

Abstract

In order to contextualize the role of Messiaen's organ music in the wider historical development of avant-garde organ music composed since the 1960's, a brief consideration of the changing definition of the term 'avant-garde' through the last two centuries will be made. It will arrive at a working definition, which also acknowledges understandings of the term by major composers and creators since the 1950's.

Throughout the last one hundred years (and particularly the last fifty) a number of recognized, avant garde composers have composed significant works for the pipe organ. Between the death of Max Reger (1916) and the first performance of Ligeti's *Volumina* in 1962, a consistent experimenting link can be found in the music of Olivier Messiaen (1908 - 1992). This paper explores significant aspects of Messiaen's organ music composed between 1930 and 1952, tracing how essential elements of Messiaen's musical style became influential in the music of the so-called "new era of organ composition". (Herchenröder, Martin ed Snyder 2000). Within Messiaen's musical style, the following elements were powerful stimulants to composers who were working to establish the organ as a "potentially avant-garde instrument" (Toop 1999): timbral qualities and the highly individual forms of registration specified by Messiaen; rhythm (both added note and serialism); modes and various forms of pitch organization. The impact of Messiaen's treatment of these elements, especially timbral effects, will be traced forward into the music of his immediate successors. Connections can then be drawn that place Messiaen's musical influence in a wider historical and musical perspective - an influence that continues to be seen in 'avant-garde' organ music of today.

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Messiaen and his musical role in developing the organ as an avant-garde instrument and a new era of organ composition

INTRODUCTION

Throughout the last one hundred years and particularly the last six decades, a number of recognized avant garde composers have composed significant works for the pipe organ. The organ music of Olivier Messiaen (1908 - 1992) is an important influence in the leading to the development of avant-garde organ music since the 1960's. As will be shown a little later in this article, avant-garde music has many lineal qualities, and Messiaen's organ music supplies this musically progressive link between the organ works of Max Reger (died 1916) and the first performance of Ligeti's *Volumina* (4th May 1962), which launched a new era of interest in the organ, its potential as an avant-garde instrument, and attendant compositional and performative techniques. This first part of this article will be a consideration of a changing definition of the term 'avant-garde' particularly as it may pertain to avant-garde organ composers from the 1950's.

Consideration of the musically progressive aspects of Messiaen's organ works that were composed between 1930 and 1952 demonstrate that essential elements of his musical style later became influential in the music of the so-called "new era of organ composition" which was thunderously announced by the composition of Ligeti's *Volumina*, (Herchenröder, M ed Snyder, 2000) in the famed broadcast from Radio Bremen on May 4th 1962. Messiaen's organ music provided specific pre-cursors, which became powerful stimulants to composers who were working to establish the organ as a "potentially avant-garde instrument," (Toop 1999) including: timbral qualities and highly individualised forms of registration; rhythm (both added note and serialism); modes and various forms of pitch organization. So the impact of Messiaen's organ music

place his musical influence in a wider historical and musical perspective - an influence that continues to be seen in 'avant-garde' organ music of today.

Messiaen - background

Olivier Messiaen was both composer, **and** an organist. Although he composed many significant works for instruments and combinations other than the organ, underlying the timbral conceptions of all his music is the approach of an organist crafting and experimenting with timbre creating precisely the effect that is desired utilising the sounds available. His acute awareness of timbre makes Messiaen's role in the wider development of the avant-garde organ through his use of registration, one of his most significant contributions¹. *La Nativité du Seigneur* (Messiaen, O 1937), introduces a new approach to registration² which breaks free of the sounds and combinations of stops usually associated with early to middle twentieth-century French organ composers. Messiaen's role models were organist/composers such as Marcel Dupré, whose registration directions are modelled to those found in the music of his immediate predecessors, C.M. Widor or L. Vierne and the organ of St Sulpice. Importantly, experimental works of composers such as Charles Tournemire (1870 - 1939), organist of St Clothilde, date from a similar era to

1 Messiaen's approach to timbre and its quality has some commentators describe his role as an early 'spectral composer'. Gavin Thomas (www.compositiontoday.com/articles/tristan_murail.asp accessed 6 May 2012) argues that through his 'idiosyncratic attitude to harmony [and] emphasis on "sound masses"' "Messiaen helped shape the work of spectral composers such as Tristan Murail.

2 Registration *The musical forces of the organ are available selectively by means of separate stops, or registers, which together provide the entire tonal capacity of the instrument. Each of the stops controls the 'on' or 'off' position for a series of pipes, grouped so that one or more pipes will respond to each key on a manual or pedal keyboard. The term 'organ registration' takes in the large body of advice about what is appropriate when combining organ stops, as well as the aggregate tonal effect of any combination drawn for a particular musical need. There is a rich store of information about registration for the organ that can be classified generally into two categories: practical advice, often supplied by organ builders, which consists of lists of combinations capable of being turned to good use; and instruction from composers or theoreticians about combinations appropriate for performing a particular musical composition.*

Douglass, F/Owen, B: 'Organ', Grove Music Online ed. L. Macy (Accessed [Monday, 13 April 2026]), <<http://www.grovemusic.com>>

Messiaen's earliest works. Messiaen heard Tournemire play - and acknowledged the impact of his playing—particularly improvisation—in a letter to the English critic Felix Aprahamian

“ My only organ teacher was Marcel Dupré, for whom I had the greatest admiration and a very great and respectful affection. But I went occasionally to hear the improvisations of Charles Tournemire (a composer of genius, and a marvellous improviser). When Tournemire improvised at a concert, it was good. But the improvisations were much more beautiful during Masses at Sainte-Clotilde, when he had the Blessed Sacrement in front of him. I think I resemble him somewhat in this respect. I improvise much better during a service, on my organ at the Trinité. In a concert my gifts desert me, and my imagination disappears” (15th December 1983, cited in Thompson, A <http://www.mvdaily.com/articles/1999/09/franck.htm> accessed 6th May 2012)

Having received lessons from Marcel Dupré, Messiaen's first (and only) organ appointment was as organist of the Trinité Church in Paris from 1931. All his organ works were composed with the sound of the organ by Cavallé-Coll of the Trinité in mind. Like so many contemporary composers who focus on timbre, using technology to achieve it, this specific instrument is central to timbral qualities of Messiaen's music.³

³ Further information about the organ at the Trinité may be found at various websites including [Olivier Messiaen et le grand-orgue de la Trinité \(Culture ...](#)

AVANT-GARDE

History and Background

Avant-garde, a term taken from the French which originally applied to the foremost part of an army, or vanguard, and was used in this sense in English from the 15th to 19th century. However, since the early 20th century (Daily Telegraph, 1 July 1910) it has been used to describe contemporary pioneers or innovators in any of the arts and also signifies work which challenges accepted standards Osborne, Harold ⁴

Before considering specific instances from the organ works of Olivier Messiaen and their effect upon subsequent composers of new organ music, understanding the philosophy of the ‘avant-garde’ is vital. The term has been used since the mid-eighteenth century in political, military, literary and visual arts contexts. A musical movement—the ‘avant-garde’—was active the late 1940’s and 50’s, largely centered around workshops and concerts held in Darmstadt, Germany in which Messiaen participated as a member of the collective as teacher and participant.

Defining the term and its changing meaning in these environments, assists understanding the context in which Messiaen’s music finds its strongest affinity. There is a range of views amongst contemporary composers regarding what it is to be avant-garde – but common to most is a sense of elitism and separation (Duckworth, W. 1995). In 1964, Messiaen wrote in a letter to a clergyman who wished to renew the Catholic liturgy:

I understand completely your desire to renew the liturgy and your horror of recent hymns — which I share! Unfortunately, I believe my music to be much too complex to be of any use to you: it can only be played on the piano, on the organ, and above all by an orchestra, and is intended only for an initiated elite (quoted in Hill & Simoene 2005, p 72)

Like Laurie Anderson and John Cage (Duckworth, W. 1995), Messiaen identifies elitism and separation as avant-garde characteristics. Messiaen expressed further views of ‘experimen-

⁴ <http://www.groveart.com.libraryproxy.griffith.edu.au/shared/views/article.html?from=az§ion=art.990241>

tal' music, including his frustration with how one piece which was highly regarded by other composers as follows:

I prefer one painter over all others, not only because he's a precursor of abstract painting, and consequently very close to what I see when I hear music,....that painter is Robert Delaunay (Messiaen, 1994. p. 43) ... I have composed some combinative works. I did research, always doing my best not to damage the sound quality...a piece of music must be interesting, it must be beautiful to hear, and it must touch the listener...

I was very annoyed over the absolutely excessive importance given to a short work of mine, only three pages long, *Mode de valeurs et d'intensités*, because it supposedly gave rise to the serial explosion in the area of attacks, durations, intensities, timbres — in short, all its musical parameters. Perhaps this piece was prophetic and historically important, but musically it's next to nothing"(Messiaen, 1994. p. 47).

While cataloguing musical influences also acknowledged by composers and colleagues with whom he worked within the Darmstadt collective in the early 1950's, Messiaen acknowledges *Mode de valeurs et d'intensités* prophetic and historical importance to serial music, positioning the work in a lineal musical canon—linear being essential to the avant-garde.

The modernist composer and philosopher John Cage observed his understanding of an avant-garde approach in his own work:

I'm searching for what the next step is in any field. What next step is implied...we must be open if we're interested, as I am and still am, in what is called the avant-garde. We must all remain open to what seems to be necessary, not to us as persons but to us as members of the musical society (Duckworth, W p 28).

Cage asserts that avant-garde music is linear – one step leads to another.

These perspectives inform the definition of avant-garde that is adopted within this article: An avant-garde composition is characterised by aspects (techniques or ideas) in a composer's *oeuvre*, which have not been heard, known or seen prior.

Finally, while the term 'avant garde' immediately evokes a set of attributes and attitudes and even specific techniques in the arts, which will be enumerated later, it has not been readily associated with the wider world of organ music. Indeed for many listeners, the organ remains solely aligned to a conservative institution, playing conservatively styled music, with a nostalgia that looks back to an imagined, but long-past, supposed golden era. Throughout history, there have been organists, composers and technologists who have dared to imagine new sounds and expressiveness of which the organ is capable, and (though often to howls of disapproval) have forged new ways ahead. In so doing these 'avant-gardists' have breathed new vigour into the organ musical canon. Their music and techniques have eventually been absorbed into the very institutions, and the styles of musicians that had decried them so enthusiastically a generation or so before.

In this article, we explore the linear nature of the avant-garde in Messiaen's organ works with two specific examples: (i) the use of new combinations of stops in works such as *La Nativité du Seigneur* (Messiaen, O 1937), freeing up the rules and concepts of organ registration and timbre which, we argue eventually led to the musique-concrète and prepared spectral organ sounds in works of Ligeti.⁵ (ii) Simultaneously, Messiaen was developing other serial techniques, applying a serialist principles to pitch organization, rhythm and durations. We see these in his next significant organ works – *Messe de la Pentacôte* (1950) and *Livre d'orgue* (1951), and influence the work of other composers including Stockhausen and Boulez.

Beyond continental Europe, the impact of the avant-garde movement may be seen in two organ compositions of Australian composer Stephen Ingham⁶ (who has composed several

5 Ligeti, G *Volumina* (1961). Another of his organ works, *Etude number 1* (1968) calls for an interfered wind supply - by removing weights from the bellows or similar.

6 Ingham, S. (2002). Forging for organ and pre-recorded tape, and Ingham, S. (2002). Maroondah Merzbau for organ and pre-recorded tape. op 68b.

pieces for Swedish organist Hans-Ola Ericsson⁷). Brian Fernyhough supports the assertion that Ingham's music truly represents a recent iteration of avant-garde, in his treatment of the common music that surrounds us. Such treatment forces us to reflect on its position relative to music of the 'Other' (Broman, PF., 1997 p 30). Perhaps the apparently superficial accessibility of Ingham's style, imbued as it is with the 'common musics' (Broman p 30) may allow those who only see avant-garde as difficult, intellectual and especially removed music, to approach it more readily.

These attitudes, and Messiaen's approach to registration and timbre noted earlier, laid a lineal foundation of an avant-garde style for the pipe-organ; a foundation which was adopted by his colleagues and students in Darmstadt. Connecting Messiaen's organ music and Ligeti *Volumina* (which bookend this article) are organ compositions of Bengt Hambraeus (1928 - 2001) - particularly *Konstellationer* (1958) for organ and pre-recorded tape. Hambraeus had attended the Darmstadt workshops at the same time as Messiaen, later working at Radio Bremen.

THE ORGAN WORKS

There is no attempt in this article to discuss every organ work Messiaen composed. Works have been selected for their role and influence in the evolution of the organ and its repertoire to the musical cataclysm of the first performance of *Volumina* (Ligeti 1961) heralding the start of the new 'era of organ composition' (Herchenröder, Martin ed Snyder 2000). Within Messiaen's *oeuvre* for organ, certain works stand out for their direct and traceable influence within the organ works of other composers. *La Nativité du Seigneur* (1937) is perhaps the first major collection of pieces to exhibit a number of techniques which Messiaen developed in other works, and

⁷ See the transcript of an interview in Blackburn, A (2011) *The Pipe Organ and Realtime DSP: a Performers Perspective* p. 246 - Appendix 13

subsequently influenced other composers, such as Pierre Boulez and Bengt Hambraeus. New timbral colouring through registration directions, pitch organization by the use of modes of limited transposition and chord-complexes and added note-value rhythmic techniques are all important and characteristic treatments of musical elements which Messiaen uses in this work. He perceived *La Nativité* as highly significant, explaining the new techniques in an introduction to the work, and printed in the score. In addition to the changed concept of ‘organ timbre’ which is so important as it pertains to the avant-garde context, Messiaen identifies five principal means of musical expression in his preface:

1. modes
2. expanded pedals, decoration and appoggiaturas
3. added note values
4. the progressive expansion and contraction of melodic intervals
5. use of the chord of the dominant⁸

Of these elements, timbre, modes, and added note values assumed great importance as a new compositional style developed in the early 1960’s.

Messiaen’s next organ works were composed in 1939, *Les Corps Glorieux*. These works, though splendid in their own right, are not of interest for the purposes of this article’s exploration of Messiaen’s link to the avant-garde. For the next eleven years (which include the six years of World War 2 when he was imprisoned as a POW), Messiaen composed for instruments other than the organ. After the war, he moved into what is called by Johnson (1989) the ‘experimental period,’ which lasted from 1949 till about 1952. New major organ works are significant in this period—*Messe de la Pentacôte* (1950) and one year later *Livre d’orgue* (1951). Both were highly

⁸ Plaman (2013) observes that the number 5 is highly significant “..’ a prime number with much religious significance: it is the ultimate union of heaven and earth... [in the] musical ideas that govern *La Nativité* [Messiaen] divides the ten into two tables of five, just as God provided the Ten Commandments ... in two stone tablets’ (Plaman 2013, p. 65)

influential: the continued freeing up of the notion of timbre and experimentation that is evident in these works was extended by composers who were also students of Messiaen. His students from this period included such luminaries as Boulez, Stockhausen and Ligeti. For organ music, the most significant of these students was the Swedish organist and composer Bengt Hambraeus (1928 - 2000), whose composition *Konstellationen* (1958) for organ and processed organ sounds on tape. *Konstellationen* electronically and acoustically combines the timbral explorations of *La Nativité* with the technological and musical developments of the Darmstadt school.

Timbral qualities and the highly individual forms of registration specified by Messiaen


Changing musicians' spectral concept of the organ is one of the most significant influences of Messiaen's organ compositions. He observed that his organ music “..requires large instruments that possess varied timbres and mixtures and, particularly, those that have sixteen-foot stops on the manuals.” (Messiaen, O. p 24). The manner in which he registers his music, imply Messiaen is thinking precisely of sonic possibilities of the organ in the Trinité Church⁹. The full organ sections of his music register the organ in conventional ways, in quieter sections Messiaen demands a completely new timbral world, with highly characteristic, colourful demands. As Peter Hill observes:

..we know that when he [Messiaen] wrote works for organ he would write the composition, he would write the notes as it were, and then he would come and experiment for hours, often weeks on end. It was a fantastic resource for him and I'm sure enormously influenced the colours that he put not only into his organ music but also into his orchestral works as well. (Film <http://www.philharmonia.co.uk/messiaen/about/organ.html> last accessed 10 March 2008)

⁹ There is an extensive article and discussion of the instrument, including many comments and contributions by Messiaen regarding the Trinité organ at: <http://www.timothypatterson.com/glandaz/trinite.htm> (last accessed 8th December 2013)

For example, the registration directions in the first book of *Livre du Saint Sacrement* (Figure 1) indicate that Messiaen is thinking of very specific tone colours. This example (figure 1) is based on sixteen-foot pitch (one octave below concert pitch) on the manuals, and thirty-two foot pitch on the pedals two octaves below concert pitch). (Scott, 2001)

Figure 1

Another example from 'La Vierge et l'Enfant' from *La Nativité du Seigneur*, (1937) - Example 1 - has Messiaen specify precise sounds for each division in use: Grand orgue - Right Hand; Recit orgue - Left Hand; and Pedal - though in this instance the stops played on the pedal are drawn from the Positif Orgue. The registration specified is: Recit 2' gambe 8' flute 4' ; Positif prestant 4', nazard 2 2/3', Grand bourdon 16', Pedal flute 4' coupled to Positif. The manual parts (Recit and Grand orgue) are more or less as written (although Grand orgue - right hand - sounds one octave below written pitch as it is at sixteen-foot pitch). The pedal part is has only one four foot stop of its own, most of the  sound being drawn from the Positif to which it is coupled. These are not based on eight-foot pitch, rather at an octave, twelfth, fifteenth and seventeenth above the written note - effectively the same pitch as the keyboard parts. Each part is aurally clear in performance, due to stops' timbral differences and the spatialization which is inherent between divisions in a large organ. There is no sense of crowding of sounds, rather a layering the sounds on top of one another.

The image shows a musical score for an organ piece. The title is 'Un peu vif'. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The key signature has one sharp (F#), and the time signature is 3/4. The tempo is 'Un peu vif'. The score begins with a piano introduction. The right hand (RH) is marked 'Staccato' and plays chords. The left hand (LH) is marked 'legato' and plays a simple bass line. There are dynamic markings 'f' and 'legato'. The piece ends with a final chord marked 'G'.

Example 1 La Vierge et l'enfant

These are just a few of many examples illustrating Messiaen's innovative approach to timbre, selected from *La Nativité du Seigneur* (1937) and subsequent organ works prior to 1952. Their avant-garde significance is not the multitude of examples that may be identified, but what this timbral obsession suggested to other composers in the next decade or so. The examples of structural and formalistic serialism identified in Messiaen's works are significant in later musical trends, but his freeing up and changes to registration practice encouraged others to push the boundaries of the organ's timbral possibilities far beyond where they had been previously taken.

Rhythm (both added note and serialism);

In *La Nativité du Seigneur* (1935), Messiaen adopted a form of serialism that organised musical elements other than the pitch which Schoenberg had introduced. Through his research and analysis of rhythmic structures in the works of Stravinsky in addition to Greek and Hindu music, Messiaen developed a serial technique of adding small note values to larger ones, creating

highly complex rhythmic proportions. Messiaen, described the technique and philosophical rationale for some of the most developed of this serialism in discussion with Claude Samuel (Messiaen, Olivier (1908 - 1992) 1986.p 118-9)

As for my *Livre d'orgue* (1951), its important for its rhythmic sophistication and conception of durations. In the last piece of *Livre d'orgue*, "Soixante-quatre durées,"¹⁰ I've tried to make the listener grasp some extremely long note values whose differences are exceedingly minute. This is very difficult for a human being to appreciate. We are average-sized creatures of medium height and, alas! of average thinking capacity....; we're halfway between the microcosm and the macrocosm. So we perceive very long durations with difficulty...For example take a duration of sixty-three 32nd notes and a duration of sixty-four 32nd notes: both are very long and the difference between them is almost imperceptible...It was ... perilous to treat these durations in series with some regular rearrangement— going from the outer extremes to the centre, then combining them in retrograde canon and making their divisions audible.

11

A detailed analysis of the last in the cycle *La Nativité du Seigneur*, (*Dieu Parmi Nous*) was made by Plaman (2013) observing that, in addition to Messiaen's use of Indian rhythmic patterns, *Dieu Parmi Nous* also incorporates his "...first acknowledged use of birdsong and his first published account of the modes of limited transposition' (Plaman, 2013, p. 62). These all significant compositional elements that were just beginning to appear in contemporary music (of the 1930's) their early incorporation within the organ music canon helps position the instrument at the forefront of the avant-garde.

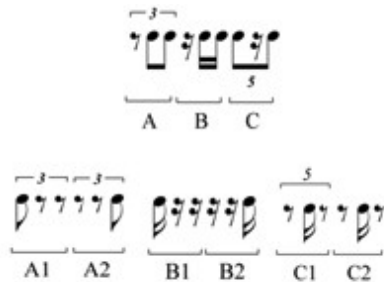
A more complex form of rhythmic organization and structure, and one which has been traced into the music of Boulez, is that of the "*Personnages Rythmiques*". Gareth Healey (2004) notes their use in a number of works from the late 1940's to the early 1950's, in particular within the organ works *Messe de la Pentecôte* and *Livre d'orgue*. Messiaen offered an analysis

10 Messiaen, *O Livre d'orgue* (1952)

11 A full analysis of *Livre d'orgue* may be found in Johnson 1989 p 111 - 115. Plaman (2013) also identifies the prominence of the Catuthaka in *La Nativité*

of the ‘Offertoire’ of *Messe de la Pentecôte* in which he combined Hindu rhythms and interversions. Each rhythm is treated as a “personnage”, with Caturthaka as the “increasing personnage”, Nihçankalîla the “decreasing” and Tritîya is the “immobile personnage”.¹² Pierre Boulez studied with Messiaen in the early 1940’s and in the *Second Piano Sonata*, Boulez, P (1948) which Messiaen himself analyzed, noting the presence of the ‘personnages’ concept :

...highlighting an element of mobility, ... produced by subjecting cells to a number of internal procedures: rhythms are turned into their negative, retrograded, or treated in irrational values



Three cells A-B-C in the fourth movement of Boulez’s *Second Piano Sonata* and their subsequent manipulations. (Healey, G. 2004 p18)

Modes and various forms of pitch organization.

Techniques of pitch organization are an integral aspect of the organ music of Messiaen. The ‘modes of limited transposition’ are analysed by Johnson (1989), whose chief interest in respect of this article is their impact on harmony and melody. Of particular interest and significance in the development of new organ compositions is the so-called ‘chord of resonance.’ It is a fundamental note with all its odd harmonics up to the fifteenth. In example 1 above, for instance, the very first chord is such, although not complete.

Impact of Messiaen’s organ music on other composers

¹² Messiaen’s concept of ‘personnages’ both rhythmic and melodic—see Healey, G 2004 p15., or less comprehensively, in Johnson (1989) p 35 - 36

Bengt Hambraeus (1928 - 2000) had been a student of Alf Lindner in Stockholm between 1944 - 48, and attended Darmstadt Summer Schools between 1951 and 1958, attending seminars and workshops by Messiaen at this time. Hambraeus took Messiaen's serialized rhythms and textures of *Livre d'orgue* and developed this still further in his series of pieces *Doppelrohr II* and *Konstellationer* (1958) for organ and organ sounds on tape. The works are highly significant in the lineal development of the organ as an avant-garde instrument bridging the span between the so-called 'experimental' works of Messiaen and *Volumina*. Having met Hambraeus some years before, Ligeti worked on *Volumina* in Stockholm (1961) with input from Hambraeus, and the organist Karl-Erik Welin (who gave the first performance of *Volumina*). In *Volumina*, Ligeti dramatically transfers the cluster style of writing found in his orchestral works of the same period (eg *Apparitions* [1959] or *Atmosphères* [1961]) to the organ with an impact that still reverberates. Hambraeus had been at the electronic music studios in Cologne a little earlier than Ligeti and his pieces were known to Ligeti (Toop p 89). According to Broman, P (1997) Ligeti acknowledged that the *Konstellationer* were a direct inspiration for *Volumina*.¹³

Avant-garde facets of *Volumina* are several - as, described by Toop:

In many respects, *Volumina* is like a photographic negative of *Atmosphères*. Though both are continuous cluster pieces, one is for large orchestra, the other for a soloist (albeit a soloist dependent on two assistants). Both start with broad clusters, but the piece for many players does so softly, while the one for the single player begins thunderously. One piece is meticulously notated, the other only very loosely, but they both pursue many of the same strategies, such as the extrapolation of pentatonic and diatonic (black and white note) clusters from a chromatic cluster at the beginning.

There is another provocative aspect. The organ is, after all, not only the 'king of instruments', but is also associated primarily with churches and cathedrals, with sacred sites.... From a listener's point of view, the organist is a remote figure, often placed out of sight in an organ loft. Even when visible, the organist is likely to move in a restrained, ritual manner,... the hands must remain glued to the keyboard. In *Volumina* the organist must often sway to and fro in a most 'unseemly' manner to execute the prescribed clusters and glissandos. (Toop p 91 - 92)

Whilst these elements are far removed from the organ works of Messiaen, their direct antecedents lie in the organ works of Messiaen. As shown, the or spectral changes wrought by Messiaen in his works from 1937 - 52 freed of the instrument of older timbral concepts which

13 Broman, P 1997 p 67.

were extended and combined with electronic sounds - as well as acoustic quasi-electronic sounds in works by later twentieth and twenty-first century composers.

Developments in organ composition after Volumina

After *Volumina*, and the scandal its performance techniques created: the use of hand, arm and feet clusters shocked and horrified many conservative organists and officials¹⁴, there was a pause in the continuing use of the organ in this manner for a time. Ligeti, however, was not done with the instrument, and his next works *Etude No 1: Harmonies* 1967 and *Etude no 2: Coulée* (1969) use far more conventional performance techniques. He does request 'preparation' of the organ - by reducing the wind pressure of the organ - suggesting, for example, the substitution of a vacuum cleaner for the normal organ blower, slowing the motor, or removing low pipes so that air escapes. (Toop *ibid.* p 124) The sustained chords of *Harmonies* are contrasted completely in the second *Etude: Coulée* which is an extension of the harpsichord piece *Continuum* of the same year (1969). This work is written for extraordinarily fast repeated and changing patterns that operate in the manner of a kaleidoscope, gradually shifting with minute changes of note or texture.

Other composers also wrote for the organ exploring its quasi-electronic spectral possibilities. Xenakis (another student of Messiaen) composed *Gmeeoorh* (1972), Cage transcribed a work originally for piano *ASLSP (as slow as possible)* (1985) for organ *Organ2ASLSP* (1987) at the request of Gerd Zacher. It is now currently in performance in Halberstadt in Germany in the mid 80's¹⁵ where it will continue till the year 2639, Morton Feldman, also wrote significant works for the organ. Interestingly, there was little continued composition of works for organ with

14 Prior to its premier, the work had already developed a reputation for destroying organs! In rehearsal prior to its first performance, the electric action of the organ being used (in Goteburg) overloaded and smoke poured out of the pipes - see Toop p 92 - 3.

15 <http://www.john-cage.halberstadt.de/> (last accessed 17th March 2008) begun on September 5, 2000, (which was the 88th birthday of Cage), the slowest and longest concert that the world has ever heard has been playing: ORGAN2/ASLSP As Slow as Possible will be in performance for 639 years in the church of St. Burchardi in Halberstadt.

tape after Hambraeus' *Konstellationer* (1958). In the 1980's greater interest was paid to this ensemble through organ works by Warren Burt¹⁶, Anne Carr Boyd (The Bells of Sydney Harbour 1979) and, more recently, Stephen Ingham.

As computing power has developed, so the ability of the attendant technology to operate real-time digital signal processing (dsp) has become a reality. This facility is just beginning to be explored by a few organists, such as Morgan Fisher (Tokyo) and Wolfgang Mitterer (Linz), who are improvising with prepared dsp. In Australia, I have commissioned new works by Andrian Pertout and Lawrence Harvey, both of which take the organ in new timbral directions as they combine its acoustic sounds with realtime sounds processed from the instrument being played. So, from the experimentation by Messiaen with registrations and other compositional techniques in his organ works, the influence of this great composer continues to be felt throughout the organ world, as organists and composers look for new ways to bring the pipe organ into the milieu of the avant-garde.

Conclusions

Having established a working definition of the term 'avant-garde', this article demonstrates that, in the world of new music, the pipe organ was established as a bona-fide avant-garde musical instrument with a (now) significant repertoire after the premier of Ligeti's *Volumina* in 1962. Between the death of Reger in 1916 and 1962, composers of avant-garde organ music were influenced by Messiaen's organ music. His influence particularly lies in his new concept regarding the timbre of the organ, and of what is possible as through specific and unusual registration and sound layering. It was demonstrated in sections of *La Nativité du Seigneur*, and more

¹⁶ "Justice, Equality and Beatings V" (organ and tape version) (1989) version for organ and two channel tape performance 13 June 1990, Stuttgart, & 30 Sept. 1992, Pitea, Sweden, by Gary Verkade; 28 Oct. 2001, Cleveland, Ohio, by Gary Verkade, and *Recitative/Tracing (On Pentagony (On Guns and Cock-fighting)) In Memoriam Kenneth Gaburo* (1994) for organ and electronic tape.

elementally in compositional techniques through the adoption of serial techniques of rhythm and pitch organization in later compositions. These latter compositional techniques are not specific to the pipe organ, as we see them frequently used in compositions for other instruments. Messiaen's impact on the Darmstadt school of the 1950's include his two major works for organ, *Messe de la Pentacôte* (1950) and *Livre d'orgue* (1951). They are prominent, as the link between Messiaen and Hambraeus (whose organ works influenced the composition of Ligeti's *Volumina*) was established at Darmstadt about this time. In this way it has been demonstrated that his impact on the growth and development of a new style of organ composition (with associated performative techniques) is both significant and linear.

In the period following the famous Bremen Radio Concert of May 4th, 1962 at which *Volumina* (Ligeti) was premiered along with other works by Hambraeus and Kagel, the organ was proved as an effective and potent avant-garde musical instrument. All the aforementioned composers continued writing for the organ after 1962, each new work progressing along the continuum of the individual's musical style. Significantly after this date, there is an increase in interest by other avant-garde composers who could see potential for the organ as the vehicle for their own new ideas and compositions, a trend that continues to the present. In this way the organ will remain a vibrant and exciting instrument for new music and composers, and the love Messiaen had for the instrument is well served by the music he wrote and its continuing impact on the younger generations of composers - liturgical and concert - who have followed in his steps.

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