victorian pub lettering. This quality is unusual in letter-design since Gill. The porch is fairly dark inside. There is just enough light to read the notice board, though this is clearly not the primary function of the space. The octagonal form and the low scale give it a certain serenity.'*

⁶ 'Going into the church, one is confronted by the **font**. On Sundays the font cover is raised and the large font-bowl full of water, making the font a more effective memorial of baptism than usual. It would be interesting to be able to find out whether this 'works' for people going to church week by week. The water certainly seems to "give life".

Looking across the font into the church there is an impression of a unified **space**, and although the altar is clearly the most important object in the church, the space is related to rather than concentrated on the altar. It is interesting to compare the effects of coming in through this porch with coming in through the ceremonial doors in the west wall. Having entered through the porch, the aisles which run around the church register as the first and important stage in a spatial progression. But coming through the west door, one's attention is immediately concentrated on the altar, and the remaining space of the church is not so easily perceived.

At present the **seating** is arranged partly in the central nave but flowing out into the aisles, and there is an obvious freedom of arrangement which makes one feel that the seating could never destroy the unity of the whole. One moves from the aisles into the higher central space. In this the folded slab roof plays an important part, turning the space of the aisles inwards. Once inside the central space the aisles fall right back; one is enclosed by columns and clerestory wall.

The **floorscape** of the church, with its carefully worked out pattern of paving, is very important and convincing. It is unfortunate that for economic reasons some form of hidden under-floor heating was not possible here, but the heater grilles in the floor are much less disturbing than radiators or radiant heaters.

The only fixed objects in the church at the moment are the font and three altars. The rest of the furniture is movable. Though it is bolted down, the **ciborium**, like the corona round the sanctuary or the bell-frame on the outside for that matter, is 'attached' rather than 'fixed' and so comes somewhere between the fixed objects and the movable furniture. It remains to be seen whether the organ console, which is not yet installed, disturbs this hierarchy, since it will be a relatively large and immovable object.

In their notes on the design, the architects have stressed the importance of the concept of the 'setting-apart' of the place of the assembly of the people of God. Going into the church the quality of the space, the untheatrical use of light and the enclosing wall at ground level give the place this particular character. Compared with the street outside, the church is very quiet, except when under certain climatic conditions the aluminium roofing of the lantern makes a noise like crickets. The aisle wall is certainly very important for this **quality of set-apartness**. Although as the architects claim, the breaks in the aisle walls for the chapels do not themselves weaken this.

The glazed gap between the **chapel** wall and the main aisle wall is most unfortunate, particularly as the gap on the east side of the Lady chapel catches your eye looking down the north aisle from the entrance. The space of the chapels is sufficiently differentiated from that of the church for the chapel altars not to be in conflict with the altar of the church. In fact, the chapels (which from a purist point of view might well be questioned) do seem to add something to the spatial character and 'feel' of the building.

A weakness in the setting-apart of the place is the **door in the northeast corner**. The space 'leaks' badly here, because of the bright glazed panels of the door. No doubt this will be improved when the vicarage is added on this corner of the church.

The bench **pews**, which are four seats long, seem to overcome a number of the problems of seating. Their low scale and wide seats give them a quietness even when arranged at odd angles. They have much of the freedom of chairs and are unusually comfortable for kneeling. The broad low seat is also very comfortable, but the shaping of the backrest is not entirely satisfactory. Machine routing has been used to define separate places, but either the profile or the angle is not quite right. Another advantage of the low backs is ease of movement between seats.'

⁶ 'Of the **sanctuary furniture**, the **stools** are the most satisfactory. The **chair** for the bishop or celebrant is less happy; the semi-circular back and decoration in white resin inlay seem out of character. The **sanctuary seats** all have scarlet leather cushions. The **credence table** is rather spindly, like one of the stools which has outgrown its strength. The **four-sided choir lectern** seems too big, though as a centre for a small group of singers it may be satisfactory.

One of the most successful furnishings in the church is the **processional cross**, which is made of wood with concave silver dishes let into it. It is normally kept in the east chapel, but when the church meets for the Eucharist it is set up behind the celebrant's seat. The silver dishes pick up the slightest light falling from anywhere: candles, electric lights or the daylight from the lantern. The **candlesticks** which go with the cross are also made of wood with silver sconces but black iron bases which are detachable.

The **organ** is not yet installed. The organ case, which is of timber, is hung on steel rods from the ceiling and attached to the west wall. The organ pipes will be entirely exposed in front. The side panels are of open louvre work, giving a remarkable lightness to the case considering its bulk. In this position the organ does not seem to impose itself on the space of the church, though perhaps the architectural form of the building might be better without it.

The **corona and ciborium** cannot be considered outside their relevance to the architectural pattern of the church and their function in the liturgy. The validity of the conception of the liturgy as movement is open to question. If it is valid, then the corona is a very effective symbol, particularly when the candles are lit – perhaps sixteen is rather too many. The effectiveness of the corona is to some extent due to its relationship with the lantern above and to its complexity. It defines the space of the sanctuary without being a barrier; and it is surprising how, passing under it into the sanctuary for communion one becomes aware of the height of the space above the altar, and the complexity of the corona emphasises the simplicity of the sanctuary.

Before the ciborium was installed the **corona** seemed a little unrelated to the building. The definition of a special 'place of the altar' may be questioned on theoretical grounds, but if the concept is accepted then the ciborium seems very apt. In the spatial organisation of the building the ciborium undoubtedly helps to relate the altar to the whole church. The relationship between the structural quality of the rolled steel and the thin marble, spanning by itself as a roof, is very satisfactory. At the moment the roof of the ciborium is dusty but it should not be difficult to keep clean.

All the **steelwork**, structural and otherwise, in the church is made by the same contractor. Without any special finishing, a highly developed industrial skill has been used to create objects of surprising elegance.

The **bricklaying** is another instance of an ordinary but well-understood industrial technique. The concrete work of the aisle roof is less satisfactory. In this country few builders as yet have a natural command of concrete technique. The marble roof and the plaster are both techniques of which an understanding is shared by both the designers and the makers. The same knowledge and concern has gone into the design and manufacture of joinery, though the finish of the **external doors** has proved unsatisfactory and is weathering badly.

The **main ceiling** of the church is of acoustic tiling. In itself a very useful material, it seems out of place in the pattern of materials in the church. It is undoubtedly the weakest point in this pattern, and it has been pointed out that originally the church 'nave' was intended to have a concrete ceiling, which would certainly have been a great improvement from this point of view, although it is probable that on acoustic grounds the present ceiling has advantages.'

⁶The inside of the **lantern** is exposed steel with woodwool panels. Unfortunately these have tended to settle down the slope, leaving gaps. The colour of the panels is a strange green, which with the dark blue steelwork of the lantern seems to work surprisingly well. The hexagonal grid of structural mullions is very beautiful. It is a pity that the triangular windows of the aisles could not have been glazed in the same pattern, although it might be argued that unlike the lantern sides they are windows with no structural function.

The **electric lighting** of the church is very effective; no attempt has been made to turn night into day. The main lighting fittings of prismatic glass have a 'sparkle' when unlit during the daytime, avoiding the great disadvantage of most modern lighting fittings – a rather obtrusive dullness. In one area, below the organ case, the standard of illumination is very much higher. Here the light sources are hidden. This distinction between the general lighting and a specially lit area for those with bad eyesight seems very sensible. Many modern churches are excessively over lit in order to provide sufficient illumination everywhere for those with weak sight. The aisles are lit by opal glass pendants which do not relate well either to the concrete or to the main lighting in the church and it is a pity that they were felt to be necessary (they are, in fact, hardly ever used).

Acoustic. On the whole the church works well on the practical level as a place for the Eucharist, the church's primary function. There are however problems which do not seem to be entirely solved. Most important of these is that of preaching. At the moment, with relatively small congregations, the sermon is preached from the altar steps and there is a real sense of communication between the preacher and listeners. But as the congregation grows to the full 500, this will no doubt become more difficult. The architects have suggested that a movable pulpit is a possible solution, although it may still be possible to preach from the altar. One cannot judge this until the situation arises.

When the church is full the sense of the unity of the congregation may help to develop a sense of communication and unity in the proclamation of the Word. This is still an open question but one may ask whether preaching has been given sufficient importance in the design. From the point of view of acoustics there is no great problem for preaching and the acoustics of the building are also helpful to singing. The ciborium over the altar acts as an excellent sound reflector and has improved the distribution of sound from the altar. When the church is empty the reverberation is such that it is necessary to speak rather carefully in preaching in order to be heard easily in the corners of the building. However, when it is filled with people (and so of acoustically absorbent material) this weakness corrects itself. The acoustic character of a church is always a difficult matter of balance because while it is possible to design a building which is ideal for speaking, the same building will almost certainly be too 'dead' for singing. This latter condition is disastrous for the liturgical life of the Church. On the other hand a resonant building makes preaching more difficult. Of the two, resonance is probably easier to overcome than deadness, because a preacher who is used to preaching in a building with resonant acoustics can to a great extent overcome them, while it is impossible to overcome in singing the difficulties of an acoustically dead building.

The base on which the **colour** scheme of the church is built is the purplish grey brick. The other main colours in the church are the ochre-grey concrete, the white columns, the grey and pinkish concrete flags, the black steel and the green serpentine marble, the warm colours of timber and the bright scarlet cushions of the furniture. However, one has the feeling that the building needs more colour. Perhaps this will be given by the **mosaics** in the spandrel panels above the columns. These will be extremely important in the church, which could be improved but might well be spoilt by them.

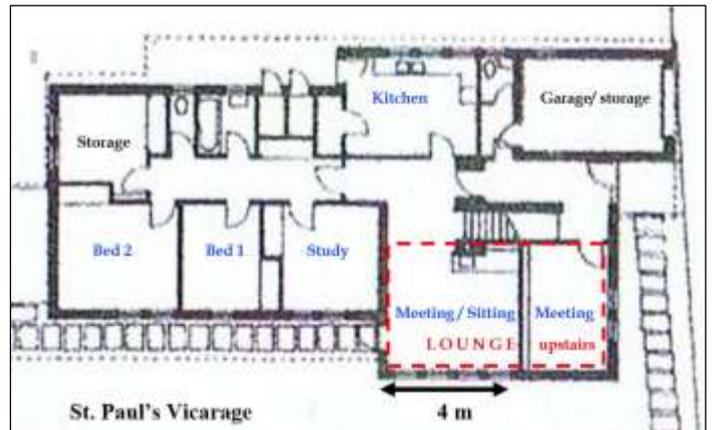
If they achieve this as satisfactorily in relationship to the architecture of the building as **William Figg's crucifix** on the south clerestory wall, they will undoubtedly be an asset. This crucifix, which is very 'quiet', exactly fulfils its function in the building; it does not suffer from the over-emphasis which seems to be characteristic of most modern religious art.'

The Vicarage



St. Paul's Vicarage was built a couple of years after the church was completed. By then Fr. Kirkby had firmly established himself and, from what I heard, both in the Diocese and the church, he had quite a say in the design of it, though this, too, was by Maguire and Murray. As already mentioned, to the end of his days Fr. Kirkby described himself as an anarchist socialist and was radical in his liturgical vision, embodied in the church building. But in his catholic ecclesiology he was also staunchly against the ordination of women,

barely a possibility in 1960 but to his distress a reality within his lifetime. He was equally staunchly celibate and the vicarage certainly was not designed for a family with children, either young or grown up. Most of the vicarage is spread across one level of the ground floor with a single, fine large sitting room upstairs on its own, a bit isolated in practice.



It is not built to the same standard of brickwork as was the church. No attempt was made to match the colour of brickwork or the quality of bricklaying. It was a very cold place in which to live when

I arrived in the parish but after a few years the large flat roof over all the bedrooms was insulated and the windows were double glazed in the large upstairs sitting room and this improved matters noticeably.



In terms of security it was designed with easy access to the flat roof, either from the low boundary walls or from across the lower folded slab roof of the church. From what I heard, even in his old age Fr. Kirkby was troubled by youths climbing into the garden and banging on his windows. On the first day of my moving in, someone broke the study window to get in but had not reckoned with the bars installed on my arrival! In



2010 there were 8 separate attempts to steal lead from the flat vicarage roof – the only place in the whole church site in which there was lead. The front door is also rather isolated and there were incidents there in my time. Security fences, lights, alarms and cameras provided more security.



Repairs and Revelations ...

Leaking downpipes and drains

From quite early on after it was in use, the church began to show the need for repair or intervention. The church has a 'footprint' of some 890 sq. m (9,500 sq ft.). The area of the various angled surfaces of the roofs covering this ground space is even greater. From the apex of the great lantern, all the way down, a great deal of rainwater has to be channelled away to underground drainage and water seepage is one of the potential enemies of any building.

When I arrived in the parish the building was only 35 years old and water staining was already a long established feature of the church. This was in two zones; at high level where the high flat roof was leaking along its perimeter with water stains from ingress of water visible intrnally and water actively dripping into the church; and at uniform points all along the lower perimeter walls, inside and out.

The church simply did not have the funds to tackle this, nor the energy or human resources to fund-raise many tens of thousands of pounds. The result was a steadily worsening problem of water ingress. The damp had damaged the wiring and I understand that a certain amount of rewiring took place in the 1980's but this subsequently failed and the very few power points still working in the church all failed, except for one on the north side of the church. Fr. Kirkby barely kept records and so it is impossible to tell what repairs had been done or when.



These views of the church show what was common every time there was even modest rain. The church raised funds for repairs and the project was called the 'Drop in The Bucket' Appeal! Strategically placed buckets were a permanent feature of church furniture up to 2005 when effectively a new roof was put on the church and buckets could finally be removed! See later in this account.

I understood that roofs leak but what puzzled me from the beginning was the church's 'weeping walls'! The church architect of the time told me that leaks in the walls had appeared from quite early on. But no-one had any convincing explanation of what was going on (nor much interest!).



These views show (yellow) lower level leaks and (red) higher level leaks. At the lower level there seemed to be a regular height and regular interval, both inside and out, to the leaks. But what was inside the walls that could be leaking into the brick?

At the upper level, leaks seemed to be occurring along the vertical extent of the corners of the upper brick 'box' of the church.

But, nowhere is any of the roof drainage visible – no rainwater goods of any kind can be seen draining water from the lantern, upper level flat roof and lower level folded slab roof. The unbroken 'embrace' of the brick walls around the liturgical and community space within would be seriously compromised were downpipes to interfere with the expanses of brickwork. And so all downpipes in the building are enclosed within the cavities of the upper and lower level perimeter walls. Those could be the only source of the leakage – but how?

It is important to bear always in mind the limited funding which was available for building the church in those years not long after the end of the War. Materials had to be used within the available budget and it is remarkable how Maguire and Murray managed that almost impossible balance of superb, innovative design and project control within a tight budget. A newly popular material was used for all the pipework, both above and below ground – **pitch fibre**. It is fine now being wise after the event but the problems with this material only became evident two or three decades later.

These notes on pitch fibre come from DEFRA (**Dept. for Environment, Food & Rural Affairs**)

'Pitch fibre pipes were mostly used from the 1950s to the early 1970s. They were British Standard approved (BS2760), although this was withdrawn on 15 June 1987. The pipes were relatively inexpensive and easy to handle and install. However, it became apparent that these pipes were susceptible to the delamination of



their inner surface, ruining the integrity of the pipes. It was also discovered that, under normal conditions, they were susceptible to collapse under applied loading sooner than pipes made of more rigid materials.

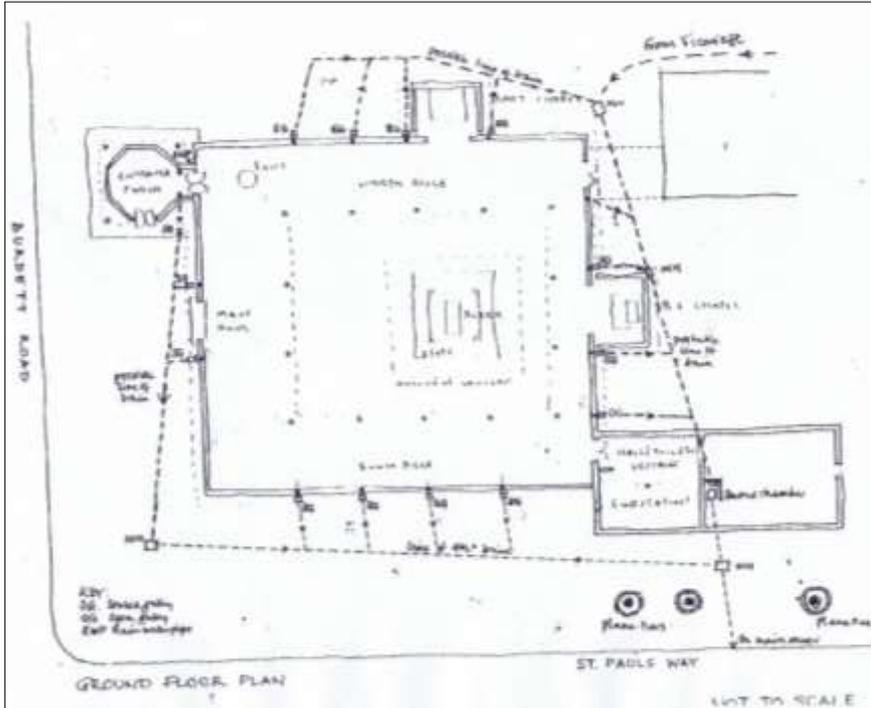
Published figures suggested that if laid correctly, and not subject to adverse ground conditions, pitch fibre pipes can be expected to have a design life of up to 40 years. This means that many of them have reached or passed their design life expectancy. If poorly installed, the life expectancy would be significantly shorter.

The use of pitch fibre pipes was widespread and up to 50,000 properties are now suffering problems relating to pitch fibre pipes every year. At present, problems with these networks are often addressed in the standard manner, with local authorities carrying out repair works in default, reacting only to the problems'

'as they arise. Pitch fibre will 'squash' over time.' The principal cause of failure in pitch fibre pipes is as long term creep failure of the material. This phenomenon is normally caused by point loading from hard objects due to poor construction; or loss of side support. Pitch fibre pipes are also highly susceptible to damage by high pressure water jetting.' Documented 2003



The images shown here are of pieces of pitch fibre drains replaced in a section to the south of the church hall in 2001.

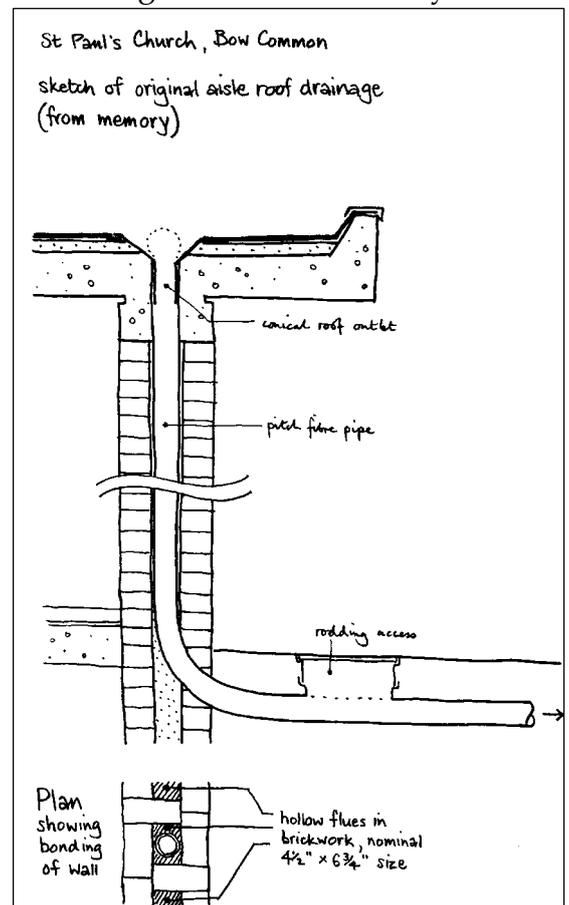


By 2000 I was in correspondence with Bob Maguire about the leaking walls. There are 14 downpipes sealed into the lower level walls and, about 1.5 m from the lower roof level, every one of them was showing a wet patch internally, externally or both & some were active sources of leakage with water seeping out of the brick (see images above). As already mentioned, alas there is no architectural archive of the building. Fr. Kirkby kept no records of the building at all and Maguire and Murray's own

archive was lost in a flood in 1965 when their offices at Thame in Oxfordshire were inundated by flooding of the River Thames. The church had almost nothing to go on.

At some cost to a pretty hard-up church two lots of investigation were carried out in 2000/2001. One was to figure out what the underground drainage system layout was around the church. And the other was to work out what was going on inside the lower level down pipes sandwiched between the inner and outer church walls. Dye was used to determine the drainage flow network below ground and the plan above is still the best (and probably most accurate) view there is of how the drainage system runs around the church. It resulted from the dye studies.

In the course of our correspondence, in March 2001 Maguire sent me the diagram shown here to the right which indicates (from his memory) his design for continuous lengths of pitch fibre pipe sealed into the walls with an easy bend at the bottom to connect into the circuit of external drainage pipes also in pitch fibre. There is no indication at all of any internal joints in the pipes. His conclusion therefore was that the pipes were leaking at the seal on each pipe at its upper end where it meets the aisle roof above. He was unaware of what the builders had actually built.



I was not convinced that loose seals were the cause of the leaks which appeared at such a regular point along the length of each of the pipes and not at the top. Again, at some cost, a thorough CCTV investigation was carried out of the pitch fibre downpipes and the tapes, when viewed, were a revelation! Presumably without the architect's knowledge, consent or supervision, the builders had actually executed something other than what was intended by Bob Maguire! As the camera disappears down each pipe, for sure the edge of a join was shown in each and every pipe about two thirds of the way up from the ground! This was exactly the position of the wet patches of leaks in most of the downpipes and an obvious source of water seepage.

However, in principle, even with such an internal structure water should not be leaking out. Water starting its journey to the drains would fall on the upper and lower level roofs. If originating on the upper level roof, water would find its way down to the lower roof level via four very long downpipes, one at each corner of the brick 'box' beneath the lantern. From there that water, along with whatever was falling on the folded slab aisle roof, would find its way down each of the 14 lower level water pipes and go to earth. By the time water passed each of the joins in any of the pipes it was very much under the force of gravity and impelled by all the water behind it and, in theory, should not have been able to stop and make trouble by seeping through the joins. That could only happen if there was standing water in the pipes where water would very naturally try to escape through the joints and into the brick. We did find the rodding eyes and drains were rodded but the problem appeared to continue. This suggested that the underground network of drainage was not doing its job and taking water away and allowing water to back up and stand in the downpipes, only draining away very slowly.

The wet patches on the four corners of the brick base to the lantern indicated that these great lengths of pitch fibre pipe also had joins in them and when blocked there would be standing water in the pipes and seepage into the brick. Debris, leaves etc. could easily block these narrow bore pipes. They were rodded and cleaned but this was quite costly. We needed to find a solution to the leaking joints. The total lack of access to the joins or even the pipes limited options considerably. A solution was adopted for the lengths of downpipe at the corners of the lantern walls. This was to line the pipes so that the joins were covered and no longer accessible to flowing water. Long lengths of flexible pipe lining were inserted into the downpipes and chemically set. This immediately stopped the problem of upper level pipe seepage and appears to have worked well. The 14 lower level pipes, however, were already of quite narrow bore and caution won the day as it was feared that a lining would reduce the bore further and they would either be more easily blocked or overwhelmed in heavy rain.



On May 24th 2001, after permission had been granted, another approach was tried out on the most heavily leaking downpipe on the north wall of the church (shown here).

Very, very carefully the church wall was dismantled on both inner and outer surfaces in the vicinity of where the join in the pipe was deemed to be, from the CCTV exercise.

For the first and only time since 1959 a length of down-pipe was now visible and, indeed, there were two lengths of pitch fibre pipe joined by a close-fitting but loose collar. The builders truly had disregarded the architect's wishes!



In these unique views the black pitch fibre downpipe can be seen emerging from the encasing mortar which holds it in place within the cavity. The solution adopted was to entirely encase the collar in (I think) a version of roofing felt and any standing water in the pipe would not then

be able to find its way out into the brick. The contractors estimated a min. 30 year lifetime for this repair and certainly halfway through this period no further leaks have been seen.

The bricks were replaced and a matching pointing used and the repair has left no signs of where it took place.

Two outcomes emerged. One was that it was simply too intrusive to do this 14 times all around the church. The other was that what was really needed was not patching up the problem but treating the cause of it which was the probably failed underground drainage system. So long as that remained clear and water could pass without hindrance from the roofs, through all the rainwater goods into the mains sewer there should be no leakage.



In September 2001 a section of underground drainage was then investigated along the south side of the church hall under the enormous plane trees which have stood there probably since Victorian times. It was clear that the tree roots had caused problems with the drains and particularly with a material as easily compromised as pitch fibre. As can be seen from the image below, just in this



small section the pitch fibre had been perforated and almost certainly deformed or damaged elsewhere over a period which now well exceeds its useful maximum lifetime of 40 years or so.

The drainage was renewed in this area but it was beyond the church's means at that time to renew the whole of the drainage system around the church. At the time of writing the present Vicar, Mthr. Bernadette Hegarty, has raised funds to do this – such a major element in safeguarding the long-term health of the building.

Upper Roof Renewal 2005

Our next task was to tackle the huge leaking upper level flat roof. In fact, funds were raised to make radical repairs to the exterior of the huge flat roof surrounding the lantern. This grant did include an element to tackle the 14 downpipes at lower level, too (though I can't remember how we aimed to repair these – perhaps by opening the walls and sealing the joins at each position?).



An English Heritage grant was a major part of this funding. It was all very nail-biting as the clock ticked towards the point at which the grant offer would expire with so much to get in place with regard to permissions, matched funding etc.

Meanwhile, some time before these works began early in 2005 a ceiling tile came loose in the circled area shown in this view and was hanging by one edge. With the underlying area of seating cordoned off beneath, the tile was examined with a view to being re-fixed. To our dismay it was then discovered that all the acoustic tiling at high level contained **asbestos**! This was known from the beginning but never passed down – indeed, the drawing of 1962 on the next page details 'asbestos facia.' However, when the use of asbestos was banned in 1985 this knowledge was not passed on nor measures taken.

It was the highest priority now to remove and replace the whole of the inner ceiling of the church as well as to renew the whole of the outside high level flat roof! And no funds were allocated for this with the grant deadline about to run out and insufficient funds! Oh the joys of being an Incumbent!

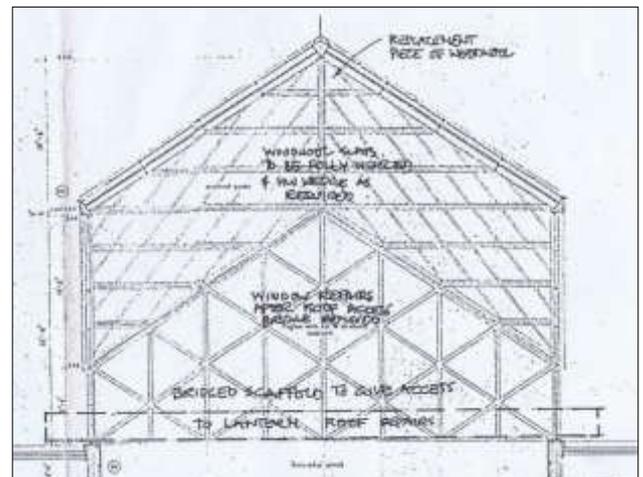
Mercifully, English Heritage allowed us to divert the funding element which was earmarked for sealing the 14 lower level downpipes now towards replacing all the asbestos ceiling tiles. And we made the deadline! Effectively, the church high level flat roof was now going to be renewed externally and internally as well as leaking rainwater goods (all in pitch fibre) repaired and/or replaced. For many weeks the church was submerged in darkness as it was completely filled with scaffolding and boarded over for access to the whole of the inner ceiling and also for repairs to the lantern.

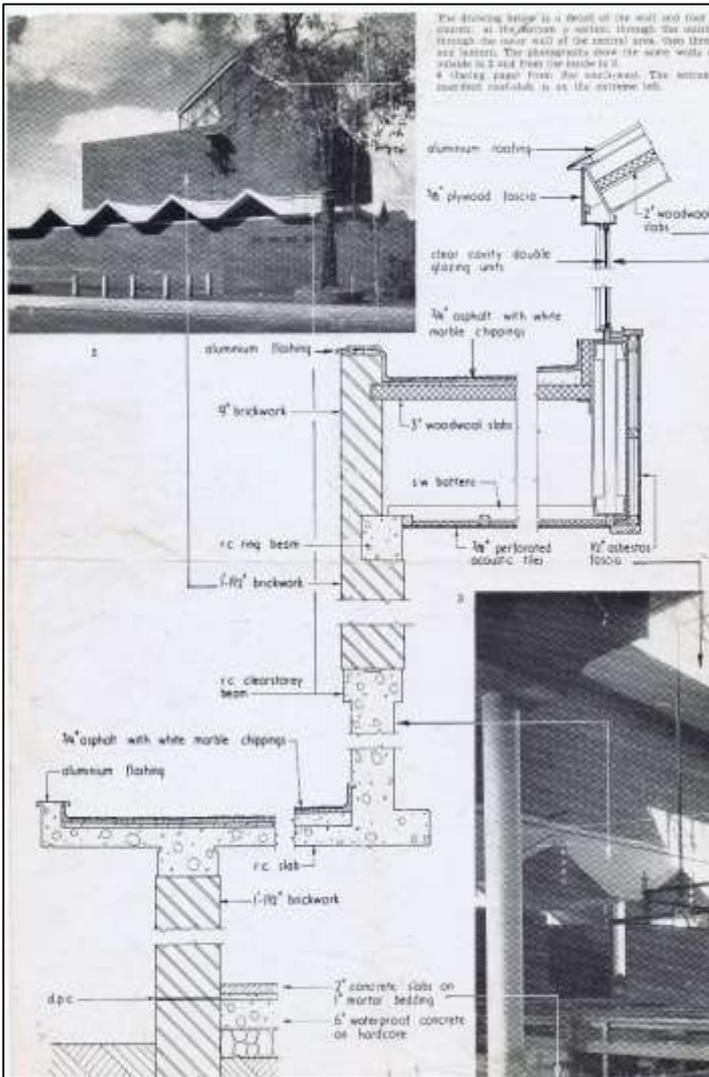


scaffolding erected for these works to be done.

This section of the architect's drawing of 1991 for repairs to the storm damage (right) shows that a 'bridged scaffold' appears to have spanned right across the base of the lantern and also outside, to give access to the lantern roof repairs. The tiny detail at the top, 'Replacement piece of **woodwool**' proved to be vital evidence in trying to understand woodwool, a material which came to dominate the church's life from mid 2013 to late 2015! See later.

Some of us remember the hurricane of October 1987 which hit southern England and caused a huge amount of damage, including that inflicted on the church lantern with large glazed panels blown in. Again, with the support of English Heritage, these and some roof damage were repaired in 1991. This view shows the lantern with





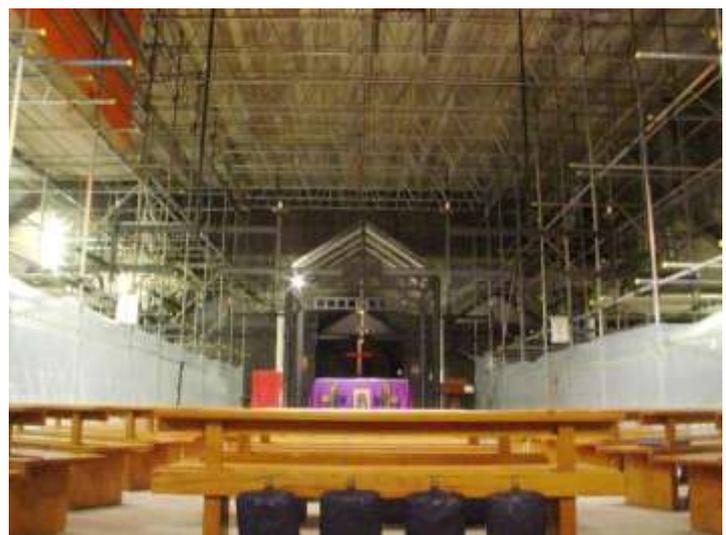
'This image (left) from 1962 shows the architectural detail of the upper level of the church. Although the acoustic tiles are not specified as containing asbestos, the fascia at the base of the great lantern space clearly is stated as being '1/2" asbestos fascia'! This paper had obviously not been scrutinised in detail since it was published, at least in the years up to when asbestos was flagged up as needing to be removed and replaced.

What also appears in this detailed drawing is 'woodwool.' I had long known that the green 'lining' across the whole of the inner of the lantern was woodwool but beyond a passing curiosity never thought to discover more about this material.

Little did I know that on 6th July 2013, just 3 months before I retired, woodwool and its properties would come to dominate the church's life for the next more than two years - and would come within a hair's breadth of seriously injuring me, or probably worse! See later!

In 2005 high level roof repairs took place and, once again, repair brought revelation! Already we had discovered that all the downpipes in

the church had leaking joints in them, also that the huge inner ceiling contained asbestos. And now, for the first time since the roof was constructed the structure of the roof space was revealed.



The darkened church filled with scaffolding

The platform beneath the lantern with the roof space revealed above and all the asbestos ceiling tiles removed.



New safe, compliant ceiling tiles – stacked for work in progress .. and work complete.

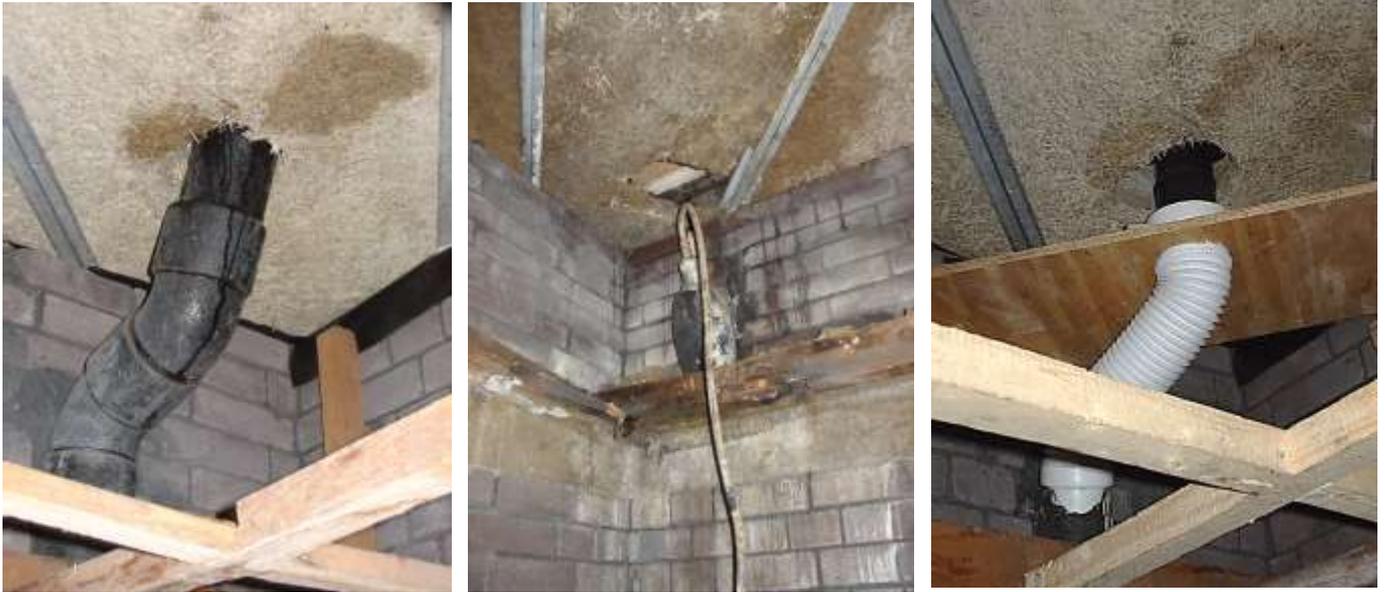


As the ceiling tiles were removed it was clear that there had been years of damp caused by water penetration through the failed upper flat roof asphalt and through leaking pitch fibre rainwater goods at that level.



Because of the failure of the upper flat roof and leaking rainwater goods, clear signs of damp can be seen. Repairs to both have put a stop to this and damp areas have dried out.

All these views show details of the roof structure not seen since the church was built in 1959 and (hopefully!) unlikely to be seen again!

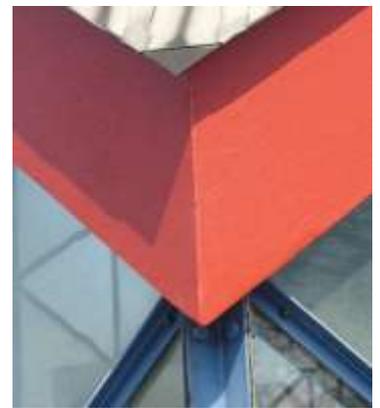


A pitch fibre connecting pipe from roof rainwater inlet into one of the long down pipes sealed in the corners of the upper brick walls below the lantern. Clear signs are visible that these have been leaking. Modern durable flexible plastic replacements were installed and sealed.



Meanwhile, exterior works were carried out to the leaking upper level flat roof. While all this was going on, as seen, the church, usually bathed in light, was plunged into an unfamiliar darkness.

The upper flat roof surface was totally renewed and that, in conjunction with the renewal of rainwater goods within the roof space hopefully ensures a church without leaks and water ingress at high level for the first time in decades and for many years to come.



From ground level we had thought that the high level lantern fascia had faded paintwork but close inspection showed decay, as can be seen. All of this was renewed and the 'signature' 'bull's blood' colour of the porch lettering (and possibly, originally the foundation stone?) refreshed at this level, as had been originally when the church was built.

Woodwool Fall! 2013

In the afternoon of Saturday 6th July 2013 a rehearsal was in progress in the church for a large and much-anticipated Confirmation Service the next day, when the Bishop of Stepney would be welcomed, to confirm the faith of 6 young church members. This was one of the last major events of my ministry in the church before retirement from November 2013.

The rehearsal had gone smoothly and just before 4 pm we had reached the point where the bishop (whose part I was playing) had moved to the high altar and the newly confirmed gathered around the altar, to the south side, to receive their first Holy Communion. I was standing at the altar when suddenly an enormous roaring sound was heard and a deafening crash above my head as the air filled with what seemed to be clouds of fibrous debris and dust. In a split second, for some bewildering reason, all the young people and children who had been gathered at the altar step rushed away, one of them leaping clean over a nearby bench as falling debris shot towards them. It was totally bewildering, all happening so suddenly that there was no time for fear.



The large pieces of woodwool which fell out of the lantern stacked on a bench after the event. The water stained wooden spacer which also fell showed a vital clue to damp having been present up there.

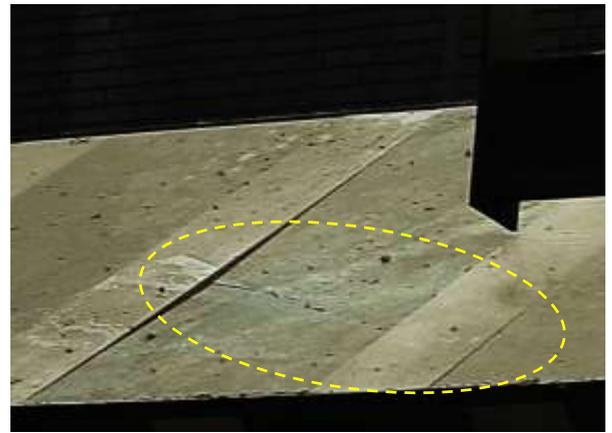
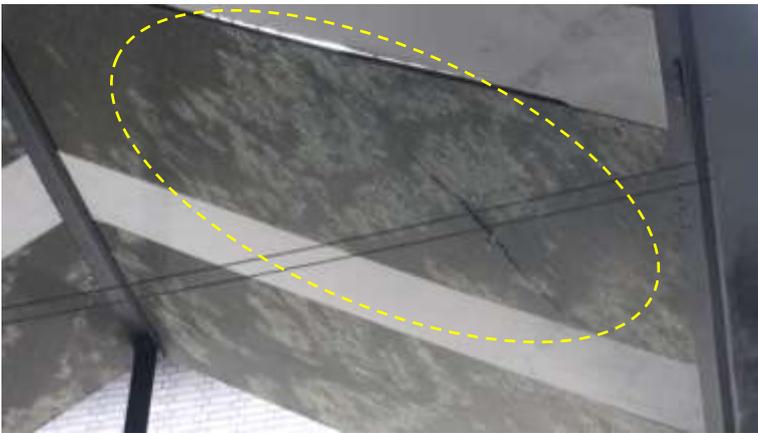
1950's wood-based insulation material. Indeed it was wood-based but was wood shavings and chips set in very solid and heavy **concrete** – anything but fluffy! Where it fractures the edges are very sharp, very hard and potentially lethal.

It slowly emerged, as we looked up to the pinnacle of the lantern that some slabs of woodwool had chosen that precise moment to detach from the top of the lantern and crash exactly and directly over where I had been standing at the altar. The slabs had hit the marble and serpentine panels of the ciborium over my head and, thankfully, these had held fast. The stone panels had split as the now shattered fragments of woodwool shot sideways – southwards, directly towards all those standing at the altar step and in their path. The noise of impact had provided the vital split second warning for them to leap out of the way. Had the marble slabs not held but collapsed on top of me, or had the young people not had a fraction of a second's warning, the consequences would have been unthinkable.



I honestly thought that missiles had been launched at the lantern from outside and had crashed through the glazing. As the dust settled we could see large heavy pieces of green coloured, sharp-edged debris lying around, exactly where the young people had been standing moments earlier and a great deal of dust and fibrous matter all around. I had never thought at all about what exactly the '**woodwool**' was, which lined the inside of the green coloured lantern roof interior. It sounded a bit soft and fluffy – some sort of

These images show how some of the largest woodwool pieces had originally fitted together and also the crack in the slab of serpentine on the ciborium roof, shattered by the impact and which, by holding and not collapsing inwards, very likely saved life and safety.



The spirit of the people of St. Paul's, Bow Common was undaunted and immediately all the church seating was removed from the church to the Vicarage garden to create an open air church for what turned out to be a most memorable Confirmation service with 300 people present the next morning. We were in a heatwave and the weather was perfect and demonstrated powerfully that, as wonderful as our church building is, the heart of a church is not bricks and mortar! Maguire and Murray were right when they said that the church did not **need** buildings!



What could have happened?

Woodwool is a composite of wood fragments, set and moulded in a thin cement slurry, and was used from War-time or before as an insulating material and, presumably, this was its purpose at the time of installation in the glazed lantern in 1959. As mentioned already, budgets were very constrained at the time of construction, from War Reparation Funds and materials used were the best and most appropriate within those constraints. The surface facing inwards was painted with a mixture of green and blue tones to give an over-all green coloured surface.

I learned a lot about woodwool from one of the contractors who attended after the roof fall. It seems that woodwool is at its best and most stable when used in large blocks, typically of 2-3 m in length. What we see in the church lantern is a patchwork configuration of smaller pieces where possibly larger and more stable single large pieces might have been safer for use. There is a framework of I-section metal girders which make up the grid of the lantern roof. The woodwool slabs were laid on top of the flanges of the beams from above before the aluminium roof tiling skin was fitted on top. Thus the woodwool pieces were laid basically loosely and not secured but held up by the girders. There were 160 spaces to be filled but from my observation 355 separate pieces of woodwool were used to fill these spaces. This complicated looking image illustrates this point.



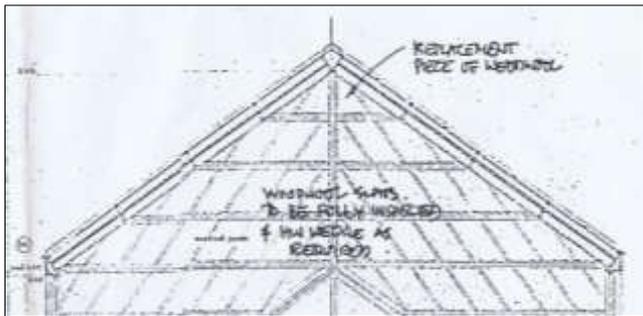
14 spaces here have been filled using 33 woodwool slabs.

However, on close inspection of the individual slabs it can be seen that some of them were very possibly cut short. From his knowledge of wood-wool, the contractor spoke of the potential instability of smaller pieces of the material (especially when not fixed down) when subjected to forces of wind or heat expansion or water. In his experience, any disturbance of the 'safety blanket' of aluminium tiles above can lead to air or wind disturbance of the wood-wool beneath, especially if not laid in large slabs and woodwool will 'move'. Smaller pieces are much more vulnerable. I also did a thorough investigation of how each piece of woodwool was being supported at the edges and **only 2 pieces out of the total of 355 are supported on all edges**. The remaining vast majority of woodwool pieces have no perimeter support on at least one edge.

A chance comment by the longest standing member of the church, who has known the building from its opening, that she remembered woodwool blocks having fallen in the 1980's, was very telling. It emerged that there was a repair programme of 1991 which addressed long-standing problems which had arisen since the building was opened, as well as damage wrought by the severe storm of October 1987.

Further evidence came from the schedule of the repair programme of 1991; a small reference in the Quinquennial Report (QR) of 1986 and two small references in the QR of 1992. These reveal that woodwool blocks had indeed fallen from the triangular apex sections of the lantern before 1986. An account of 1962 earlier also mentioned that woodwool blocks had already, ⁶ ‘.. tended to settle down the slope, leaving gaps.’

The problem had a long history and there had, therefore, been a mechanism at work early on, which resulted first in small blocks falling from the apex. Woodwool blocks had shrunk and settled. Since none of the blocks is fixed they all rest one against the other. As shrinkage progressed so they all effectively shifted downwards. This then dropped the composite triangular sections at the apex downwards into spaces which were too big for them. They then fell to the ground. There is no



surviving record of which particular blocks fell or how many of them, or how often this may have occurred or of any of them damaging the ciborium roof. However, the repairs of 1991 include replacement of a piece of woodwool from the apex (which is what our church member remembered) and also that ‘woodwool slabs to be fully inspected and hard wood wedges (inserted) as required.’

In the QR of 1986 we learn that: ‘Woodwool slabs have moved, leaving some gaps showing the underside of the Hyrib lathing. The reason for the movement is unclear and warrants further investigation to check bearings and the cause of movement. One small triangular piece has fallen out.’

The QR of 1992 witnesses to repairs carried out in 1991-92. These include .. ‘Replacement of aluminium hip covering to the high lantern, removed by high winds. Overall of lantern roof edge where fixings had pulled through aluminium sheeting.’ Also, ‘Replacement of small triangular woodwool slab elements at top of the lantern soffit where fallen out due to shrinkage and settlement. Existing slabs have been re-secured with hardwood wedges, and repainted two-tone to match existing.’

Finally: ‘Roof Structure and lantern: Woodwool slabs had shrunk and small, triangular sections at the head had fallen out. Investigations showed that all the slabs had moved downwards, reducing the edge bearing to nothing on the top triangle. Repairs have included raising the uppermost slabs and wedging them with hardwood to ensure perimeter support is maintained. New slabs have been painted with two colours to match existing.’

This immediately explains the hardwood spacer which also came down with the woodwool in the fall of July 2013. The woodwool shrank and settled in the early years but, presumably, it has now stabilised with the wooden spacers filling shrinkage gaps. The lowest slabs were carrying the weight of all those slabs above it and this will have exacerbated the ‘movement’ of woodwool in those early days. However, careful examination of all woodwool slabs in 1991 and wedging, which would have made up for shrinkage, should very reasonably suggest that the whole configuration was now *more* stable than even when first installed. So what had happened in July 2013?

These two views of the exposed external Hyrib aluminium roof covering are revealing.





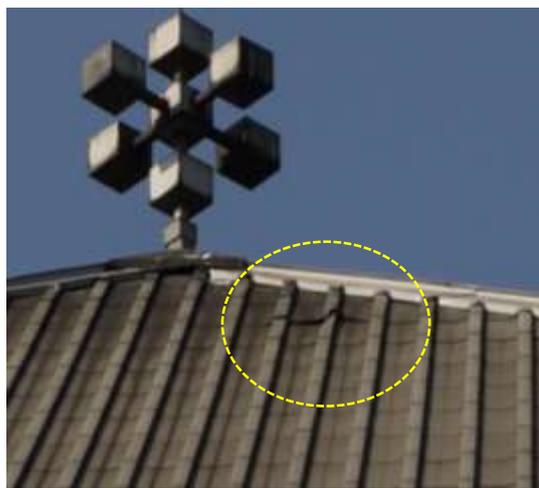
The left hand view above seems to show just plain aluminium roof covering. But when seen from a more north-easterly point clear damage can be seen to the overlying aluminium roof skin. If that damage had been such that water could have penetrated into the woodwool in that region, it is a very inflexible concrete-based material with little give and if the woodwool swelled it could have applied considerable pressure upon adjacent slabs. The water stained hardwood wedge which fell clearly shows that in that region there had been water penetration,

to judge by the staining on it when clean unstained wedges would initially have been installed. Woodwool cannot bend but its ultimate response to stress would be to fracture. Mention has already been made of this being a very hot period when the woodwool fell on 6th July 2013 and I remember clearly how hot the pieces felt when I first picked them up immediately after the roof fall. Thus, had there been a scenario of water, somehow soaking the woodwool through that area of damage to the protective aluminium outer skin, and then over perhaps a long period of time swelling through further soaking and also baked in summer heat under the metal skin, it is reasonable to imagine that eventually the stresses on such an unaccommodating material could have led to sudden fracture. Once a piece of woodwool fractured there would be nothing underneath to keep it up in the lantern and it and everything else unsupported around it would then fall to the ground.



This seemed to be a reasonable explanation of why the woodwool had fallen suddenly out of the lantern – albeit with extraordinary and almost perilous timing! The point was not lost on me that no-one was hurt and the marble roof and weight of woodwool did not collapse onto my head, and that had this happened the next day during the crowded Confirmation service with the bishop in exactly the wrong position the possible outcome would not bear thinking about. If there was some kind of woodwool clock ticking away then we were extremely fortunate!

The question then remained of how damage could possibly have occurred near the apex of the lantern where nothing and no-one has been since the roof was laid in 1959. Immediately on inspecting it from the outside, the area where the woodwool had fallen on the inside, a tiny bit of damage could indeed be seen! It is so small that it entirely escapes the eye unless looked for.



It now looked very much as if a mechanism could be found to explain what had happened. But the question remained of how this damage to the outer roof could have happened and when.

The detective work continued and I began to search my very large collection of images of the church. Most of them do not include this area or angle of the church roof so the search was lengthy and trying, to seek to establish if there was an early image of an undamaged roof in this area.



In 2004, following 6 years of using the inside of the church for art and community events, an extraordinary artist, the late Rose Finn-Kelcey, installed a huge art work on the upper west face of the church, below the lantern, with 850 sq ft, of dazzling shimmer disks in the award-winning installation, 'Angel.' This work was extraordinarily popular and had an extended period of viewing on the church from February to July of that year. I logged every stage of its installation, which meant that I had more views than I would normally have of the outside of the church. This view (left) is from

the day on which 'Angel' was installed - 20th February 2004. This is of the face of the lantern roof where the damage was identified and it is very clear that the aluminium roof facing is **undamaged!**

On further close searching of my images it is clear from this later view from 2nd April (see right) that **damage has now occurred** - and the dent is visible in the external aluminium covering. One would conclude that whatever caused it must have taken place between 20th Feb. and 2nd April 2004.

And then, purely by chance, I noted some curious images I had taken that March of debris in the Vicarage garden! As shown here, large pieces of debris - looking like builders boards and planks - had been blown by a gale into the garden during the night of 19-20 March 2004. The winds had been severe and strong enough to lift or to remove these



large pieces of timber from wherever they had been, very likely over rooftops, to drop them into my garden. If large pieces of windborne debris were flying high on that night it is quite feasible to propose that something heavy and large enough to dent the aluminium roofing may have been blown against the roof that night and caused the damage. Weather records confirm that southern England suffered severe gales on that day. The dent looks very much as if something has impacted from below. Perhaps the mystery has been solved, in the absence of any other explanation so far!



From 6th July 2013 the greater part of the church has been cordoned off beneath the 'footprint' of the lantern above. I was never again to stand at the high altar. Once the congregation had been given the go-ahead to return to using the main building a safe area was set up westwards of the central space which up to the time of writing this account (Summer 2015) has been the effective useable area of the church. Again, the extraordinary flexibility of the building has made this possible without too much trouble and all aspects of church life, from services to Christmas Bazaars and some community events have continued.



Reflecting on the particular history of woodwool in the church lantern from its original installation I feel confident that as long as the crucial protective aluminium skin of the Hyrib 'skin' maintains its integrity and suffers no further damage there is no reason to expect further falls of woodwool from the lantern. Settling and shrinkage has very likely now stabilised after more than five decades and following the close inspection of the whole woodwool configuration in 1991 and insertion of hardwood spacers, so long as water penetration does not take

place, the whole system should remain stable. The discolouration of the green painted surface of the woodwool could be due to condensation and that has always to be taken into account in any assessment of the woodwool's integrity. There is no ventilation in the church and on hot summer days with high humidity perhaps added to by people in the church there will be moisture in the air.

From 2014 stirring efforts were made by the church to manage a building project and raise funds both for the inspection and repair of the woodwool in the lantern and also finally to re-lay the whole of the drainage system for the church with modern materials. **Mother Bernadette Hegarty** came to the parish as Vicar on 4th October 2014 and is seeing this all through to completion, with works starting in Autumn 2015 and coming to completion, hopefully, the following winter. I understand that the fallen woodwool is to be replaced with new woodwool slabs and all the remaining slabs secured to the metal framework of the lantern. St. Paul's, Bow Common should be at its 'healthiest' and driest as a



building for the first time since it was built!



St. Paul's, Bow Common is, indeed, a notable building whose importance has been recognised nationally and internationally. There is now a culture of care for the fabric, as it reaches towards completing its sixth decade. All of this not just to preserve a remarkable piece of architecture but primarily to provide a home and a place of welcome and meeting for the Christian and wider community, for it truly to live out its purpose. To be none other than **the House of God and the Gate of Heaven.**

- 27 **2009 Robert Maguire: Private correspondence with Duncan Ross** (unpublished)
- 28 **2010 Robert Maguire: Reflection on the 50th Anniversary** (unpublished)
- 29 **2012 Gerald Adler: Robert Maguire & Keith Murray** **Twentieth Century Architects**
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