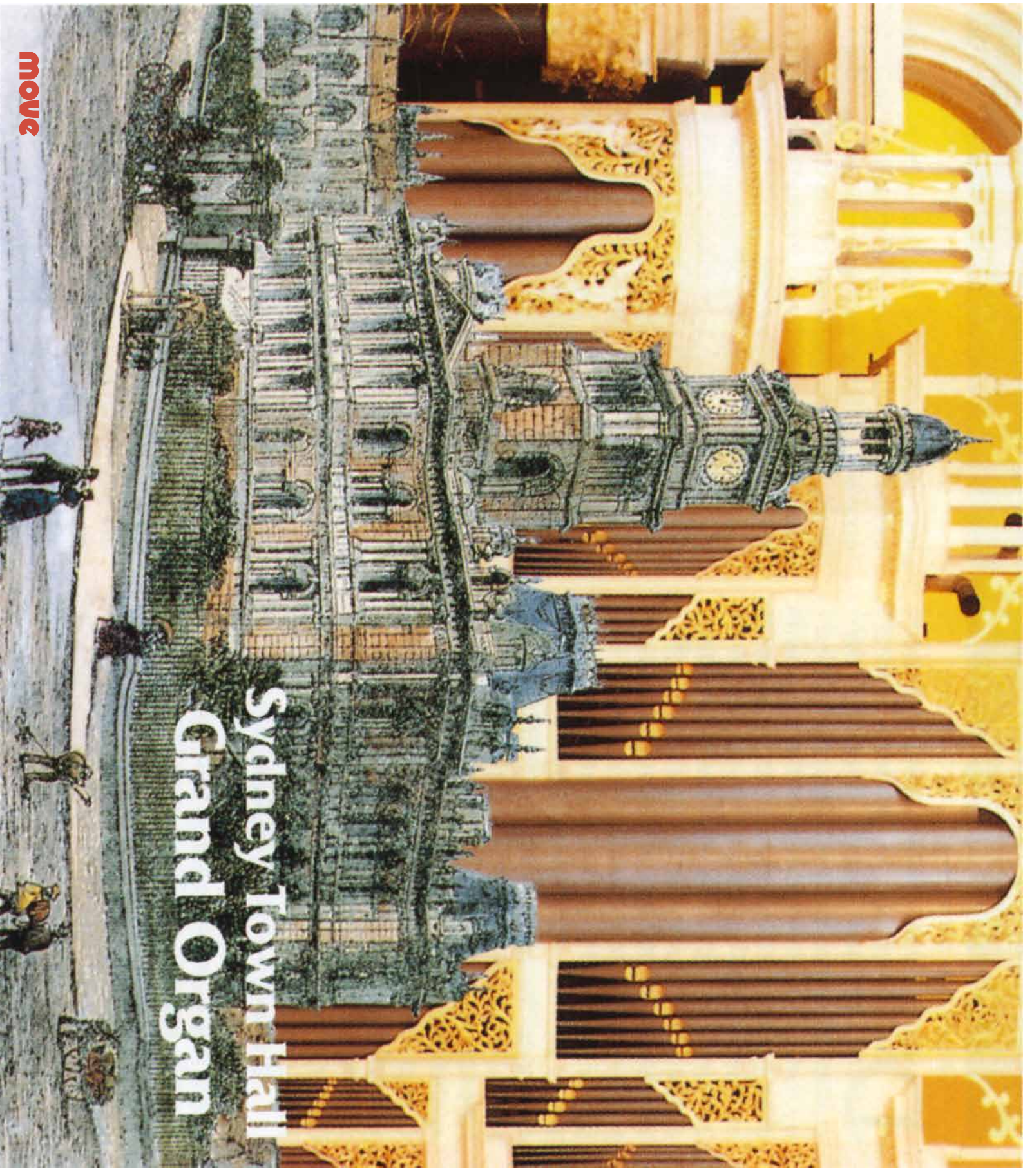
CENTENARY PLUS



Robert Ampt, Sydney City Organist

move

CENTENARY PLUS

Music spanning over one hundred years of the **Sydney Town Hall Grand Organ** performed by the Sydney City Organist, **Robert Ampt**

George Frederic Handel (1685-1759)
Overture to the Occasional Oratorio
(arr. Charles W. Pearce)
1 Andante maestoso 1'54"
2 Allegro 3'25"
3 Adagio 2'43"
4 March - Allegro 2'09"

Johann Sebastian Bach (1685-1750)
5 "Air on the G string"
(arr. Karg-Elert) BWV 1068 3'30"

Johann Sebastian Bach
6 Passacaglia and Fugue in C minor
BWV 582 13'34"

Graeme Koehne (b. 1956)
7 To His Servant Bach, God Grants A Final Glimpse: The Morning Star 5'33"

Robert Ampt (b. 1949) Concert Etude
8 Introduction, Theme, Variation 1 3'28"
9 Variation 2 0'26"
10 Variation 3 1'03"
11 Variation 4/5/6 5'08"

Theodore Dubois (1837-1924)
12 Marcietta
(Concluding Voluntary) 2'22"

Theodore Dubois
13 Marche Triomphale 6'23"

W.T. Best (1826-1897)
Introduction, Variations and Finale on "God Save the Queen"
14 Introduction 1'05"
15 Theme /Variation 1 1'57"
16 Variation 2 1'34"
17 Variation 3 1'31"
18 Variation 4/ Finale: Introduction 1'39"
19 Finale: Fuga 3'09"

Move Records acknowledges the generous contribution of the Sydney City Council in making available the organ and photographs (taken by Adrian Hall and Roger Pogson). Registration assistants: Amy Johansen and Soon Hee Hong. Organ tuner: Manuel da Costa. Notes: Robert Ampt. Digitally recorded at the Sydney Town Hall on 29th and 30th September 1993 by Martin Wright. Digital editing: Martin Wright

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“There is absolutely no doubt in my mind that this is one of the truly great organs in the world”. [Cecil Clutton, The Organ, July 1970]

During the nineteenth century, town whalls were not only the seats of local government, but they were also the cultural and entertainment centres. Funded by the enormous proceeds of the nineteenth century Industrial Revolution, and in Australia to some extent by the gold rushes, these buildings provided the means and the place of cheap entertainment for that vast mass which had actually created the wealth. Built late in the century, Sydney’s was one of the last of the great town halls, and by this time, a new element – intercity rivalry – had emerged. The opulence of the Sydney Town Hall was consequently a very conscious assessment of how Sydney rated herself against the other cities of the British Empire. Except for the Royal Albert Hall in London, the Sydney hall was larger than all of the great concert auditoriums of the time, including Birmingham, Liverpool, Glasgow and Chicago.

Constructed of Sydney sandstone quarried from nearby Pyrmont, the Sydney Town Hall was designed by the council’s own City Architect – Mr Thomas Sapsford; a remarkable feat for a colony only about to celebrate its centenary.


Programme
OF THE
OPENING RECITAL
ON THE
GRAND ORGAN
IN THE
Centennial Hall, Sydney,
BY
MR. W. T. BEST.
SATURDAY, AUGUST 9th, 1890.
AT 8 O'CLOCK.

THE PROGRAMME OF THE OPENING RECITAL 9th AUGUST 1890 GIVEN BY MR. W.T. BEST.

An integral part of any town hall was the large organ which invariably occupied a central position on the stage. Although it was, in itself, an extravagant item, this instrument offered a relatively cheap source of musical entertainment, requiring the employment of only one musician. But the scale and sumptousness of this organ presented yet another opportunity for civic display; one which could hardly be ignored. It was certainly a calculated gamble on the part of the Organ Committee when it recommended to the Sydney Municipal Council that it commission the building of the largest organ in the world. But the ploy worked, for on 9th March, 1885, the Council adopted the recommendation, and approximately one year later awarded the contract for what was planned as the largest and finest concert organ in the world to William Hill and Son of London.

On the part of planners and politicians alike, there must have been an underlying streak of the cheeky larrikinism which was already becoming an Australian hallmark, for here was a chance for Sydney, in one brilliant stroke, to politely inform the great musical centres of the world that they now had company. And very

importantly, the rival city Melbourne could be completely trounced, for its town hall organ, a four-manual mechanical action instrument, completed by William Hill and Son in 1871, was only half the size.

These very sentiments were certainly not denied four years later when three separate articles appeared in the Sydney Morning Herald on the day of the organ opening – 9th August, 1890. One article printed the full stop list and noted that Sydney now compared more than favourably with the major cultural centres of Europe:

"The City of Sydney is now in possession of an organ which is larger than any that can be found in London or Paris or Berlin or Vienna, or any other European city."

Another article included details of a book, **The Grand Centennial Organ**, by Neville Barnett, organist of Sydney's St Mary's Cathedral. This book, which was to be on sale at the town hall entrances for one shilling, contained a comparative table showing Sydney Town Hall at the head with six keyboards (including pedals) and 126 speaking stops. Then followed Riga Cathedral with six keyboards and 124 stops, the Royal Albert Hall with five keyboards and 111 stops, … until at the bottom we reach the Melbourne Town Hall with five keyboards and 66 stops.

Even Arthur Hill, designer of the splendid case, considered the organ to be special. Addressing the College

PIPES FROM THE BOTTOM OCTAVE OF THE PEDAL 64' STOP WITH THEIR OWN WIND RESERVOIR.

of Organists in London in 1890 on the topic of the new Sydney organ, he remarked:

"There are few organs which have caused so much sensation as this, for what ever merits it may possess, it has the distinction of being so very enormous … The instrument has 5 keyboards, which is an unusual thing, 4 being the usual number for a large organ, but they wanted something very special, and they have got it … The unique feature of the organ is the 64ft reed – Contra Trombone. This of course was an experiment, but it has certainly succeeded entirely. It has the same effect in the full organ as the drum in the orchestra. Down to A or G there is a distinct musical tone to it, but below that it is very difficult to say what note it is except by testing with its octave. Its tone is very prompt, and it can be used in quick passages … The case is the feature of the organ, and it is the finest modern case made." [Reprinted in OHTA NEWS, Organ Historical Trust of Australia, Volume 14, No. 3, July 1990.]

But once the organ had been opened, the focus quickly changed from its size to its tonal excellence. Organ concerts became a regular and popular feature of the city and three City Organists were appointed: Auguste Wiegand (1891-1900), Arthur Mason (1901-1907) and Ernest Truman (1909-1935). Then for more than forty years no city organist was appointed, mainly through falling attendances at organ recitals.

By the middle decades of the twentieth century problems with the organ were becoming evident. In the first place the mechanism of the instrument was becoming worn, resulting in sluggish action response and unacceptable levels of wind noise. But the real problem was with the tone of the organ; it had become old-fashioned. Indeed the entire instrument became the primary target of the new almost universal neo-baroque organ building and playing movement. During the 1950s and 1960s there were even calls from some organists to discard the organ and build a new mechanical action instrument behind the old facade.

The precarious state of the organ was kept somewhat in check largely through the loving ministrations of the Council's organ contractor, Sidney Noad. Yet in October 1971, the organ broke down completely so that performances had to be cancelled.

But by 1970, agitation for the organ's restoration had in fact reached the point where it was only another two years before the City Council, under the guidance of Lord Mayor David Griffin, decided to contract the Sydney organ building firm Roger H. Pogson to fully restore the instrument. The importance of the Council's decision and of the restoration work undertaken by the Pogson firm cannot be overestimated, for it saved the instrument at a time when the dismantling of large Romantic organs was still considered acceptable. This is arguably the most important work ever carried out by an Australian organ builder. The organ was reopened on 11th December, 1982 in a gala programme which concluded with the Saint-Saens Symphonie III.

Although this restoration was finished in 1982, the true completion of the organ restoration occured only in 1991 when the hall itself was restored. Carried out under the direction of Howard Tanner and Associates, the hall restoration saw not only the reinstatement of the original cream and gold of the organ case, but also the removal of the acoustic wall tiles installed in 1964 at the behest of the ABC. Today the organ looks, and to a considerable extent sounds, like the great north European instruments which seem to have inspired it.

BOTTOM C OF THE PEDAL 64' STOP SHOWING THE PNEUMATIC STARTER AND THE WINDOW IN THE SIDE OF THE BOOT. THE REED IS THE LENGTH AND WIDTH OF AN ADULT'S FOREARM.

Although the organ restoration took ten years, it was possible after five years of work to reappoint a City Organist. In 1978 Robert Ampt became the fourth Sydney City Organist and regular twilight and evening concerts were resumed.

Why is the Sydney Town Hall organ so special and so successful? The single most important reason is its design. At a time when many organ builders were expanding their horizons and moving towards the symphonic organ, Thomas Hill was perfecting his skills within the existing boundaries of the age-old tradition. As a result the Sydney instrument achieved a splendour and an integrity equal to the greatest organs ever built, and the consequent ability to convincingly portray an enormous range of music.

For this recording, all of the seating, which is cloth covered, was removed from the body of the hall. The resultant very live acoustic is close to that for which the organ was originally voiced, and it shows the instrument to be lavishly forthright and brilliant. The organ radiates excitement and vigour as much as it does smoothness and elegance, and like the great city which it so splendidly represents, it is perhaps even a touch brash. But it has proved a wonderful vehicle for some of the greatest music written, and today still thrills large audiences with its wonderful tone, just as it has over the past century plus.

During the first fifty years of concerts on the Sydney Town Hall organ, the music of Handel was amongst the most popular. Yet Handel wrote no solo organ music apart from a set of six fugues published by Walsh of London in 1735. At organ recitals, Handel's enduring popularity rested firmly on transcriptions, particularly of the organ concertos and of movements from the operas and oratorios. The **Overture to the**

Occasional Oratorio opens typically with passages of full chords in dotted rhythm on the Great and lighter flowing passages played on the Solo Harmonic Trumpet and the combined Oboe and Clarinet of the Choir. The following Allegro alternates between fugal counterpoint and individual melodic lines supported by continuo-like chords. The concluding March, which offers a taste of the 8' and then the 8'+ 4' Tubas, is the best known movement from the Overture, being popular even today as a processional.

Throughout the course of his creative life, Sigfrid Karg-Elert (1877-1933) arranged over fifty works by other composers for the organ. His organ arrangement of the **Air on the G String**, which he titled Adagio—Air Célèbre, was only one of four different instrumental settings that he made of the work. Karg-Elert transposed the work down to C major and shifted the leading violin part into the tenor. This performance features the Choir Clarinet and the Solo Oboe. The original work is the second movement of J. S. Bach's Orchestral Suite in D major. The popular title of this movement stems from the 1871 arrangement for violin and piano by Wilhelmj where the violinist played on the bottom (G) string.

The **Passacaglia and Fugue in C minor** by J. S. Bach is a masterpiece of the organ repertoire. Cast as a continuous work in two movements, it consists of an eight-bar theme with twenty variations and a fugue based on the first half of the theme. An unusual feature of the fugue is the simultaneous announcement of the counter-subject together with the opening statement of the theme. This performance illustrates some of the true greatness of the Sydney organ; the homogeneous power and splendour of the Great Diapason Chorus. Apart from short excursions to the Swell and the Solo, the work is played entirely on the Great. No manual or pedal couplers are employed throughout the performance.

THE C-SHARP SIDE OF THE SOLO TUBAS 16', 8' AND 4'. CLEARLY VISIBLE ARE THE PIPE EXTENSIONS ADDED IN 1939 TO BRING THE ORGAN DOWN TO MODERN CONCERT PITCH. BEHIND THE TUBAS ARE THE SHUTTERS OF THE SWELL BOX FOR THE SOLO ORCHESTRAL REEDS, THE ONLY PART OF THE SOLO WHICH IS ENCLOSED.

To His Servant Bach, God Grants A Final Glimpse: The Morning Star, was originally written for string quartet. The transcription for organ was suggested by, and is dedicated to, David Kinsela. A gentle homage to J. S. Bach, the work is a meditation on the final days of that great man's life as described by Philip Spitta:

"… so that Bach was henceforth totally blind … On July 18th he suddenly found his eyesight restored, and could bear daylight; but this was life's parting greeting … he died on Tuesday 28 July 1750."

Bach's "final glimpse" takes the form of the chorale melody, How Brightly Shines the Morning Star. This melody appears above the stream of quavers which flow through the entire piece as a musical metaphor for the German word Bach (= brook).

Australian composer Graeme Koehne is a Lecturer in Music at

Adelaide University. He studied at that institution with Richard Meale, and in the United States, after being awarded a Harkness Fellowship, with Virgil Thomson and Louis Andriessen. Koehne's solo, ensemble and orchestral music is widely performed and includes commissions from the Australian Ballet, the Sydney Dance Company, the West Australian Ballet, the Queensland Ballet and the Seymour Group.

Robert Ampt's **Concert Etude**, written in 1991, is based on Gordon Parson's comic Australian song Pub with no Beer. Six variations follow the octave statement of the theme, the fifth being a pedal solo and the sixth a short toccata with the melody in canon between the highest and lowest parts. Throughout the work, running quavers based on the opening phrase of the melody form linking passages. The Concert Etude is based only on the melody of the song and is not a musical interpretation of the text. Immediately prior to the first variation, the Choir Vox Humana is heard briefly in the left hand. The contemplative third variation features the melody on the coupled 16' Bourdons of the Great and Solo divisions.

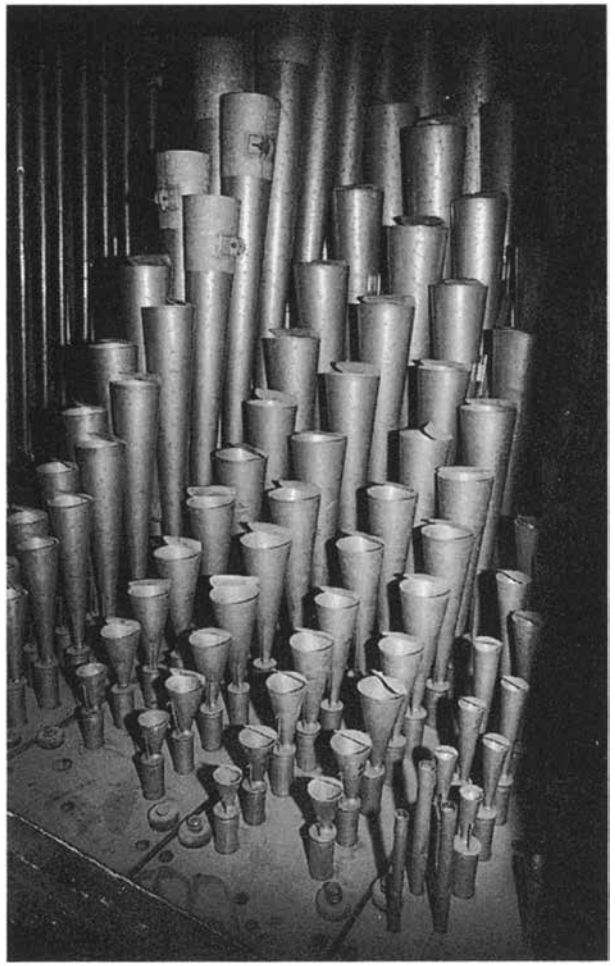
Theodore Dubois had a brilliant, and at times controversial, career as Director of the Paris Conservatory (1896-1905). In 1877 he succeeded Saint-Saens as organist at the Madeleine in Paris. Dubois wrote operatic, orchestral and church music as

THE CHOIR REEDS, FROM LEFT TO RIGHT:
VOX HUMANA 8', OBOE 4', CLARINET 8', OBOE 8'
AND BASSOON 16'.

well as theoretical treatises, but is best known today for his easily digestible and tuneful organ music. The **Marcietta** is a breezy, light-hearted rondo in the salon style. Its sub-title, Concluding Voluntary, indicates the questionable musical taste tolerated, if not actually encouraged, in many Parisian churches at the end of the nineteenth century. This performance opens on the Great Harmonic Flute and includes two brief appearances of the Solo Carillon Bells – a stop consisting of twenty-seven tuned steel bars.

Dubois' **Marche Triomphale** is dedicated to Auguste Wiegand – the first Sydney City Organist (1891-1900). It is a robust work with rich, spicy harmonies and charming, even surprising, interludes. Also cast in rondo form, it ranges from the power of the full Great to the delicacy of the Swell strings accompanying the Great Rohrflute.

British organist W. T. Best was already in his sixty-fourth year and near the end of his illustrious career when he came to Sydney in 1890 to open the Sydney Town Hall organ. By that time he had already served for nearly thirty-five years at the organ of St George's Hall as the Liverpool City Organist, and his technique and artistry had become legendary. Best's voluminous output, aside from his recitals, included new editions of organ music of Bach and Mendelssohn, new editions of the Handel organ concertos and one



THE GREAT REEDS, FROM LEFT TO RIGHT: POSAUNE 16', POSAUNE 8', TRUMPET 8' AND CLARION 4' – HEARD IN THE "GOD SAVE THE QUEEN" VARIATIONS.

hundred transcriptions for organ of music originally conceived for other instruments. Best was invited to open the greatest organ in the world for the simple reason that, within the British realm, he was considered the finest recitalist alive. In a period of only three weeks, he performed twelve different programmes on the new organ.

At his first concert, on 9th August 1890, Best opened with "The National Anthem – The Organ Version, as performed on Special Occasions at St. George's Hall, Liverpool." At his final concert he concluded with his own extended work on the same theme – **Introduction, Variations and Finale on "God Save the Queen"** after which the packed hall exploded into ringing cheers.

For the present performance of this work, the Introduction opens with the Great 32' flue chorus and concludes with a short passage on the Solo Corno di Bassetto. The theme commences on the Swell Open Diapason, moves to the Great, and then leads directly into the first variation with Great flutes and the Choir Clarinet. The second variation is a trio on the Great and Solo flutes and the Swell Cornopean and Oboe. The following variation displays the dramatic 16' Great and 32' Pedal reed choruses together with lesser reed combinations on the Swell and Solo. The gentle fourth variation combines the quiet string stops of the Swell, Choir and Echo over an 8' pedal where the left foot plays the bass and the right foot plays the theme. The suddenness with which the Finale interrupts the last chord of this variation is one of the alarming moments of the organ repertoire. It leads into the closing fugue and the anticipated crescendo to the final Full Organ chord. The Contra-Trombone 64' is used here as it is also at the conclusion of the Concert Etude.

Robert Ampt
Sydney City Organist

Robert Ampt has been the Sydney City Organist since his return from Vienna to Australia in 1978, after four years of study with Anton Heiller. His many Australian performances, apart from those at the Sydney Town Hall, have included appearances at the Sydney Opera House, the Organ Festivals of Adelaide and Melbourne, the Arts Festivals of Armidale and Goulburn, the Newcastle Cathedral Festival, and the Sydney Festival, as well as many appearances on national ABC radio (including, The Improvisation of Chorale Preludes in 1988 and New Sydney Organs in 1989) and on television. International performing has taken him to Europe, Japan, the United States and to New Zealand.

A former teacher/lecturer at the Sydney Conservatorium, Sydney University and the University of Wollongong, Robert Ampt is the organist and choir master of Sydney's German Lutheran Church, a regular

lecturer for the WEA Adult Education Centre, and a frequent adjudicator in organ playing competitions. From 1980 until 1983 he was Artistic Director of the City of Wollongong Pipe Organ Festival and in September 1988 directed the first Sydney Organ Academy. He has had prize-winning students in recent Australian organ-playing competitions.

He has published in both national and international organ journals, was the founding co-editor of the Adelaide Organ Music Society Newsletter, and has written an extensive history of the Sydney Town Hall organ. He has composed and arranged music for organ, including two childrens' introductions to the organ: The Magic Forest and Quest for the Organoblast.

In his free time he has restored two old houses, enjoys gardening and performs regularly on the stage with the Brook Community Theatre in the Blue Mountains where he lives. Robert Ampt has recorded with the ABC, Michael Woodward and Move Records. This is his third recording from the Sydney Town Hall.

"THE FINEST MODERN ORGAN CASE MADE", ADMITTED ARTHUR HILL OF HIS OWN MASTERPIECE. AS THE AUTHOR AND ILLUSTRATOR OF THE ORGAN-CASES AND ORGANS OF THE MIDDLE AGES AND RENAISSANCE, HE WAS PERHAPS THE BEST QUALIFIED OF HIS TIME TO DESIGN A CASE SO RICH IN TRADITIONAL PROPORTION AND DETAIL. THE CENTRAL TOWER USES THE LOWEST THREE PIPES FROM THE DOUBLE OPEN DIAPASON (METAL) 32'.

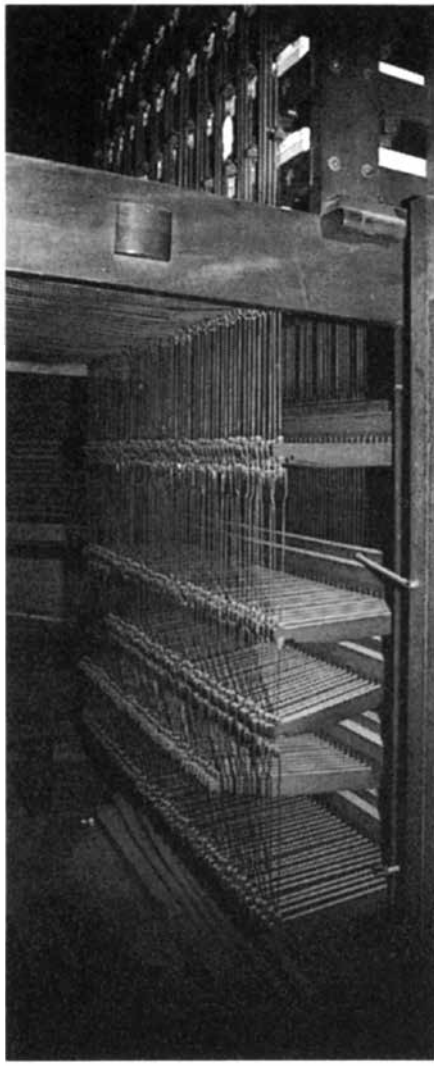
Specification

of the William Hill and Son (London) Grand Organ Sydney Town Hall, 1890. The present stop list varies in only two details from the original:

(a) The Swell Piccolo 1' was originally a 2' stop. The change was made by Auguste Wiegand in the early 1890s.

(b) The Carillon, added to the Solo in the 1890s has been retained.

The balanced swell pedals, converted from the original trigger mechanisms early this century have been retained, as has the modern concert pitch, to which the organ was lowered in 1939 for the concerto concerts with Marcel Dupré.



BEHIND THE CONSOLE, THE SOUNDLY CONSTRUCTED MECHANICAL COUPLING AND THE GREAT PNEUMATIC LEVER.

GREAT ORGAN

Contra Bourdon	32′	Wood
Double Open Diapason	16′	Metal
Bourdon	16′	Wood
Open Diapason No. 1*	8′	Metal
Open Diapason No. 2	8′	Metal
Open Diapason No. 3	8′	Metal
Open Diapason No. 4	8′	Metal
Harmonic Flute	8′	Metal
Viola 8*	8′	Metal
Spitz Flöte	8′	Metal
Gamba	8′	Metal
Hohl Flöte	8′	Wood
Rohr Flöte	8′	Wood/Metal
Quint	6′	Metal
Principal	4′	Metal
Octave	4′	Metal
Gemshorn	4′	Metal
Harmonic Flute*	4′	Metal
Twelfth	3′	Metal
Fifteenth	2′	Metal
Mixture 3 Rks		Metal
Cymbel 4 Rks*		Metal
Sharp Mixture 4 Rks		Metal
Furniture 5 Rks*		Metal
Contra Posaune	16′	Metal
Posaune	8′	Metal
Trumpet	8′	Metal
Clarion	4′	Metal

*These stops on 5″ wind

SWELL ORGAN
(Enclosed)

Double Open Diapason	16′	Metal
Bourdon	16′	Wood
Open Diapason	8′	Metal
Hohl Flöte	8′	Wood
Viola di Gamba	8′	Metal
Salicional	8′	Metal
Dulciana	8′	Metal
Vox Angelica	8′	Metal
Octave	4′	Metal
Rohr Flöte	4′	Wood/Metal
Harmonic Flute	4′	Metal
Gemshorn	4′	Metal
Twelfth	3′	Metal
Fifteenth	2′	Metal
Piccolo	1′	Metal
Mixture 4 Rks		Metal
Furniture 5 Rks		Metal
Trombone	16′	Wood/Metal
Bassoon*	16′	Metal
Trumpet	8′	Metal
Cornopean	8′	Metal
Horn	8′	Metal
Oboe	8′	Metal
Clarion	4′	Metal

*This stop on 3½″ wind

CHOIR ORGAN
(Enclosed)

Contra Dulciana	16′	Metal
Open Diapason	8′	Metal
Hohl Flöte,	8′	Wood
Lieblich Gedackt	8′	Wood/Metal
Flauto Traverso	8′	Metal
Gamba	8′	Metal
Dulciana	8′	Metal
Octave	4′	Metal
Violino	4′	Wood
Celestino	4′	Metal
Lieblich Flöte	4′	Wood/Metal
Twelfth	3′	Metal
Fifteenth	2′	Metal
Dulcet	2′	Metal
Dulciana Mixture 3 Rks		Metal
Bassoon	16′	Metal
Oboe	8′	Metal
Clarinet	8′	Metal
Vox Humana	8′	Metal
Octave Oboe	4′	Metal

SOLO ORGAN
(Orchestral Reeds enclosed)

Bourdon	16′	Wood
Open Diapason	8′	Metal
Violin Diapason	8′	Wood
Flauto Traverso	8′	Wood
Doppel Flöte	8′	Wood
Stopped Diapason	8′	Wood
Viola	8′	Metal
Octave	4′	Metal
Harmonic Flute	4′	Metal
Flauto Traverso	4′	Wood
Harmonic Piccolo	2′	Metal
Contra Fagotto	16′	Metal
Harmonic Trumpet	8′	Metal
Corno di Bassetto	8′	Metal
Orchestral Oboe	8′	Metal
Cor Anglais	8′	Metal
Octave Oboe	4′	Metal
Contra Tuba	16′	Metal
Tuba	8′	Metal
Tuba Clarion	4′	Metal
Carillon Bells	2′	Metal

PEDAL ORGAN

Double Open Diapason	32′	Metal
Double Open Diapason	32′	Wood
Contra Bourdon	32′	Wood
Open Diapason	16′	Metal
Open Diapason	16′	Wood
Bourdon	16′	Wood
Violone	16′	Wood
Gamba	16′	Wood
Dulciana	16′	Metal
Quint	12′	Wood
Octave	8′	Metal
Prestant	8′	Metal
Bass Flute	8′	Wood
Violoncello	8′	Wood
Twelfth	6′	Metal
Fifteenth	4′	Metal
Mixture 4 Rks		Metal
Mixture 3 Rks		Metal
Mixture 2 Rks		Metal
Contra Trombone	64′	Wood
Contra Posaune	32′	Metal
Posaune	16′	Metal
Trombone	16′	Wood/Metal
Bassoon	16′	Metal
Trumpet	8′	Metal
Clarion	4′	Metal

ECHO ORGAN

Lieblich Gedackt	8′	Wood/Metal
Viol D'Amour	8′	Metal
Unda Maris 2 Rks	8′	Metal
Viol D'Amour	4′	Metal
Flageolet	2′	Metal
Glockenspiel 4 Rks		Wood/Metal
Echo Dul. Cornet 4 Rks		Wood/Metal
Basset Horn	8′	Metal

ACCESSORIES

8 Combination Pistons to Great Organ
6 Combination Pistons to Swell Organ
7 Combination Pistons to Choir Organ
7 Combination Pistons to Solo Organ
3 Combination Pistons to Echo Organ
6 Combination Pistons to Pedal Organ

COMPASS: Manuals: 61 notes
Pedals: 30 notes

COUPLERS

Great to Pedal
Swell to Pedal
Choir to Pedal
Solo to Pedal
Swell to Great
Swell Super Octave (to Great)
Swell Sub Octave (to Great)
Solo to Great
Solo Octave
Choir to Great
Swell to Choir
Solo to Choir
Echo to Swell
Pedal combinations to "Great Pistons"

WIND PRESSURES

Great Organ:	Flues	– 3½″
	Reeds	– 5″
Swell Organ:	Flues	– 3½″
	Reeds	– 5″
Choir Organ:	Flues	– 2¾″
	Reeds	– 2¾″
Solo Organ:	Flues	– 3″
	Orchestral Reeds	– 5″
	Tubas	– 10″
Echo Organ:	2¼″	
Pedal Organ:	Flues	– 3¼″
	Reeds	– 4½″

PLAYING ACTION

Key action: Tubular-pneumatic
Stop and Piston action: Pneumatic
Coupling action: Mechanical with barker-lever assistance on couplers to the Great.