

# The new Nicholson organ in Radley College Chapel

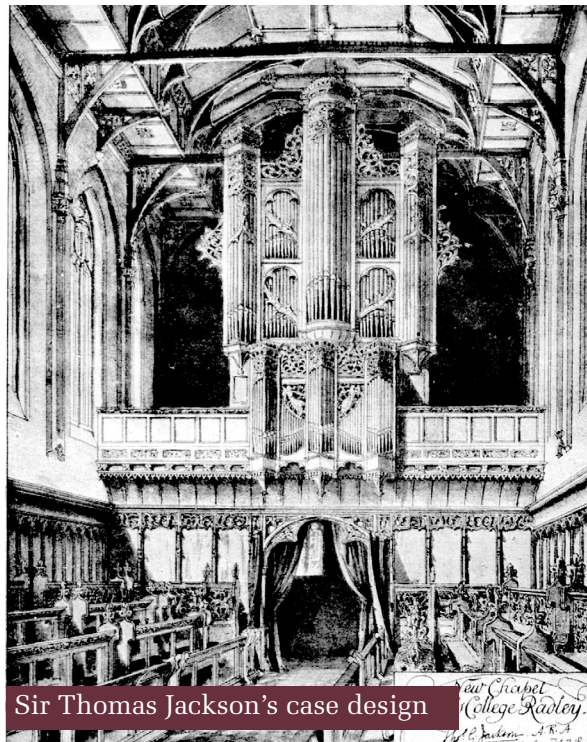
Paul Hale

Radley College, an independent boarding school for boys, was founded in 1847 in spacious grounds a few miles from Abingdon. The current chapel was designed by the leading Oxford architect Sir Thomas Jackson and built in 1895.

This organ placed in the chapel had been built by the widely respected Irish organ builder Telford in 1848 for the old chapel and rebuilt for the new chapel in a splendid and richly carved case by Jackson – arguably his finest work. Over the years it was enlarged to become a five-manual instrument of no fewer than seventy-one speaking stops, with the largest Pedal pipes flanking it, either side of the West window. More seating space being needed in the gallery, in 1938-9, Rushworth & Dreaper rebuilt this instrument, placed in a chamber on the north side, formed by removing a window and building an external structure fronted by a grille.

A small chamber was also created at the S.E. end of the chapel for the Choir organ. It had a relatively modest forty-six speaking stops over three manuals, with a ‘floating’ Tuba.

With heavy daily use for over forty years, this organ needed rebuilding or replacing. The task of making a new organ influenced by neo-classical principles, with tracker action, fell to Hill, Norman & Beard, who were obliged to build the organ partly outside the old chamber and mainly within, speaking across at the opposite wall. The case was



Sir Thomas Jackson's case design

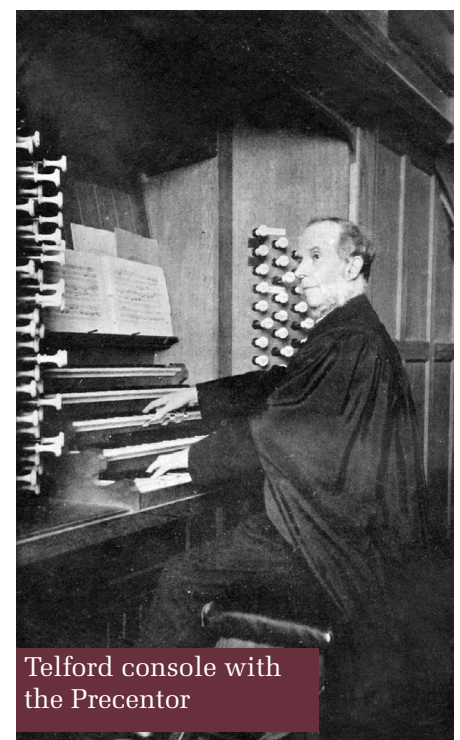
designed by Herbert Norman. It formed a frontage to what remained essentially an organ in a chamber rather than fully encased. Installed in 1979-80, the main organ had forty-three stops; later a seven-stop section was installed in the south-east chamber to aid singing at east end of the chapel.

In due course the action to this organ wore out and as the instrument had never been loud enough to lead the hearty singing which is a feature of Radley College Chapel services, the College determined to commission a new organ. The advent of this instrument helpfully coincided with an eastward extension of the chapel to create a stunningly beautiful new sanctuary and more pews for pupils. The extra space thus created for boys allowed an

organ to be returned to the west gallery, which, having already been extended in 1979, was extended further to allow for more seating as well as for the new organ.

The Succentor, long-serving College organist Timothy Morris, writes of his vision:

The challenge at Radley was to build an instrument which supports both the chapel choir, with its choristership scheme for boys from local schools, and the strong tradition of congregational singing which is one of the most memorable features of Radley's Chapel. The school also has a good number of organ pupils – already growing rapidly since the new organ was completed. This means the instrument needs to have a very wide range of



Telford console with the Precentor





HNB organ case design 1979



1979 organ

dynamics, along with colourful and interesting sounds to support a variety of organ repertoire. This is quite a challenge, and one to which the old organ was, sadly, unable to rise. Not only was it too quietly voiced, but its position on the side of the Chapel in a chamber was fatally flawed, as the sound simply did not travel into the main body of the building.

After several years of research and planning, tenders were sought and a new organ commissioned from Nicholson & Co of Malvern. Managing Director Andrew Caskie explains the company's vision for this organ:

A purpose-designed pipe organ for a school chapel has some marked differences from its church counterpart. First, the building

is regularly packed, so the organ must be voiced boldly to support effortlessly the singing of a full congregation. Secondly, the organ must be capable of accompanying a very wide repertoire, liturgical and secular, both choral and in concert with other instruments. That calls for a large dynamic range that extends down to the smallest pianissimo. Thirdly, it must serve as a teaching instrument for pupils learning the organ. To meet this last requirement, it has been the fashion in recent years to design classical instruments that have all stops of the same dynamic but different pitch, and manual divisions that balance in volume. To an extent, the 1979 organ at Radley College was an early example of such a type. While ideal for small instruments, giving the maximum number of usable stop combinations and tone colours, such lightweight organs are proved inadequate when required to underpin hearty congregational singing or hold their own with other instruments. With the eastern extensions of the chapel, the new organ routinely has to be able to accompany more than 800 voices with ease. Our response to these widely differing requirements was to design an organ with most, but not all, stops of a similar dynamic to give a wealth of usable stop combinations, but to include other stops of greater presence to give the instrument more breadth of tone. Individual stops should be full of harmonic interest and there should be ample upperwork, but all should be supported and underpinned by full-bodied and warm foundational stops, especially as bass pitches are not well supported by the chapel's acoustics.

The need to maintain seating numbers in the chapel limited the footprint and height available for a new organ in the gallery; to build an organ of adequate size, some of the instrument has had to be located in the existing chamber. A new pipe organ should not be thought of as simply a source of 'tuned noise', but a cohesive musical entity. We therefore felt it imperative that the manual divisions were all kept together in the new gallery case. The short wavelengths of higher-pitched sounds do not travel round corners well and need 'line-of-sight'



with their intended audience. The longer wavelengths of lower-pitched sounds do, however, travel round walls and pillars effectively. We have therefore located most of the Pedal Organ in the present chamber, on electro-pneumatic action, the key actions otherwise being tracker, with no electrical or pneumatic assistance. Played at most volume levels, the spatial separation between the manual divisions in the gallery and the Pedal Organ in the chamber is not discernible in the chapel. Nonetheless, we therefore felt it important to locate the quietest Pedal Organ rank (Pedal Sub Bass – original Telford pipes) in the main gallery case. The Great/Pedal Open Diapason 16ft is also in the main gallery case, forming much of the façade.

The organ case takes inspiration from the new eastern extension and the original Jackson case. A consistent feature of Gothic architecture is to direct the eye upwards; we have accordingly tried to give our case a sense of height and sweep. The wood is European figured oak, polished and stained



The new Nicholson cases



The Nicholson console, with Victorian touches



to a tone that matches the original woodwork in the chapel. The Pedal Organ chamber façade takes the form of an oak tracery screen that matches the windows around the chapel – and the one that would originally have been here.

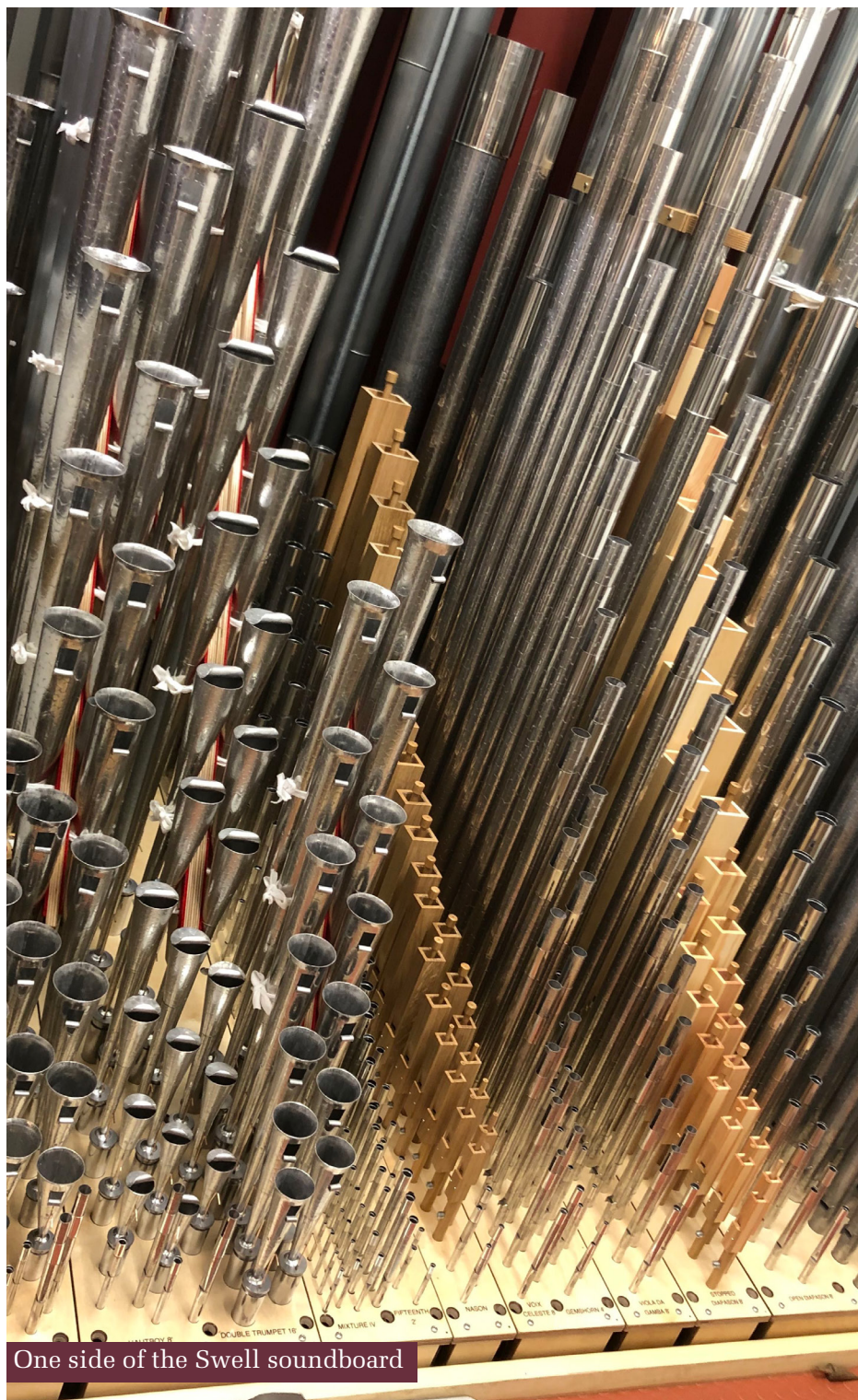
The organ was installed and tonally regulated during 2021, an inaugural recital being given by Thomas Trotter on March 12th 2022.

James Atherton, Head Voicer at Nicholson's, who executed the scaling and voicing of the tonal scheme, offers the following appraisal of his aims:

The chapel is large, with pleasant acoustics, but which eats bass frequencies at an alarming rate due to the enormous windows. Thus, the Pedal is founded on a generously-scaled Open Wood, made from solid

timber. It is on 5ins wind pressure, with beards fitted to the bottom octave, and it supports the rest of the organ very well. A 32ft stopped Contra Bass, also with beards, provides a gentle but profound sonority under the Swell strings but also is felt under the plenum. There is a metal Principal chorus up to a bright Mixture II and an independent 16ft Fagotto, which is a perfect for *mf* counterpoint. The persuasive Posaune rank (32/16/8), on 7ins wind, is everything one wants from a large pedal reed – brassy, characterful and exciting. As the Pedal action is electro-pneumatic, we were able to create various 32ft colours, partly by simple extension, and, for, the 32ft 'Harmonics', synthesising a 32ft reed in the manner established by John Compton. It adds greatly to the 32ft Posaune or can be used in its place for a different sonority.

The Great organ has a bold principal chorus based upon a slotted Geigen – a more characterful stop than an ordinary 'Open No.2'. I voiced this chorus in a straight-line manner: each component of the chorus up to the powerful IV Fourniture is the same volume at each given point. It is bright and engaging; minimal nicking in the flues give it energy without any sense of being forced. The narrow-scaled Seventeenth has the ability to completely change the character of the tutti, joining the Twelfth for a 'Sesquialtera' which works as well with the flutes as it does with the principals. The Clarabel Flute is wooden and broadly-scaled. It is warm and blends well with the Geigen. The Open Diapason is a large-scaled stop, slotted throughout, underpinning the manuals, wrapping the Radley boys in a warm hug as they sang *Jerusalem* on the organ's maiden voyage (which brought a tear to my eye and to our works' manager Tim Bennet's). They used to be able to out-sing the previous organ, they can't out-sing its successor! The Great Trumpet is fiery without dominating; where it naturally tails off in the treble, the Fourniture takes over in the *tutti*. It may be of interest to know that we have used a subtle technique often employed by our founder, John Nicholson, in that the principal chorus pipes, throughout the organ, have slightly tapered bodies. This



One side of the Swell soundboard



gives further interest to the overall sound and improves blend. It is akin to that ingredient in a favourite dish in you can't quite work out, but which makes it so delicious! As we were limited to the organ's gallery footprint, and therefore internal space, there are compromises in the specification: only three 8ft flues on the Great and no Solo organ for example. The 4ft Flûte Harmonique on the Great is purposely enormous. It is *the* solo flute and has a lot of work to do. In combination with the 8fts it is perfect for romantic French repertoire.

The Swell organ is based on a Diapason, with a  $\frac{7}{9}$ th taper. It has relaxed charm and blends with the warm Stopped Diapason. A 16ft Bourdon, open metal from tenor G, is rich and gives weight to the chorus stops, without muddiness. The strings are purposely quite narrow, with a deliberate French accent. They still work well in Howells but are so much more useful than the ubiquitous 'English' strings. The tapered 4ft Gemshorn is bright and the Fifteenth even brighter. The Mixture is full and adds excitement. There is a charming little 4ft Nason of oak which compliments the Stopped Diapason and the strings. Drawn with the Bourdon it is delightful played up the octave. We want the students to explore this instrument – trying stops and combinations up or down an octave – thus discovering treasures in unexpected places. The Hautboy is designed to work equally well in French or English repertoire, contrasting with the chorus reeds, which are notably powerful, leading to a truly impressive 'Full Swell'. I used bird-beak shallots in the Cornopean and Clarion, and open parallel shallots in the Double Trumpet. We do not use harmonic trebles in our chorus reeds, as harmonic trebles, whilst adding power, tend to dull and thicken the tone. We like the upperwork to shine through, as all good early Victorian builders, including our own Founder, understood.

The Choir organ has a gentle but characterful Salicional and a canistered Bourdon, designed to blend well as a warm foundation to the department. There is a fully developed flute chorus up to Tierce, generously-scaled and boldly



Choir Organ and Great action

voiced; it is thus perfectly possible to play French classical repertoire with a degree of authenticity on this organ. The bright 4ft Principal and 2ft Octave, both narrow-scaled, form a perky chorus with either or both of the 8fts. There was no room for any further stops and so the Larigot is scaled and voiced in such a way that it is a flute in the bass and tenor registers and become more like a principal as it ascends the compass. Drawing it with the principals gives the impression of a small mixture; using it with the *Cornet séparé* enriches a *Tierce en taille*. The Clarinet is a new design, broadly-scaled with trumpet shallots. It is rich and woody, not too loud, so one hardly misses the fact it is unenclosed. The Tuba Mirabilis is also a new design for us. We have taken our usual Willis-inspired Tuba scale and opened up the

shallots considerably further than we would normally do. Given the 15ins wind pressure, the result is a stop of arresting brilliance which can be heard over the full organ in single notes – ideal for leading a full chapel singing a favourite hymn.

Our aim was to produce an organ which students would approach with lively anticipation, by which the music staff would be excited, and of which the whole school would be proud; an instrument to inspire Radley boys to give of their best when singing their hymns. It is for others to judge whether that has been accomplished, but we feel quietly proud of this latest Nicholson school organ.

Tim Morris comments:

The great strength of the new instrument is the quality of voicing:



GREAT ORGAN		
Double Open Diapason		16
Open Diapason		8
Geigen		8
Clarabel Flute		8
Octave		4
Flute Harmonique		4
Twelfth		2 $\frac{2}{3}$
Super Octave		2
Seventeenth		1 $\frac{3}{5}$
Fourniture (19.22.26,29)		IV
Trumpet		8
Tremulant		
SWELL ORGAN		
Bourdon		16
Open Diapason		8
Stopped Diapason		8
Viola da Gamba		8
Voix Celeste (AA)		8
Gemshorn		4
Nason		4
Fifteenth		2
Mixture (15.19.22.26)		IV
Double Trumpet		16
Cornopean		8
Hautboy		8
Clarion		4
Tremulant		
CHOIR ORGAN		
Bourdon		8
Salicional		8
Principal		4
Spire Flute		4
Nazard		2 $\frac{2}{3}$
Octave		2
Recorder		2
Tierce		1 $\frac{3}{5}$
Larigot		1 $\frac{1}{5}$
Clarinet		8
Tremulant		
Tuba Mirabilis (H.P. wind)		8
PEDAL ORGAN		
Contra Bass	A	32
Resultant Bass	B&A	32
Open Wood	B	16
Open Diapason	Great	16
Sub Bass	A	16
Quint	A	10 $\frac{2}{3}$
Octave Wood	B	8
Principal	C	8
Bass Flute	A	8
Fifteenth	C	4
Flute	A	4
Mixture (19.22)		II
Contra Posaune	D	32
Harmonics (5 pitches)	B&A	32
Posaune	D	16
Fagotto		16
Double Trumpet	Swell	16
Clarion	D	8
WIND PRESSURES		
Great		115mm
Swell		115mm
Choir Flues and Clarinet		102mm
Tuba Mirabilis		380mm
Pedal Flues & Fagotto		130mm
Pedal Posaunes		200mm



A close-up of the central tower of the main case

robust and powerful where needed, but with subtlety and colour, too, and a hugely effective Swell box which enables the organ to match a solo treble just as effectively as 750 boys singing a favourite hymn. Getting it back into the centre of the gallery was a triumph, too; it helped enormously that everyone associated with the project was unanimous in insisting this was the only solution, but also important was superb work by our architectural planning consultant, who just happens to

be a former chorister parent. A completely new instrument of this size is a rare privilege, and it has been hugely successful.

I hope that this article will tempt readers into seeking out public events featuring the new Nicholson at Radley. It has been a joy being involved right through this project and a particular satisfaction that all concerned seem thrilled with the result – the boys of Radley College not least.