

# CREATIVITY AT THE CASTLE

## The organ of St George's Chapel, Windsor Castle, and its recent tonal improvements

Paul Hale

The funeral of Prince Philip, Duke of Edinburgh, on 17 April this year, was notable for the superb music which so greatly enhanced the service. Watched by millions the world over, few could fail to have been impressed by the singing of the exquisite quartet, directed by James Vivian, or entranced by the sound of the organ, imaginatively played by Luke Bond. Many organists know that the organ in St George's Chapel is a particularly distinguished Harrison & Harrison rebuild from the mid-1960s. Not nearly so many will have known of the challenges and problems that the Harrison voicers faced in revoicing, rescaling and repurposing such a large quantity of much-altered old pipework to suit the French-leaning ear of the chapel's new organist, Sidney Campbell. But manage in the end they did, and the organ has spoken with its own distinctive voice for nearly 60 years. Recently, however, the opportunity arose to replace some of the least distinguished of the old pipework and to revisit the 1965 ranks voiced using the 'open-foot', flue-regulation, no nicking system which was then in vogue.

Rarely is the title of my column (*Something Old, Something New*) more appropriate than on this occasion. The organ in St George's Chapel, Windsor Castle, is an amalgamation of the efforts of at



Windsor console and nave

least seven major organ-builders since Samuel Green first installed it on the screen in 1790. The Samuel Green organ replaced an earlier instrument by Robert Dallam, rebuilt by Gerard Smith and later worked on by Green. The occasion for this was the erection of a new screen, as part of the internal reconstruction of the chapel over the decade 1780–90. The instrument started life with probably 17 stops on two manuals (Great and Choir) and it stood in a case designed by Henry Emlyn – the same case which, now divided north and south, remains to this day. In 1831, John Gray added open pedal pipes, by

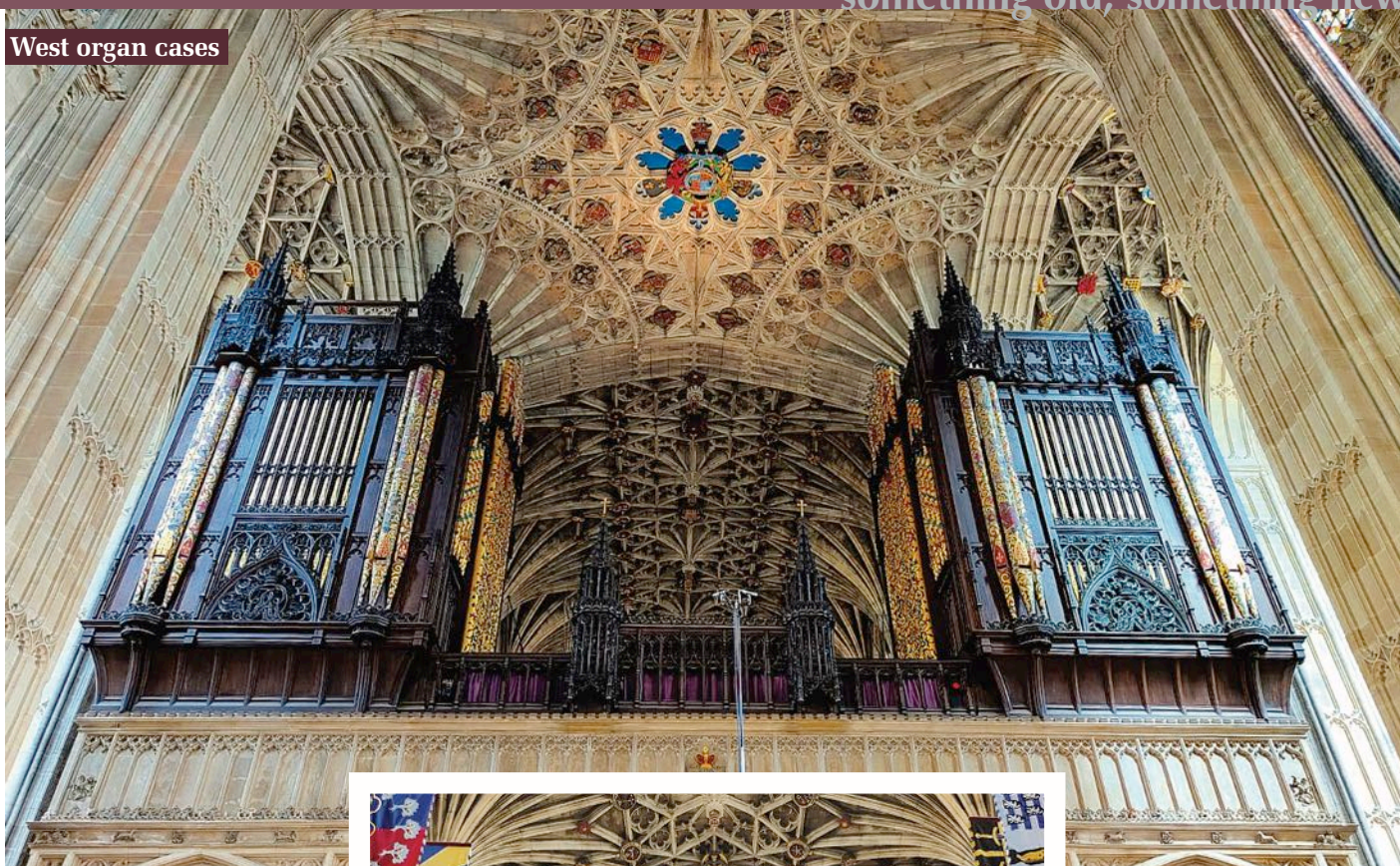
which time an 8-stop Swell had already arrived. Gray & Davison enlarged and 'improved' the instrument in 1838, 1855 and 1864. During the 1870s Joseph Walker worked on the organ so often as to suggest it had probably arrived at a condition when a fresh start would have been necessary.

With the advent of Walter (later Sir Walter) Parratt as organist, a complete rebuild soon came about, with Gray & Davison returning in 1883, to build a 42-stop 4-manual organ (see NPOR N09877). This fine instrument was tuned and maintained by Frederick Rothwell, then an employee of Gray & Davison, even though often apparently at loggerheads with his employer, Charles Davison. Rothwell was known to Parratt from working on the Gray & Davison at Magdalen College, Oxford, during Parratt's tenure there. Leaving G&D in 1889, Rothwell set up on his own account, and appears to have retained Parratt's support until 1907, when maintenance of the organ passed to J.W. Walker & Son. Removed to storage during the 1920s during a thorough renovation of the Chapel, the question of what to do with the instrument and its very solid case – which blocked the centre of the screen – came under discussion at the time that Parratt's successor, [Sir] Walford Davies, came on the scene in 1927.

Ideas were sought from organ-



West organ cases



builders. Arthur Harrison made a sketch of the case, divided either side of the screen, much as was in the event carried out – but his famous company was not appointed, quite possibly because they had no wish to carry out a joint project with Rothwell, as was the proposition on the table. Why would Rothwell have come back into the picture, one may ask? The reason was that Walford Davies had been perfectly content with his work at the Temple Church and had become accustomed to his console, with its miniature stop-keys set between the manuals, where other firms placed thumb pistons.

In the event, J.W. Walker agreed to work together with Rothwell and a completely rebuilt organ was installed in 1930 by Walker and Rothwell, the latter providing two consoles of the company's unique pattern, placed back to back on the screen. There were four manuals and 61 speaking stops (see NPOR D02818). The divided case, plus alterations to the



Quire and organ cases

screen and a new organist's staircase, were all designed and drawn out by Sir Harold Brakspear (1870–1934), the distinguished architect who was responsible for the 1920s restoration of the Chapel (for which work he was created a Knight Commander of the Royal Victorian Order). These two consoles were for more than 30

years used in all manner of performances, both in Walford Davies' time and during the era of his successor, Sir William Harris.

At this stage I must point the reader towards the superb book by Roger Judd, MVO – *The Organs in Windsor Castle, their History and Development* (Positif Press, 2015) which is a treasure-trove of detailed information and illustrations, including a section on the use of the Rothwell-Walker organ. I could not have written this article without constant reference to this handsome 270-page volume.

With the advent of Dr Sidney Campbell as organist, things were set to change. Campbell had been called in to devise a revised scheme for the Coventry Cathedral organ (the first proposed scheme, which he scrapped, being of almost unbelievably conservative dullness), and the Coventry organ as we know it is entirely his tonal conception. In applying the same principles to the



Windsor rebuild, the planning of which overlapped with the Coventry project, Campbell and Harrison's showed much enthusiasm for producing a very similar organ to Coventry, but found themselves severely hampered by having to use most of the pipework and layout of the Walker/Rothwell rebuild. H&H were called back many times over the months once the organ had been handed over, in the summer of 1965, with numerous ranks being revoiced and altered. The result was an instrument of real character, immediately identifiable by its sound, on which Campbell made a superb recording of French organ works including the Roger-Ducas *Pastorale*.

In 1983 Harrison & Harrison dismantled much of the organ for a thorough cleaning, some releathering, and attention to sections which had suffered from the chapel's lack of humidity. The Choir Fifteenth was exchanged for pipes formerly the Choir Principal in the organ of Peterborough cathedral (in organ-building, recycling is nothing new!) The Swell reeds – never stable in pitch – were revoiced once more in the hope that they would finally settle down. Following the cleaning of the Chapel's exquisite internal roof, in 2001–2 the organ was cleaned again and fitted with a new combination piston action, with further attention to ranks of pipes not giving of their best – the Great reeds, diapason chorus (16ft to Mixture), bass of the 32ft reed, Pedal Principal, Swell Vox Humana, and so on. In 2014 the Orchestral Oboe and Corno di Bassetto were revoiced.

James Vivian, director of music at St George's Chapel, takes up the tale:

*Over the last five or six years, it was evident that the organ at St George's needed some regular house-keeping work to ensure its reliable operation over the short- and medium-terms. With this in mind, Harrison and Harrison, who cared for the organ until July 2019, undertook some work each year to remedy some wind leaks. At the same time, they also overhauled some of the slider machines which were showing signs of ageing. Some minor tonal work also came into the scope of the work (for instance, the revoicing of the two Solo low-pressure reeds). The work was undertaken with their usual high standards in evidence. (As an aside, I look back with fondness to the end of my time as Director of Music at the Temple Church when, after many years of planning, I oversaw the major 2013 renovation of the famous H&H instrument. It*



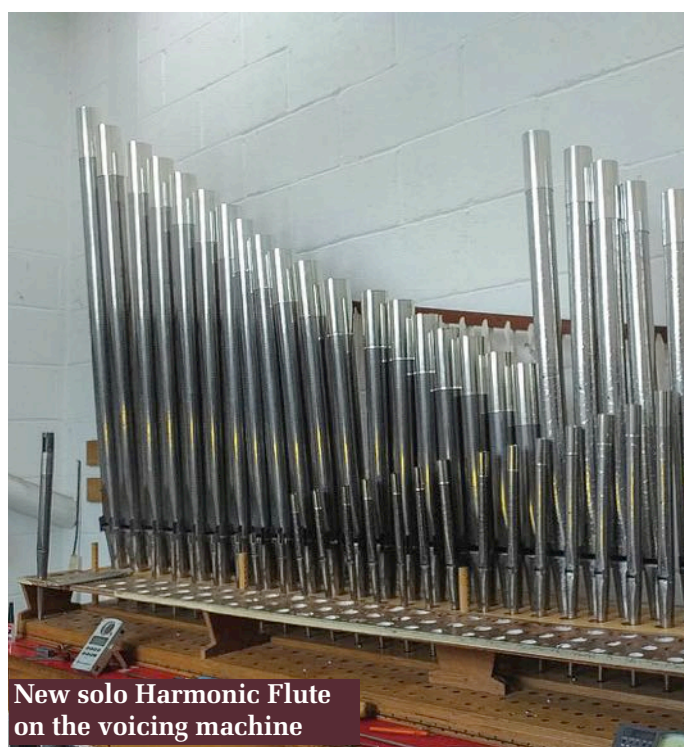
**James Vivian with Solo Gamba during voicing**

*was a true joy to work with Mark Venning and his team and I will be ever grateful for Andrew Scott's voicing artistry that re-established – to my mind anyway – the Temple's instrument as one of the best in London and the country.)*

*In 2018, the Dean and Canons of Windsor received a grant which was kindly allocated to provide the opportunity to undertake work to the organ beyond the usual regular maintenance and tuning. The resident organists were in agreement that certain ranks of pipes would benefit from being replaced. This seemed an ideal moment to reassess the instrument's role in the life of the Chapel and careful thought was put into how this might be achieved. After much deliberation and informal advice from colleagues, it was felt that Nicholson & Co would*

*provide an excellent level of service and from early discussions with Andrew Caskie and James Atherton it was evident that their 'fresh pair of eyes' opened up an exciting avenue of possibilities to enhance the instrument.*

*It is well documented that H&H had to reuse a great deal of existing pipework in 1965 for financial reasons.*



**New solo Harmonic Flute on the voicing machine**

There is no doubt that the result was a magnificent instrument, although it is interesting to imagine what might have resulted if – as at Coventry – the instrument had been brand new. With this in mind and after careful thought, it was felt that some new or good-quality second-hand pipework would be of value to replace pipework that seemed to compromise the instrument.

The following stops were installed:

### Great Organ

Stopped Diapason 8'

(new pipework replaced existing rank)

Harmonic Flute 4'

(new pipework replaced 4' Open Flute)

Octave Quint 2 $\frac{2}{3}$ '

(H&H pipework from Worcester Cathedral replaced 2' Block Flute)

### Swell Organ

Dulciana 8'

(Hill pipework from Worcester Cathedral replaced 8' Echo Gamba)

Vox Angelica 8'

(matching vintage pipework replaced 8' Voix Celestes)

Contra Fagotto 16'

(new pipework replaced existing rank)

Cornopean 8'

(new pipework replaced existing rank)

Clarion 4'

(new pipework replaced existing rank)

### Solo Organ

Orchestral Flute 8'

(old Great 2' Block Flute from middle C)

Open Flute 4'

(old Great 4' flute, revoiced, replaced 4' Concert Flute)

Gamba 8'

(new pipework replaced 8' Viole)

Voix Celeste 8'

(new pipework replaced 8' Viole Celeste)

In addition, some revoicing and balancing of other ranks was undertaken. The bellows to the console drawstop machines were also showing signs of failing and so the opportunity was taken to replace this mechanism with drawstop solenoids. A Sub Octave coupler was added to the Swell division (the extra stop-knob was accommodated as all jamb plates were remade) and the console's side panels were remade as lockable doors with the space left by the removal of the stop machines employed for specially made removable music shelves.

The reaction of those who have played the organ since the 2019 work has been unanimously positive and I

have been impressed with the quality of Nicholson's work. One distinguished organist who knew the organ over many years described the instrument as still sounding like the Windsor organ. This was the intention. The organ is still exciting, versatile, but has a new-found blend which still fills the chapel with an exciting and colourful sound. I would also like to think that Dr Campbell might have approved of the new Solo strings (unashamedly garlic in flavour but very useful in psalmody) and the Great 4' Harmonic Flute (it is still possible to use the Solo 4' flute with the new Great Stopped Diapason if something different is needed). It is a joy to hear on a daily basis and thoughts are now turning towards work on the mechanical side.

James Atherton, Nicholson's Head Voicer, who was responsible for the tonal alterations (into which he put an enormous amount of thought), has helpfully submitted a detailed account of the work undertaken (below), which forms an important historical record in addition (I hope) to being of interest to readers of *Organists' Review*. He writes:

*I am very fortunate in being probably the only Head Voicer who is not only a professional singer and conductor, but has worked on an organ that I have been accompanied by on a daily basis. As an erstwhile member of the Choir and Community of St George's I feel I have an affinity and insight into the music and organ there.*

*In addition to the tonal work listed above by James Vivian, other tasks entailed:*

- Re-voicing of Solo reeds; pressure lowered for enclosed reeds, and raised for Orchestral Trumpets.
- Re-voicing and rebalancing of Great flues.
- Re-voicing and rebalancing of Great reeds on lower pressure.
- Rebalancing and some re-voicing of Swell flues.
- Re-composing and re-voicing Swell Mixture.
- Re-voicing and rebalancing of Choir flues.
- Rebalancing and some re-voicing of Screen Choir.
- Rebalancing of Pedal flues.

### Great Organ

The Great organ is buried in the bottom of the South case, with the Solo and Great reeds above and the small Pedal soundboard and Trombone/Tromba unit behind. It is not an ideal situation and the whole division had to shout to be heard above the powerful reeds. There was only one course of action to guarantee success, and that was to remove all the pipework back to the factory for re-voicing and rebalancing. The flutes were an old 8ft stopped rank of unknown origin with lowered top lips, a 1965 open-toe 4' Open Flute of large scale and a 2' Block Flute in the same style. None of these stops blended with the Diapasons and



New Swell reeds



Replacement Swell strings



sounded somewhat woolly and unfocussed out in the building. The Mixture was open-toe and regulated flat out; it struggled to blend. The Open Diapason No.2 and Principal had both had their tips opened up fully and their low lips 'dubbed in' to try to freshen them up (they are old stops from the Walker/Rothwell period), and the Open No.1 had been softened to the extent that it, and the 16 Double Open, sounded rather fluty and undistinguished. There was also the unusual omission of a Twelfth/Octave Quint in the chorus, in favour of the less useful 2' Block Flute.

All the Great diapasons have been revoiced to sound as a coherent chorus. The Great reeds, which dominated everything, have been reduced in pressure and now top the chorus so that when used with Great to Fifteenth the flues can still be heard. The Open No.1 now has a clean and crisp voice with great power, and the 16' really sounds like a diapason. The Open No.2 has been considerably softened and has an attractive singing quality (demonstrated so beautifully by Luke Bond during his improvisation for the funeral of HRH the Prince Philip); this blends well with the new flutes. The addition of the Octave Quint provides some charming solo effects, but mainly ensures that the harmonic series of the Principal chorus is complete when the Mixture is drawn, and, importantly, the English 'Great to Twelfth' is now available. The Mixture has had its tip holes coned-in and has been re-voiced with light nicking in the languids and adjustments to the cut ups where required. The whole chorus 'adds up' and makes musical sense; contrapuntal pieces have energy and clarity and there is a new richness in the foundation stops.

### Swell Organ

The Swell has had similar though not quite such intrusive attention. Almost all re-voicing and rebalancing work was attended to on site. The Mixture (which like the Great was open-toe and rather strident) was removed to the workshop to have its tip holes coned in and for recomposing and re-voicing. This stop now shines above the flues without drawing too much attention to itself. The 16' Quintaton has had its tips coned in and some light nicking and now sounds with more sonorous body. The so-called Violin Diapason (the old Gray & Davidson Swell No.2) now has warmth and beauty so that it blends well with the 8' Gedackt which has also been considerably softened, as has the Principal. The tone of both strings was undistinguished, and the only course of action was to replace them, as nothing further could have been done to improve them. We were fortunate to have in stock the Hill Choir Dulciana from the old Worcester Cathedral organ, which James Vivian recalls with great fondness from his associations with the Cathedral. We provided this with a new bottom octave and re-voiced the treble on the higher Windsor pressure. It has come out as a stop of great quality and gentleness which we have paired with the old Swell Salicional from Magdalen College, Oxford, (later in the chapel of St Edward's School), revoiced as a Vox Angelica. These strings are gentle and harmonically rich; they sound divine with the 8' Gedackt and the Angelica can even be used with the Diapason. The 4' Flute has also been softened and the blend between the softer flues is now all that one could hope for. The Nazard and Tierce were too soft; these have been loudened so that they can be used in a solo role or to colour

the chorus. The Tierce is particularly successful for creating the archetypal English Sesquialtera when drawn with the Fifteenth and Mixture. The Oboe has been greatly softened with some re-voicing and now sounds rich and creamy, the volume being almost the same as the softened Diapason, creating the desired blend with the other foundation stops.

The Swell heavy pressure chorus reeds, all old pipes much re-worked, were unfortunately still below standard. They didn't blend, stay in tune, or speak well, despite much skilled H&H attention over the years. The resonators of the Cornopean and Clarion had been altered several times, and new Bertounèche French style shallots had been fitted. The Contra Fagotto, an old Oboe with a new bottom octave added in 1965, was no more successful than its partners. The only option was to replace these with new pipes, specifically scaled and voiced to take their role in the revised tonal scheme of the organ. These are fiery and powerful, without any brashness of tone. The 16' is rich and broad and the Cornopean and Clarion are brassy. We decided that French tone was not appropriate, but we did want to keep the tone bright and the vowel sound wide (more 'a' as in 'cat' than 'o' as in 'gosh'). To achieve this, we used open and tapered English shallots, close to the style of William Hill, and the tongues are generous but not too thick, with minimal weighting. This produces reeds which blend but have plenty of character and panache. In terms of volume they match the revoiced Great reeds perfectly, and can be added with the box closed, behind the Great foundation stops, almost imperceptibly. The ensuing crescendo is hair-raising at the console and fabulously thrilling in the building; everything one could wish for from a battery of Swell reeds. It has been such a blessing to have been given the opportunity to replace them – such a shame that this appears not to have been an option back in 1965.

### Choir Organ

The Choir Organ is something of a curiosity. The pipework is mostly from 1965 and spoke with a neo-baroque voice not to be found anywhere else in the organ (with the exception of the Mixtures and one or two other stops). It was particularly intrusive at the console and sat uncomfortably with the other departments. Everything has been re-voiced and reworked. This little division now speaks with clarity and charm and blends attractively with the other divisions without standing apart. The Screen Choir was also a confusing division. It was too loud to be useful in accompanying the Choir as it is so detached from the rest of the organ. It was used sparingly in hymns and this came to be its only role. We have softened all the flues, and the Mixture has been recomposed to provide colour without dominating. The flutes are now beautiful and can be used to accompany the choristers in plainsong. The diapasons are delightful,

with an old English charm. The so-called Trompette rarely finds a use, so has been left alone for now.

### Solo Organ

The Solo division has been altered beyond recognition. The flutes were a conundrum: the Cor de Nuit was of mixed origin with an unattractive and woolly treble; the Concert Flute was the old Walker 8' Wald Flute transposed and didn't blend. As we had removed the old flutes from the Great, I thought we might be able to do something with the 4' and 2' (the Stopped Diapason was scrapped) so that they might be put to better use. We were able to make a beautiful and rich 8' Orchestral Flute using the existing Cor de Nuit bottom two octaves, re-voiced, and from middle C the 1965 Great 2' Block Flute re-voiced (i.e. the old bottom C of the 2' Block Flute is now middle C of the 8' Orchestral Flute). The 4' Open Flute is the 1965 Great 4' Open Flute and we have coned-in the tips and thoroughly re-voiced this stop. It proves a lovely partner to the Orchestral Flute, and not quite as powerful. Both these stops are gentle in the bass and have a marked crescendo as they ascend the compass, ensuring their ability to carry melodically.

We installed new strings and were keen to avoid a harsh 'orchestral tone'. We made these from spotted metal, with a Haskelled bass for the bottom nine notes of the Gamba, to avoid the previously extensive mitring. The Voix Celeste goes down to bottom A and is tuned sharp, to a wider beat than the Swell Angelicas (which are tuned flat and restful). The way the two sets of strings (Swell and Solo) interact in various ways is very pleasing.

The Orchestral Oboe and Orchestral Clarinet have both been revoiced. The Clarinet is now rich and smooth, and the Oboe has no hint of trumpet about it; it is a real Orchestral Oboe sound. We are delighted at how these stops have come out. It is worth mentioning that we have reduced the wind pressure of the Solo from 6½" to 5¼" and this has meant that the whole division now blends better with the rest of the organ. The Orchestral Trumpets were previously a little underwhelming as solo stops. The pressure has been increased from 8–11" and with some revoicing work they are now terrifically exciting.

The Pedal upperwork is an assortment of old reworked material. We have softened it all so that it blends rather more successfully in combination, the Great and Pedal flue choruses now being nicely balanced when heard in the Chapel. Roller beards were fitted to the mouths of the bottom octave of the Pedal 16' Open Diapason, to encourage them to speak well and promptly (these are the old Walker/Rothwell 32' Violone, cut down and re-scaled in 1965). We have dropped the pressure of the 8' and 4' so-called Trombas (which have 1965 French shallots) to 3", reworking them so they now fit in well with the other flues and reeds. The 32' Sub Bourdon (the old Walker 16' Open Wood, stoppered, which lies



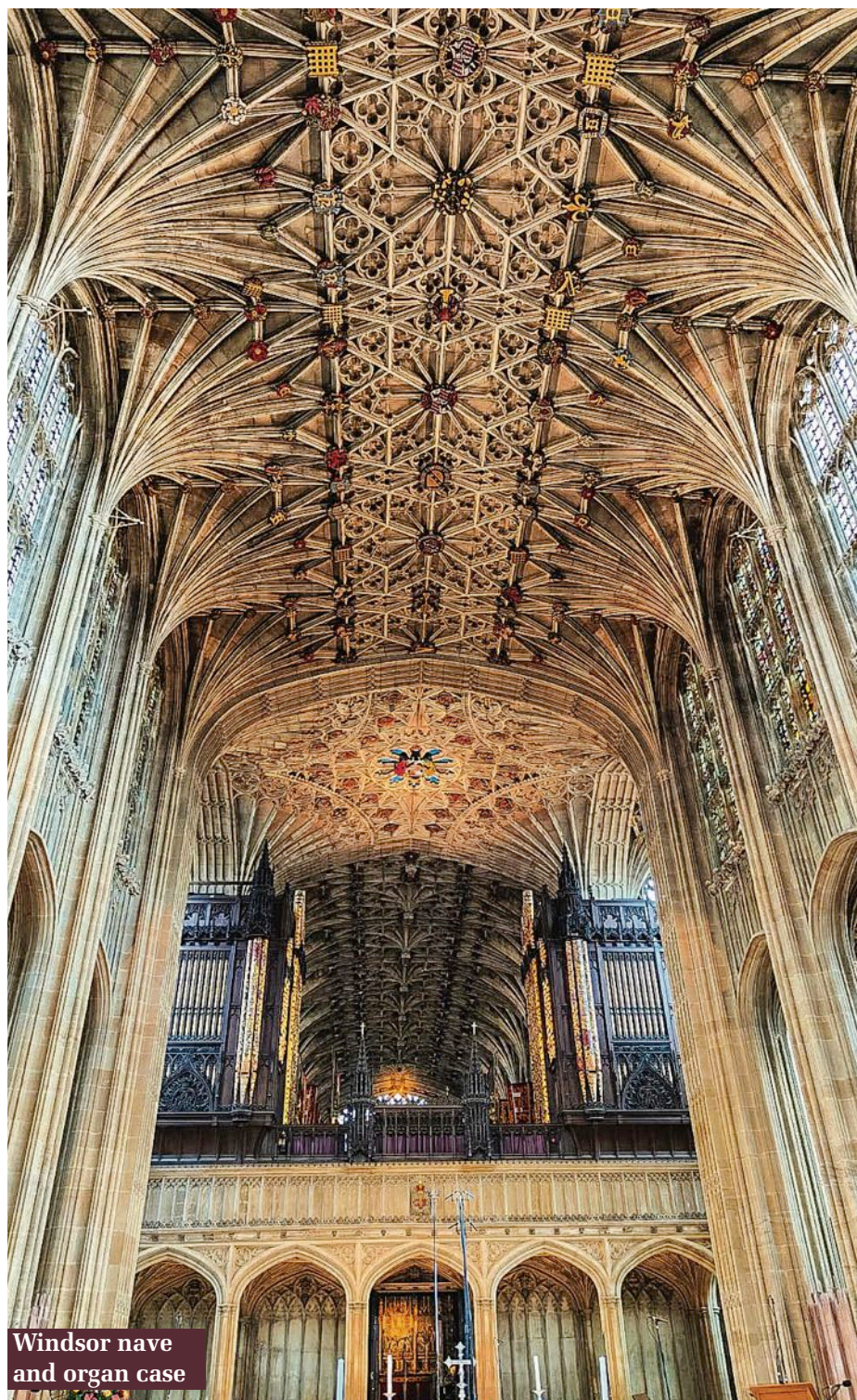
on top of the Swell box) has had its pressure increased slightly and now has more presence, without being too loud to underpin the softer combinations.

The organ now speaks with a unified voice and has an added integrity and logic to its tonal make-up. It is no longer necessary to use full organ to accompany a full congregation, and the members of the Choir feel that they are being supported by the organ, rather than competing against it.

There is no less excitement in the tutti, no less clarity in the plenum, in fact the opposite might be said. It sounds like an organ of great musical personality and I would like to think that Sidney Campbell would not only approve of, but endorse the new chapter in the story of this organ.

Only the fullness of time will tell whether the latest work has indeed brought to this organ that final level of finesse which the necessary use of so many revoiced old ranks hindered in 1965. However, everyone watching or listening to Prince Philip's funeral would have heard several of these new stops, with no idea of what they were hearing, other than that the sound was very fine.

I'm sure that Dr Campbell would indeed have been delighted that his imaginative and colourful scheme has finally been realised in all its splendour, through the first-class work of two great firms of British organ-builders – Harrison & Harrison and Nicholson & Co.



Windsor nave and organ case



**Paul Hale is a professional organ consultant, recitalist and choral conductor.**

Whilst Organ Scholar of New College, Oxford (1971–4), Paul Hale began to write about the organ – his first published piece was in *Organists' Review*, of which he was later to become Reviews Editor and then Editor (1990–2005). A noted recitalist, lecturer and choir trainer, Paul is well-known in the UK, in Europe and in the USA. As well as being an Organ Adviser for the Dioceses of Southwell and Lincoln, Paul is an accredited member of the AIOA and has designed many new and restored organs throughout the UK. He is a diploma examiner for the RCO, and has been awarded honorary fellowships by the GCM and the RSCM and the Archbishop of Canterbury's 'Thomas Cranmer Award' for his contribution to church music. More information is available at [www.PaulHale.org](http://www.PaulHale.org)