

THE ORGAN

OF
TRINITY COLLEGE,
CAMBRIDGE



The Organ of Trinity College, Cambridge

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PRE-RESTORATION ORGANS

The first organ used in the present Chapel building was one which had already been in use in the old chapel of King's Hall, and was moved here in 1563. Hugh Rose was employed to build a new organ which was completed in 1596. In 1610 John Yorke repaired and improved "the ould orgaine", and also made "a new chaire orgaine". In 1615 and again in 1621 Stephen Brittainne did some extra work to the organs.

In 1635 "Mr Dallam" appears on the scene. His is a name of considerable note in the history of organ-building, and this is probably the man who built organs for Canterbury, York and Durham Cathedrals, the son of Thomas Dallam who had built the organ in King's College Chapel thirty years previously. The sums paid to Mr Dallam suggest that he did not do much more than overhaul, clean and repair the Rose organ, but afterwards he was engaged at an annual salary to tune and look after the instrument. However during the Commonwealth Dallam disappears from the Trinity records. At the Restoration he was employed in Oxford, building organs for the Oxford Music Schools and for New College, where he was buried shortly afterwards. It appears that the Trinity organ was dismantled, but not wholly destroyed, in 1643 in accordance with Cromwell's edict forbidding organs to be played in church.

RESTORATION

At the Restoration of Charles II in 1660 George Loosemore was appointed Organist of Trinity. George's brothers were also in the organ business: Henry was Organist at King's, and John built the organ in Exeter Cathedral. George must also have been educated in organ-building, as he was paid for "mending ye organs" at Trinity. In 1663 he was paid a sum "for removing his owne organ", which implies that he had loaned an instrument to the Chapel as a stop-

gap. It is possible that the old Rose organ was partly rebuilt, but in any case a new “chaire organ” was built by Thomas Thamar of Peterborough, and completed in 1663. Thamar also had the responsibility for tuning, cleaning and repairing the instrument until 1685. In 1675 he was given a special payment for “mending the Organ when eaten wth Ratts”, in spite of precautions taken a short time previously, when one shilling and fourpence was disbursed “For a ratt trapp for the Chappell”. Thamar also built organs for Christ’s and Pembroke Colleges.

FATHER SMITH

The restoration of the monarchy in 1660 marked the end of sixteen years of silence from the organs of England. Most church and cathedral organs had been damaged or totally wrecked during the Civil War, and organ builders had lost their expertise or moved abroad to find work. With the restoration of the king, organ music was once more permitted in church, but there was a shortage of Englishmen skilled in the art of repairing or rebuilding the instruments. Bernhardt Schmidt, who came to dominate the craft of organ-building in England for almost half a century, must have received his training on the continent; tradition suggests that he may have been apprenticed to Christian Förner of Wettin, near Halle. He arrived in England a few months after the return of Charles II, and may have changed his name to Christian – or may have had a brother by that name. His name was anglicized to Bernard Smith.

Charles Burney states that Smith’s first instrument was the “fair doble organ” for the Chapel Royal in Whitehall, which was built hurriedly in 1662, under the supervision of John Hingeston, and “did not justify the expectations of those who were able to judge of its excellence”. Such a rebuke seems to have had a salutary effect on the young Smith, who thereafter refused to be hurried over his work, even at the cost of losing a patron. This first organ was destroyed in the Whitehall fire in 1698.

Subsequently Smith collaborated in building organs for Westminster Abbey (1660), Wells Cathedral (1664), St Martin-in-the-Fields (1667), Rochester Cathedral (1668), the Sheldonian Theatre, Oxford and St Giles-in-the-Fields, London (both 1671) and Canterbury Cathedral (1672). In 1681 he was appointed the King's Organ Maker, succeeding James Farr for whom he had worked for nearly twenty years. He befriended both John Blow, Organist of Westminster Abbey and Gentleman of the Chapel Royal, and Henry Purcell, who in 1673 succeeded Hingeston as "Keeper and Repairer of His Majesty's Organs and Other Instruments". He belonged to the same London club as Richard Bentley, Master of Trinity, and it is possible that it was Bentley who conferred on him the affectionate title "Father Smith".

In comparison with modern organ builders Smith's workmanship was rough, but he placed great importance on the quality of his materials, rather than the refinement of the finish. Freeman¹ cites the story that "when someone once commented on the rough appearance of a pipe he was about to voice, his reply was that, though the pipe looked the devil, he would make it speak like an angel". The tools in use at the time were crude in comparison with those available now, which partially accounts for Smith's rough work, though his contemporary Renuart Harris surpassed him in matters of mechanism; Smith's genius lay in his skill at voicing, and in creating a beautiful ensemble, supported by conscientious workmanship. Sir John Sutton (In *A short account of organs*, 1847) attributed the great beauty of Smith's organs to the sweetness and brilliance of the wooden pipes, the mixtures also being very fine and brilliant, and the tone of all the stops being even throughout their compass.

Altogether Smith built about seventy-five organs. Most of them lacked pedals, which must have reflected the English taste of the time. His organs were generally tuned below concert pitch, and

¹ Freeman & Rowntree

many of them were subsequently modernized by having their pipes cut to raise the pitch – usually to the detriment of the sound. He managed to get extremely good prices for his work. For the organ at St Paul’s, with three manuals and twenty-seven speaking stops (no couplers or pedal pipes) the contract price was £2000, but Smith’s widow received a further £500 for an extension of the compass, and the case cost a further £1300-£1400. This probably equated to the price of the massive Willis organ in the Royal Albert Hall which had no fewer than a hundred and sixteen speaking stops.

The only mechanical innovation that has ever been credited to Smith is the invention of ‘Quarter Notes’, extra pipes enabling G# and D# to be sounded as distinct from A b and E b respectively – an essential feature in the music of Smith’s contemporaries such as Purcell in which the characteristics of unequal temperament were exploited. The relevant pipes were accessed by means of split keys – two short keys taking up the space of one normal one. However this practice was not Smith’s invention but had been in use in Italy since the mid-fifteenth century, and in Germany since about 1600 where it was advocated by Michael Praetorius. Freeman² suggests that it might have been Purcell himself who persuaded the more conservative organ builder to include split keys in his instruments – though there is no evidence for this.

FATHER SMITH AT TRINITY

The first work which Smith did at Trinity College was to repair, in 1686, the existing organ built by Thomas Thamar in 1662-3. In the same year, 1686, Smith was contracted to build a new organ, which for some reason was not completed until 1694, at a cost of £160. This was probably just a chaire or choir organ. In 1706 Smith was commissioned to build the second organ, probably incorporating the 1694 instrument as the chaire or Rückpositiv. The magnificent cases

² Freeman & Rowntree

(two fronts and a separate choir case facing east) still remain today. They are likely to have been designed by Smith and executed by him or one of his team; the carving recalls the school of Grinling Gibbons.

Smith died before the organ was quite complete, probably in February or March 1708, and the work was finished by his son-in-law Christopher Schreider later that year. The Fellows' Conclusion Book records on 3rd May 1708: "Agreed by the Master and Seniors y^t Mr. Christopher Schrider do finish the Organ by tuning and voicing it; and that he be allowed so much out of y^e total sum agreed for with the late Mr. Bernard Smith for making y^e whole Organ, as Her Majesties Organists shall think reasonable."

What we now know as the swell organ was not invented until about 1712, the first example being in St Magnus, London, built by Abraham Jordan. The College must have been swift to adopt this innovation, since in November 1715 Schreider was paid "£30 for y^e swelling stops". Before this, judging by the similar organs at the Temple Church and St Paul's Cathedral, the Trinity organ was likely to have had three manuals, with three corresponding sets of keys, namely the Great, the Little or Chaire Organ (now known as the Choir Organ), and the Echo Organ. The Echo Organ would have been adapted to become the Swell, by enabling the box in which it was enclosed to be gradually opened or closed by the organist.

Smith's unaltered organ at Hampton Court was found by G.F. Cobb in the late nineteenth century to be pitched at A=442, which Cobb surmised was its original pitch. He extrapolates from this that Smith would have pitched the 1708 Trinity organ similarly. Schreider lowered the pitch by a whole tone, either in 1715 or in 1730.

ORGAN SPECIFICATION IN 1708

GREAT			CHAIRE		
GG (no GG#) to D			GG (no GG#) to D		
1•	Open diapason	55	12•	Stopped diapason	55
2•	Open diapason	55	13•	Principal	55
3•	Stopped diapason	55	14	Flute	55
4•	Principal	55	15	Fifteenth	55
5•	Nason	55	16	Vox humana	55
6	Twelfth	55	17	Cremona	55
7	Block flute	55			
8	Fifteenth	55			
9	Sesquialtera (3 ranks)	165			
10	Cornet (from middle C#: 4 ranks)	104	18•	Open diapason	32
11	Trumpet	55	19•	Stopped diapason	32
			20	Principal	32
			21	Cornet (3 ranks)	32
			22	Trumpet	32

SWELL

Fiddle G to D

Stops marked • were retained in the 1913 instrument, but some were transferred to other manuals, and some were renamed.

The 1708 Trinity organ (perhaps the last which Smith built) played a part in the notorious dispute which raged between the Master Richard Bentley and the fellowship. According to one of the Fellows, Bentley ordered the organ first and then decided to make the Chapel worthy of the new instrument. “His true reason for doing this [repairing the Chapel] was because he had promised the old organist, one of his Club, whom he called *Father Smith*, that he should make the College and Organ, soon after he was Master. The old man continually dunn’d him for his Promise, and at last told him he had near made it; the Price, I think, was about 1500*l*, which

made it almost necessary to beautify the Chapel for the erection of this costly instrument.”³ The probably truth of the matter is that Smith’s earlier organ at Trinity was, in all likelihood, only a chaire organ, and that in 1694, when it was set up, the builder was given to understand that in due course he should receive the order for its completion. Upon Bentley’s appointment to the Mastership, in 1700, it was a perfectly natural thing for Smith to tell him of the arrangement which had been made but not carried out, and to obtain his promise that the order for it should be given. Even then it was seven years before the promise was redeemed.

Bentley’s work on the Chapel commenced in 1706. One of his alterations was to move the organ screen about seventeen feet eastwards, necessitating the dismantling of the organ. This procedure was reversed in 1870, when the screen was moved back to its original position. Cobb⁴ thinks it unlikely that the pipes of Smith’s 1694 organ would have been re-used in 1708, since the new instrument was on an altogether larger scale – and Smith would have had ample opportunity to ‘recycle’ the old pipes in other instruments. Unfortunately the contracts for both instruments are lost, so we have no record of the specification of the earlier organ or of the actual costs of either instrument.

Some features of the Trinity organ case are typical of Smith’s work: the graceful overhanging sides, the pairs of cherubs supporting the towers; and the broken curved pediments over the side towers. The case is likely to have been designed by Smith and executed by him or one of his team.

³ “Some remarks upon a Letter entituled the Present State of Trinity College in Cambridge. By Mr. Miller, Fellow of the College.” London, 1710

⁴ Cobb, p. 15

EIGHTEENTH-CENTURY MAINTENANCE

Christopher Schreider made his final visit to Trinity in 1734. The following year the maintenance and tuning of the Trinity organ was taken over by a local builder named Turner, who effected a thorough overhaul in 1747. Dr Robert Smith, our longest-serving Master who held the post from 1700 to 1742, took a particular interest in the organ and in choral services in general. For his book *Harmonics, or the philosophy of musical sounds* (1749) he conducted numerous experiments on the Trinity instrument; among his findings were the discovery of the best time of year to tune the organ (late August to mid-October, when the air is “dry, temperate and quiet”), and the reasons for the difficulties of tuning “perfect” instruments (strings, voices) with “imperfect” instruments with fixed pitch (such as organs and harpsichords). Repairs and improvements were made to the organ by Mr Parker of London in 1767. The bellows were replaced in 1790, and a few occasional repairs were made by a local builder named Argent.

NINETEENTH-CENTURY ENLARGEMENT

In 1801 and 1802 John Avery, who built an organ for St Margaret’s, Westminster, was paid about £240 for unspecified work on the Trinity organ, and also in 1801 Thomas Johnson was paid for “new gilding [the] Organ Pipes”. Lincoln, another London builder, was paid £116 for some work on the organ in 1808, when extensive works were undertaken in the Chapel. Lincoln took care of the organ for the next ten years, until “in an evil hour”⁵ Messrs. Flight and Robson were given responsibility for the instrument, in 1819. This appointment led to costly and acrimonious disputes with the College over unexpected charges and ‘improvements’ which had to be rectified by subsequent builders. At some point before 1830 the

⁵ Cobb, p. 24

pitch of the organ was raised by about a tone (returning it to its original pitch before Schreider's alteration).

In 1836 John Gray made some substantial changes to the instrument, extending the Great Organ's compass downwards by seven notes and upwards by three, thus converting it from a G organ to a C organ. Smaller extensions were also made to the Choir and Swell. Several new stops were added, and reed stops replaced; the old stops were thoroughly repaired and cleaned. Gray made a pedal board of two octaves (the compass of any earlier pedal board is not known), and entirely rebuilt the box and soundboard of the Swell.

Two features introduced at this time, at the suggestion of the then Organist, Dr Walmisley, were not only innovations, but were so unusual as to make the Trinity organ an object of curiosity for many years to come. The most important of them was the prolongation of the Great Organ manual throughout the whole tonal compass of the instrument: an extra bass octave (down to 16' C) was added, giving the instrument the same compass as a piano; most organs of the time extended only to 8' C. Since pedal boards were still in their infancy at this period, the extended manual enabled the player to achieve effects beyond the scope of the average player of that time. This unique keyboard was removed in 1870, by which time pedal-playing had rapidly developed. The other remarkable feature was a coupling stop which connected the pedals with the Choir Organ manuals at a register of two octaves above. This enabled the player to play a melody with the feet, devoting both hands to the accompaniment. The depth of the organ case was also increased at the time, leaving its external appearance unchanged.

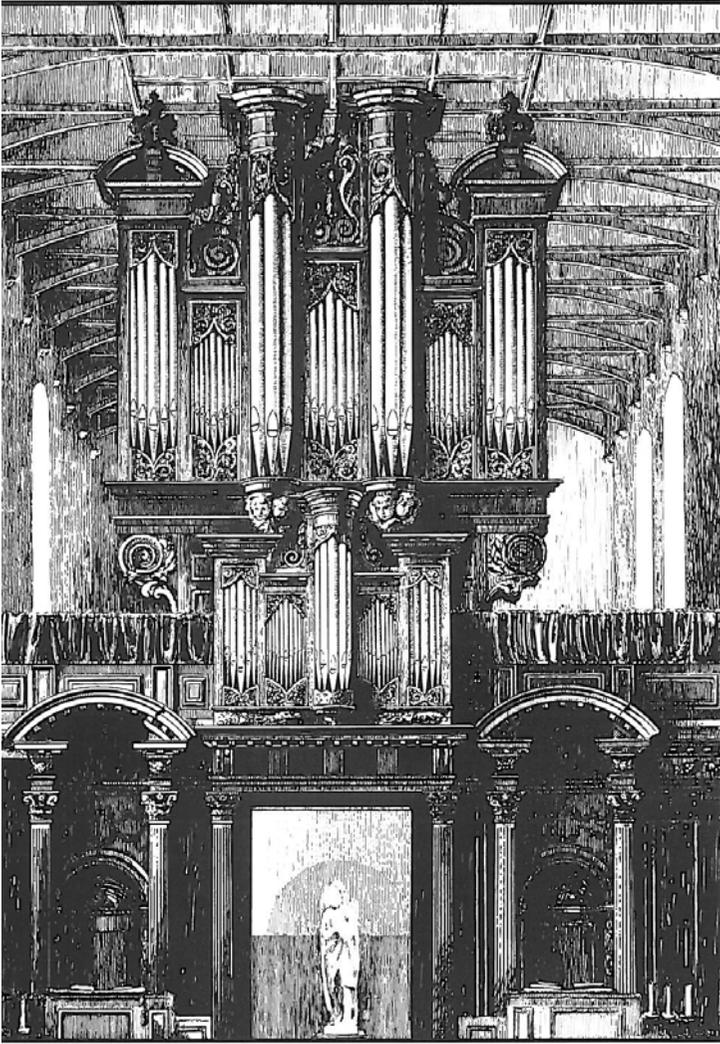
William Hill, the head of the well-established firm of Hill & Son, is sometimes referred to as the Father of modern English organ-building. Just as the 1708 organ was probably Bernard Smith's last instrument, its reconstruction and enlargement in 1870 was the last work undertaken by Hill. He died, aged 80, without seeing the completion of his work at Trinity.

Hill & Son did some minor work in 1841 and 1848, and made some more important and extensive alterations in 1853. In 1855 they added a set of 16' pipes (the Violone stop), which were then placed on a supplementary soundboard of their own in the windowsill on the north side of the organ loft.

In 1870, and the five years following, the Chapel was redecorated and major changes were made to the organ, almost amounting to the building of a new organ, but incorporating everything that was valuable in the old. As mentioned above, the organ screen was restored to its original position, and the entire organ had to be taken down and rebuilt. The purpose of this was to make room for the growing numbers of worshippers, as the College expanded with the addition of New Court and Whewell's Court. The depth of the organ screen was reduced, making further extension of the depth of the organ impossible, so two additional towers, and adjacent 'flats', were added to the sides of the case to accommodate extra pipework. Some embellishments were removed from the baldacchino behind the high altar, and added to the top of the organ; however these were removed in 1912.

One major 'improvement' was the installation of hydraulic engines to power the organ, which until 1870 had been blown by hand. In 1889 the action was changed to a pneumatic system, and a few more stops were added, including a 32' open wood on the Pedal, which seemed hugely desirable at the time, in spite of the problems of finding space for the pipes. The suggestion of placing them horizontally between the ceiling and the roof being considered risky, the pipes were positioned in a corner by the back wall of the Ante-Chapel, which in those days was blank and dark. Cobb wrote of "the promptitude with which they speak, notwithstanding their distance (over 70 feet) from the player".⁶

⁶ Cobb, p. 30



*The organ of Trinity College Chapel, as it appeared before 1870.
Drawn by H.T. Lilley. Engraving from Freeman & Rowntree*

THE TWENTIETH CENTURY

In 1911 the organ's defects had become so prominent that the College Council decided to reconstruct the instrument entirely, entrusting the work to Messrs Harrison and Harrison of Durham who completed the project in 1913. The slow and noisy action was replaced by tubular pneumatic and electro-pneumatic systems in the Swell and Solo organs. The poor-quality reeds were all revoiced, and replaced by new stops where necessary; the Chorus reeds were placed on heavy pressure. The wind supply, which had been poorly distributed, was rearranged to improve its reliability, and numerous additional reservoirs were introduced. The 16' open metal in the Pedal organ was replaced by a new stop, and the open wood was rescaled, revoiced on heavier pressure, and placed in a more advantageous position. The Choir and Solo organs were rebuilt north and south respectively of the Swell box, in order to reduce overcrowding. Previously the Choir was alongside the Great, and the Solo occupied a very cramped position to the west of the Swell box. These alterations left the whole of the first floor to the Great organ, providing room for a much-needed longitudinal expansion of the Swell box.

Arthur Harrison revoiced the whole organ and added a few new stops. The new specification was drawn up by the Organist, Dr Alan Gray. There were four manuals, with sixty-one notes, and two and a half octaves of concave and radiating pedals of thirty notes. The seven Father Smith stops were preserved, alongside sixty-seven other speaking stops, with seventeen couplers, making a total of ninety-one drawstops. Among the stops were Ophicleide and Bombardon on the Pedal organ, Clarabella and Salicet on the Choir organ, Sub Bordun (32') and Contra Tromba on the Great, and a Tuba on the Solo. The lowest pipes of the Pedal 32' remained in the Ante-Chapel. Albert Schweitzer gave a recital on the new instrument when he visited Cambridge in 1922.

THE PRESENT ORGAN

In 1970 the Director of Music, Richard Marlow, advised the Fellowship that a new organ was needed. Following the trend of the recent work in the Wren Library, in which the Victorian accretions had been stripped away to reveal Wren's original design, Dr Marlow felt that the new organ should use the original Father Smith cases and pipework, to create an instrument in sympathy with the architecture of the Chapel. The most cogent reason for replacing the four-manual Harrison was that the old instrument was worn out, but its vast size and unwieldiness were no longer thought appropriate, and the mixture of tubular-pneumatic and electro-pneumatic action was unbalanced and unreliable, while problems such as the ciphering tuba stop caused unwelcome interruptions to services. The College Council's decision to take Marlow's advice and commission a new organ also provided the opportunity to restore a mechanical action instrument to Trinity.

The family firm of Metzler Söhne in Dietikon, near Zürich, was contracted to build the new organ. This was the first Metzler organ to be built in the United Kingdom.

The Harrison organ was dismantled during Dr Marlow's sabbatical and badly stored so that some valuable parts became unusable thereafter, including the rare Cavallé-Coll cor anglais rank. However, some ranks were re-used elsewhere, including a church and the Cathedral in Cape Town, South Africa, where the sounds heard by Stanford, Vaughan Williams, Alan Gray and Albert Schweitzer may still be recreated.

The starting-point for the new instrument was the use of the seven Father Smith ranks (from both the 1694 and 1708 instruments) as the core of the organ, and the original cases as the factor limiting its size. Metzlers' designer Bernhardt Edskes was given free reign to build an organ on an appropriate scale. Metzlers only accepted the

commission once they had heard the acoustics in the Chapel, and the instrument was designed, successfully, to bloom in this setting.

Metzlers used their own matured Swiss oak and meticulous craftsmanship, which has resulted in an extremely stable and reliable instrument. The organ has only been fully tuned twice since its completion in 1976 – whereas its predecessor had to be tuned almost weekly, at great expense. Besides the restoration of the mechanical tracker action, the salient characteristics of the organ are its artistic integrity, the durability of the instrument, the exceptional beauty of sound in all ranks, with its rich but gentle resonance, and the exquisite balance of sound with any combination of stops. The Swiss builders seem to have inherited Father Smith's genius for voicing, and have built an instrument entirely apt for the acoustics of the Chapel.

There are three manuals and forty-two stops, each with its own rank of pipes, with none of the 'borrowing' which was prevalent in the Harrison organ. Seven ranks are original: the 8' Principal, from Smith's 1694 organ, on the Rückpositiv; the 16' Principal on the Pedal; and on the Great, the 16' Principal, 8' and 4' Octave, $2\frac{2}{3}$ ' Quinte, and 2' Superoctave. The organ's idiosyncratic tuning can be difficult to match with other instruments such as brass, but its sweetness and resonance in the building more than compensate for this. One possible criticism could be that the instrument lacks gravitas, having no 32' stops. The reason for this was that Metzlers refused to build pipes outside the cases, a complete reversal of the previous situation where huge pipes were clustered in the Ante-Chapel. The brief being to re-use the Father Smith cases, this choice was made on grounds of artistic integrity, which was the guiding principle in all Metzlers' decisions.

The Trinity College organ is understandably regarded as one of the finest in the United Kingdom, and has devotees around the world, for whom it is the ideal instrument on which to play the music of Bach and his contemporaries.

ORGAN SPECIFICATION TODAY

HAUPTWERK (GREAT), C-F''

1• Principal	16
2• Octave	8
3 Hohlflöte	8
4• Octave	4
5 Spitzflöte	4
6• Quinte	2 ² / ₃
7• Superoctave	2
8 Sesquialter	III
9 Cornett	IV
10 Mixtur	IV-V
11 Trompete	8
12 Vox Humana	8

RÜCKPOSITIV (CHAIRE)

13• Principal	8
14 Gedackt	8
15 Octave	4
16 Rohrflöte	4
17 Octave	2
18 Gemshorn	2
19 Larigot	1 ¹ / ₃
20 Sesquialter	II
21 Scharf	III
22 Dulcian	8
Tremulant	

SCHWELLWERK (SWELL)

23 Viola	8
24 Suavial	8
25 Rohrflöte	8
26 Principal	4
27 Gedacktflöte	4
28 Nasard	2 ² / ₃
29 Doublette	2
30 Terz	1 ³ / ₅
31 Mixtur	IV
32 Fagott	16
33 Trompete	8
Tremulant	

PEDAL

34• Principal	16
35 Subbass	16
36 Octavbass	8
37 Bourdon	8
38 Octave	4
39 Mixtur	V
40 Posaune	16
41 Trompete	8
42 Trompete	4

• Father Smith ranks

COUPLERS: R-H S-H H-P R-P S-P

ORGANISTS OF TRINITY

Thomas Preston	1554-1559
Richard Brimle	1562-1566
John Hilton	1594-1607
Thomas Wilkinson	1609-1612
(?) Mason	1612-1616
Robert Ramsey	1616-1644
(Commonwealth – no Organists)	1644-1660
George Loosemore	1660-1682
Robert Wildbore	1682-1688
Charles Quarles	1688-1717
John Bowman	1709-1731
James Kent	1731-1738
Edward Salisbury	1738-1741
William Tireman	1741-1777
John Randall	1777-1799
John Clarke-Whitfield	1799-1820
William Beale	1820-1821
Samuel Matthews	1821-1833
Thomas Attwood Walmisley	1833-1856
John Hopkins	1856-1873
Charles Villiers Stanford	1874-1893
Alan Gray	1893-1930
Hubert Middleton	1930-1957
Raymond Leppard	1957-1967
Richard Marlow	1968-2006
Stephen Layton	2006-

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