

## THE ORIGINAL DRAWINGS OF SIR CHRISTOPHER WREN FOR ST PAUL'S CATHEDRAL.

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It is well known that in the Library of All Souls' College Oxford there is a very curious and valuable collection of the drawings of the great architect Sir Christopher Wren, but it is not so well known that there is also an extremely interesting collection of those relating to the building of St. Paul's, preserved in the library attached to that cathedral. They have been carefully collected, laid down, and bound in two large volumes, each more than two feet square and three inches thick.

There can be no doubt most of them are the actual working drawings from which the cathedral was constructed. Through the great liberality and kindness of the dean and chapter, the collection was laid before an unusually full meeting of the London and Middlesex Archæological Society, and attracted so much attention that I was requested to go through them carefully, and give such a description of them as might be printed among their transactions; that, should any accident occur (and these are unfortunately not always to be avoided even by the most vigilant and careful), some record should be preserved of their nature and value. It seems especially the province of a Society which makes London the chief object of its investigations to do this, and I can only feel regret that the task is not allotted to abler hands than my own.

The drawings in general are strictly technical, being intended evidently for use and not for show. But the amount of thought and painstaking care, the deep consideration of every detail of construction, the labour with which the designs have been altered and varied to meet difficulties, to suit circumstances, and still more often to improve effects, can only be appreciated by the eye accustomed to investigate the

mysteries of plans, elevations, and sections. At the same time it is curious to observe how all unnecessary labour has been avoided. Where the two halves of a portico or tower, a chapel, or even lesser details are both exactly alike, one half only has been delineated, and in all instances scales, and in most figured dimensions, are carefully given. No shading or colour is used except where absolutely necessary. The drawings convey an extraordinary idea of the powers of conception and at the same time the purpose and business habits of the author. Such qualities could scarce have been expected from the son of a dean, the nephew of a bishop, from one who had passed his whole life in the lore of Oxford, or the club\* at Gresham House, the writing of Latin verse, the study of astronomy, the labours of anatomical dissection, the invention or perfection of mezzotint engraving. All these had engaged his attention, but as far as we can learn he had never superintended the laying of a brick, or valued a foot of material, and he never had been out of England at the time he was called on to report† on the state of the most important edifice in the Metropolis. The key to all seems to have been, that in addition to great natural taste, originality of thought, and industry of mind, he had a profound knowledge of mathematics. It was this enabled him to design the roof of the Sheldonian Theatre, which bears on the walls without thrust (and they are without buttresses), and is an example of construction of so great a span and yet so light, that it was not only believed it would fail, but report declared it actually had done so.

But the greatest wonder is where he acquired sufficient theoretical knowledge of architecture to design as artistically as he did. The troubles of the nation and the Civil Wars had effectually put a stop to all public building, and Wren was but 16 years of age when the execution of the King took place. He was but 18 when Inigo Jones died in his 80th year, ruined and broken-hearted by persecution and extortion. It is generally supposed that elegant architecture had entirely ceased as an art for at least a quarter of

\* Afterwards the Royal Society.

† He was appointed to do this in 1661, and did not commence the designs for the Sheldonian Theatre, his first work, till 1663.

a century. Had Wren travelled through France and Italy during this period as Evelyn did, it might be easily understood how he acquired such knowledge; but he did not go out of England till 1665, when he visited Paris, and made the acquaintance of Bernini. Evelyn, after his return from his famous tour, first made Wren's acquaintance in 1654. The former, it is well known, took great interest in architecture, and published a translation of Freart's *Parallel* in 1664, and it is very probable he might have brought with him many drawings and books on the subject which Wren may have studied. Evelyn was evidently acquainted with the works of Palladio, Scammozzi, Serlio, and Vignola, the last of whom died in 1616. Be this as it may, the seeds of the art seem to have been planted in Wren's mind, and to have burst out into full vigour after his visit to France.

Old St. Paul's was built on the site of an ancient Saxon church, said to have been originally founded by Ethelbert, the bishop being Mellitus. In the reign of the Conqueror the old church was burnt down in a great fire which destroyed a very large part of the city. In 1083 Bishop Mauritius began to rebuild the cathedral on a magnificent scale, using the remains of an old building called the Palatine Tower, given him by the King for that purpose. In 1221, we are told, the great central tower was built, and from that time we find frequent hortatory letters from the succeeding bishops, inciting the people to go on with the "new work," that is, the choir, presbytery, and Lady-chapel. The high altar was contracted for in 1309, and the pavement laid in 1312. At this time we may suppose the whole to have been finished, except the cloisters and chapter-house. The dimensions then taken are stated to have been, 690 feet in length, 130 feet in breadth; the west part, 102 feet high to the groining, 150 to the ridge; the choir, 88 feet from the pavement *i.e.* exclusive of the crypt; the tower and spire together 520 feet. It is said to have covered  $3\frac{3}{4}$  acres of ground. These measurements are evidently incorrect, or they include other buildings.\* Those given by the late Mr. J. Gwilt are probably nearer the truth.

\* The whole churchyard is now only 680 feet in length.

They are, nave 335 feet long, 91 broad; transepts, 297 feet; choir, 163 feet. According to this author, old St. Paul's stood fourth in the list of cathedrals in point of size, Winchester, Ely, and Canterbury being larger.

As our business is with the drawings before us rather than with the old fabric, it will be sufficient shortly to state its condition before the fire. The Norman nave had been considerably out of repair for some time, the vaulting had settled, and the piers and arches gone much out of the perpendicular. The tower had also settled through the failure of the piers. The spire had been burned down by the carelessness of a plumber in 1561. The fire reached the other roofs, and entirely consumed the whole. They were replaced at great expense, but nothing was done to the rest of the fabric. At length early in the reign of Charles the First a royal commission was issued, and the work placed in the hands of Inigo Jones. Under his direction the outside of the nave and transepts were repaired and cased with Portland stone, the west front being nearly rebuilt with two flanking turrets. The Norman windows, having been of course circular-headed, were converted easily into Roman by the help of some classic dressings. As is well known, the old nave had been used as a place of rendezvous for business or idle gossiping for many years; to remedy this evil and yet provide a covered place of meeting, a Corinthian portico was built, which, however incongruous, must have been a fine feature in itself, being 200 feet in front, 50 feet deep, and 40 feet high. The vaulting inside was secured with centering, the tower and its piers shored up, and every preparation made for a thorough repair of the interior. However at this period the Civil Wars broke out, the clergy were expelled, their revenues seized, and the cathedral turned into stables for the cavalry. The scaffolds and timber were given to Colonel Jephson's regiment, instead of 1,746*l.* arrears due to them, and, together with the organ, screen, and stall work, were sold. The buyers, to save trouble, dug holes in the church for saw-pits, and cut up the timber there in such sizes as suited their purposes before they took the stuff away. As soon as the supports were removed, the south

transept and some portions of the other roofs fell in. Things remained in this state till the King's return, but it was not till 1666 that the commission took active steps to consider the restoration. Evelyn records how on the 27th of August he went with Wren and the commissioners to examine the building. We gather from the drawings at All Souls' and the other accounts that it was first intended to convert the inside of the nave, as the outside had been, into a species of Roman architecture, and to take down the central tower and build a large cupola in its place. Some debate seems to have taken place on this last point, the "steeple," as it was generally called, being an object of much veneration. However a few short days settled the matter, for on the second of September the great fire broke out and destroyed the entire church and nearly the entire city.\* Even the beautiful crypt under the choir perished, the massive upper groining having fallen down and broken through the pavement and lower vaulting, and bearing the burning timber with it.

Having the idea that this part of the fabric at any rate was fire-proof, the Stationers' Company had removed a vast quantity of books and manuscripts thither for safety. The precious store, valued at that time at 200,000*l.*, burned for an entire week before it was all consumed: what it would fetch if preserved to the present day, it is impossible even to surmise.

It would occupy too much space to detail the careful inquiries and long correspondence between Bishop Sancroft and Wren as to whether it might be possible to retain any part of the old fabric. The result however was, that the few portions of vaultings left begun to fall in; Inigo Jones's work, the main support of the exterior walls, had yielded to the force of the fire. The task was proved to be hopeless, and it was resolved the Cathedral must be entirely rebuilt.

The history of Wren's original design, in one order only, and of the form of a Greek cross in plan; the manner in which he was interfered with by the Duke of York; the change of design to the present, entailing the concealed flying buttresses and

\* Evelyn estimated that six parts out of seven of the city were utterly consumed.

screen wall which was forced on him, and is said to have been received with such sorrow as to have drawn tears from his eyes, are generally known, and will be best illustrated by the collection of drawings now before us, to the description of which we now proceed.

The first of these drawings consists of plans and sections of part of the present crypt, with the details of the vaulting.

There then are seven drawings of the portico at the west front, shewing the columns, steps, &c., also of the geometrical staircase, the morning-prayer chapel, the consistorial court, and the entrances to the north and south transepts.

A curious drawing, inscribed "Plan of y<sup>e</sup> leg of y<sup>e</sup> Dome," carefully drawn and shewing the different stages by different colours.

Five other drawings of the dome, its various stages and bearings.

A quarter plan of the marble paving under the same.

A plan inscribed "Morning Prayer Chappell," showing the seats, and with instructions where the wainscot-work is to be fixed.

Plan of part of south transept. On this is written "A pier, which has been repaired." This is the first pier to the right on entering the transept, or the south-eastern pier. What repair was needed, or why, does not appear. If it were a failure, it seems to have been the only one about the whole fabric.

Two elevations in pencil of the west front, as it is at present, in two orders; but there are ornaments something like pinnacles over the columns.

Two others in outline, Indian ink, of the east end of choir and the flank, nearly as at present carried out.

Elevation of the east side of the transept, with part of internal section.

The same of the north side, from the west front to the transept.

All these are as executed, and are beautifully drawn in simple lines.

Two drawings, one marked "Design for over the North Portico," but unlike the present work.

An elevation of the north side, with three blank windows in the screen-wall. A hasty cross with a pen has been struck through these windows, as if the architect was angry at what had been forced upon him, and would have escaped it if possible.

Several elevations of the details of the transept and north side to a larger scale.

A large-scale working drawing of part of the interior, on which is written "A. The bottom of y<sup>e</sup> window which is in the great Tribune\* of the steeple."

"B. The Impost of y<sup>e</sup> same window."

Several detail drawings, one of which is marked "Coyn of a Vestry;" one of those in the transept. The walls are figured as 14 feet thick.

Two very graceful designs for doors.

A large-scale elevation and section of the ball and cross, showing its construction and the iron-work by which it is supported. The ball is figured as 6 feet 9 inches diameter; the cross 10 feet diameter beside the nuts, and the whole 26 feet 11½ inches high.

Profiles of the different orders, very carefully drawn.

Drawings of acroteria, marked "design for east end outside." One of these is surmounted by an open book, behind which are flames.

A large folding elevation of the west front, the lower part very nearly as executed, but the turrets and dome are very different; the latter is very elegant, with lucarnes and large scallop shells, all in simple Indian ink lines.

Several engravings: old and new St. Paul's by Loggan; the former apparently copied from Hollar; Gwyn's large section, and perspectives by Müller and Schwert Fäger.

Nine drawings of internal work carefully drawn and some of them shaded with bistre.

A section of the transept, showing the stone hemisphere over the portico, with the details—a very able construction, especially as to the water joints.

Six other drawings of internal details.

\* What we call the choir of a cathedral is always called the "tribune" abroad, and properly so, as it is the *Bema* of the Greeks, and the tribune of the Roman Basilica.

Two engravings, internal views by Müller.

A number of careful drawings, being various designs for the screen stall work, organ screen, &c. in the choir. One is marked, "Outside front in y<sup>e</sup> side isles." Another, "The prp<sup>l</sup> person<sup>e</sup> (*i. e.* principal personage) and my L<sup>d</sup> Major."

A large scale drawing of the altar-rail figured 2 feet 9 inches high, and inscribed, "Summum altare paulinū."

A sketch of part of a chandelier inscribed, "Chandelier pour la Eglise de St Paul, London, Octob. 21st, 1697." Though written in French, the writing is similar to that on the other drawings. This would lead one to suppose that it was to have been made abroad. The large brass sconces common in the old churches are said to be of Flemish manufacture.

In the second volume are the following drawings, viz.

A plan, from which an internal perspective view has evidently been made.

Seven careful working plans, chiefly of the angles of the building, the plinths drawn in ink, and the superstructure in red chalk.

Eight large geometrical engravings of St. Paul's, the lower part as it is, but the domes and turrets vary in each.

Three engravings of the original design, that in the form of the Greek cross, by Hulsbergh. On one of these is written, probably by the younger Wren, in Latin:—"The geometrical representation of this Basilica, in a very large wooden model, with much art and expense, having been elaborated and carved, was exhibited some time ago, but since this model, through carelessness, has at this time been miserably broken, and all but dashed to pieces, Christopher Wren, gentleman, has published these copper plates, that the present and the future age may perceive the intention of that most celebrated architect. A<sup>no</sup> D. MDCCXXVI."

A large engraving of the present building by Fourdrinier.

A large-scale drawing of the details of the lower part of the dome, showing the parts in brick and in stone, the ties, &c.

A number of sections and other detail drawings, showing the vaulting of the nave, the flying buttresses, screen-wall, &c.



A quantity of drawings, nearly fifty in number, containing different details, and also alternative designs. About half of these are for various western fronts, turrets, and domes. Of this last feature there are ten at least, all so good as to leave one in doubt which is preferable. Scarce anything would better show the fertility of the invention of the author, as they all not only vary in design, but also in construction. Some are plain domes; some hollow like that of St. Peter's, or of Santa Maria dei Fiori at Florence; some have a lower dome, which is hemispherical, and an upper, which is elliptical or parabolical; some have the principle now carried out of a lower dome, circular in section, outside which is a conical dome carrying the lantern. One is based on a very original idea. Below, looking at the exterior, is a basement story with square windows, above which is a balustrade forming a gallery. Above this is the main order of the tambour set back from the balustrade, and above this is a circular dome, the lantern of which is not drawn. Viewed internally, there is first a circular dome with a gallery, from whence to look down, the opening or eye being about half the diameter. Rising from the abutments of this is a dome, conical for about half its height, and surmounted with a hemispherical dome in two thicknesses, like that at St. Peter's as before described. The lantern of one of the designs is surmounted by a very curious and not unpleasing feature, a sort of cage of twisted copper work gilt, somewhat in the shape of an almond, which finishes with a vane. It is much to be regretted that there are no dates and very few inscriptions on these drawings; had there been, it would have afforded a very interesting study of the train of thought by which our great architect arrived at his results. It is known he was interfered with in the general idea of his design again and again by the Duke of York, and it is not at all improbable that it was the same as to details.

Following these drawings are four, being designs for surrounding the cathedral with a magnificent piazza, much like that commenced by Inigo Jones at Covent Garden, and of which one side only was carried out. The west end of this proposed inclosure, looking down Ludgate Hill, was intended to have had a circular pavilion 60 feet in diameter.

Several considerations impress themselves on the mind on going through this most valuable and interesting collection. One of the first is the great advantage an architect possessed in that day in having power to make alterations from time to time as his work progressed, and to amend and improve as the reality grew up and developed itself out of ideas he previously could only have been able to express on paper. The custom then was to employ different sets of masters with their journeymen on each different trade. There was no such person as a general contractor. In the city of London it was forbidden to a plumber to undertake glazier's or painter's work, unless *é speciali gratiâ* he was free of all three companies. Agreements were made with master bricklayers, master masons, master carpenters, joiners, plumbers, painters, glaziers, in short, through all the trades connected with a building. A price was arranged per rod, per foot, per hundred-weight, for any thing required, and the work measured and paid for at various periods as it was executed. This gave the architect time for thought, and for opportunity of judging his design, and correcting and amending it, particularly in its details. It is true it was then difficult to predict the ultimate cost; but in these days the hurried pressure put on the architect to get ready his entire plans, even to the minutest portions of his details, and the consequent chances of omissions and of errors, and the "contractor system," when "a sharp cutting builder" is set in antagonism with him, leads frequently to uncertainty as to cost and to that dreaded word "extras," while the fabric loses those graces which only mature thought can give.

As has been well said by Mr. Beresford Hope, "in former times thousands were given where we now dole out hundreds, and years where we grudge months, in building our churches."

The power of alteration from time to time may partly account for the purity of all Wren's details; still it must be remembered that no length of time will give judgment and taste to those who are deficient in such qualities: and, though the modern architect may sigh for Wren's opportunities, he does not the less admire his genius.

This last quality is shewn in the admirable way in which he

escaped from difficulties, or adapted his work to circumstances, the worst of all of which was, no doubt, the dictation of others. It has been the fashion to criticize the screen walls at St. Paul's; but it may be asked whether any one could devise a better expedient when the alteration was forced on him. Is there one out of ten thousand of the multitude who stop and gaze at the building every day who is aware that such an expedient was resorted to, or that a *quasi* unreality exists? How many of those who talk of this could explain how it has been constructed, and the reasons which led to such a course? Again there has been animadversion on the employment of timber about the cupola. These constructions cannot be completed in stone; there must be some material to keep out the weather. The dome of St. Peter's is covered with lead, that of Santa Maria dei Fiori with tiles. What matter is it then whether this necessary covering lies on a dome of stone or brick or timber? The real difficulty is to carry the lantern properly, and this has been done at St. Paul's in the most masterly way. It is only to be regretted that the original design is not more known. That is a construction *sans reproche*. It is one of the misfortunes to which an architect is obnoxious, that he is criticized for faults which are not his own; for want of space, for want of funds, for want of time, and, worse than all, for the vagaries of employers and the caprices of fashion. Wren's genius, however, has outlived all this. It is said that some rabid would-be medievalist wished he could put powder enough into the crypt to blow St. Paul's into the air: and it is true that a very talented architect who shortly after became mad went down on his knees and thanked the Almighty he had seen some cracks in the dome of St. Peter's. These, however, are rare exceptions.

It has been objected to the classic architect that he designs pagan temples, and it has been very pertinently asked what has the shrine of Erechtheus, or that of Theseus at Athens, to do with Christian churches? It may be answered that the aspirations of the heart rise to the throne of the Almighty from temples once dedicated to Vesta, or Fortuna Virilis, as well as from Milan

Cathedral; that the early Christians were commanded not to destroy the Pagan temples, but to purify them and apply them to a holier worship: that Boniface IV.\* did not destroy the Pantheon, sacred to all the false gods, but gloried, when he had obtained it from the Emperor Phocas, in dedicating it to the memory of all the Martyrs. And it may still further be urged that Gothic architecture never took root in Rome. From the days when St. Paul preached to our own, when the church of *San Paolo fuori le mura* is in course of construction, classic architecture, and that with but one sole exception, has been used in the Eternal City. On the other hand, it is true that we are not Romans, but of Anglo-Saxon blood, and that the architecture of our ancestors commends itself to our feelings in building churches more than the chaste classicality of Italy.

Like most matters of taste, the truth lies elsewhere than between any two isolated debateable points. It must never be lost sight of that, though the early Christians adapted heathen fanes to their worship as they found them, yet, whenever they *built*, their model was the *basilica*, and not the temple. And here no doubt has been the error of the past generation; an admiration of the unquestioned beauties of Greek art led to its being used and forced into the most incongruous places. But this was an error Wren never fell into. Not one of his churches resembles the Pagan temple. In every case he has had the architecture of the early Christians prominently before his mind, and we need not dilate on the success which has attended his designs.

It seems singular at first sight that Wren had no direct imitator or successor. Vanbrugh, Hawksmoor, and Gibbs appear to have followed a vein of their own; in fact it was about that time that the temple portico seems first to have come into vogue.† St. George's Bloomsbury and St. Martin's in the Fields may be cited as examples. But, like Shakespeare, Wren

\* See Carranza, *Summa Concilium*, Bonifacius IV.

† Inigo Jones had placed a Tuscan portico in front of St. Paul's, Covent Garden but this example was not followed for nearly half a century afterwards.

seems to have stood alone in his art, and, as it does not appear he had any pupils, it is the less to be wondered at that he had no direct school.

One saddening remembrance only is attached to this great man, and that is the unworthy treatment he met with at the close of his life. It is true that he was libelled and vilified, turned out of his offices, and succeeded by an empty pretender; but Pope was scarcely correct in saying,

When Wren with sorrow to the grave descends ;

for the dunce showed his incompetence, and was kicked out within a twelvemonth, and Wren's reputation vindicated; and he lived in a calm and tranquil retirement for some years afterwards. That he was treated most harshly and unworthily is too true, but it is a blot on the times, and not on himself.

I can now only conclude this short and imperfect notice by sincere thanks to the Dean and Chapter of St. Paul's for their courtesy and kindness, which has enabled me to do somewhat on a subject which must deeply interest every member of the London and Middlesex Archæological Society.