University of Adelaide
Elder Conservatorium of Music
Faculty of Arts

Percussion performance:
challenges of the medium, technique and repertoire

by
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Submitted in fulfilment of the requirements
for the degree of

Master of Philosophy
(MPhil)

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Abstract

This dissertation for the degree of Master of Philosophy at the Elder Conservatorium of Music, University of Adelaide, examines the challenges to percussion performance presented by the medium, techniques and repertoire in a changing environment. The importation, development and adaptation of percussion instruments, the development of techniques in traditional and new contexts and composers’ searches for new sounds to express a variety of musical and theatrical ideas coalesced over the course of the twentieth century to provide the basis for these changes and challenges. This study analyses the inter-relationships between each of these elements and consequent changes as they affect performance.

Percussion performance over the course of the twentieth century in the Art Music world was elevated from a subsidiary, back-of-stage provider of rhythm and volume to a centre-stage presentation of performances in its own right. This change was both quantitative and qualitative, which in the process, created a new genre. By examining the issues related to this change the study aims to provide an understanding of the elements of the instruments, the techniques and repertoire to be a resource for future analyses, compositions and performances.

The study, by investigating a selection of representative instruments and major techniques, examines significant developments in the medium and playing techniques and the relationships that exist between them and the repertoire and investigates the challenges these elements present for performance. The study draws mainly on four significant works, the Milhaud Concerto pour batterie et petit orchestre, Sculthorpe Sonata for Viola and Percussion, Bryce Suite for Percussion Quintet and Morgan Loss for Percussion Quartet, three of which I performed in close collaboration with the composers and analyses them in the context of musical intent and the challenges they present to performance. Furthermore the study draws conclusions on the challenges these elements present for a cohesive performance.
Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, or any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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I also wish to thank Associate Professor Kimi Coaldrake for guiding me through the catacombs of academic processes. The extra assistance, when needed, the attention to fine detail and the provision of direction are all much appreciated.

This dissertation is based on a long and extensive life of music making with many musicians, from whom I have learned much about music and performance. These artists include: my teachers, Richard Smith at the Elder Conservatorium and Professor George Gaber of Indiana University; composers, Peter Sculthorpe, Eric Bryce, David Morgan, Tristram Cary, Felix Werder, William Kraft, Bozidar Kos and Ralph Middenway; conductors, Nicholas Braithwaite and Verdon Williams; instrumentalists, Dennis Johnson, Peter Cobb, Don Knispel, Barry Quinn, Michael Askill, Ray Horne, Don Crooke, Karol Szymanowski (jazz vibist), Stanisław Skoczynski, Jacek Wota, Norman Weinberg, Ron Keezer, Richard Hornung and Patricia Pollett; and percussion instrument makers, Bernhard Kolberg, Neil Grover and Remo Belli.

Thank you specially also to Ann Kraehenbuhl for her opinions, advice and very tangible support. I also thank my fellow research students who through their research areas and discussions broadened my own horizons. I am also grateful for the assistance provided by the Elder Conservatorium, Faculty of Arts and Adelaide Graduate Centre including Cally Guerin for her workshops and Lucy Thomson for her seminars.

Finally I thank the Australia Council, Arts South Australia, the Phonographic Performance Company of Australia, Technical and Further Education Department and the Helpmann Academy without whose financial assistance many of the commissions and performances of my life would not have been possible.
Music Examples

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Introduction

Approach

The twentieth century saw percussion performance transform from a back-of-stage supportive medium providing rhythmic definition and volume into a centre-stage family of instruments presenting performances in its own right and in the process producing a new genre. This process of performance comprised three elements – the instruments of the medium,¹ the techniques of playing and the repertoire. However, these evolutionary changes to percussion and their impact on the manner in which percussion is used in performance have not been previously researched. This study addresses this omission.

Firstly, a large number of instruments were imported into the Art Music World, where they then were developed and adapted. Art Music, in this dissertation, is the generally accepted term used to describe the form of traditional music composed in a classical tradition and requiring formalised study that originated in Europe and also developed further in specific cultural or music contexts in other countries. The United States of America in the early twentieth century typifies this satellite evolution with the energy of a young and emerging music culture injecting a burst of enthusiasm into an already established musical form inherited from Europe. This example is referred to in the study. As a point of conjecture the term Art Music is preferred to the generic Western² as a more accurate description of this music genre and accordingly this dissertation has adopted this reference.³

This cross-cultural contact on a broad scale, through expansion of international trade, mass migration and two world wars brought people together who previously would have had little, if any, knowledge of each other’s culture and

¹ The terms ‘medium’ and ‘instruments’ are used interchangeably throughout this dissertation.
values. The contact introduced new and different instruments to percussionists and composers. Accompanying this influx was a concomitant broadening and refinement of techniques needed to play these instruments. This occurred simultaneously at a time when composers were searching for new sounds and new directions. The magnitude of this coincidence has had profound and ongoing implications for percussionists because of the distinct relationship between the nature of the instruments and the necessary changes or adaptations required for the techniques of playing them. However, while the transformation was global, the details of the changes were local in terms of instrument adaptation, technique and compositional directions. Because these changes acquired distinctly localised characteristics the developments collectively were not uniform or standardised, with the deeper significance being that developments in instrument use, technique and repertoire across the globe have been multifarious in essence and direction.

These random advances in percussion in turn affected performance outcomes as well as the style of writing for percussion and are continuing to influence the contemporary developments in the genre. Eminent percussionist, James Blades recognised this trend in the 1960s.

Twentieth-century orchestration has demanded a dominant role from the instruments of percussion. Succeeding years have witnessed an ever-increasing use of the normal percussion, together with a desire on the part of composers to exploit the possibilities of unusual devices and novel instruments.4

The coalescing of this plethora of instruments, variety of playing techniques and moves by composers away from the Austro-Germanic traditions of melody and harmony saw percussion at the centre-piece of the emergence of a new music. In 1975 Gordon Peters, a former Principal Percussionist in the Chicago Symphony Orchestra commented on this:

The fast growth of percussion ensemble literature, changing attitudes and standards, and the trends and potentials inherent in this movement today is a highly fascinating study. Historically, we are now witnessing one of the great steps in instrumental development.5

---

4 James Blades, Percussion Instruments and Their History, London, Faber and Faber, 1970, p. 412
5 Gordon Peters, The Drummer: Man, Wilmette IL, Kemper-Peters, 1975, p. 3
Although Peters is talking specifically about percussion ensemble, the last sentence, ‘one of the great steps in instrumental development’ can be related to the whole field of percussion because of the inter-relationship between these three elements of instrumental variety, compatible playing techniques and broadening of compositional horizons. Accordingly, this dissertation will examine these inter-relationships and the challenges presented and continuing to be presented for percussion performance. The paucity of scholarly and other published material related to the changes means any research must of necessity rely on primary sources, thereby involving performances of other percussionists and my own, as well as related observations and reflections.

Performance of music comprises three elements – the medium, techniques and repertoire. In relation to performance each element requires analysis and with a focus on their inter-relationships. Because of the relative newness of the genre and continual changes within it, the academic research into percussion performance is sparse. This study aims to rectify this situation and examine the nature of the percussion medium, how it changed over the course of the last hundred years and the effects of these changes on the performance. Intrinsic to this is the examination of the manner in which the instruments are used in performance. It also aims to analyse the various techniques of percussion, and to analyse certain works representative of solo, chamber music and percussion ensemble contexts. The works are Darius Milhaud Concerto pour batterie et petit orchestre, Peter Sculthorpe Sonata for Viola and Percussion, Eric Bryce Suite for Percussion Quintet and David Morgan Loss for Percussion Quartet.

Furthermore it aims to examine the relationships that exist between the percussion medium, the techniques and the repertoire and to investigate the challenges these elements present for performance. Finally, it aims to examine how these elements changed over the course of the last hundred years and the effects of these changes on the performance. This analysis will provide a body of

6 In discussions with Peters during the Chicago Symphony Orchestra’s visit to Adelaide in 1988 to perform at the Adelaide Festival he agreed with this observation.
knowledge about the relationships between instruments, technique and repertoire, and especially about four works that have not been accorded much critical academic analysis. Finally, it will provide a basis for future research on these and other topics arising from this study.

To realise these aims the following research questions will be examined.

1. What is the historical nature and manner of use of the instruments?
2. What techniques have developed and are they instrument specific or based on a universal principle?
3. What musical directions were set by the repertoire and what limitations and potentials of instruments, technique and sound set their contexts?
4. What is the nature of the relationship between the three elements of instruments, repertoire and technique?
5. What challenges do they present for performance?

This study is an analysis of the percussion medium, its techniques and repertoire and an investigation of the construction, developments and manner of use of each of these elements, their inter-relationships in a changing environment and the challenges this situation presents for performance. The research is an exploration of the characteristics of representative families of percussion instruments in historical and contextual perspectives. Furthermore it investigates the elements of technique as applied to these families of instruments and how it is used in the repertoire. Thirdly, it analyses four works in the repertoire representative of solo, chamber music and percussion ensemble performance contexts from the point of view of musical intent of the composers and examines the role of the instruments and technique and performance challenges in that context. Finally, in relation to the wider evolving percussion genre, the study draws conclusions about the inter-relationships between the elements of medium, technique and repertoire and the challenges presented for performance.
The dissertation will also examine issues arising from notation, approaches to playing, ensemble, chamber music and solo playing situations, lack of standardisation, and the continuing changes across all these fields. And the discussion will investigate the inter-relationships that exist between repertoire, technique and instruments and their impact on the artistic presentation of percussion performances. In addition examples of scores, recordings of the Sculthorpe, Bryce and Morgan works and DVDs showing some specific characteristics of the medium will be included. Finally conclusions will be drawn about the inter-relationships between the instruments, technique and repertoire and the challenges they present for the presentation of percussion performances.

This dissertation draws on the analyses, descriptions, discussions, notations and sounds in other relevant dissertations, books, articles, scores and recordings. Furthermore it draws also on my learnings and recollections of my discussions with academics; as well as over the years by many discussions with composers, percussionists, other musicians, other academics, music publishers and instrument manufacturers on matters of technique, notation, interpretation, theatricality, instrument construction and elements of beaters.

The methodology is based on my personal experience of fifty years of exploring, rehearsing and performing a large number of works for percussion in the contexts of solo, chamber music and percussion ensemble, many in close collaboration with composers, percussionists, other musicians and dancers. This has enabled me to gain a deeper first-hand understanding and appreciation of the relationship between the instruments, the techniques and the music and the role each plays in the realisation of musical performance and is elaborated on in the Literature Review below.

By linking these significant elements of medium, technique, and repertoire as discussed above, and showing their critical inter-relationships, this dissertation will provide a new resource for percussionists to interpret their craft, for composers to better understand the complex medium of percussion and for audiences to gain deeper appreciation of the music that results.
In this dissertation the three elements of instruments, technique and repertoire will be analysed in terms of their inter-relationship, the impact they have on each other, and the challenges they present to performance.

Chapter One will investigate the medium of percussion. The particular instruments of focus are the Membranophones and Keyboard Mallet Percussion as representative of the main areas of the medium.

Chapter Two is an analysis of the elements of technique. These comprise playing action, physical movement, sound, notation, logistics and visual aesthetics of performance.

The major pieces of repertoire to be analysed are representative of the areas of solo performance, chamber music and percussion ensemble.

Chapter Three examines Darius Milhaud’s *Concerto pour batterie et petit orchestre* as the first solo piece for percussion.

Chapter Four is an analysis of Peter Sculthorpe’s *Sonata for Viola and Percussion*, as the first significant use of multiple percussion in the chamber music genre in Australia together with a distinctive portrayal of Australian culture.

Chapter Five examines Eric Bryce’s *Suite for Percussion Quintet* and David Morgan’s *Loss for Percussion Quartet* as two important percussion ensemble pieces of early Australian compositions in jazz and symbolic genres respectively.

It is important for the collective music register to include academic publications. At present there is a dearth of academic literature related to the relatively recent evolution of percussion for performance and its challenges, and this dissertation offers the first of such publications. Accordingly it will provide an initial body of knowledge about the inter-relationships between instruments, technique and repertoire. Importantly it also analyses four significant works and the challenges they present for performance which until now, except for Milhaud, have not been seriously addressed in scholarly publications. Finally it will provide a basis for future research on the topics arising from this study.
Background and Context

At the beginning of the twentieth century orchestral percussionists had only a few instruments to play, and in a manner that required little technique. Before the end of the century over one hundred percussion instruments were in evidence in the classical sphere, each with its own technical and logistical requirements and traditions.7

This expanded range of instruments encompassed a depth of registral ambitus as well as a breadth of types. For example, the membranophone family saw the introduction of hand-played instruments such as bongos and congas and beater-played timbales from Cuba and tom-toms from China to complement the timpani, snare and bass drums already in use in various musical contexts in Europe.8 Similar coalescing of cultures and sounds occurred in the metal and wooden idiophone families. This importation had immediate ramifications with composers wanting to use these ‘new’ sounds. Percussionists were therefore under pressure to learn a variety of techniques to be able to produce these sounds; and for the instruments to be used in various and different musical contexts they had to undergo changes to mounting and construction.9

The magnitude of this change was broad and deep, affecting as it has, all aspects of percussion; and setting a number of still evolving new directions. The breadth and intensity of this transformation changed percussionists’ methods and approach to playing, both qualitatively and quantitatively and also engendered new approaches to composition. This again was recognised by Blades:

...Milhaud’s *Concerto pour batterie et petit orchestre*... necessitates no small amount of athleticism, not the least being the management of the foot pedal operated bass drum and cymbal.10


8 These instruments originally came to Europe from Turkey.


10 Blades, *op. cit.* p. 416
Such a comment from this eminent percussionist some forty years after the composition indicates the extent to which percussionists have had to adjust their technique and attitude to the changes. In the process of this change, the role of the percussion instruments changed from an incidental medium of a small number of instruments providing rhythmic definition and volume, to the largest of instrumental families, comprising a diverse range of instruments capable of presenting concerts in their own right and in a wide variety of situations. ¹¹

However, this transformation of the percussion medium was far from orderly. The change was global, but the detail of this process was local as percussionists, composers and instrument makers contributed their own understandings of its intricacies and place in its overall evolution. The dichotomy in this process created problems and conflicts in terms of technique, instrumental knowledge and approaches to playing, presenting challenges for the performance of percussion.¹² This dissertation will examine these problems and challenges.

Concomitant with this influx of so many instruments came a multiplicity of techniques and playing approaches. The instruments came in a variety of sizes, and materials and were played in different combinations, with an assortment of beaters. Many of these instruments originally also had certain and, at times specific, techniques relevant to their culture and context, while for others completely different techniques have developed. As a result these techniques have increased in their complexity as they have encompassed an array of issues in their evolution. These issues continue to unfold and affect traditional versus new approaches, playing actions, sound, notation, movement, logistics and visual aspects. The techniques moreover, apply across both tuned and untuned

¹¹ Compositions for percussion in solo, ensemble and chamber music situations by Milhaud, Antheil, Bartók, Berio, Cage, Chavez, Carter, Stockhausen, Hovhaness and Xenakis are just a few examples of the extent of this change over the course of the twentieth century.

¹² The controversy over 'traditional' and 'matched' grips on snare drum, the understanding of the various names of the instruments and the place of rhythm in the musical spectrum are three examples of the challenges and will be examined in later chapters.
percussion instruments, to a wide variety of beaters and playing surfaces of wood, metal, skin and plastic.\textsuperscript{13}

These developments in percussion occurred when composers began looking further afield for new sounds and new compositional directions, exploring avenues of polytonality, music of other cultures, and rhythmic nuance. In the process they increasingly utilised this growing family of percussion instruments and a variety of percussively played sound sources, including a number that were not previously classified as instruments, such as planks of wood, ratchets and whips.\textsuperscript{14}

In this context the out-of-tune nature of the percussion instruments, which had already enabled them to be used across all key signatures, was now seen as less important than their ability to add an extra dimension to the music, and provide a raw rhythmic excitement. This concept was to have profound implications for percussionists in terms of technique and instrument development; and the composers in the forefront of this new direction were Igor Stravinsky, Percy Grainger and Darius Milhaud, laying the groundwork for future compositional thinking.

\textbf{Early Compositions for Percussion}

Stravinsky's \textit{Le Sacre du Printemps},\textsuperscript{15} which received its première in 1913, showed this extra dimension most emphatically, through his extensive scoring for percussion and an exploration of rhythmic emphasis. The work had profound implications for percussionists, as did his \textit{L'histoire du soldat},\textsuperscript{16} which presented

\begin{flushleft}
\footnotesize
\textsuperscript{13} The disparate nature of the instruments and beaters, the contexts of their origins and changing manners of their use have presented difficulties for their formal notation and study. Even Gary Cook's excellent tutor, \textit{Teaching Percussion}, New York, Schirmer, 1997, pp.254-274 can only provide a start to developing these techniques.

\textsuperscript{14} This exemplifies some of the difficulties surrounding percussion. These 'non-instruments' come in a variety of sizes and sounds, but the only accurate description of them is in Peinkofer and Tannigel's \textit{Handbook of Percussion Instruments} (see footnote no. 5). This excellent resource unfortunately is now out of print and the very few second-hand copies available are expensive.

\textsuperscript{15} Igor Stravinsky, \textit{Le Sacre du Printemps}, London, Boosey & Hawkes, 1969

\end{flushleft}
issues of notation and logistics as well as asking for a higher level of musical artistry, and demanding all this on a 'new' instrument – multi-percussion. To end a piece using only drums, for example, was a very new concept. The notational, logistical and aesthetic aspects of technique and musicality will be further analysed in Chapter Two.

Moreover from the perspective of performance Stravinsky was attracted by the idea of

...the interest afforded to the spectator by being able to see these instrumentalists each playing his own part in the ensemble... which facilitate one’s auditory perceptions?17

With this decision the instrumentalists were elevated from the 'pit' to a level of artistic presentation of equal status with actors, dancers, other musicians and visual artists. In light of Stravinsky’s comments about the relationship between sight and sound, this decision has had, and continues to have ramifications for the presentation of percussion performance. The significance of visual and aural elements of performance will also be further discussed.

At the same time as Stravinsky was developing the untuned percussion potential, Percy Grainger began to explore the range of sounds offered by the tuned percussion instruments. In 1913 he set to work on his piece, planned for the Diaghilev’s Ballets Russes, but never performed by them, The Warriors - Music to an Imaginary Ballet.18 The work utilises a large number of diverse tuned percussion instruments, and is the first example of such orchestration.19 Moreover, this work, as well as his other pieces involving percussion had important implications for percussionists. The longer entries of more complex phrases, at fast tempi, necessitated development of an exponentially greater technical facility. The work and its significance to percussion, however, are largely ignored even by Grainger’s biographers. The Grove Dictionary mentions it only as a brief entry in his list of works and that listing making no mention of the

18 Percy Grainger, The Warriors - Music to an Imaginary Ballet, Mainz, Schott & Co, 1926, Includes program note, analysis and notes to the conductor, in German and English, by the composer.
‘tuneful percussion’, which he regarded as a separate section of the orchestra.\textsuperscript{20} Grainger continued to use and advocate the use of ‘tuneful percussion’ as a separate section of the orchestra, and in doing so bestowed a great legacy.

These works by Stravinsky and Grainger elevated percussion from the pit and the task of mere time keeping to a place on the stage that demanded a higher level of artistic talent. Merging this with music that emphasised rhythm, or drew its inspiration from non-European sources, diminished the hierarchical importance of the melody and harmony of the Austro-Germanic tradition as seen in the works of Bach, Mozart and Beethoven. This visual and aural elevation of percussion afforded a totally new direction to both percussion and music generally.\textsuperscript{21}

As important as these composers were in the progression of percussion, it was Darius Milhaud who would extend the parameters furthest. In his opera \textit{Les Choéphores}, (written in 1916) three movements, \textit{Présages}, \textit{Exhortation} and \textit{Conclusion} are for voices and percussion alone, not for the purpose of eliminating melody, but for the dramatic effect thus attained.\textsuperscript{22} The fifteen percussion instruments were played by fifteen percussionists, but in 1929 Milhaud wrote his \textit{Concerto pour batterie et petit orchestre} – and scored sixteen instruments for one player in the first concerto for a multiple percussion set-up.\textsuperscript{23} By writing the piece Milhaud left a greater legacy than just adding a piece to the repertoire. He initiated a discrete percussion repertoire, created a new genre and by elevating the importance of rhythm, redefined music.

\textsuperscript{20} Malcolm Gillies and David Pear, ‘Grainger, Percy, Aldridge’, \textit{The New Grove Dictionary of Music and Musicians}, 2\textsuperscript{nd} ed., (Stanley Sadie ed.), Vol. 10, p. 271. The instruments comprised Piccolo, 2 flutes, 2 oboes, cor anglais, bass oboe, 2 clarinets, bass clarinet, 2 bassoons, double-bassoon, 6 horns, 4 trumpets, 3 trombones, bass tuba, 4 timpani (1 player), percussion (8 players), celeste, 3 pianos, 2 harps, strings. (The publisher, Schott, has a revised edition [ed. Alessandro Servadei 1997] in which they list the parts as “orchestra, 3 pianos and ‘tuneful percussion” \url{http://www.schott-music.com/shop/leihwerke/show,152167.html} accessed 20 February 2016)

\textsuperscript{21} Roscigno, \textit{op.cit.}, pp.83-4

\textsuperscript{22} Darius Milhaud, \textit{Les Choéphores}, Paris, Heugel, 1947

\textsuperscript{23} Jeremy Drake, ‘Milhaud, Darius’, \textit{The New Grove Dictionary of Music and Musicians}, 2\textsuperscript{nd} ed. (Stanley Sadie ed.), Vol. 16, p. 678. Curiously, though, the work is dismissed almost as an afterthought and entered as, “He also wrote the first Percussion Concerto (1929-30)”. 
In their own distinctive and influential ways Stravinsky, Grainger and Milhaud left an important and permanent legacy, pioneering the significant transformation of the role and perception of percussion and percussionists. They broadened harmonic and melodic possibilities, and through the elevation of the untuned percussion instruments, redefined the concept of music. In so doing, they opened the challenge to other composers to write in new and experimental ways for an emerging genre of percussion with its varied set of tonalities and new creative possibilities. In the 1930s composers like Amadeo Roldán, Edgard Varèse, Johanna Beyer, Henry Cowell, Harry Partch, Lou Harrison and John Cage all made important further contributions in the development in the genre following these important beginnings. Yet Grainger and Milhaud have been largely ignored with only Stravinsky receiving general acknowledgement. Exemplifying this omission was a comment by eminent London percussionist James Holland,24

Such composers as Stravinsky, Bartók and Varèse gave the element of rhythm, and percussion instruments, a new importance within the orchestra and chamber ensemble.25

Concomitant with this influential development in composition has been a continual increase in the number and type of instruments used as percussive sound sources. This has come about through the importation of instruments from other cultures, adaptation of instruments to suit particular playing situations, adoption of non-instruments to meet compositional demands and improvements to the construction and mounting of all these instruments to make their use simpler or more flexible.

Simultaneously, there has been ongoing development in playing methods, techniques and approaches. With the continued expansion of the body of instruments in the percussion family, imported from other cultures, newly invented, or adapted for different uses, has been the accrual of attendant techniques. As a result, percussionists now are forced to acquire expanding

24 Former Principal Percussionist, London Symphony Orchestra and BBC Symphony Orchestra
playing methods, techniques and approaches and to consider the musical effect of their playing, while doing this across a variety of textures and sound sources that also continue to develop. This is a necessary prerequisite to presenting the artistic performances that now attend percussion’s raison d’être.

In a discussion of performance issues, it is necessary to closely and critically analyse the medium of percussion itself, its techniques, a selection of pieces written for percussion from the performer’s perspective, and to discuss the relationship that exists between the repertoire, the techniques and the medium. Four pieces will be examined in depth, Darius Milhaud’s *Concerto pour batterie et petit orchestre*, Peter Sculthorpe’s *Sonata for Viola and Percussion*, David Morgan’s *Loss* and Eric Bryce’s *Suite for Percussion Quintet*. The pieces, which each chart some new pathways, have been chosen in order to examine the place of percussion in the genres of solo, chamber music and percussion ensemble; and are works with which I have strong personal and musical connections.26 Moreover, they contribute to the development of percussion across a range of genres and styles; and as three of them are Australian, they underline the importance to interpretation of the collaboration between composer and performer, and stress the influence of the local situation to the global evolution.

Milhaud’s *Concerto pour batterie et petit orchestre*, as the first solo piece written for percussion, provided the benchmark and pathway for all compositions written since, and it is generally accepted, caused a re-evaluation of how the instruments are used and played. As a result of this Concerto, a number of works have been written for solo percussion, and in different settings. In Australia for example, compositions for solo percussion have included Tristram Cary’s *Black, White and Rose*, which combined multi-percussion with tape. Andre Oosterbaan in his *Time of Light* composed a piece for percussion solo with choir. Becky Llewellyn’s *Song Ball*, David Morgan’s *It-Bit,27* and Eric Bryce’s *Concerto for Marimba / Vibraphone and Orchestra* use extensions of guitar technique. All

26 With the assistance of the Australia Council I commissioned the works by Morgan and Bryce, and was able also to discuss the Sonata with Sculthorpe on a number of occasions.

27 The complete title of the work is *An Itsy-Bitsy Collection*, but through use by both composer and performer is usually referred to as *It-Bit*. 

13
these works are referred to illustrate the various appropriate elements of technique or instrument use.\textsuperscript{28}

Chamber music is another area that has only included percussion since the 1930s, and this use has generally been sparse. Peter Sculthorpe’s \textit{Sonata for Viola and Percussion} is the first Australian composition using multi-percussion in a chamber music setting; and it has a further significance in the way he used the instruments, not just for rhythm but to symbolise elements of the Australian outback. This approach presented some challenges for performance and for these reasons it is important to analyse the work in depth.

Percussion Ensemble pieces as discrete entities also date from the 1930s. Edgard Varèse’s \textit{Ionisation} and Amadeo Roldán’s \textit{Ritmicas 5 \& 6} were the first percussion ensemble pieces– the first as a ‘representational’ work and the second as a folk-based work. The works of Bryce and Morgan are two further steps in the evolution of the genre. Charting new ground by firstly broadening the musical parameters and secondly through interpretation of theme, these Australian compositions for percussion ensemble will be investigated within the context of composer’s musical intent. Eric Bryce in his \textit{Suite for percussion Quintet} explored and melded jazz and classical elements. And David Morgan wrote for Multi-Percussion in his quartet \textit{Loss} in which he interpreted the notion of deprivation through political, military, religious and personal associations.\textsuperscript{29}

These four works by Milhaud, Sculthorpe, Bryce and Morgan have specific challenges of technique, instrumentation, notation, and performance presentation. Percussion techniques have been developing in a number of directions and continue to do so. These will be examined in the following chapters as well as their impacts on the manner of performing the works, with implications for interpretation. The instruments also continue to undergo developmental changes, which affects the manner of playing and instrument use in the repertoire. The lack of a standardised basis for percussion notation

\textsuperscript{28} On all these works (after the Milhaud) I was able to collaborate with the composers towards their realisation.

\textsuperscript{29} My knowledge of the musical intent of the works is based on discussions with both composers.
moreover, provides a further challenge in interpreting composers’ intents, especially when works are performed outside of the local context. This issue then of the connection between composer and performer will also be discussed as appropriate. These factors all play a role in the challenges of presenting artistic performances of percussion and will be closely examined in the dissertation.

**Review of Sources: Repertoire and Literature**

The literature consulted consists of primary sources and secondary sources. The primary source material comprises two types. Firstly, the scores, and particularly the works by Milhaud, Sculthorpe, Bryce and Morgan are the most valid as the pivotal points of the research into repertoire as well as other works referred to when appropriate. The second type of source is my close collaboration throughout the whole process of discussion, rehearsal, workshop and performance with the three composers Sculthorpe, Bryce and Morgan.

The first score, Milhaud’s *Concerto pour batterie et petit orchestre* I performed in 1975 in the context of Grad. Dip A. (Mus) studies at University of South Australia. A deeper understanding of the piece, both practical and musical, was gained through further study in 1977 at Indiana University with Professor George Gaber who performed the work under personal guidance from Milhaud. At the same time a search was conducted for a necessary accessory, which is no longer manufactured. It comprises the attachments needed to play the

\[ \text{‘Grosse caisse à pédale avec cymbale décrochable’ (pedal-operated Bass Drum with detachable cymbal).}^{30} \]

The discovery of the attachments enabled the first performance of it in 1977 in Australia using authentic instruments, with the Metropolitan Orchestra, conducted by Verdon Williams who had reviewed the recording of the work under Milhaud’s conducting for the World Record Club.\(^{31}\) In 1984 a deeper

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30 They are extremely difficult to source and raise the issue of appropriate substitution.
31 This recording was conducted by Milhaud and is one of the sources for this dissertation.

MILHAUD: Le Carnaval d’Aix; Concerto for Viola; Concerto for Percussion. Carl Seemann, piano;
understanding of the work was possible following a very detailed discussion of it with William Kraft, Timpanist with the Los Angeles Philharmonic Orchestra, who also performed it with Milhaud. Access to four published versions of the work, comprising the original score, two piano reductions, and a miniature score have enabled the analysis of its different versions. Further performances and workshops, teaching the work to tertiary students, listening to the very few recordings of the work and reading a variety of articles and dissertations, which have analysed it musicologically, and/or debated aspects of its performance challenges have added to a greater understanding and appreciation of the work.

Performances, rehearsals, workshops and lessons on Sculthorpe’s *Sonata for Viola and Percussion*, working with different violists in Oman (2009), Australia (1980-2004), Europe (1990, 1992, 1994), America (1984-5), and have given deeper insights into the work. Discussion on various aspects of the work with Sculthorpe on a number of occasions, performance of it in his presence (1998), working from manuscript and printed editions of the work, have all further enhanced understanding of it. With Sculthorpe’s consent the percussion part was edited with the aim of making it more practical to perform.

The two commissioned, percussion ensemble pieces, *Suite for percussion Quintet* by Eric Bryce, and *Loss* by David Morgan were developed with my close collaboration with both composers during the composition process and their realisation in rehearsal and performance. Moreover, my further collaborations continued with both composers on later works that they composed for percussion in solo, ensemble and chamber music contexts.

In addition, my close collaboration with a number of composers on works for percussion during the composing process and in their realisation at performance has broadened understandings of the problems and potentials of the genre for both the composer and myself. The pieces covered a range of performance situations of solos, ensembles, chamber music, with a variety of instruments, and

Ulrich Koch, viola; Fauré Daniel, percussion; Orchestra of Radio Luxembourg, Darius Milhaud, cond. Candide CE 31013

32 See Performance Biography p. 358
33 See Performance Biography pp. 360-366
musical genres, including Contemporary Classical, Avant-Garde, World Music, Latin and Jazz. These collaborations involved intensive and extensive discussions with the composers on matters of musical intent, inspiration, musical context, techniques, and instruments. A number of the works were workshopped and performed in Australia (1984-2015), the Middle East (2009-2013), Europe (1989-2007), Asia (1996) and America (1984-5, 1989) and in the process of working with these composers and other musicians a better appreciation of techniques, instrument potential and the possibilities of presenting artistic performances has been made possible.

The literature of secondary sources remains sparse. The July 2015 edition of Musicology Australia contains an article by percussionist Louise Devenish, in which she outlines the beginnings of the percussion ensemble genre in Australia. The article does not analyse any aspects of technique or instrument use, or delve into any details of the repertoire mentioned.

Percussion does not yet have a large repertoire or a long performance practice tradition. And the corollary of this is that the repertoire does not cover many historical areas. So there are not the documents or video resources to analyse many different performances or different eras. Moreover, dissertations and articles have tended to concentrate on particular aspects such as musicological analysis of specific compositions, instrument development or performance problems associated with specific pieces. The research, while useful, has been somewhat narrow in focus.

However, James Lambert provides useful analyses of performance problems in five multiple percussion pieces. Liao Wan-Chun presents from compositional and theoretical perspectives an analysis of Ney Rosauro’s two marimba

34 Details in Performance Biography, Scores in List of Sources and musical examples
35 Details in Performance Biography pp. 352-366
concerti. Michelle Colton contributes towards the body of performance-based research by discussing the expression of physical gestures in marimba playing; she does this with reference to the performances by ten different marimbists of 2-minute extracts of certain pieces. Gauthreaux adopts an historical approach by charting the development of the snare drum in its various military and orchestral settings. Parker also takes an historical approach and tackles the history of the percussion orchestra, and Nicholas Ragheb discusses the various social and musical roles of the goblet-shaped drum in Turkey. Roberts explores the historical and sociological bases of percussion works of Chavez and Harrison. Maricle analyses Milhaud’s *Concerto for percussion* from a compositional perspective, Moreno Gonzalez-Appling analyses the extent of jazz in Milhaud’s *La Création du monde*, Nozny presents a structural analysis of three works of Christopher Rousse, Lewis examines the philosophical and aesthetic principles underpinning Długoszewski’s compositions for percussion, and Lane discusses Garland’s aesthetic principles and their implications for

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38 Wan-Chun Liao, “Ney Rosaura’s Two Concerti For Marimba And Orchestra: Analysis, Pedagogy And Artistic Considerations” DMA Thesis, University of Miami, 2005
41 Wesley Parker, “The History And Development Of The percussion Orchestra”, Doctor of Music Treatise, College of Music, Florida State University, 2010
43 Shawn M Roberts, “Aztec Musical Styles in Carlos Chávez’s *Xochipilli: An Imagined Aztec Music* and Lou Harrison’s *The Song of Quetzalcóatl: A Parallel and Comparative Study*”, DMA Thesis, West Virginia University, 2010
45 Julio Gonzalez-Appling Moreno, “The Ox In The Concert Hall: Jazz Identity And *La Création Du Monde*” MM Thesis, Bowling Green state University, 2007
While these dissertations and articles analyse various aspects of technique and repertoire, their focus is very specialised.

Books have also investigated instruments, often from an ethno-musicological perspective, or musicological analyses or biographies of composers. There are two very comprehensive books. James Blades, a leading London Percussionist, wrote a tome *Percussion Instruments and Their History* in 1970, in which he describes the origins and uses of many percussion instruments and the place of some in the orchestra. Gordon Peters, Percussionist in the Chicago Symphony Orchestra, in *The Drummer: Man* builds on this, describes the beginnings of percussion ensemble activity in the USA and lays down a set of guidelines for playing and teaching percussion. Vida Chenoweth, a respected marimbist, in *The Marimbas of Guatemala* describes the marimba in its Guatemalan context; Frank MacCallum in *The Book of the Marimba* discusses elements of the instrument. Two New York percussionists, Morris Lang and Larry Spivack, produced a *Dictionary of Percussive Terms* Joseph Adato and George Judy wrote *The Percussionist’s Dictionary* to better acquaint percussionists and composers with specifics of percussion. The subject is given more in-depth treatment in Peinkofer and Tannigel’s *Handbook of Percussion Instruments* with descriptions of characteristics, illustrations, playing techniques and musical examples as well as a dictionary of names in four languages and descriptions of beaters. The *Encyclopedia of Percussion* edited by John Beck provides a dictionary (in English) with short descriptions of a wide range of instruments and terms and

49 James Blades, *Percussion Instruments and their History*, London, Faber and Faber, 1970
some articles on their use. Gary Cook’s *Teaching Percussion* is an excellent introduction to most aspects of playing percussion, albeit from a pedagogical perspective.\(^{57}\)

All of these offer meaningful insights into aspects of percussion, but none attempts to present an analysis of the inter-relationship between technique, repertoire and the medium of percussion in the presentation of artistic performances of percussion, especially from the perspective of Australian repertoire. In order to understand the nature of these elements and their inter-relationships, their impacts on developments in percussion and significance for the presentation of musical and artistic performances it is necessary to analyse each element both separately and in relation to the other two. The next chapter will examine the manner in which the percussion medium was re-conceived and the relationship of this transformation to the intricacies of techniques, the demands of composers and the presentation of performance.

Chapter 1 Re-conceiving the Percussion Medium

The standard orchestral percussion instruments at the start of the twentieth century comprised timpani, snare drum, bass drum, cymbals, tam-tam, triangle, tambourine, castanets, glockenspiel, tubular bells and xylophone. Of these only the timpani and snare drum required much technical facility. Moreover players generally were assigned only one instrument over the course of any piece, or given time to change if required to play a second instrument.58

Seventy-five years later percussionists were performing music in a variety of styles on a vast and still-expanding array of instruments, and presenting concerts in their own right, not just providing rhythm and volume in a secondary role. Marimbas, vibraphones, a numerous variety of drums, and idiophones comprised the percussionist’s armoury in this venture.59 A change of this magnitude needs to be examined in order to understand the nature of this impact on music-making.

The factors influencing this directional change were expressly related to the nature of the new instruments, compositional directions, playing techniques and their impacts on performance. Accordingly this chapter will investigate the transformation of the medium itself through composers’ demands, resultant repertoire and contexts of performance use, all of which initiated changes to the instruments. This process highlighted the evolution of the medium from a monodimensional provider of rhythm to a set of instruments able to present a diversity of sophisticated musicalities.

However, this did not happen universally or in a standard manner. The instruments came from different sources culturally and geographically, and equally their destination was not universal. The various changes, driven by

58 James Blades, *Percussion Instruments and Their History*, London, Faber, 1970. Blades traces the introduction of these instruments into the orchestra through the nineteenth century (pp. 281-347). His discussion of the playing techniques (pp. 348-411) is detailed for timpani and snare drum, while for the others he tends to dwell more on the pieces in which they feature.

political events, compositional requirements and manner of use affected the construction of the instruments and, in turn, effected further changes.

The examination of this directional change in percussion will include an analysis of a representative range of specific instruments, the resultant effects on the instruments themselves and their changing role in music. These instruments are membranophones, the marimba/xylophone, and steel pans. Focus will be on the essence of the instruments and the sound they produce, their construction, limitations of construction and use, methods of sound production (beaters) and appropriate stands. In addition a DVD shows examples of the diversity of some of the accessory instruments and the sounds that are possible from them. The instruments used are from the author’s collection.

Multi-percussion is only briefly discussed in this chapter, because it comprises any combination and number of instruments for one player and so cannot be identified as a standard and separate entity. To thoroughly examine it as a discrete concept would be a dedicated study in its own right, while to do less would be incomplete and so possibly flawed in its conclusions. So for the purposes of this dissertation, sufficiently representative examples of multi-percussion use are analysed in the contexts of solo, chamber music and percussion ensemble performance, which are investigated in chapters three, four and five, on Darius Milhaud *Concerto pour batterie et petit orchestre*, Peter Sculthorpe *Sonata for viola and percussion*, David Morgan *Loss for Percussion Quartet* and Eric Bryce *Suite for Percussion Quintet*.

### 1.1 Membranophones

The twentieth century was a period of cross-cultural contact on a broad scale, with expansion of international trade, mass migration and two world wars bringing people together who previously would have had little, if any, knowledge of each other's culture and values. This contact introduced new instruments to

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60 There are various ways of grouping percussion instruments according to different criteria. This grouping has been chosen as it aligns to playing techniques.
percussionists and composers, and combined with the new compositional demands on players, influenced the course of instrumental development. As a result, many new instruments came into the Art Music sphere. The family of membranophones was one example.

Membranophones belong to the family of percussion instruments that use animal skins, such as calf as the playing surface for creating sound. Some such instruments like bongos from Cuba and djembes from Africa were easy to transport and so figured in the instrumental mobility that accompanied population movements in the early twentieth century. Although specific cultural contexts dictated their use when in their homeland, these like all other percussion instruments underwent changes, sometimes in construction but always in their music applications when different cultural and music influences of the new homeland penetrated their use. Bongos from Cuba are a compact example of these changes.

Because of the intensity of the economic and political contact between Cuba and the United States of America in the nineteenth and twentieth centuries instruments from Cuba migrated to America. As a result, playing techniques of bongos and other Afro-Cuban instruments such as congas developed as much in an American context as a Cuban context; and these developments were seen in cities of high Cuban migrant populations that therefore attracted Cuban musicians.

Bongos initially had calfskin heads that were tacked onto the shell while wet, and tuned by drying, and so shrinking, in the tropical heat. The drums were held between the player’s knees and played with fingers using specific techniques. However, when the drums were taken out of this geographical and cultural context, changes occurred in their construction and the manner of their use, which gave more flexibility to the sound. This had implications for both

61 A further investigation of this aspect of instrumental history is beyond the scope of this dissertation, but worthy of research.
62 Art Music is defined that field of serious music-making that had its origins in Europe and was transported to other parts of the world. It forms the basis of discussion in this study.
64 Peinkofer and Tannigel, op. cit., pp. 106-8
technique and repertoire that in turn, also affected the design of the instruments. In 1960 the embargo placed by the United States of America on trade with Cuba after the communist revolution there prevented their import so bongos and other Afro-Cuban percussion instruments were then made in the United States. The construction of the bongos was modernised with the skin attached via a metal frame by which the drums could be more easily ‘tuned' to overcome the problems of weather variation.65

As well, a stand was added to facilitate playing flexibility with the added benefit of more workable instrument arrangements (see ex. 1.01). The drummer for the Ed Sullivan Show and staff musician at CBS asked Martin Cohen to,

make him a pair of bongos and also to create a bongo stand so Powell could play them standing up. Cohen fashioned a mounting system without having to drill into the shell of the drum, which would alter its tone.66

Plate 1.01 Bongos, tuneable using a spanner, on tiltable stand (author’s collection)

This and similar requests led to the establishment of the LP (Latin Percussion) instrument making company.

These developments had immediate and obvious effects on technique and repertoire. Bongos could now be played while standing, which also meant they could be incorporated into a percussion set-up in a way that allowed easy movement between instruments. For example, they could be combined with congas, extending the scope of both instruments in the cultural context of their

origins, but also had implications for technique. Playing the bongos and congas together and therefore moving quickly between them involved changing the traditional method of playing. Using the rotating action between fingers and thumb on the left hand was too cumbersome, and in this situation the bongos would often be played using the fingers only to allow an easy transition to playing the congas with the hands. The sound, while not strictly the same, was sufficiently similar to the original to be musically acceptable. This playing efficiency was a direct result of changes in construction by adapting traditional instruments.

This development was still within the bounds of traditional playing methods. However, by putting the bongos on a stand also opened possibilities for their use outside the original cultural context. William Kraft, then Percussionist in the Los Angeles Philharmonic Orchestra, wrote a *Suite for Percussion*, which included a pair of bongos to be played with snare drum sticks (player 1), in combination with two snare drums (player 2), field drum and tenor drum (player 3) and bass drum (player 4); and the work was premiered in 1961 (see ex. 1.01). In other movements, player 1 also played some bells, tuned gongs, a hand drum, and a set of standard orchestral percussion instruments. So the bongo part was not an improvisation to be played by a specialist bongo player, but was written for a classically trained percussionist; and the instrument was seen as providing the high sounds in a membranophonic quartet. By this action, the bongos were extended from being merely an instrument of specific cultural connotations to providing a new set of sounds in the higher register of percussion timbres. This radical departure from tradition of using snare drum sticks to play bongos produced a different nuance of sound and so opened a new path for their wider use as a sound source.

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67 This issue of technique is discussed in more detail in the next chapter.
68 In the notation of the piece, the two bongos are placed a long way apart on the stave, as are the two snare drums (player 2) and the field and tenor drums (player 3). This could be an indication that the reading skills of percussion players in 1963 were still rudimentary as only timpani and keyboard percussion parts called for more refined reading. In more contemporary scores the two drums would be placed closer together on the stave. This is further elaborated on in this chapter and Chapter Five.

This new direction was reflected among other percussion instruments such as tom-toms, snare drums and bass drums, the development of which was determined by manner of use. Tom–toms developed initially in the United States from imported Chinese tom-toms, into more tuneable instruments, through the use of screw systems for attaching heads to shells, having previously been attached by ropes or tacks. Examples of tom-tom styles are shown below (see plate 1.02 and table 1.01).
Plate 1.02 from left: Chinese tom-tom (author’s collection), set of 6 concert toms, two-headed tom-tom.69

<table>
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<th>Type</th>
<th>Drum set</th>
<th>Concert Toms Single-headed</th>
<th>Concert Toms Double-headed</th>
<th>Marching Toms - diameters</th>
<th>Roto-toms - diameters</th>
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</tbody>
</table>

Table 1.01 Tom-toms courtesy Kolberg & Steve Weiss70

These double-headed tom-toms were developed on drum sets to provide a more predictable sound, and are now also available as separate drums on their own stands. The double head allows for a better projection of the full tone of the drum. Moreover, the larger toms in fact produce lower sounds than the higher bass drums, a fact which allows the player a greater flexibility in performance, especially as there is no long-standing tradition of type of beaters to be used. With the drum set of course snare drum sticks were the most common, but as the toms have shifted in focus to being a sound source, almost any beaters that produce a musically acceptable sound can be deployed. This seemingly opens up a wide spectrum of possible sounds, though in reality wooden, plastic and rubber

70 ibid. Table compiled by author
mallets will produce the same sound, and wound or felt mallets will produce two, maybe three, readily discernible degrees of softness. But it does increase the flexibility of their use in combination with other percussion instruments producing a greater variety of sound sources with more expediency in mallet selection and this is the result of instrument adaptation that accompanied demographic movements.

A similar outcome exists with the changes in snare drums. Developed from a mistaken understanding of a heard sound, the original snare drums consisted of calfskin heads mounted with a rope-tuning system on a shell, and with a gut snare stretched across initially the top, or batter head. By the middle of the twentieth century, their construction had improved with plastic heads, tuning rods, and a variety of snare materials of gut, wire, or cord operated by a more convenient method of engaging and releasing the snares. Although the snare drums are only mounted on individual stands, they are nonetheless seen as a sound source of various timbres (see table 1.02). The snare drum family includes the street drum, military drum, field drum, tarole (or piccolo snare drum), and (European) provincial drum. They can just as easily be played with rubber, plastic or wound mallets as well as the traditional snare drum sticks. The only difficulty arises if a roll is required, as this can be problematic with some mallets other than traditional snare drum sticks.

Nevertheless, the range of sounds offered by the snare drum family is now exponentially much greater than in the 1920s. The constancy of sound of plastic heads and subtle differences produced by the various beaters allow for the exploration of nuances within each drum as well as the differences in sound

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71 The sound has an increased presence with the harder beaters from the greater contact sound, often described as ‘sharper’. The softer beaters will produce a more reactive or ‘warmer’ sound. To date this difference in nuance has not been much explored.

72 Turkish bass drums were played, on the battlefield, with one felt and one cane beater. At times the cane beater was held against the head while the drum was beaten with the felt beater to produce a ‘rattling’ effect. This sound was heard by the European armies, and replicated by stretching a snare across the head. Source of information: Percussion Instrument History Class with Professor George Gaber, Indiana University, 1977.

73 The balance of, for example wound marimba mallets, is very different from that of snare drum sticks, with a greater weighting in the head of the mallet; and the shaft is thinner. The slight differences in the grip therefore and in the balance demand a greater focus to control the bouncing action of the rolls.
across the drums. Consequently, performances benefit from the richer spectrum of timbres available, but playing techniques need to be continually refined to express these sonorities.

<table>
<thead>
<tr>
<th>Snare Drum Type</th>
<th>Sizes: Small to Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symphonic</td>
<td>5” x 14”</td>
</tr>
<tr>
<td>Drum Set Snare Drums</td>
<td>3” x 14”</td>
</tr>
<tr>
<td>Show (Broadway) Drums</td>
<td>5” x 14”</td>
</tr>
<tr>
<td>Circus Drums</td>
<td>7” x 15”</td>
</tr>
<tr>
<td>Marching Drums</td>
<td>12” x 15”</td>
</tr>
<tr>
<td>Provinces of Europe</td>
<td>12” x 16”</td>
</tr>
<tr>
<td>Tarole</td>
<td>3” x 13”</td>
</tr>
</tbody>
</table>

Table 1.02 Types of snare drums according to context of use

Another interesting development in recent years which has expanded the use and expression of snare drums and tom-toms is the manufacture of pedal tom-toms by Kolberg (see plate 1.03), which according to the catalogue are fitted with snares and have a tensioning pedal, enabling a glissando effect over a maximum range of a sixth. This opens up a wide sound spectrum from a bright, clear snare drum to a warm, deep bass tom-tom - depending on the tension of the head and whether the snares are engaged. The standard, two headed instruments with snare release mechanism are available in two different sizes and are fitted with REMO Renaissance® heads. The Kolberg pedal tom-toms with their powerful, voluminous sound are a convincing alternative to the no longer produced REMO pedal RotoToms.

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74 Source of information: Percussion Instrument History Class with Professor George Gaber, Indiana University, 1977. Some names may differ and pertain to certain locales, but the context of use is the same.


76 ibid.
This contemporary development has opened up possibilities of an additional spectrum of sound sources – pitched snare drums. The pedal Roto-toms referred to were an attempt to provide schools with a cheap alternative to timpani, but were not successful as the pitch of the drums did not project, and they sounded like tom-toms.\textsuperscript{77} This new pedal tom however, having two heads could come closer to the concept of projecting a pitched sound, even on snare drum. In fact the various drums can be tuned as evidenced in these photos of small drums, and tuned boo-bams in Kolberg's showroom, though it must be admitted that there are limitations to this tuning as the nature of the instrument is such that the pitch does not project well, especially at loud volumes (see plates: 1.04 and 1.05).

Plate. 1.04 marked tunings on metal shell drums\textsuperscript{78}

Plate. 1.05 Tuned Boo-bams\textsuperscript{79}

Bass drums too have changed in size and material. The shells now are made from wood, metal or plastic, the hoops from wood or metal, and the heads from a

\textsuperscript{77} Conversation with Remo Belli during a visit to his factory in 1984.
\textsuperscript{78} Kolberg showroom photo, obtained 23 March 2015
\textsuperscript{79} Kolberg catalogue 2007
variety of skins, or plastic. Tensioning has changed from rope to a system of screws, which has rigidified the sound as the screws hold the head tightly in place, whereas the rope permitted some movement of hoop, which allowed the head to ‘breathe’ and so vibrate more freely. This rigidity is ameliorated when the bass drum is suspended within a frame, preferably tiltable, making it more flexible and easier to play in different situations.\textsuperscript{80} The name bass drum, applied to nine different sizes of drum, is perhaps more of a concept than a specific sound as the following table and plate show (see table 1.03 and plate 1.06).

<table>
<thead>
<tr>
<th>Drum</th>
<th>Smallest</th>
<th>Largest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concert Bass Drum</td>
<td>14” x 18”</td>
<td>24” x 40”</td>
</tr>
<tr>
<td>Deep Shell Bass Drum</td>
<td>24” x 20”</td>
<td>40” x 30”</td>
</tr>
<tr>
<td>Scotch Bass Drum</td>
<td>8” x 26”</td>
<td>10” x 28”</td>
</tr>
<tr>
<td>Tango Bass Drum\textsuperscript{81}</td>
<td>6” x 22”</td>
<td>8” x 26”</td>
</tr>
<tr>
<td>Drum Set Kick Drum</td>
<td>12” x 20”</td>
<td>14” x 26”</td>
</tr>
</tbody>
</table>

Table 1.03 bass drum Sizes\textsuperscript{82}

Plate 1.06 Tango bass drum 8” x 26”\textsuperscript{83}

\textsuperscript{80} These differences in construction can be seen in the catalogues of the various percussion instrument manufacturers.

\textsuperscript{81} This name is used only for the vintage drums as seen in the photo. Different makers use various names to describe the bass drums as seen in catalogues of Steve Weiss (http://www.steveweissmusic.com/) and Kolberg (http://www.kolberg.com/en_GB/home.html) accessed 15 May 2015

\textsuperscript{82} Source of information: Percussion Instrument History Class with Professor George Gaber, Indiana University, 1977.
In fact it is tempting to say ‘two concepts’, because the first two drums in the table are used for their resonance as well as depth of sound, whereas the other three need to portray a dull, rhythmic ‘thud’. The Scotch bass drum provides the beat for the marching band, and the other two are easier to record as their un-resonant sounds do not interfere with the sound of the string or electric bass.

The search for new sounds in the field of untuned percussion also realised a proliferation in the number, sizes, and types of drums and other idiophones during the course of the twentieth century. These percussion instruments from varied cultures such as Afro-Cuban from Cuba and Nigerian from West Africa, and different contexts such as meditational accompaniment in Buddhist temples and harvest celebrations in Japan, have different playing methods, which have undergone changes to meet the demands of contemporary performance requirements. It is important to examine how they were used by composers, which will be investigated in Chapters three, four and five, while the technical impacts will be investigated in the next chapter.

The beaters for these drums also vary enormously with cork or felt pedal-operated beaters used on the tango and kick drums, and hard felt on the Scotch drums. Beaters for concert bass drums however, come in various shapes and sizes, incorporating also a variety of proportions of materials, such as thicknesses of felt to different sized cores of cork, wood or plastic as the makers try to exude as much tone as possible from the different-sized drums. In addition there are a number of ‘special effects’ beaters such as the ‘rute’, a bundle of canes that Mahler called for in his The Sixth Symphony to play on the shell of the bass drum (see ex. 1.02). Milhaud’s request to play a bass drum with timpani beaters also explored timbral nuances. So, bass drums now fulfil diverse functions of providing a range of low membranophonic resonances, emphases, and some slightly unusual effects when played on the shell or rubbed with rubber mallets (see plate 1.07).

84 These differences can be heard in the different performance situations of concert hall as opposed to outdoor marching band and popular music venues.
85 Darius Milhaud, Les Choéphores, Paris, Heugel, 1947
Plate 1.07 Bass drum beaters selection from author’s collection. On the right is a selection of orchestral bass drum beaters, with the softest at the top grading to extremely hard at the bottom. In the middle are two-headed beaters for one-handed rolls. On the left are (from the top) taiko beaters, kick drum beaters, marching beaters and novelty beaters (one of tape and a pair of hard plastic).

The ‘out-of-tune’ nature of most percussion instruments, which enabled them to be used across all key signatures, became less important than their ability to broaden the sound spectrum of the music and provide a raw rhythmic

excitement. This notion was to have profound implications for percussionists in terms of technique and instrument development; and composers in the forefront of this new direction were Igor Stravinsky and Darius Milhaud.

Stravinsky’s *Le Sacre du Printemps*, which received its première in 1913, showed this new direction most emphatically, with extensive use of percussion and exploration of rhythmic emphasis. The work had profound implications for percussionists. At the turn of the twentieth century

...about the best one hoped for in an orchestral Percussionist was an ability to count rests and some discretion and tact in dynamics and tone...The appearance in 1913 of Stravinsky’s *Le Sacre du Printemps* changed all that. Percussionists now had to be virtuosos and artists... 88

The percussion parts in this piece comprised six timpani played by two timpanists, tam-tam, triangle, tambourine, bass drum and cymbals. At the time they were seen as difficult by percussionists, primarily because of the changing time signatures. However this also heralded the dramatic change in attitude by some composers as to a heightened expectation of percussionists’ capabilities as well as recognition of the potential of this set of instruments. This attitude did not immediately manifest itself within the percussionists’ mindsets. In 1965 Charles White, 89 produced a set of instructions for playing *Le Sacre* as the work was still seen as extremely difficult (see exs. 1.03 and 1.04). 90 In the original the parts are indicated by the large note-heads (and downward stems) and set against the other instrumental parts (small note-heads and upward stems). The Instructions contain insertions of beats to count, changes of time signature with imaginary barlines and instructions on what beat to watch for from the conductor.


88 Michael Steinberg, “Program Notes on Concerto for Percussion and Small Orchestra” *The San Francisco Symphony Program Book: October 30-November 1 1986* (1986), pp. 17A-18. It is interesting to compare this comment on the virtuosity of percussionists with the implications of the notation in Kraft’s Suite for Percussion (see ex. 1.02) and the comment by Slonimsky on the recording of Varese’s *Ionisation* in 1933 in Chapter Five.

89 Timpanist with the Los Angeles Philharmonic, 1919-1962

Ex. 1.03 Stravinsky, *Danse Sacrale*, timpani I excerpt (stems down)\(^91\)

Ex. 1.04 Charles White, playing instructions, Stravinsky, *Danse Sacrale*\(^92\)

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Working in a similar genre, Darius Milhaud, in his opera *Les Choéphores*, (1916), wrote three movements, *Présages*, *Exhortation* and *Conclusion* for voices and percussion alone for dramatic effect. As Kelly, a well-respected scholar and researcher on Milhaud, states

By dispensing with melody and text, Milhaud could focus on the short repeated rhythmic patterns of Percussion writing, while retaining a human element within the overall sound panorama. Non-verbal sounds such as breathing and hissing add a primitive dimension to the menacing chanting on the libation-bearer... He builds in the maximum complexity into the climax on p.116 bar 1, creating ten simultaneous rhythmic patterns with the choir, Percussion instruments and solo voice. It is a powerful moment in which Percussion and voices fuse to form one rhythmic and contrapuntal force.93

The hemiola in the climax is a powerful statement, made more poignant in the diminuendo that followed (see ex. 1.05).

Ex. 1.05 Présages - climax\textsuperscript{94}

The drama of pounding beats has been obvious for centuries as seen in non-musical contexts such as war dances, funeral marches and carnivals. In each of these settings emotions are moved. Milhaud developed the drama further by combining a multiplicity of measured timbres in poly-rhythmic motion and

\textsuperscript{94} Milhaud, Les Choéphores, Paris, Heugel, 1947, p. 116
juxtaposing rhythms in wood, metal and skin timbres against a female voice. The percussion instruments were whip, suspended cymbal, bells, triangle, metal and wooden castanets, tambourine, tambour provençale, two bass drums (one played with timpani mallets, the other with a bass drum beater), tam-tam, snare drum, field drum, muffled drum, and a plank of wood hit with a hammer (see plates. 1.08 and 1.09).

Even without further direction, the two bass drums clearly are to convey two types of sound and intensity the dramatic effects. The timpani mallets will give a short accented 'thud' while the bass drum beater will produce a resonant 'boom'. This has obvious implications for sizes of the two bass drums, and types of beaters. A larger bass drum will provide the 'boom' and should be played with a large beater, no harder than medium; the short sound could then be played on a smaller bass drum with hard timpani mallets. This timbral register is increased with the muffled drum, which could then be played with snare drum sticks to add another level of register and link it to the Snare and field drums, also played with snare drum sticks.

As well as using instruments, Milhaud scored a plank of wood hit with a hammer. This experimental non-instrument was first used by Mahler in his Sixth Symphony (1903-4), and by other composers in a few operas over the following quarter century before falling out of favour until Orff scored for it in Prometheus in 1968.\footnote{Karl Peinkofer and Fritz Tannigel, \textit{op.cit.} pp. 151-152} Importantly, there is more to this instrument than simply hitting a plank of indeterminate size, especially as this would not produce much resonance. The plank could be of any wood, though a hardwood plank would withstand the force of the hammer better than a softwood plank. The size used generally measured 67 cm x 36 cm x 2.3 cm, and to project more resonance, the plank was placed upon, and importantly, across\footnote{Placing it across the timpano ensures it rests on the frame and cannot therefore damage the drum. Moreover, resting across the drum produces a greater resonance.} a timpano, and could be played with wooden dowels, like Japanese bachi\footnote{‘Bachi’ are the dowels used to play Taiko. They come in different sizes with the larger bachi for the O-daiko (large drum).}, or a wooden mallet (see plate...
The nuances of sound in the percussion family were now being recognised and used to increase and intensify the registral character and dramatic effects.\textsuperscript{98}

Plate 1.08 example of plank of wood using (dowel) beaters\textsuperscript{99}

Plate 1.09 example of hammer\textsuperscript{100}

Stravinsky and Milhaud continued to give percussion a more prominent role in their ballets and operas. Milhaud’s biographer Paul Collaer comments,

\textit{L’Homme et Son Désir}, the \textit{Choephores} and \textit{La Creation Du Monde}, [are] works in which Milhaud assigned not only rhythmic but also an expressive role to Percussion instruments.\textsuperscript{101}

This assessment is supported by Milhaud who says of \textit{L’Homme et son Désir}

The Percussion faithfully evoked for me the nocturnal sounds of the forest; I used it unaccompanied...in the scene in which the elements tempt Man as he sleeps.\textsuperscript{102}

This work, performed in 1921 required seventeen percussionists, though since then has been successfully reduced to six, concomitant with the improvements in

\textsuperscript{98} Moreover, this indicates that careful thought needs to be given to understand seemingly simple directions.

\textsuperscript{99} Karl Peinkofer and Fritz Tannigel, \textit{op.cit.} p. 151

\textsuperscript{100} \textit{ibid.} p. 152


\textsuperscript{102} Milhaud, \textit{op. cit.} pp. 69-70
the playing ability of percussionists. This is a fine example of how evolution of percussion has seen the relational link between compositional demands and increased player abilities, which continues to influence directions today.

Clearly, one very important reason for the growth of the percussion instruments was the demand from composers for new sounds and this demand had further ramifications. Some sounds were produced by non-instruments and some composers demanded a higher level of playing from percussionists. Two works, *L’histoire du soldat* by Stravinsky, written in 1918, and the 1929 *Concerto pour batterie* by Milhaud stand out as watershed compositions in the history of percussion. For financial reasons Stravinsky needed a small touring ensemble and as a result combined triangle, tambourine, cymbals, bass drum, snare drum, tenor drum and field drum for one player, thus writing the first Multiple Percussion part. The work presented Percussion with issues of notation and logistics as well as asking for a higher level of artistry; and demanded this on a new instrument – Multi-Percussion (see ex. 1.06).

Ex. 1.06 Stravinsky notated the part across a number of staves for the different instruments. Unsnared drum on the top stave, small (high) and large (low) snare drums on the next two staves, bass drum on the fourth and cymbals on the bottom stave.

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103 Roger Nichols, *Conversations with Madeleine Milhaud*, London, Faber & Faber, 1996, p. 100

Multiple percussion is predicated on the principle that if one can play on one drum, one can, without much extra effort, play on two, three or four, which was already the case with timpani. If that was the case, it should by implication be possible to play on, for example, three tom-toms, two cymbals, tam-tam, woodblock, cowbell, tambourine and bass drum with the foot and add a whip and castanets. As a result of this reasoning, composers have experimented with combining various and often, disparate instruments. This in turn has raised issues of technique, logistics and notation, which will be examined in the next chapter. Furthermore, these issues have also impacted on the evolution of the instruments. Demands for better and more consistent sounding membranophones that can be mounted more conveniently, as well as beaters that can educe a greater variety of timbres and nuances have forced improvements in construction and materials.

1.2 Mallet Keyboards

Growth in development of the mallet keyboard section of percussion has initially been in the context of searching for new sounds, resulting in a number of new or adapted instruments entering the percussion family. These instruments however have often presented problems or challenges for the performer in matters of logistical arrangement of instruments, technique or music, details that have prompted changes to the construction and use of the instrument, or to the development of new techniques or to composition. In some instances the instruments have fallen into disuse and ceased production because their usefulness has been short-term. Subsequently they were superseded by further developments or simply not justified in musical terms.¹⁰⁵

¹⁰⁵ Peinkofer and Tannigel, op.cit., p. 71
The mallet keyboard family grew from the xylophone\textsuperscript{106} and glockenspiel in use at the beginning of the twentieth century to a large instrument family comprising marimba, xylophone,\textsuperscript{107} glockenspiel, vibraphone, song bells, steel drums, tubophone, tubular chimes, tuned gongs, tuned cowbells, crotales, angklung, gambang, metallophone, and cimbalom. This quantitative growth was influenced by the desire of composers such as Percy Grainger, for more resonant sounds and lower harmonies that the current tuned instruments did not supply. This new direction was coupled with the desire of American instrument manufacturers to create more percussion instruments after hearing the marimbas with resonators used by the marimba bands from Central America in their concert tours of the United States of America.

1.2.1 Xylophone

The xylophone was known in Europe as a folk instrument brought to prominence in the nineteenth century through the performances of the maestro, Michał Józef Guzików.\textsuperscript{108} However, that instrument was very different from the one used today. It consisted of four rows of notes resting on beds of straw, had no resonators, and was played with wooden, spoon-shaped mallets, with the player standing at the low end (see plate 1.10).

\begin{itemize}
\item[\textsuperscript{106}] The four-row or Continental xylophone as described by James Blades, \textit{Percussion Instruments and Their History}, London, Faber and Faber, 1970, pp. 306-7
\item[\textsuperscript{107}] The xylo-marimba is a hybrid of the xylophone and marimba, and the marimbaphone is another name for marimba. Thus they are effectively covered by the terms marimba and xylophone.
\item[\textsuperscript{108}] James Blades \textit{op.cit.}, p. 307. Guzików is variously described in different articles and books as a Polish, Russian or Jewish xylophonist who travelled round the Continent and impressed the various courts and a number of composers with his skill. In fact, it is rumoured that Mendelssohn wrote a piece for him, but unfortunately it has been lost.
\end{itemize}
Plate 1.10 – four-row xylophone as seen from the player’s perspective (author’s collection)

This instrument produced a hard, dry sound and precisely for this effect, was scored for by Saint-Saëns in his *Danse Macabre* in 1874 (see ex. 1.07).

Ex. 1.07 Camille Saint-Saëns *Danse Macabre*, xylophone excerpt, bars 121-133. ¹⁰⁹

Towards the end of the nineteenth century Percy Grainger, dissatisfied with “yesterday’s music”,¹¹⁰ began to explore the range of sounds offered by the new tuned percussion instruments.

What irriated Grainger most was that Western music seemed to be suffering from arrested development because of its allegiance to the fixed steps of yesterday’s music ...¹¹¹

So one obvious way to move away from these restrictions was to use what were considered unusual instruments.

¹¹¹ Malcolm Gillies, *op.cit.*, p. 10
... as early as 1899 he was composing his own works and arranging those of others for odd instrumental combinations. Works such as *Eastern Intermezzo*, *Gamelan Anklung*, and *Random Round* were composed by Grainger for various combinations of instruments and include extensive writing for tuneful percussion.112

The works reflected Grainger’s cultural interest in the music and instruments of Indonesia, and Polynesia, an interest he was able to develop during his time in London. There he arranged with the manufacturers Boosey & Hawkes to see an extensive collection of oriental instruments, thus giving himself exposure to new sounds.113 This experience he further developed by,

...borrow[ing] from them a Percussion instrument, master[ing] the necessary technique and return[ing] it in exchange for another novelty... he was taken to see the wonderful collection of oriental instruments...Among the collection was a collection of tuned Gongs used in Balinese orchestras. He was fascinated by the sound they made and this experience reinforced his desire to incorporate ‘tuneful Percussion’114 instruments into his orchestrations.115

After visiting a display of the Indonesian kolintang (wooden idiophone), angklung (bamboo) and gamelan (metallophones – gongs and keyboards) in the Netherlands Ethnographical Museum at Leyden, Grainger set to work on *The Warriors - Music to an Imaginary Ballet* (begun in 1913 and completed in 1916).116 The work utilises a large number of diverse tuned percussion instruments and is the first example of such orchestration. Grainger continued to advocate the use of ‘tuneful percussion’ as a separate section of the orchestra, and apart from the untuned percussion section. In particular, he wanted mallet keyboards, both metal and wood, in the lower registers to balance the high sounds of the glockenspiel and xylophone. However, to give his music a full-


114 ‘Tuneful percussion’ is the term he used to describe all percussion instruments with clear intonation and thus capable of playing melodies.

115 Jonathon Bird, *op.cit.*, p. 71

116 The work was planned for Diaghilev’s *Ballets Russes*, but never performed by them (Bird, *op.cit.* p. 147)
bodied resonance, he required the keyboards to have resonators similar to those on the Indonesian instruments.

He was particularly interested in those instruments which encompassed the lower octaves. He had long wanted to balance the high octaves of the glockenspiel and xylophone with warmer and more mellow tones of lower-voiced instruments. When he later included their European equivalents in his scores he became a pioneer in the orchestral use of tuneful percussion instruments.117

In his quest for this expanded range of tuned percussion harmonies, Grainger looked further afield, and turned to the United States of America. In the 1910s, percussion instrument makers there were experimenting making instruments with greater resonance, having been introduced to the idea via concert tours by marimba bands from Guatemala.118 These Guatemalan marimbas evoked a more mellow tone than the four-row xylophone, with the projection of a full-bodied sound achieved by the use of resonators; and these marimbas were made in keyboard layout form. This allowed for greater sound projection and bigger note range. The benefits for expanded composition and more repertoire performance for percussionists, resulted directly from this instrument adaptation.

The instrument was made in two sizes with the larger, the marimba grande, being approximately six octaves plus four semitones, and the smaller, marimba cuache, three octaves plus ten semitones. This form and size accommodated the group style of playing that characterised the marimbero ensembles, and could be the reason for the keyboard layout. It is of course not possible to prove causation, but form generally follows function,119 and Vida Chenoweth’s keen observation of the function does tend to indicate a close relationship to the form.

As a rule four men play the at the larger instrument while three are at the smaller one.120

She elaborates this point, with the following comment on the place of marimba in Guatemalen society.

118 Vida Chenoweth, Marimbas of Guatemala, Lexington, University of Kentucky Press, 1974, p. 76
119 This was expounded by the Chicago-based architect, Louis Sullivan (1856-1924), and became the governing principle of the modernist schools of arts practice.
120 Vida Chenoweth, op. cit., p. 19
Marimba playing in Guatemala is often a family institution with the elder members of the family training the younger ones. It is not uncommon to discover that all seven marimberos of a marimba doble are related...\textsuperscript{121}

Percussionists and composers were captivated by the mellow sound of these instruments,\textsuperscript{122} and by 1918 the first marimbas were produced in the United States, made in keyboard layout (see table 1.04). The xylophones were also then produced in this form, and at the same time, the makers began experimenting with adding resonators to both instruments to produce a full-bodied tone, rich in the fundamental of the note and to provide greater projection of sound.\textsuperscript{123}

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Model Number</th>
<th>Name</th>
<th>Octaves &amp; Range</th>
<th>Bar Size</th>
<th>Date built</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marimba</td>
<td>350</td>
<td></td>
<td>3.5-F</td>
<td></td>
<td>1918-25</td>
<td>First Deagan Marimba</td>
</tr>
<tr>
<td>Marimba</td>
<td>352</td>
<td></td>
<td>3.5-F-C</td>
<td></td>
<td>1918-34</td>
<td></td>
</tr>
<tr>
<td>Marimba</td>
<td>352B</td>
<td></td>
<td>3.5-F-C</td>
<td></td>
<td>1918-34</td>
<td>Brass Resonators</td>
</tr>
<tr>
<td>Marimba</td>
<td>354</td>
<td></td>
<td>4 C-C</td>
<td></td>
<td>1918-34</td>
<td></td>
</tr>
<tr>
<td>Marimba</td>
<td>354B</td>
<td></td>
<td>4 C-C</td>
<td></td>
<td>1918-34</td>
<td>Brass Resonators</td>
</tr>
</tbody>
</table>

Table 1.04 Deagan marimbas\textsuperscript{124}

Mellower tones on marimbas were accomplished initially by making the bars thinner in relation to their length than xylophone bars. After 1926 the notes were more sophisticatedly tuned to include overtones of two octaves higher, and a further minor third above that. This was in contrast to the xylophone tuning of an octave and a fifth, or quint tuning.\textsuperscript{125} This was not done in a standard manner. The marimbas were offered in three sizes, and were available in two pitches, A=454 for the British (and Empire) market, and A=461 for the American market (see table 1.05), before standardisation of tunings at A=440 in 1922.\textsuperscript{126}

\textsuperscript{121} \textit{ibid.}, p. 20

\textsuperscript{122} This was epitomised by Clair Omar Musser who changed from xylophone to marimba and formed marimba ensembles that performed through America and Europe. \textit{Percussive Notes}, April, 1999, pp. 6-17

\textsuperscript{123} Page on marimba-xylophone, \url{http://www.deaganresource.com/} accessed 7 July 2015

\textsuperscript{124} \url{http://www.deaganresource.com/} accessed 7 July 2015

\textsuperscript{125} Bill Youhass, “The Art and Science of Mallet Instrument Tuning”, \textit{Percussive Notes}, August 2007, p. 45

\textsuperscript{126} \url{http://www.deaganresource.com/} accessed 7 July 2015. This conclusion regarding the two markets is supported by the fact that in the author’s collection are two Deagan xylophones, nos. 844 and 872, listed in the online catalogue as ‘low pitch’, and obtained by the author at the original pitch of A = 454, which is currently known as ‘high pitch’ against the A=440 standard. The European standard then was A = 435.
Table 1.05 Sizes and tunings of the Deagan xylophones in the author's collection\textsuperscript{127}

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Model Number</th>
<th>Name</th>
<th>Octaves &amp; Range</th>
<th>Bar Size</th>
<th>Date Built</th>
<th>Tuning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylo</td>
<td>844</td>
<td></td>
<td>3 C-C</td>
<td>1 1/4x7/8</td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Xylo</td>
<td>872</td>
<td></td>
<td>4 C-C</td>
<td>1 5/8x15/16</td>
<td></td>
<td>Low Pitch</td>
</tr>
</tbody>
</table>

In contrast, the four-row xylophone, at times referred to as the Continental xylophone,\textsuperscript{128} remained the preferred form of the instrument in Poland (and possibly the Soviet Union and its other satellites) for a long time. It was taught in the Warsaw Music Academy until 1963 and in the Wroclaw Music Academy until 1970; and performances were still being given on it in Poland in 2010.\textsuperscript{129} In fact, according to Percival Kirby,

> European xylophones were never fitted with resonators until recent times... From America the new resonated xylophones ... found their way to Europe and became regular constituents of symphony orchestras. But in their new dress they completely stultify the effect intended by nineteenth century composers who wrote for the non-resonated instrument, such as Saint-Saens in his *Danse Macabre*\textsuperscript{130}.

This is a very interesting comment on possible negative effects of progress in adapted and new instrument development. What is perceived as an ‘improved sound’ is not necessarily compatible with original compositional effect; and this carries with it a constant dilemma for percussionists in the context where the original instrument scored for is not available. While it is not practicable to buy the old European four-row xylophone and learn the different technique of playing it, the work should be played with the resonators either covered or removed, and preferably using wooden mallets, to retain the authenticity of

\textsuperscript{127} http://www.deaganresource.com/ accessed 7 July 2015
\textsuperscript{128} James Blades, *Percussion Instruments and Their History*, London, Faber and Faber, 1970, p. 307
\textsuperscript{129} Conversation by telephone, May 27, 2015, with Jacek Wota, Principal Timpanist Wroclaw Philharmonic Orchestra, and Professor of Percussion, Wroclaw Academy of Music, who began his xylophone lessons on the four-row instrument in 1968-9. It had been replaced by the keyboard xylophone in Warsaw in 1963 as confirmed by Stanisław Skoczyński, Principal Percussionist, Warsaw Radio Symphony Orchestra and Professor of Percussion Warsaw Academy of Music.
sound written for by Saint-Saëns.\textsuperscript{131} This conflict of interests between the original compositional intent and the practicability for percussionists of working with newly adapted and available instruments is one that is always present for the player; and must be resolved by further adaptation of the instrument or changed mallet use, as in this case by covering or removing resonators as well as using wooden mallets. This flexibility in approach to adapt new instruments and their use, affords more authentic realisation by the percussionist of the original compositional intent.

The range of the four-row xylophone was two to two-and-one-half octaves, usually G4 – C\textsuperscript{7},\textsuperscript{132} and sometimes extended down to the F4 or E4, as shown in the photo above (see ex. 1.19). American manufacturers began to offer these new xylophones in different versions, of three, three-and-one-half, and four octaves. They were also sometimes called xylo-marimbas, or xylorimbas, as the instrument was extended down a further half-octave into the marimba range.\textsuperscript{133} This caused confusion in some music circles further away from Europe and America, where the name appeared in literature with no explanation. It was imagined to be a much bigger instrument, and composers were often dismayed to find that such an instrument did not exist. This discrepancy in nomenclature is another example of the lack of standardisation that is seen throughout percussion.

Nevertheless the new keyboard principle underlying the construction of both marimbas and xylophones changed the playing techniques of percussionists and gave composers a new perspective on writing for them. Thus it determined the future of the instruments.\textsuperscript{134} The addition of the resonators also changed the sound of the instrument, which in itself paved the way for other changes via the implements used to produce the sound, the beaters.

\textsuperscript{131} A further dilemma for future performances will come as the already evident shrinking supply of the rosewood used to make the bars forces makers to develop the plastic material such as kelon currently used for xylophones and marimbas in Drum Corps.

\textsuperscript{132} This was possibly influenced by the range of the glockenspiel

\textsuperscript{133} Peinkofer & Tannigel, \textit{op. cit.}, p.10, p. 42

The beaters for the xylophone underwent changes from the original wood beaters as players sought to elicit the full-bodied tone that was possible with resonators. Manufacturers used materials such as rhinoceros horn, Bakelite and later plastic to elude the bright tone that characterised the instrument. When the lower notes were added, rubber and wound beaters of different hardnesses were introduced and gave a variety of mellower tones to the instrument; and other types of mallets have been designed since to produce special effects, or enable ease of mallet changes. Some examples are seen in the following plates (see plates 1.11-1.12).\textsuperscript{135}

Plate 1.11 (a) original xylophone mallets (b) Early types of mallets: 2 hard rubber, 1 felt, 4 bakelite (with and without crocheted head) and rhinoceros horn (extreme right) from the author’s collection

Plate 1.12 Selection of mallets in use in the middle of the twentieth century. From left; felt, wound, rubber (home-made from a rubber doorstopper and a basket-weaving cane handle), wound (Japanese, 1970) from the author’s collection.

\textsuperscript{135} A comprehensive listing of mallets and photos is provided by Peinkofer and Tannigel, \textit{op.cit.}, pp. 19-30
1.2.2 Marimba

This mellowness of tone was of course much more pronounced on the marimba, which was made in a lower register than the xylophone; and this characteristic was emphasised by the makers, by tuning the marimbas to the minor third above the two-octave harmonic. While this produced a very mellifluous sound, it limited the application of the instrument, as the sound was too soft to be played as a solo instrument with orchestral accompaniment. However, tuning to the major third, while producing a much brighter tone, remedied this and allowed for the composition of marimba concertos. Interestingly, the two tunings make the instrument incompatible with itself should they be played together.\textsuperscript{136}

The marimba has been made in various sizes from two octaves to four-and-one-third octaves, in a variety of non-standardised ranges, and initially, in two versions with bars of either steel or wood. From the mid-1920s it was made from wood only, and extended to five octaves in which form it is currently the standard.\textsuperscript{137} There was also an instrument produced by Deagan that the manufacturer called a marimbaphone with a mechanism that allowed the bars to be upended to allow the notes to be bowed, and also made in two versions, with alloy steel bars, and with wooden bars, but it was not popular as the technique of bowing was basic and clumsy, and production ceased.\textsuperscript{138} Again the tables of sizes show the lack of standardisation of the instrument (see plate 1.13 and tables 1.06 and 1.07). The name marimbaphone, however, did not disappear, as it is also (in appropriate spellings) the name of the marimba in French, German and Italian; and this caused some confusion, with composers and percussionists wondering (in vain) whether it was another instrument, maybe incorporating electronics, and possibly capable of producing long sounds.

\textsuperscript{136} This was demonstrated at the 1990 Adelaide Festival of Arts by the Steve Reich Ensemble who played on borrowed instruments of both tunings. They found that the marimba that was tuned to the minor third was significantly softer than the other, and sounded flat. It was further demonstrated at a workshop presented by Steve Reich at the Flinders Street School of Music during the Festival.

\textsuperscript{137} With the supply of suitable wood diminishing, manufacturers are increasingly looking to synthetic materials as possible substitutes.

\textsuperscript{138} \url{http://www.deaganresource.com/} accessed 7 July 2015. While I have been unable to find an exact date for the end of manufacture, it is likely to be by the mid-1920s, after the introduction of standard pitch as the catalogues refer only to high and low pitch.
Deagan Steel Marimbaphones

Plate 1.13 Deagan steel marimbaphone with keys enabled for bowing

"Deagan Steel Marimbaphones" With Resonators
Mounted on Floor Racks

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Model Number</th>
<th>Name</th>
<th>Octaves &amp; Range</th>
<th>Bar Size</th>
<th>Date Built</th>
<th>Tuning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marimbaphone</td>
<td>7013</td>
<td>Steel</td>
<td>2 1/8 C-C + D</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7113</td>
<td>Steel</td>
<td>2 1/8 C-C + D</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7014</td>
<td>Steel</td>
<td>2 1/2 G-C + D &amp; E</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7114</td>
<td>Steel</td>
<td>2 1/2 G-C + D &amp; E</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7015</td>
<td>Steel</td>
<td>3 F-F</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7115</td>
<td>Steel</td>
<td>3 F-F</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7017</td>
<td>Steel</td>
<td>3 1/2 F-C</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7117</td>
<td>Steel</td>
<td>3 1/2 F-C</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7018</td>
<td>Steel</td>
<td>4 E-E</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7118</td>
<td>Steel</td>
<td>4 E-E</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7020</td>
<td>Steel</td>
<td>4 C-C</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7120</td>
<td>Steel</td>
<td>4 C-C</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7022</td>
<td>Steel</td>
<td>4.5 C-F</td>
<td></td>
<td></td>
<td>High Pitch</td>
</tr>
<tr>
<td>Marimbaphone</td>
<td>7122</td>
<td>Steel</td>
<td>4.5 C-F</td>
<td></td>
<td></td>
<td>Low Pitch</td>
</tr>
</tbody>
</table>

Table 1.06 Table of sizes and pitches of Deagan steel marimbaphones

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Table 1.07 Table of sizes and pitches of Deagan Wood marimbaphones

As faster and more complex compositions required more rapid wrist movements, especially in the rolls, beaters for the marimba also developed in the use of new materials. From basic rubber mallets they expanded the materials to latex, felt, and wound beaters with heads of different sizes and degrees of hardness (see plate 1.14). The handles too were made of thicker cane and later of wood to reduce any springiness resulting from the action of playing (see plate 1.15). This development was necessary as faster and more complex music required faster wrist movements, especially in the rolls and any springiness would impede control of the mallets, and hamper smooth playing.¹⁴² Beaters also were refined in response to the demands of specific playing situations (see plate 1.16). To extend the range of chord voicings longer handles were developed; to evoke different characters of sound various types and sizes of beaters, had yarn or wool wound round wood or plastic cores; and to balance the weight of the beater thicker cane (rattan) or wood was used for the handles.¹⁴³ The range of beaters that has been developed now allows percussionists to educe a rich diversity of sounds from these mallet keyboard instruments, and accordingly it is now necessary to have a large supply of mallets of different hardness, weight and material to do so and to develop an awareness of the sound potential of each set.

¹⁴² This was not tested in a scientific manner, but is proven by continuing and popular practice as players adopted the new mallets and have continued to do so.
¹⁴³ See ex. 1.26 above
This range developed further as players demanded a greater range of sounds to fulfill composers' demands (see ex. 1.25 - 1.27).

Plate 1.14 examples of contemporary wound marimba and xylophone mallets – extremely soft (L), powerful, flexible, medium, medium-hard, hard and extremely hard (R) from the author's collection.
Plate 1.15 relative thicknesses and lengths of early (R) and contemporary (L) mallet handles, from the author’s collection

Plate 1.16 Examples of different types of mallets (from left) ‘cluster’ mallet of 2 hardnesses, ‘slap’ mallet, snare drum stick with metal ends for playing glockenspiel, and felt end for playing marimba as well as other idiophones (author’s collection)
Post-World War One saw tuned keyboards exemplifying the aural richness of percussion and it was in this time period that a variety of tuned instruments added to the panoply of percussion sounds, quite possibly influenced by Grainger’s compositions from 1899. These tuned instruments will be summarily identified because in themselves they were not developed further or transformed into more sophisticated instruments and fell into disuse because of design limitations. However they still demand a recognition on the register of important stages of percussion instruments because from these elementary sound-sources others more appropriate were created. One such instrument was a set of song bells, a mallet keyboard of steel of similar range to a glockenspiel, though an octave lower (see plate 1.17).\textsuperscript{144}

Plate 1.17 – Song bells (from the author’s collection)

Another, the tubophone (originally tubuscampanophone), was really a glockenspiel of tubes rather than bars. Although produced a very clear tone, the sound lasted too long, with no convenient way of dampening it (see plate 1.18).

Both instruments fell into disuse, the song bells in the 1920s, and tubophone after World War II.\textsuperscript{145}

Song bells also were superseded by the development of the vibraphone from the steel marimba; and this instrument is continuing to develop with a 3.5-octave version now available. Moreover there are vibraphones that have a MIDI-pickup, improved vibrato control, and chemically treated bars that produce a longer sustain with more even decay across the harmonics (see plate 1.19).\textsuperscript{146}

\textsuperscript{145} After Khachaturian’s use of tubophone in 1942 in his \textit{Gayaneh Ballet}, London, Boosey & Hawkes, 1943, there is no evidence of it in the repertoire until used by Bryce in 1980 (see chapter 5).
\textsuperscript{146} \url{http://www.vanderplastal.com/index.php/instruments} accessed January 15, 2016
\textsuperscript{147} \url{http://www.vanderplastal.com/index.php/instruments} accessed January 15, 2016. For a while the company offered a 4-octave vibraphone, but it seems lack of demand has changed this.
On the other hand, tubular bells, or chimes, introduced from 1910, have cemented a place in orchestral repertoire, despite the peculiarity of their acoustics.\textsuperscript{148} Tuned Gongs, tuned cowbells, and crotales are occasionally used in orchestras, percussion ensembles and in some solo pieces. Vibraphones are played in various ensembles, across a variety of genres.

Other keyboards have inter-cultural importance. The angklung (see plate 1.20) and gambang or bamboo xylophone, (see plate 1.21) are not much played outside of the Indonesian folk context.

Plate 1.20 – One note of an Angklung (from the author’s collection)\textsuperscript{149}

Plate 1.21 – Gambang (from the author’s collection). The notes on this particular instrument are chromatically arranged in one row.\textsuperscript{150}

Boo-bams, (see plate 1.22) originally bamboo and now PVC tubes with a head of skin or plastic on one end are scored for in some compositions, and without the

\begin{flushright}
148 The length of the tubes in proportion to the diameter produces an out-of-tune harmonic, which fortunately does not project.
149 Blades, \textit{op.cit.}, pp. 104-6
150 This might be another example of confusion about the nature of percussion instruments. Blades, \textit{op.cit.}, p. 104 refers to the gambang as a trough xylophone of wooden keys. Gordon Peters, \textit{The Drummer: Man}, Wilmette IL, Kemper-Peters, 1975, p. 188, and Peinkofer and Tannigel, \textit{op. cit.}, p. 53 identify it as having metal keys. I was told by percussion teachers in Indonesia that the name refers to the bamboo instrument shown above. Clearly this area of percussion could be further researched.
\end{flushright}
head (and then called PVC Pipe Instruments, or similar [see plate 1.23]) are used in community ensembles.

The cimbalom (see plate 1.24 and ex. 1.08) is a specialty instrument played in folk ensembles of Central and Eastern Europe and only very occasionally in orchestras.

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151 In Australia they are also called thong-a-phones after the ‘mallets’ used to play them – the rubber sandals that Australians call thongs.
154 Zoltán Kodály Háry János Suite is one such piece.
As these instruments at the present time have limited applications they are not deeply analysed in this dissertation. If however, they re-invent themselves, as happened with the European xylophone, they could add a further timbral depth to the tuned percussion section. So the song bells and tubophone, despite producing their own quality of sound have not found a sustainable place in the music. On the other hand the different musical roles such as textural harmony or instrumental colour, assigned to tuned gongs, tuned cowbells and crotales, even though it is not significant, have justified the continued existence of these instruments.  

In essence then, the mallet keyboard family is a concept of sound character, and is still best defined by Grainger’s idea of high, cutting wooden and metal sounds of xylophone and glockenspiel balanced by their respective low and mellow sounds of marimbas and vibraphones. To this can be added other special effects of tuned instruments such as the tuned gongs and cowbells. However, in all cases it is important to recognise that none of the instruments is standard in

157 Peinkofer and Tannigel, op. cit., pp. 41-82
158 J. Bird, Percy op. cit., p. 147
terms of tuning details, octave size, width of bars, and details of beaters used and has therefore provided a more nuanced selection of sound sources for both the composer and performer.\textsuperscript{159}

\subsection*{1.2.3 Steel Drums}

An unusual tuned percussion instrument family and one finding a niche in the spectrum of percussion performance and so worthy of examination, is the steel pan. Created in the backyards of Trinidad in the 1930s and 1940s, from oil drums, during a period when the colonial government banned public music-making,\textsuperscript{160} the instruments continued to develop and gained a certain amount of popularity.\textsuperscript{161} Because of its distinctive construction and technique application the steel drum family as another member of the mallet percussion family requires separate investigation.\textsuperscript{162} Although it is not strictly a keyboard instrument because of the eccentricities of the layout of notes it is however classified in the tuned mallet family because it deploys mallets to elicit notes.\textsuperscript{163} Its unconventionality lies in its major use as a complete ensemble in various, flexible ensemble combinations and while it began within the specific musical genre of Calypso, has expanded into other genres of Jazz, World Music and Classical. Moreover, occasional pieces of the Contemporary Classical repertoire

\begin{itemize}
\item \textsuperscript{159} Peinkofer and Tannigel, \textit{op. cit.}, pp. 41-82
\item \textsuperscript{160} Michael Anthony, \textit{Port-of-Spain in a World at War, 1939-1945}, Port of Spain, Ministry of Sports, Culture and Youth Affairs, n.d., pp. 108-109
\item \textsuperscript{161} There are a number of books that detail the history of this family of instruments. An excellent beginning is Jacob Elder's \textit{From Congo Drum to Steel Band}, UWI, St. Augustine, Trinidad, 1969. Many others are mentioned in the \textit{Encyclopedia of Percussion}, pp. 328-331.
\item \textsuperscript{162} The information on the steel drum family is based on three periods of practical research, a residency at the University of the West Indies, Port of Spain, Trinidad, in 1992, the establishment of a steel pan tuning and playing course in Adelaide in 1993 and the establishment of the steelband for the Sultan of Oman in 2009-13. In 1992 I studied with steel pan makers, teachers, composers and players and had privileged access to the UWI library. In 1993, with Clifford Alfred, a tuner I organised a short course in steel pan tuning and playing, which led to the establishment of a steelband. In 2009 I was asked to institute the Royal Guard of Oman steelband. I worked with Ron Matthews a tuner from Trinidad to develop the steelband and a course in pan making as well as working with the steelband members to compose pieces combining Omani and Calypso music. My starting point in 1992 was Jacob Elder's \textit{From Congo Drum to Steel Band}, UWI, St. Augustine, Trinidad, 1969.
\item \textsuperscript{163} These mallets however, are specific to the instruments and comprise essentially different thicknesses of rubber tubing on the end of quite short pieces of dowel.
\end{itemize}
include one or more of the instruments in more heterogeneous ensembles (see ex. 1.09).


It is worth noting some of their peculiarities however as they present challenges to the player. Firstly, using only one surface to produce a number of notes has meant that all the notes would sound whenever one note was played. So a system had to be devised that lessened this impact. Grooves between the notes, gave a certain amount of separation of sound, and placement of adjacent notes that give sympathetic tones has determined the layout of instruments. However, this did not produce standard instruments, as the details of note placement were usually decided by the pan maker and the arrangement of the pans was decided by the personal preference of the player.164

There are eight different instruments that comprise the steel drum family, with separate functions of lead, harmony, and bass, and each has its own layout. An examination of the pans that provide the melody will serve as a sufficient example of the extent of these differences.

The lead instrument is the tenor pan, and there are two of these, a high tenor with a pitch range of D4 to F#6, and a low tenor from C4 to E6. The notes on both of these are arranged in a cycle of fourths/cycle of fifths (see plate 1.25). Some tenor pans have also had the notes ‘separated’ by drilling holes in the grooves, which has led to a clearer sound. These drums are known as bore pans, but they

164 Discussions with Ron Matthews, pan tuner from Trinidad with whom I had many discussions on the details of pans (2009-2012). This situation grew out of the intense rivalry between the various steelbands and is well documented by George ‘Sonny’ Goddard, *Forty Years in the Steelbands 1939-1979*, London, Karia Press, 1991, Chapter Two, pp. 45-62
have not replaced the usual tenor pans as the sound is not as full-bodied. Rather they are used in some steelbands in conjunction with the other pans to introduce more clarity into the overall sound. Trinidad pan maker John Hines, of Vistapan, explains,

The “D” lead pan is often used in large steel band orchestras where there are other instruments in the pan family that are assigned the low C and C# notes in musical arrangements. If the instrument is to be used alone or with smaller groups, it is very beneficial to play a low “C” pan, since those two notes (low C and C#) add significantly to the low range. It is true that the “D” lead has two notes at the upper end of its range that the low “C” does not, but these particular notes are much less useful or significant than those at the lower range. They are seldom played, except by professional pan players. For these reasons, we recommend the low “C” pan for its great versatility, except in those instances where a steel band director of a larger orchestra prefers all “D” leads.165

Supporting the tenor is the double tenor (see plate 1.26), of slighter larger range of F3 to B5 on two drums.

Plate 1.25 Tenor pans166

165 http://vistapan.com/ accessed 11 April 2010
166 Details of the steel pans courtesy Vistapan in Trinidad, from whom I ordered a set for the steelband of the Sultan of Oman, http://vistapan.com/ accessed 11 April 2010
This pan is less used nowadays as its function of doubling the melody can just as easily be supplied by the double second pan.\textsuperscript{168}

The \textbf{double second pan} also uses two drums but with slight variations in the range and note placement between manufacturers. They can be E$3$ to Eb$5$, F$3$ to C$6$ or F#$3$ to C#$6$, with variations of note placement (see plates 1.27 and 1.28). As with the double tenor, this drum can double the melody, play a counter melody and harmony and so add a depth to the sound, as it is lower than the tenor.\textsuperscript{169}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{double_tenor.png}
\caption{Double tenor pans\textsuperscript{167}}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{double_seconds.png}
\caption{Double seconds F#3-C#6\textsuperscript{170}}
\end{figure}

\begin{itemize}
\item \textsuperscript{167} \textit{ibid.}
\item \textsuperscript{168} Discussions with Ron Matthews
\item \textsuperscript{169} Discussions with Ron Matthews
\item \textsuperscript{170} \texttt{http://vistapan.com/} accessed 11April 2010
\end{itemize}
Double seconds are laid out in a “whole-tone” arrangement. Essentially this means that a chromatic scale on the instrument is played by alternately playing notes from the left and right drums... The advantage to this layout is that the notes can be "synchronised". Notes on the left drum are a semi-tone higher than the notes in the same position on the right drum... Double tenors are laid out using an arrangement whereby diatonic major are played by alternately playing notes from the left and right drums but chromatic scales require two notes from the left drum followed by two notes from the right drum...

The double seconds above are made by Vistapan and are offered in two ranges. The double seconds below, provided by Panyard however encompass a different layout of notes (see plate 1.29) and a different range (see plate 1.30).

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Plate 1.28 Double seconds E3-Eb6\(^{171}\)

\[ \text{Double Seconds} \]

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\(^{171}\) http://vistapan.com/ accessed 11 April 2010

\(^{172}\) http://vistapan.com/ accessed 11 April 2010

\(^{173}\) file:///Volumes/My%20Passport/Finale%20in%20Oman%202010/steelband-%20June%202011/Pan%20Info/Panyard%20Pans/pans.php.html accessed 15 April 2010
This lack of standardisation exists throughout the range of the pans. The layout of notes on each instrument varies to such an extent from the others that they effectively are different instruments. With such radically dissimilar layouts there is no similarity of movements between notes, or chords, across the different pans so players tend to specialise on just one instrument. On the multi-pan instruments moreover, there is no standard set-up and players make their own decision about placement of the individual pans. In addition the ranges vary between some of the pans. So it is often not possible for ensembles to play on borrowed instruments; and occasionally pieces need to be adapted to suit certain ranges.\textsuperscript{175}

It can be seen then that the search for new sounds in the keyboard mallet percussion family led to myriad developments in the construction, materials, tuning, beaters and playing approach, all of which have had a significant effect on composition for them and manner of their use. At the same time these two factors have impacted on their construction as seen in the changes to marimbas and xylophones, the development of the vibraphone and the steel drum family. These developments continue to impact on the total evolution of percussion.

There is also a range of instruments known variously as Accessory, Orchestral or Latin Percussion instruments, each with their own specific playing techniques.

\begin{itemize}
  \item \textsuperscript{174} \textit{ibid.}, accessed 15 April 2010
\end{itemize}
As the first label suggests they have been regarded as incidental and so of not great consequence, but while a detailed analysis is beyond the scope of this study, it is important to note that they also are developing, however, in two directions. A desire for more control over the texture and quality of sound is a factor in developing better and more consistent sound sources. This is well demonstrated by the development of a tambourine that provides three types of jingles that can be easily changed in a variety of combinations, and by changing the playing technique, enables the playing of a very long thumb roll. It was developed by percussion instrument manufacturer Kolberg in 1995-6 (see plate 1.31).

At the same time, some compositions have also explored the often, raw sounds of sound sources. So, for example, shakers and scrapers are made from bamboo, wood, metal or plastic. Some examples of these instruments and the range of sounds even this small selection encompasses are shown in the accompanying DVD. The instruments demonstrated are shakers, scrapers, triangles and woodblocks, as well as examples of clapsticks used by Sculthorpe and toy drum substitutes scored for by Morgan (see Appendix B for more detail).

Also of interest is a simple adaptation to the cowbell of an addition of a rounded strip of plastic (see plate 1.31), which enables it to be played with a Snare Drum stick on the edge for a full tone without damage to the stick. If this idea were to be extended to the tuned cowbells it would enable them to be played in a similar manner, which would produce a different sound also and also allow them to be more flexibly used in multi-percussion settings. Augmentation of such novel
sound-sources continues to contribute significantly to further compositional and performance variations and possibilities.

Plate 1.32 Cowbell with rounded (yellow) plastic strip

These examples demonstrate the intricacy of the relationship between the medium, the technique and repertoire. Developments to the instrument lead to different ways of playing, which can either extend the original technique, or completely change it to suit the new situation. Moreover, different uses of the instrument in the repertoire influenced changes to the instrument and techniques of playing it. Essentially, the development has been somewhat paradoxical, as shown above. The instruments themselves have changed in the manner of their construction and use as a response to increasing compositional and technical demands. Accordingly many of them have been simplified in construction or for convenience of use. However the result for percussion has been the creation of increasing complexity for the players as they are used in ever-more demanding and changing contexts. The percussion medium is a changing soundscape of types, numbers and intricacies of instruments, which both affect and are affected by the music for which they are scored and the manner in which they are played. Furthermore, unlike other instruments, there is no standardisation of the instruments. These issues affect matters of nomenclature, playing techniques, notation, and manner of use of the instruments, each of which will be examined in the following chapters.

176 Courtesy John Reynolds Music City, Adelaide, 2015
Chapter 2 Evolving Percussion Techniques

It is generally accepted that the purpose of technique is to produce as wide a range of sounds as is possible from the instrument, in a manner that is not damaging to either instrument or player.\textsuperscript{177} In essence it aims to create a relaxed control of the medium in order to present a musical performance. Technique is a means to a performance outcome and as such needs to be developed in the context of musical and dramatic purpose. The elements of technique that will be analysed are playing action, movement, sound (including a section on grace notes and long sounds), notation, logistics and visual aesthetics.

The elements of technique that will be analysed are playing action, physical movement of the player, sound (including a section on grace notes and long sounds), notation, logistics and visual aesthetics. Firstly, the playing action is directly related to the percussion sound produced. This is the physical movement of the beater and at times the whole body of the performer.\textsuperscript{178} The manner of the action moreover also has ramifications for the player in terms of repetitive strain.\textsuperscript{179} Also consideration of physical movement and logistical and visual aspects of playing is required because of the numbers, types and sizes of the instruments and the manner of their use.\textsuperscript{180} Overall the playing action determines the detail of the sound that is produced. Moreover, the diverse systems used by composers to instruct the players in the ways of producing that sound in a musical context have added notation to the technical requirements of playing. The notation suggests the type of sound that is wanted to produce the desired musical effect, which in turn impacts on the playing action and finally, the logistics decide the movement that is needed to facilitate the playing action. Finally, because the movement of percussionists is so obvious the aesthetics of

\begin{enumerate}
\item While my research has not produced any clear enunciation of this point it is alluded to by Gary Cook, \textit{Teaching Percussion}, New York, Schirmer, 1997, pp. 5-6
\item The player needs to be in specific positions to play the various instruments, and because of their sizes, needs to move between instruments or parts of the instrument to do so.
\item The nature of the instruments is such that playing involves a lot of repetition of the same action. Under stressful conditions this can result in tenosynovitis. \url{https://www.nlm.nih.gov/medlineplus/ency/article/001242.htm} accessed 3 February 2016
\item Some examples of the types of instruments and their various sizes were discussed in the previous chapter.
\end{enumerate}
those movements need to match the music. Because these elements are intricately inter-related an examination of the challenges they impart to the presentation of percussion performances is required.\textsuperscript{181}

For percussionists technique is complicated by two external factors: the nature of the medium itself and the types and styles of repertoire.\textsuperscript{182} The influx of so many instruments of disparate size and nature and the conglomeration of associated beaters have brought with them diverse techniques and approaches to playing. Some of these are culturally specific, while others have developed in certain, usually local, contexts or playing situations.\textsuperscript{183} These playing techniques will be examined in terms of their relevance in contemporary performance as played on membranophones, mallet percussion, and multi-percussion. Particular attention is paid to grace notes and long sounds.

Percussion repertoire is the other complicating factor. Generally compositions encompass a wide range of styles and genres, using a variety of notational systems. In the process of repertoire expansion for percussion a body of diverse and disparate pieces has been created, requiring the mastery of an equally diverse set of techniques. This complex process of development was, and is, contingent upon the vagaries of local contexts, not only in the interpretation of the instruments themselves but also in consideration of localised cultural overtones. Another complicating factor has been that repertoire has been created in isolation from developments elsewhere, affecting technique therefore in specific ways.\textsuperscript{184} As a result of the complexities resulting from the nature of the medium itself and the types and styles of repertoire, percussion technique has developed as a multi-faceted concept, and will be further examined in that context.

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{181} Gary Cook, \textit{op. cit.}, chapters 2-9. This is alluded to by his examination of the specifics of playing the different instruments.
\item \textsuperscript{182} \textit{ibid.}, chapter 1
\item \textsuperscript{183} \textit{ibid.}, chapters 2-9
\item \textsuperscript{184} These effects of the disparate nature of the instruments, the broadness of the repertoire and the influence of local elements on technique do not appear to have been researched.
\end{enumerate}
\end{footnotesize}
2.1 Playing Action

It is the contention of this dissertation that all the techniques are based on one single action – a wrist-initiated upstroke, and adapted to the exigencies of the particular instruments and playing situations.\textsuperscript{185} Competent acquisition of this elementary wrist-action directly impacts the quality of performance.\textsuperscript{186} This hypothesis will be tested by an analysis of technique used in playing membranophones, mallet percussion, and multi-percussion and will consider the ramifications for the challenge it presents to performance.

Central to development of technique is the understanding and application of a playing action that allows for a relaxed control of the beaters in order to produce a full-bodied tone without causing undue physical stress to the player. The focus of this playing action starts from the fact that, in accordance with Newton’s Third Law of Motion, when the beater hits the surface it naturally rebounds from it.\textsuperscript{187} Consequently, it is necessary to understand the implications of this law and how it can be efficiently applied to the playing action.

In the action of playing one can use fingers, wrist or arm action to manipulate the beater. Using only the fingers will produce fast playing but with little volume range; playing only with arm action will produce loud playing, but without much speed. Playing with a relaxed wrist action will produce both loud and fast playing without the extremes of either, and so would logically be the preferred action for most playing. This is the playing action advocated by Richard Smith\textsuperscript{188} and George Gaber,\textsuperscript{189} both recognised as outstanding players and teachers of percussion. Furthermore, following the logical consequence of Newton’s Law, the action would naturally be an upstroke with the beater returning to its original

\textsuperscript{185} This differs from approaches promulgated by some American percussionists who advocated more arm movement such as Sanford A. Moeller, \textit{The Moeller Book}. Boca Raton FL, Ludwig Music Publishing, 1954. This approach however, is based on the action used in marching drumming and not applicable across the range of percussion instruments, making it limited in efficacy.

\textsuperscript{186} Gary Cook, \textit{op. cit.}, p. 5

\textsuperscript{187} For every action, there is an equal and opposite reaction.

\textsuperscript{188} Louise Devenish, “... And Now for the Noise: Contemporary Percussion in Australia, 1970-2000”, DMA dissertation, University of Western Australia, 2015, p. 23.

\textsuperscript{189} Dr. D. Richard Smith, ‘George Gaber: Master Percussionist/Professor of Music’, \textit{Percussive Notes} Vol. 17 No. 3 Spring/Summer 1979, pp. 29-31
starting position after bouncing off the playing surface. There is a compelling argument to apply this principle to the playing action to work in congruent harmony with the natural law, and produce therefore a full-toned sound with the most efficient effort. Developing this relaxed action would give the player a greater degree of control over the sounds and also focus the playing on the music in performance. This principle applies equally to playing with the hands. To facilitate this enquiry the details of the playing action will now be investigated in the contexts of the membranophonic percussion as exemplified on Snare Drum and Hand percussion and the Marimba, as representing idiophonic percussion and implications for performance.

The snare drum developed in Europe as the main drum for playing rhythmic phrases and as such has a recognised body of technique using specific beaters.\footnote{The techniques however, developed in distinct ways in different countries, and the two major codifications of basic rudiments were tabulated in Switzerland and the United States of America. These have now been combined and are available on the Percussive Arts Society website \url{http://www.pas.org/docs/default-source/default-document-library/pasdrumrudiments2015.pdf} accessed 11 May 2015} The various contexts of use of the snare drum has led to the development of two grips – a ‘traditional’ or military grip (see plate 2.01) and a ‘matched’ grip (see plate 2.02). This traditional grip developed in the military, as the alternative name suggests, being used as a convenient way of playing while marching with a drum slung to one side. It remained the preferred grip until teachers such as Jack McKenzie and Paul Price in the United States experimented with alternatives in the 1960s.\footnote{Discussions with Jack McKenzie in September 1989. Further information from Thomas Siwe, ‘Jack H. McKenzie: Matched Grip Pioneer’, \textit{Percussive Notes}, Vol. 49, No. 2, March 2011, pp. 24-27}
A detailed comparison of these grips is beyond the scope of this dissertation, save to say that the latter, as a more convenient and natural method of holding the sticks, is more universally deployed and so is the focus of this study. Whichever grip is used however, it is important to understand the details of the grip within the context of the above-mentioned principle of natural motion and apply the specific grip to the particular playing situation.

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193 *ibid.*, p. 2
For the grip to be effective it needs to relate to the natural movement of the stick as used in the playing action. There is a point on the snare drum stick that is a natural fulcrum, whereby the stick, while resting on that point, bounces freely on the drum. This point is approximately one-third of the length of the stick from the butt end. It follows logically then that if the stick is held at that point, and only at that point, it will be possible to use that fulcrum in playing. The importance of this cannot be over-emphasised. By allowing the stick a certain amount of freedom in its movement, the resultant sound is full-bodied and free of tension; and less effort is needed to produce a given dynamic. On the other hand, holding the stick elsewhere or too tightly chokes the stick and therefore chokes the sound, robbing it of much of its tone; and, of course, more effort is needed to produce an equivalent dynamic. Moreover, a tight grip is indicative of a tense grip, which will lead to repetitive strain injuries. In its detail the stick is held between the thumb and second joint (the joint closer to the knuckle) of the forefinger, and the forefinger is then wrapped round the stick. Therefore the stick is held at three points round the fulcrum, in a grip that is only tight enough to prevent the stick from dropping. Moreover, slightly more pressure is applied by the end of the forefinger than the thumb and second joint; this ameliorates possible repetitive stress problems.

Using this wrist action in conjunction with the ‘fulcrum’ grip described above, will determine that the stick will bounce freely off the drum, and the wrist and stick will rebound to the starting position, and so be in preparation for the next stroke. This action then has effectively two fulcrums, at the grip and at the wrist. Furthermore mastery of this ‘Double Fulcrum Dynamic’ in a relaxed style is the most effective playing action for producing full-bodied, un-choked sounds thus

194 The left-hand traditional grip is slightly more complicated and is not considered here, as it is specific to the Marching Band, and not always used even there.
195 Some percussionists advocate holding it between thumb and first finger joint. In the opinion of the author and his teachers however, this necessitates also holding the butt of the stick with the little finger, which impedes full dynamic expression. This was developed by William Ludwig, *The Ludwig Drum Method*, Chicago, Ludwig Drum Co, 1962
196 There are other slightly different grips and actions that have been advocated by, among others, such teachers as William F. Ludwig and Sanford Moeller. They are, however, applicable to certain situations or contexts and as such not always relevant to contemporary playing.
affording greater control over quality performance outcomes. This development of a relaxed control of the action and production of musical sounds with minimum effort also counteracts any tendency towards tenosynovitis, thus extending the playing life of the player.

This ‘double fulcrum dynamic’ is applicable across the range of membranophonic percussion instruments, though differences in construction and tuning of the various instruments require some adaptations in the detail of the action. Tom-toms for example, come in a variety of sizes and timbral registers and tightness of head. The rebound off the head then differs, with a greater rebound off the more tightly tuned Toms. As a result a more deliberate wrist action is needed to move the beater off the head in order to produce a full-toned sound. This wrist movement also needs to be a free-flowing, relaxed action for reasons of occupational safety as well as musicality.

Although the playing action of the timpani is also based on the ‘double fulcrum dynamic’, as the beaters bounce off the drumhead, because of different instrument construction and purpose, there are significant modifications to this action. Generally the beaters have felt heads and the drums, usually in sets of four, have four different tensions of head. Consequently the rebound off each drumhead is different, and also alters with every change of tuning. As a result the wrist needs to move the beater more deliberately, and to a different extent in relation to the natural rebound between each drum. It is also important to move the beater off the head quickly in order to produce a pure, full-toned sound, and again the movement needs to be a relaxed guiding of the beater. Furthermore because the drums themselves are sizable the physical movement by the player between them is also expanded. So in addition to the wrist movement to play the notes, there is a necessary extended arm movement to move from drum to drum. This movement also needs to be a relaxed, free-flowing movement and accordant

197 The title of ‘Double Fulcrum Dynamic’ has not been enunciated as such though it is obviously in use by a number of players.
198 There are also differences in rebound from different parts on the head and from different types of beater.
199 The matter of occupational safety is a crucial element in percussion technique, which has not been addressed in sufficient detail.
with the wrist movement, again for both sound and occupational health. 200 These issues of sticking and movement have further implications for technique and performance and are further discussed below in the contexts of movement and sound.

Drums that use even more arm action are the taiko from Japan. These are large drums, which can configure either vertically by being suspended on stands, or horizontally and are played theatrically and generally produce a loud volume. 201 Nonetheless, the action is only a variation on snare drum action, with the thick beaters held comfortably in the hands; and the final part of the stroke a wrist action in relaxed, ‘upstroke’ style. 202. This allows the drum to resonate and also does not lead to problems associated with tension, such as Repetitive Strain Injury. 203

There are also a number of instruments that employ hand techniques. In many cases these techniques have been developed in the context of local musical traditions and performance situations. It is important to examine the playing action as the instruments are used across all genres and styles. Just as hitting a drum with a beater using a rebound upstroke action produces a full-bodied tone, so hitting a drum with fingers or hands using a similar action will produce a similar tone. 204

In the case of bongos, derabuccas and djembes the playing action is a combination of wrist and finger movement, with both moving relaxedly and the fingers ‘bouncing’ off the drumhead. In their traditional contexts there are limitations to the playing action because of the manner of use of the drums. The Middle Eastern derabucca is held on the lap and played mainly with the fingers, 

200 Gary Cook, op. cit., pp. 177-206 also discusses other playing techniques
201 Taiko technique acquired 1995-2002 as founding member of both Ataru-taru Taiko and Kin No Taiko. The playing action also needs to be coordinated with fast and big body movements.
202 ‘Upstroke’ is a generic term for moving the beater off the drum. At times the drum is not in an upright position so the stroke could be at an angle to the vertical action. Nonetheless it is in the context of this dissertation classified as ‘upstroke’.
204 This use of technique I acquired informally and over many years of playing on a variety of surfaces, mixed with an introduction to Bongo playing.
and the djembe from Africa is held between the legs and played with fingers and hands. However, taken out of their cultural contexts the drums can be mounted on stands or held differently, thus allowing for a greater flexibility of approach. Consequently, the playing action is again similar to the Snare Drum and is mostly a wrist action supported by similar finger and arm actions as appropriate. Playing technique on the congas is based on aiming to produce open, closed and slap (or ‘pop’) sounds with the hands; that action again is essentially a wrist action similar to that used on the snare drum, with variations of hand position to alter the nuance.\textsuperscript{205} The nuances of sound of membranophones are further discussed in the section on sound.

There is also a range of instruments known variously as accessory, orchestral or Latin Percussion instruments, each with their own specific playing techniques, but still mostly based on variants of the snare drum action. The different scrapers involve moving a thin rod up and down a serrated cylinder, applying different degrees of pressure, and using different parts of the rod for dynamic and timbral contrast. Similarly, the shaking action needed to play maracas and other shakers is either a direct adaptation of the up-and-down snare drum action, or a movement of arms and wrists along a horizontal plane.\textsuperscript{206}

A different case presents itself with the mallet keyboard instruments. The mallets do not rebound easily off the surface, be it wood or metal. However, bringing the mallet off the bar quickly allows the bar to resonate freely; so the action again should be very similar to the snare drum action. The mallet should be held between the thumb and forefinger in a similar way to the snare drum stick and allowed a certain freedom of movement in a relaxed, upstroke. Moreover, lifting the mallet off the bar immediately in this upstroke action brings the mallet into the playing position for the next note, saving preparation time, and preventing any cross-sticking problems. Furthermore, this action is again in

\textsuperscript{205} These are essentially basic actions that are developed further by masters of the particular instruments, and usually in a cultural context. They can, however, also be developed out of that context and in a direction which is as yet undetermined.

\textsuperscript{206} This is demonstrated in the accompanying video. Gary Cook, \textit{op. cit.}, chapter 6.
accordance with the laws of physics regarding action and reaction and as such is the most efficient use of energy.207

As with the snare drum and timpani mallets there are debates on the best grip, and with the mallet keyboard instruments, this debate is over the most efficient way to hold four mallets. The details of the grips are well known and need no further explanation, save to say that the differences in sound produced by each of the grips do not seem to be great. At this stage of development of percussion there is no definitive principle guiding this issue; and pieces are performed well by proponents of each of the three grips in a similar way to successful performances by Pianists using different fingerings.208

Four-mallet grip was not an issue until the 1970s. Up till that time most keyboard playing was with two mallets, using mainly alternate sticking; and four mallets were only used for straight and rolled chords – usually in slow sections of the music. In 1973 American jazz vibist, Gary Burton, proposed that mallet keyboards could be played more pianistically, with a more flexible approach to sticking, independence of the hands and voicing of chords.209 That sparked interest in more details of playing, and the grip became an issue of debate. Some have taken this further, advocating the use of six mallets, the most successful of these being the Polish jazz vibist Karol Szymanowski210 and American percussionists Dr Dean Gronemeier and his former student Dr Tim Jones.211 In all cases however, wrist action still plays a central technical role, with six-mallet playing also involving more of a ‘rolling wrist action’.

It can be seen then that despite the huge variation in these percussion instruments and their specific playing techniques, they all share a common denominator of the basic wrist movement, which is at the centre of all playing

207 The maxim according to George Gaber is: “Use the wrist to play the note and the arm to move from note to note.” This action has not changed.
208 An excellent exposé on the issue is by Lynn Glassock, Four Mallet Grips, Percussionist Vol. 11 No. 1 Fall 1973, pp. 2-11
210 He is no relation to the composer; nor is he deliberately named after him.
211 Conversation with Dr Gronemeier in Adelaide, 14 March 2016
actions of these instruments. It has accommodated further development of flexible approaches of technique application to performance (see plate 2.03).

Plate 2.03 wrist action

Techniques including double-fulcrum dynamic on snare drum, coordination on drum set, four- and six-mallet independent playing on mallet keyboards and a variety of hand-drumming techniques are all developed from this basic wrist movement. The movement then is pivotal to the acquisition of the techniques needed to play musically and with longevity, without incurring problems of physical stress.

On this final point it is critical to understand that the issue of physical stress is crucial as the effective development of technique hinges on this playing action and as a result directly affects performance, both in the expression of the music and the ability to continue playing as a career. In 2009 a study was undertaken by medical researchers C. Sandell, M. Frykman, K. Chesky, A. Fjellman-Wikund in North Texas into Playing-related Musculoskeletal Disorders of Percussionists. The study, one of the first to survey percussionists’ health problems, interviewed 4,017 percussionists across a range of musical genres and found that 89% of Keyboard Percussionists and 74% of Membranophone Percussionists reported

\[ \text{212} \] R. Pusz *op. cit.*, p. 4

damage in the elbows, extensor muscles of the forearm, ligaments of the wrist, muscles of the hands and base of the thumb, as well as some damage to shoulders. Allowing for statistical error and possible misdiagnosis of the problem by the players, these figures very strongly suggest the critical need to develop a standardised playing action that gives anatomical attention to the player’s technique acquisition and playing action that will avert any physiological problems or damage. On the other hand, if committed attention to safe and harmonious technique and action acquisition is not paid, and incrementally flawed body actions are overlooked, the many hours spent in intensive practice aimed at perfecting repetitive action can obviously have deleterious immediate and ongoing effects for both the player and performance.214 With industry implications it is clear that research into remedial action for faulty practices must be undertaken to facilitate risk-free playing in performance.

2.2 Movement

Closely related to the issue of playing action is that of movement, which has developed as a consideration of technique during the second half of the twentieth century, concomitant with the increase in musical, artistic and technical demands of the repertoire. The issue of movement is also multi-faceted. The first and most obvious consideration is the movement of the arms from ‘sound’ to ‘sound’, whether this is from note to note on keyboard percussion, drum to drum or one type of idiophone to another. In all cases the arm movements need to be as relaxed as possible to prevent any repetitive strain injury, and to aid the playing action in producing a full-toned sound from the instrument.215

214 An extreme example was presented to me in 1990 by a Percussionist who came asking advice, as playing for a mere thirty seconds per day caused excruciating pain. The problem was purely technical, but it took two years to remedy. More research is needed on this aspect of technique.

215 This aspect of technique has also not been enunciated, but Gaber’s maxim can be applied.
The extent of the movement can be seen for example, in the timpani part in Chavez’ *Toccata* (see ex. 2.01) where the arms need to travel across a large area at a fast tempo.\(^{216}\)

\[\text{Ex. 2.01 Timpani excerpt, Carlos Chavez, *Toccata para instrumentos de percusión*, New York, Mills Music 1964, Timpani part, p. 8}\]

In addition pieces now call for percussionists to play over a large area that require movement of the feet, as in Erdmann’s *Waiting for...* for marimba (see ex. 2.02). This example demonstrates how big and obvious body movements are, as a range of almost five octaves requires that the mallets move over a distance of two metres. This distance is too great to play from a stationary position, so a strategy of when to move must be devised and practised. As much as possible this movement should be silent and must also be definite to end in a position whereby the next bar can be executed authoritatively to end the phrase. Moreover, if possible, a movement that is reflective of the intent of the music would also enhance the presentation of the piece.\(^{217}\)

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\(^{216}\) At 80cm between playing spots on each drum the total distance to be covered if four timpani are used for the piece (from F to E to F) is 4.8m within the space of a second.

\(^{217}\) As is often the case, these movements are specific to the piece and the player and as such it is not possible to give definitive principles on which to base an approach to applying them.
Ex. 2.02 Movement over a big range on Marimba, Erdmann-Abele, *Waiting for...*, mvt. 1, p.1

A further demand in the repertoire is the fast movement between extremities. For example, later in the same piece, the player has to play in the top octave of the marimba and leap quickly to the bottom octave and back again (see ex. 2.03).

Ex. 2.03 Playing at the extremities of the instrument, Erdmann-Abele, *Waiting for...*, mvt. 1, p.3
The most extreme examples of movement are found in the area of multi-percussion, where movement can be across large distances or involve the simultaneous movement of more than one limb.

For example, composers are increasingly writing pieces that call for the player to use all four limbs, hence demanding the adaptation of the coordination used on drum set to more classical settings. David Morgan in his *Voyage into Solitude* (duo for multiple clarinets and multiple percussion) asks the percussionist to coordinate between a number of instruments and playing actions. In the fourth movement, *Angelus*, the percussionist at one point has to play bass drum with one foot, while the other is on the vibraphone pedal ready to pedal the next section. Meanwhile one beater is used to scrape the cymbal, as the other plays tom-toms (see ex. 2.04). So one hand is moving in a scraping action while the other is moving in an up-and-down motion, one foot is playing while the other is in preparation & playing soon after while the hand that was scraping is now playing in an up-and-down motion, while the other is playing at an angle on the triangle. This is all executed in a standing position and so requiring precise balance.

\[ \text{\textit{j}. } = 132 \]

Ex. 2.04 Coordination in multi-percussion, David Morgan *Angelus, Voyage Into Solitude*, mvt. 4, bars 67-74

Clearly a flexible approach is needed to play the movements associated with coordination. This is further shown in the following example, moving the beaters across two different planes simultaneously, in this case vibraphone, played with the left hand, and glockenspiel played with the right (see ex. 2.05). The bars of the two instruments are of different widths; so moving the same intervallic distances means moving different physical distances in order accurately to execute the figures.
Ex. 2.05 Coordinating movement over two different planes, Andre Oosterbaan, *Time of Light*, manuscript, p. 35

Furthermore, playing the two instruments with very different mallets, plastic or metal for the steel notes of the glockenspiel, and hard wound mallet for the vibraphone's aluminium alloy, requires different sensitivities of stroke to educe the same dynamic, and not have a harsh difference between them. Moreover the glockenspiel is either further away from the player, so the movement needs to be practised so as not to look awkward, or at an angle to the vibraphone so the movement is in two directions.

In addition to these movements there is an extension of the playing action, the gestural movement. This type of movement takes a variety of forms. Most commonly it is used as an extension of the playing action to emphasize aspects of the musical phrase or mood. For example, when playing loud notes on the taiko, after striking the drum the arm moves up or back in an exaggerated motion to underscore the dynamic, and give the illusion of filling the space with a greater resonance than is actually there.

There is also the negative movement of theatrically stopping all body movement to emphasize a particular, and usually sudden, silence, or providing a visual contrast between, for example, the accompaniment at the end of a phrase and the solo part playing a cadenza-like figure. In the example below, the penultimate bar just before the Trio has three beats rest in the accompaniment. At this point, if the accompanying parts (the piano part divided among two or three marimbists) stop all body movement the impression is created for just a second that the piece is over. Then the soloist plays the solo and everyone begins moving again in the last bar before the Trio (see ex. 2.06).
Ex. 2.06 Theatrical movement, G H Green, *Log Cabin Blues, Xylophone Rags*, Fort Lauderdale FL, Meredith Music, 1984, p. 12, bars 53-56

Movement is also used to reflect the dynamics and atmosphere of a piece, so the arms and body will move slowly to capture a languid mood (see ex. 2.07).

Ex. 2.07 Languid movement, Pujol/Pusz *Variaciones sobre un tema de Atahualpa Yupanqui*, arr. marimba, p. 1

The movement can also be dramatic, where a sharp, sudden movement can accentuate the musical and dramatic effect of a climax in the music. In this piece by Cary the tam-tams (square note-heads) were positioned behind the player and in certain places played with the player’s back to the audience (see ex. 2.08).

Ex. 2.08 Dramatic movement, Cary, *Black, White and Rose*, manuscript, p. 14

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218 Original piece for guitar: Máximo Pujol *Variaciones sobre un tema de Atahualpa Yupanqui*, Columbus, OH, Editions Orphée Inc, 2001, p. 1

219 In Cary’s *Black, White and Rose*, at one point, following a crescendo on the Marimba, I turned quickly to play the Tam-tams, which were positioned behind me. With my back to the audience, after playing I held the pose with my arms in the air. I repeated it at the climax of the crescendo on Woodblocks. The action took only a few seconds, but the effect of the drama was palpable and met with Cary’s approval.
The nature of the instruments means these movements extend beyond the orbit of the instruments and as such are obvious to the audience. These movements are rarely notated, and are dependent on the performer’s interpretation of the music. However, it is the performer’s responsibility to portray the intent of the music through complementary body language. This dichotomy could pose a possible conflict between the music and performance, and raises the question about the relative importance of visual and aural aspects of performance in the communication of abstract ideas to the audience. This issue is beyond the scope of this dissertation, but is worthy of further investigation.

2.3 Sound

It is necessary also to analyse the intricacies of sound as applied to percussion. As with all instruments, the music must be clearly articulated and for percussion this relates to the playing spots on the instruments, the choice of beaters, and the performance context. The developments in the understanding of the medium, and concomitant exploration of its potential have taken the instruments out of their traditional contexts, and resulted in them being seen as sound sources as much as being providers of culturally distinct rhythms and societal roles. Consequently, the roles played by the instruments, the beaters used and the ways of playing have developed on a two-fold path. But more importantly, percussionists and composers have become increasingly aware of the nuances of sound in the various instruments. For example, some solos are being written for snare drum that reflect its martial connections, using various rudiments such as flams, paradiddles, drags and measured double-stroke rolls (see ex. 2.09).

Ex. 2.09 excerpt from *juNO* - piece for concert or marching Snare Drum, written 2015, *Rhythm Scene*, Vol. 2, No. 4, Indianapolis IN, 2015, PAS, p. 43

At the same time other snare drum pieces explore the different sounds and playing techniques of the drum. In this piece three distinct sounds are called for
on the drumhead, two on the rim, two on the sticks and one that combines stick and head sounds. While this piece uses some elements from rudiments of drumming their musical effect is more important than the details of their execution (see plate 2.04 and ex. 2.10).

Plate 2.04 Legend of stickings and placement on snare drum, R. Pusz, After M Eau-Claire WI, Really Good Music, 2015, p. 1

Ex. 2.10 Different sounds on snare drum, After M, bars 41-45

Similarly timpani, once respected for their harmonic contributions, are seen more as a sound source with a diverse set of sounds educated from different parts of the instrument in which the pitch is not necessarily the primary consideration. For example, John Bergamo, in his Four Pieces for Timpani calls for the timpanist to play in the centre of the ‘D’, ‘A’ and ‘B’ timpani and in the normal playing position on the ‘F’; and at the end of the phrase all four drums are to be (soundlessly) muted (see ex. 2.11). Placement, the deliberate playing on a particular spot, is no longer confined to the one spot that gives the most resonant sound, but now needs more concentration as different nuances of sound are called for.

Ex. 2.11 Different timpani sounds, John Bergamo, Perpetual Motion, New York, Music for Percussion, 1962, p. 2

The range of Timpani sounds has been further expanded with the use of the rim (see ex. 2.12).
Ex. 2.12 Different timpani sounds, R. Pusz, *GD*, p. 2. The ‘x’ designates rim.

As well as finding the sounds available in different parts of drums, some composers have explored the potential of using different beaters to produce musical effects. And done so on a variety of membranophones. Bongos, for example, were traditionally played with the fingers using a specific hand movement (see ex. 2.13).

**Bongos**

The bongos (tightly tuned and a third or fourth apart) are held between the knees or on a stand. They are played with the fingers in the following sequence:

1. first finger of the right hand (r)
2. first 2 fingers of the left hand (lf)
3. first finger of the right hand (r)
4. thumb of the left hand (l.th)

They are played near the edge of the drums.

There are 3 basic patterns which form the basis of bongo playing. The bongos are essentially improvisatory instruments; so when these rhythms are mastered, experiment with variations.

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Ex. 2.13 Traditional Bongo Technique

By placing them on stands a greater flexibility of approach allows them, with their thicker skins, to also be played with a variety of beaters. William Kraft, in

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220 Ryszard Pusz, *op.cit.*, p. 66

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his *Suite for Percussion* called for them to played with snare drum sticks (see ex. 2.14).\(^{221}\)

**Bongos**


Kraft also thought of the timpani as a sound source to be played with a variety of beaters. The extent and complexity of these sounds with their associated beaters necessitated a detailed legend and set of playing instructions (see plate. 2.05).

![Plate 2.05](https://example.com/plate2.05)

Plate 2.05 Kraft, *Images*, legend of sticking and placement

The pitches of the drums were seen more as a springboard to produce a multiplicity of nuances, including combining metal and skin sounds with the inverted cymbal on the low timpano (see ex. 2.15).

He said of his *Images* for four timpani, five cymbals, and large tam-tam, composed in 1978,

\(^{221}\) Varèse initiated the idea in *Ionisation*, where he suggested the Bongos could be played with either fingers or thin wooden beaters. The direction is the same in both French and English. E. Varèse, *op.cit.*, Nomenclature of Instruments.
Images was written with the desire to write unaccompanied pieces for timpani which would be musically expressive. Therefore, there are moments of lyricism as well as other moments of drama and virtuosity.222

Clearly, his aim was to use the percussion instruments as a medium through which to present a piece of music rather than to write a piece for percussion as that set of instruments was traditionally understood.223 As a result, the techniques required to play the piece include playing with hands, fingers and marimba mallets. Moreover, playing on the inverted cymbal demands a refinement of the normal timpani playing action to ensure the nuances are brought out and that the cymbal does not fall off the drum. Similarly the specifically indicated fingers and hand, and mallets also demand a more exacting playing technique, which again needs greater concentration to realise the musical phrasing.

223 This I was able to confirm in conversation with Kraft in 1984.
Ex. 2.15 Different techniques on timpani, William Kraft, Images, p. 2

The sound spectrum of percussion has also been extended through the diverse use of stickings. John Beck in his *Concerto for Timpani and Percussion Ensemble* asks for snare drum sticks and fingers as well as timpani mallets and specifies stickings to produce particular sounds that are different from those produced with alternate sticking. This does make the movement between drums easier, but also requires a different approach to deliver the effect. The ‘paradiddle’ stickings for example (RLRR or LRLL), are reminiscent of sixteenth-note marching patterns, which fact determines the character of the phrases; and at
the same time facilitates an easier movement between the drums. Moreover, using one hand to play repeated notes as in the sixth and eighth bars of letter J has the effect of emphasising that part of the rhythm, and from the fourteenth bar also makes it possible to pick up the mallets for the next section (see ex. 2.16). However, concentration is needed on the sound being produced to prevent the repeated notes sounding muffled. So the player needs to focus on both the action of picking up the beater and the sound s/he is making on the drum, firstly with the fingers, and then with the mallet, and with no change of dynamics.

![Ex. 2.16 Different beaters and stickings, John Beck Concerto for Timpani with Percussion Ensemble, New York, Kendor, 1985, solo part, p. 5](image)

The use of different stickings to create specific musical effects is also amply demonstrated in the minimalist composition Sticks by Robert Lloyd. There is no indication in the music as to how it should be played (see ex.2.17). Using alternate sticking at the marked tempo (MM = 100) the piece sounds relaxed with a gradual build-up of volume, as other players enter. At MM= 180 however, and playing with one hand, the musical effect is much more intense, and gives the work a sense of direction.

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224 In discussions with Robert Lloyd he has always stated that the essence of his pieces should be determined by the players. Adelaide Percussions initially approached the piece using alternate sticking, but at one rehearsal one of the players, for no particular reason, played the opening figure using only one stick. After a brief discussion the group decided to adopt this approach for the whole first section, and to play the piece faster than indicated to instil in it a sense of excitement and urgency.
Ex. 2.17 Original markings in the score Lloyd *Sticks*, manuscript, 1984, p. 1

Some percussion instruments\(^{225}\) can also be used as resonating chambers as in this short piece using a more theatrical presentation. The first movement, *Polemic*, calls for the whip to be played while held over and close to the timpani (see ex. 2.18). So even though the drum itself is not hit, nonetheless the matter of placement of exactly where over the head the whip is played is an important technical consideration.

Ex. 2.18 Using timpani as an echo chamber, Aleksander Pusz *Polemic*, 1999, personal copy, p. 1

In the search for more sounds from the percussion, some composers have notated non-percussive techniques. Tristram Cary in *Black, White and Rose* asks for two bows on the marimba (see ex. 2.19).

\(^{225}\) Timpani, Bass Drums, Snare Drums and Tam-tams are obvious examples.

Eric Bryce in his *Suite for Percussion Quintet* also calls for the xylophone to be played with the bow, and for the notes to be bent (see ex. 2.20).

Ex. 2.20 Bowing and bending notes on xylophone, 4th stave, Bryce *Suite for Percussion*, manuscript, 1980, p. 2

Other instruments are also played non-percussively, such as the snare drum (see plate 2.06 and ex. 2.21).

Plate 2.06 Scaping technique on snare drum legend, R. Pusz, *an’ if...?*, Eau-Claire WI, Really Good Music, 2015, p. 1
It is also important to note that even when the instruments are used in a more traditional manner, the aim of the sound is to produce something greater than a rhythmic phrase. David Morgan in Loss wrote a part for the timpani in the second, Funeral Music movement, that symbolised the crying and tears associated with such an event (see ex. 2.22). Thus the technique of playing has a purpose beyond rhythmic phrasing with the first three notes building up as the welling up and the glissando roll representing the expulsion of air.

Ex. 2.21 Using a finger-scraping technique on snare drum, R. Pusz, *an’ if...?*, Eau-Claire WI, Really Good Music, 2015, p. 1, bars 14-16

Ex. 2.22 Representational use of timpani, Morgan *Loss*, 1982, p. 14, Timpani on the bottom stave

Clearly these multifarious intricacies of sound need to be understood and mastered in order to perform on such a variety of sound sources in different performing situations and remain true to the musical intent of the piece.

2.3.1 Grace notes

Central to the discussion of sound is the fact that the nature of the instruments poses a big challenge to both the composer and the performer. The execution of the notes is affected by the surface being struck, the beaters used, and the musical context. Two examples will suffice to demonstrate this – grace notes and long sounds.
A single grace note and main note following, for example, is traditionally called a ‘flam’, with the ‘fl’ sound representing the relative volume and placement of the grace note itself in relation to the main note. However, this technique was developed in a military context and is limiting. Grace notes can be interpreted in a number of ways depending on the type and timbre of the surface being played, on their function in the piece, and on the effect being sought to portray. Playing on different parts of the same drumhead, for example, produces different sounds, and so the time, space, or volume difference between grace and main notes could change too. Moreover, a ‘flam’ played on a drum of lower timbre or during a rallentando will usually have the two notes further apart. Rudimentally, a series of ‘flams’ will usually be played in alternating fashion (see ex. 2.23).

Ex. 2.23 Flams played in alternating, Rudimental style

The effect, however, is very different if they are played with ostinato style sticking, producing an increasing intensity of sound, without necessarily playing a crescendo (see ex. 2.24). It would also be the sticking adopted for playing a series with one sound for the grace notes on one part of the drum such as the rim, and another sound for the main note played on another part such as a certain point on the head. Indeed it would also allow for different series of sounds in contrasting patterns.

Ex. 2.24 Flams played in ostinato style

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226 The ‘flam’ played in this context produces essentially ‘two sounds, but only just’. The onomatopoeic name is a legacy of the Marching Band origins of the sound.

227 R. Pusz op. cit., p. 35

228 R. Pusz op. cit., p. 35
Double grace notes, known as ‘drags’ or ‘ruffs’ after the traditional way of playing (‘dragging’ the stick in a bouncing action across the drumhead) or the sound produced can also be played using single sticking (see ex. 2.25). Like the single grace notes they can be played in an ostinato or alternating style.

![Ex. 2.25 Drags (a) bounced and (b) alternated](image)

Triple grace notes (‘4-stroke ruffs’) are played in different ways (see ex. 2.26).

![Ex. 2.26 Different stickings of ‘4-stroke ruffs’](image)

Clearly, this is an aspect of technique that lends itself to different interpretations that are dependent on instruments, beaters, musical context and compositional intent in the execution of specific effects. However, it is also an aspect that is developing further as the nuances of sound are explored more on the various membranophones (see ex. 2.27).

![Ex. 2.27 Single and double grace notes on different parts of the drum, R. Pusz After M, Eau-Claire WI, Really Good Music, 2015, p.2](image)

Moreover, the triple grace notes give even further scope to develop these nuances with the following example demonstrating how the different stickings of grace notes can be used when playing at the edge, off-centre and centre of a drum (see ex. 2.28).

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229 These stickings produce subtly different effects, but also are used in different contexts. The first 2 bars show the American rudimental approach, while the last 2 bars would be used in the symphonies of Shostakovich, as the tempo is too fast for any other sticking.
Ex. 2.28 A few examples of grace note stickings to emphasise nuances

Clearly then, this is an extension of sound possibilities that has implications for the further development of technique and is applicable across the range of membranophones.

2.3.2 Long sounds

A similar problem exists as regards ‘long sounds’. This concept is a paradox as it is impossible to play a long sound in percussion. Rather, one plays a series of short sounds evenly at a sufficiently fast tempo for the listener to 'hear' a long sound. Initially, and again in a military context these ‘long sounds’ were produced by playing ‘rolls’, achieved by bouncing each stick twice per wrist movement and effectively playing thirty-second notes, which at a march tempo of 120 quarter note beats per minute give the impression of ‘one long sound’. In percussion parlance these are called ‘double-stroke’ or ‘rudimental’ rolls.

Over the course of the twentieth century there has, however, developed a greater diversity of these ‘long sounds’, produced by bouncing the stick one, two, three, four, or even five times per wrist movement. These actions are called respectively ‘single-’, ‘double-’, ‘triple-’, ‘quadruple-’ and ‘quintuple-stroke’ rolls, and have their own applications. The first is generally used on Timpani, Bass Drums, Suspended Cymbal, Tom-toms, and the Mallet Keyboard instruments. The double-stroke (also called measured or rudimental) roll is used in marches, notated in musical shorthand (see ex. 2.29).

230 William Schinstine, Three Means to an End, New York, Kendor, 1977. The second movement of this Snare Drum piece begins with a quintuple-stroke roll and moves through the gamut of rolls to double-stroke rolls and ends in reverse. In between the player has to alternate between quintuple- and double-stroke rolls played at the centre and off-centre respectively.
‘5-stroke’ roll
written played

‘7-stroke’ roll

Ex. 2.29 double-stroke roll notation and application, R. Pusz, op.cit., p. 33

The multiple-bounce action of this and the other rolls is used in all other situations and produces long sounds of smoothness and intensity; and so it also opens a door to changing the character of the long sound while playing it. The method of notating these rolls is not yet standardised though and ‘z’ notations do indicate that a smooth sound is asked for (see ex. 2.30).231

Ex. 2.30 Multiple-bounce roll notation

This lack of standardisation does however, raise issues that are not easy to resolve. Timpani rolls are notated both ways, yet traditionally have been played the one way – with single strokes.232 Suspended cymbal rolls have traditionally been played using single strokes. Very different kinds of sounds can be educed playing multiple-bounce rolls with snare drum sticks on the timpani or on the bell, bow, or edge of the cymbal; but the notation in itself is insufficient direction, without a legend or specific instruction.

Other, and softer, ‘long sounds’ are produced using brushes, by dragging the brush across or around the drumhead for a smooth sound, or by moving the brush quickly back and forth in imitation of the rolls mentioned above. There is also a third technique, a ‘flap-like roll’ produced by rolling the brush back and forth along the head with the handle resting on the rim of the drum. These techniques are used by David George in his snare drum piece Choose Your Own Adventure (see ex. 2.37 and plates 2.07 and 2.08).

231 A slightly different approach is advocated by Gary Cook, op. cit., pp. 47-65
232 ibid., pp. 193-198
Plate 2.07 Legend of stickings, David George *Choose Your Own Adventure* Brisbane, Rhythmscape, 2015, playing instructions

Plate 2.08 Diagrams of brush playing instructions, David George *Choose Your Own Adventure*

Rolls on the keyboard percussion instruments have developed in a number of directions. The need to create the illusion of long sounds has led percussionists to research this area and the more flexible four-mallet approach encouraged this even more. The most obvious roll technique is essentially an extension of the two-mallet roll – alternate sticking. This developed into a more arpeggiated style through a looser grip of the beaters, allowing them to roll in a ripple effect, leading to an independent action in both hands, which allowed a roll in one hand and independent movement in the other.233 A third roll technique is the

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‘mandolin’ roll with one hand, with beaters above and below the note; this only works on the natural keys.\textsuperscript{234}

There is also a fourth roll method, more illusory of a long sound, and more difficult to achieve. This method is essentially an adaptation of guitar technique, and employs a sticking of either LRRR or RLLL, which in sixteenth notes at \textit{Allegro} to \textit{Vivace} tempos creates the impression of one sound. A number of South Australian composers have written for it as seen in the following examples.\textsuperscript{235}

Eric Bryce used it for a large portion of the slow movement of his \textit{Concerto for Marimba and Vibraphone} for the melody with a moving chordal line in the left hand with some simple double-stopping in the \textit{ostinato} (see ex. 2.31).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{ex2_31.png}
\caption{One-handed tremolo, Bryce, \textit{Concerto for Marimba and Vibraphone}, bars 101-106\textsuperscript{236}}
\end{figure}

David Morgan wrote for it for \textit{Lachy’s Lullaby}, one of the pieces in his \textit{Itsy-Bitsy Collection} and incorporated double stops in the chordal accompaniment (see ex. 2.32). It is written in the higher register of the marimba, in order to imitate the register of a mother singing a lullaby to her son. This register, however, lacks resonance, making it difficult to present a convincing ‘continuity of sound’.

\textsuperscript{234} Joshua D. Smith, ‘Extended Vibraphone Techniques in Deane’s \textit{The Apocryphal Still Life’}, \textit{Percussive Notes}, Vol. 47, No. 2, April 2009, pp. 56-58
\textsuperscript{235} This technique I developed in the early 1980s to play \textit{Recuerdos de la Alhambra} by Tarrega
\textsuperscript{236} Eric Bryce, \textit{Concerto for Marimba and Vibraphone}, manuscript, solo part, p. 10, bars 101-106
Transposing the work down an octave adds a resonance and overcomes this problem, though it does change the character of the piece, bringing it into a bass-baritone register.

Ex. 2.32 One-hand tremolo Morgan *Lachy’s Lullaby*, bars 43-44

Tristram Cary incorporated it in *Black, White and Rose* and added double stops and changing chords (see ex. 2.33). The tremolo is played in both left and right hands and though the change is interspersed between traditional tremolos it does represent an extension of the technique (see ex. 2.34). The effect is to allow the tremolo to portray either melody or harmony.

Ex. 2.33 One-handed tremolo, Cary *Black, White and Rose*, manuscript p. 4
The most difficult technically, is Becky Llewellyn’s *Song Ball*, in which the tremolo alternates quickly between hands, and between one-hand and normal tremolo (see ex. 2.35). In this piece it is also necessary to adapt this technique to the demands of the tempo and feel and at times play LRR instead of LRRR.

The technique also has wider applications. The *Fantasy on Japanese Woodprints* by Alan Hovhaness when played using traditional alternate sticking has issues of accuracy in the last section; employing a LRRR (or RLLL) sticking eliminates this problem and allows for a different emphasis in the phrasing (see ex. 2.36).

Whichever roll technique is used, the choice of mallets will determine the character of the sound. This is well illustrated in Becky Llewellyn’s *Song Web*, in which there are to be no discernible ‘beats’ created by the contact sound of the mallets on the keys (see ex. 2.37). The direction to play ‘with 4 mushroom heads’ means to use extremely soft mallets, which produce a ‘waffly’ sound. It does not refer to the ‘mushroom-shaped’ heads of the Mike Balter mallets (see plate 2.09).
Plate 2.09 Comparison of mallet sizes. Mallet (a) is for Llewellyn’s piece; (b) is Balter’s mushroom head.237

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III
Song Web

Ex. 2.37 Becky Llewellyn, Song Web, ‘beatless’ tremolo, bars 1-6

The ‘one-handed’ roll technique is also transferable to membranophones and metal idiophones.238 It is currently the subject of experimentation on a variety of these instruments, exploring the extent of its musical applicability. Furthermore the concept is applicable to finger technique as shown here (see ex. 2.38).

Ex. 2.38 Finger technique on Snare Drum – playing a roll in one hand and rhythmic figures (stems up) with the other. R. Pusz, an if...? Eau-Claire WI, Really Good Music, 2015, p. 2, bars 33-34

Finally, there is a roll technique that is based on an idea proposed in 1961 by Warren Benson in his Three Dances for Solo Snare Drum. The technique is a

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238 At times others have referred to it as ‘the Pusz roll’
‘stick-bounce’ roll and essentially is played by resting one stick on the Drum and striking it with the other so that it bounces on the head, producing two sounds, a stick click and the normal snare drum sound (see ex. 2.39).239

Ex. 2.39 ‘Stick-bounce’ roll, W Benson, Fandango, Three Dances for Solo Snare Drum, Los Angeles, Chappell, 1962, p. 5, bars 33-35

Benson’s intention was to produce two sounds – sixteenth notes of a snare drum sound and eighth notes of stick clicks; and the effect was discrete from preceding or following actions. This however can be expanded to play a roll with a double or greater bounce for every hit of the stick; and the effect and the technique of producing it are currently also the subject of experimentation, exploring different nuances of sound from the Snare Drum (see ex. 2.10).

Plate 2.10. Playing instructions legend, R. Pusz, Continuity manuscript, 2015

This has further technical implications for refining the accuracy of stick placement to bring out the nuances of sound, implications that will lead to further development of mallet control.

A deeper analysis of the problems and potential associated with long sounds is beyond the scope of this dissertation, but is worthy of further investigation. Clearly, the sounds of the percussion instruments present an intricate picture. The manner of their execution is affected by the nature of the instruments, by the types of beaters, by the musical context and the compositional intent. On the other hand the range of nuances of these sounds continues to increase and in

239 This roll does not have a name. ‘Stick-bounce’ is the name I have given it as it describes the action of playing.
turn affect manner of playing, beaters used, sound sources and compositional possibilities.

2.4 Notation

As evidenced above, the notation of these different sounds is also quite variable. In the absence of universal compositional guidelines for this hybrid and changeable instrument of multi-percussion, composers have usually written in a local context, using the specific instruments of their locality, and done so in a notation system that accorded with their cultural and personal understanding of the instruments and music. As a result percussionists have had to learn five completely different systems of notation. This situation is peculiar to percussion only.  

The first system is a conventional staff notation in the appropriate clef with time and key signatures and traditional use of notes and musical signs. Obviously its usage is restricted to situations where no further explanation is required, such as the Tuned percussion instruments. However this is only relatively successful in its transferability. It can also be used in multi-percussion works written for a homogeneous sound such as four tom-toms. In this case it can be safely assumed that principles of register apply in a relative sense, and there is no doubt as to which are the high and low sounds (see ex. 2.40).

Ex. 2.40 Conventional staff notation, writing for homogenous sounds

However, for a piece containing dissimilar instruments such as woodblock, cowbell, cymbal and tom-tom, this system of conventional notation would be inadequate without explanation or legend. A further limitation is that it is incapable of addressing logistical playing difficulties of disparate instruments.

240 I first researched this aspect of percussion during my studies under Professor George Gaber at Indiana University in 1977 and wrote a seminar paper. R. Pusz, A Brief Consideration of Notational Problems Associated with Multi-Percussion Solos.
Furthermore, in a multiple instrument setting even where only one instrument at a time is played, conventional notation requires discrete instructions for each instrument including also which beaters are needed. This system is evident in the ‘Paris Conservatoire School’. It is, nonetheless, limited in its usefulness to situations where the player has sufficient time to read and make the upcoming changes (see ex. 2.41). In more contemporary multi-percussion arrangements however, the time to read multiple discrete directions as well as make changes is often not available to the player and so this ‘conventional with instructions’ form of notation is inappropriate. The piece by Desportes, though sparsely notated demonstrates this.

Ex. 2.41 Conventional staff notation with instructions, Desportes Thème et Variations, Paris, LeDuc, 1948, (Four Timpani, Bas Drum, Snare Drum two Tom-toms, Tambourine, Cymbal, Castanets, Woodblock, Tam-tam Bells, Cowbell, Triangle, Xylophone, Vibraphone), bars 184-197

Thirdly, in an attempt to better express musical ideas, some composers have still used conventional notation but with deviations from the norm by using symbols differently and inventing others. Some examples are the modified use of staves, time signature, note groupings and symbols. As these deviations are not standard the percussionist has to learn each set of symbols as they apply to the specific piece. For example, in Rudziński’s Variations and Fugue (see ex. 2.52-2.54) staves are not five lines, but related to the number of instruments used in any one group; and not all the staves used are necessarily present at any one place if that group of instruments is not being used. While this gives the composer more flexibility it can be confusing to the performer, especially if used excessively; and although the wide spacing of staff lines makes for easier reading within any one group, the six staves together take up half a page of manuscript
making the whole piece an unwieldy twenty-five pages long. The difficulty of turning pages when both hands are used to play the notes means either have large scores containing four or five pages on a total of five or six stands, or playing the work from memory. The latter involves a great deal of practice; and the former requires reading the music at awkward angles and it obscures the audience’s view of the player. These two excerpts show these difficulties (see ex. 2.42 and 2.43).


Ex. 2.43 Conventional notations with variations, Witold Rudziński, Variations and Fugue, Variation VI, p. 9, ‘bars’ 138-141

The omission of time signatures by Rudziński, although innovative for his purposes of creating a seamless flow of sound or moving possibly in certain timbral phrases (see ex. 2.44), creates difficulties for the percussionist’s responsibility to interpret the musical intent of the piece, as the meter changes
frequently. This omission of time signatures is a direct consequence of the cut-away notation typically seen in scores of the music of the Polish ‘Sonoristic’ School in the 1960s and 1970s.²⁴¹

Ex. 2.44 Conventional notations with variations, Witold Rudziński, Theme, p.1, bars 8-21

This lack of clarity allows for variable interpretations as seen in this example of playing variations of the Bongo section on the first page (see ex. 2.45). Each note grouping determines a specific type of phrasing resulting in very different interpretations.

Ex. 2.45 Amended beams and added sticking showing different interpretive possibilities from Witold Rudziński, Variations and Fugue, p. 1, bars 14-18

Some composers also have used a graphic or spatio-temporal symbol system of notation, with abstract signs to represent the sounds. Karlheinz Stockhausen in his Zyklus (‘cycle’ or ‘circle’) uses this system, with a set-up diagram, legend and

²⁴¹ Information courtesy of Professor Charles Bodman Rae, who studied at the Chopin Academy of Music, Warsaw, Poland from 1981-1983.
detailed explanation in three languages on how to interpret his notation (see plate 2.11). Composed as a test piece for the Kranichstein Music Prize for percussion players in 1959, the work derives its inspiration from Webern’s *Five Movements* for String Quartet (1909) and develops the “concept of serially mediating between the extremes of any musical parameter [as a principle of organization].”


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The piece can start at any point and go in either direction before returning to its starting note (see ex. 2.46). So this page can also be played in reverse (see ex. 2.47).

Ex. 2.46 Graphic notation, Stockhausen *Zyklus*, starting the page on tom-toms and bells

Ex. 2.47 Graphic notation, Stockhausen *Zyklus*, starting the same page on Tom-toms, Snare Drum and Vibraphone

243 Karlheinz Stockhausen, *op.cit*. It is not possible to give a page number as none is provided, nor possible given that the performance can start on any page.
Again the symbols are not standard and the percussionist has to learn them as they apply to the specific piece. In *Zyklus* the player is surrounded by the instruments, so to read the music again involves some contortion, moving back and forth round the circle of sounds (see ex. 2.48 and plate 2.12).

![Ex. 2.48 Graphic notation and movement, Stockhausen *Zyklus*, excerpt, nominal p. 1](image)

In this excerpt (see ex. 2.58) playing on Hi-hat, Tom-toms and Marimba involves playing entries quickly across three-quarters of the circle, as seen in the layout diagram. At best, the music can only be a guide, and the essence of the piece needs to be played from memory.

Plate 2.12 Layout diagram, Stockhausen, *Zyklus*

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244 Karlheinz Stockhausen, *op.cit*. The nominal page number is my own and indicates my starting point when I performed the work in 1978.
The fifth notational system uses a combination of all the above, giving a legend explaining symbols used to effect particular sounds, a layout diagram showing placement of instruments, and possibly instructions on specific matters. William Kraft wrote this *Sarabande* as part of an *English Suite*, for untuned instruments in an old dance form. He provides a legend, and no diagram, though it can be assumed from the legend to be an arched line of drums with a second line above them and further from the player, of cymbals and triangle (see plate 2.13).

Plate 2.13 Legend, William Kraft, *Sarabande* from *English Suite* New York, Award Music, 1975, p. 1

The piece is very specific as to the types of sounds he wants, and this section shows the part of the Cymbal to be played, and with what part of the beater (see ex. 2.49).

Ex. 2.49 Notation with legend, symbols, instructions, William Kraft, *Sarabande* from *English Suite*, bars 53-59, p. 2. Section shows a roll on the lowest Cymbal with soft mallets, and precise rhythmic figures on different parts of the Cymbal with the cane handle of the mallet

Kraft also provides a very detailed set of instructions on how to execute the various figures (see plate 2.14).
These five systems of notation are further complicated by certain elements that are peculiar to percussion. As shown above, the notation of long sounds is not uniform and moreover not always clear as to intent. For example, whether a roll on snare drum is written with an eighth-note or quarter-note ending would make little difference to its execution, as it would finish on that last note rather than be played for its length (see ex. 2.50).

Ex. 2.50 Tremolo roll notation

Moreover, without further instruction or understanding of the piece it is not obvious which of the multiple-bounce rolls would be used. On timpani however, the same notation would be played with the end of the roll dampened in the first example, and allowed to vibrate in the second. These rolls on timpani could also be notated as follows, and the sound would be the same as above (see ex. 2.51).
These various notation systems all need to be learned in order to be able to play the works, a task made even more difficult by the fact that even within the systems, except for the first, the combinations of instruments are different for every piece, and so therefore are the legend, the instructions, and the beaters. The legend and instructions are often only in one language, and the beater indications can be very vague or sometimes too manufacturer-specific, both of which also impose another level of technical difficulty to be mastered.

There is also the matter of note shapes. Some are easy to identify and use such as triangle-shaped note heads for triangle as they can be adapted to clearly show half notes and whole notes. The ‘x’ note head on the other hand is awkward, because it does not clearly show the longer sounds, and has also been used in so many different situations that it does not have a clear identity. It has been used for rim shots, playing on the rim, woodblocks, cymbals and different effects, and these uses are not uniform.245

These systems of notation place extra levels of responsibility onto the player. Five different systems, most with ad hoc application, still developing and doing so in a piecemeal manner with no logic or over-riding principles, have important implications for the percussionist. Each idiom must be learned in order to interpret the intent of the piece before the piece itself can be learned. This is so not just for multi-percussion pieces, but also for mono-percussion works as the newer composition are using these idioms across the board on all percussion pieces as composers seek new sounds and modes of expression on an increasing variety of instruments.

245 There have been attempts to simplify notational approaches with the use of pictograms, though each composer has used his/her own system. But there is now an online version which seeks to amalgamate these various systems, https://w3c.github.io/smufl/gitbook/index.html accessed 20 February 2016
2.5 Logistics

Another aspect of technique and related to notation is the matter of logistics. The set-up of the instruments, especially in multi-percussion, needs to allow easy access to all the instruments, in a manner that as much as possible, does not obscure the sight of the audience. It should also reflect the notation, and there are different methods of determining what is appropriate. As seen above, Kraft in his English Suite (see ex. 2.59) notates the drums in the spaces of the staff and the cymbals and triangle on the lines.

This set-up indicates one important issue, of using staff notation as a guiding principle for setting up. Furthermore, this principle can be extended. In staff notation the high sounds are on the player’s right and low sounds on his/her left. However, high sound can also be set up on a higher plane, and low on a lower plane, high can also be in front and low behind. Instruments can also be set up on the principle of separation, with, for example, metal sounds on the right wood in front and skin on the left; and they can be grouped according to types of beaters. There is however, one caveat. The German style of timpani places the higher timpani on the left of the player and the lowest on the right.246 If this is extended to multi-percussion a staff notation set-up would be reversed.

As much as possible the notation and set-up should reflect each other, so that, for example, if a piece is written for marimba, woodblocks and gongs, it makes sense to place the woodblocks above the marimba, away from the player. They should then appear on the staff above the marimba staff. The gongs present another difficulty by the manner of their mounting. If they are placed above the marimba and woodblocks they could obscure the audience’s view of the action of the piece, while placing them at either end of the marimba could pose problems for the player. Possibly placing them behind the player would be the best option. But whichever way they are notated, the specifics of the notation and set-up are a matter of technical practice for the player, and need to be incorporated into the practice schedule.

246 Blades, op. cit., pp. 233-234
2.6 Visual Aesthetics

The importance of logistics and movement touches on another issue – the visual aesthetics of performance. For percussionists this involves the movement of the player, which needs to be congruent with the mood of the piece and the spatial management of the stage, which includes the set-up details of the instruments, staging of the entire performance, and lighting and other effects that enhance the performance.

As demonstrated above, percussionists move more than other instrumentalists. One of the earliest composers to voice an opinion on the matter was Stravinsky, who from the point of view of performance was attracted by the idea of

...the interest afforded to the spectator by being able to see these instrumentalists each playing his own part in the ensemble...The sight of the gestures and movements of the various parts of the body producing the music is fundamentally necessary if it is to be grasped in all its fullness...why not follow with the eye such movements as those of the drummer, the violinist, or the trombonist, which facilitate one’s auditory perceptions?247

With this decision the instrumentalists, comprising six percussionists and four pianists, were elevated from the ‘pit’ to a level of artistic presentation of equal status with actors, dancers, and visual artists. He extended this concept in Les Noces248

Inspired by the same reasons as in the Histoire du Soldat,249 I wanted all my instrumental apparatus to be visible side by side with the actors or dancers, making it, so to speak, a participant in the whole theatrical action. For this reason, I wished to place the orchestra on the stage itself, letting the actors move on the space remaining free. The fact that the artistes in the scene would uniformly wear costumes of Russian character while the musicians would be in evening dress not only did not embarrass me, but, on the contrary, was perfectly in keeping with my idea of a divertissement of the masquerade type.250

247 Stravinsky, op. cit. p. 122
249 Stravinsky is inconsistent in his use or not of the definite article ‘le’ when referring to this work, which could reflect that fact that the Russian does not use it
250 Igor Stravinsky, Chronicle of My Life, Translated from the French, London, Gollancz, 1936, p. 175
In light of Stravinsky's comments about the relationship between sight and sound, this decision has had, and continues to have ramifications for the presentation of percussion performance.

The discussion earlier on movement in a piece involving marimba, woodblocks and gongs did present a problem in *Black, White and Rose* by Tristram Cary. The gongs when they were placed in front of (from the audience's view) the marimba, both obscured the view for a part of the audience, and involved an awkward movement to play them. Moreover, as they needed to be struck simultaneously, they could not be placed at each end of the marimba, and placing them both at one end was also impractical as one needed to be near each end.

The only other possibility was to place them behind the player. However, if they were low they were difficult to play, and if high, the action of moving the beaters backwards looked clumsy. The solution that presented itself was to place them on high stands, behind and at an angle to the marimba so that most gong entries could be executed with a flowing movement with occasional quick and dramatic turns to play them with a definitive stroke, and hold the pose. Those moments were dramatic, and the movement needed to enhance that, so to stand absolutely still at the end of the stroke was also necessary for both the visual drama of the moment and the music. This aspect of performance also needs practice.

This staging of percussion pieces is another technical aspect of performance presentation that needs careful consideration. The staging of works that have large and diverse set-ups runs the risk of being a display of moving furniture more than a concert. In this respect, utilising different levels of staging can also enhance a performance, as can the use of stage lighting. However, these two aspects need careful consideration in the context of the music being presented.

It is important to note also that a certain amount of shared technique has developed across instruments. For example the ‘rolling action’ used in playing
tremolos on marimba is also used in playing rolls on bass drum;\textsuperscript{251} double-stroke roll action on Snare Drum is adaptable for playing fast double strokes on marimba and can also be used for different effects on timpani. Finger techniques are similarly used to educe sounds from various instruments normally played with beaters such as tom-toms, snare drums and timpani and the different beaters can be used across a range of instruments. The techniques of playing multi-percussion essentially are an amalgamation of the techniques of playing the various instruments within the set-up. But their application to a broader and more exacting soundscape has intensified their execution through the greater musical demands of the pieces and by extension refined them when reapplied to the original instruments. This flexibility of technique application across the range of instruments has been made possible by the basic wrist action and furthermore it has contributed directly to significant developments in percussion playing and performance.\textsuperscript{252}

In conclusion, percussion technique is much more than just mastering the playing of notes. The issues of playing action, movement, sound, notation, logistics and visual aesthetics of performance all play a role, and are still all developing alongside developments in composition and instruments and beaters. This area of music making is still developing as techniques move away from the limitations of traditional contexts, and percussionists focus more on treating the instruments as sound sources from which a variety of sounds can be educed. As a result, techniques continue to develop in order to play as wide a range of sounds as possible, as every sound, short of any that will damage the participants or instruments, is a legitimate sound; and to understand the place of those sounds in the musical firmament.

In the following chapters, these issues and the interrelationships between technique, the instruments, and the repertoire will be analysed in the detail of four specific works in the repertoire. Three contexts have been chosen as

\textsuperscript{251} This action is used for one-handed Bass Drum rolls with a two-headed mallet.

\textsuperscript{252} This aspect of technique has not been enunciated as it is still developing.
representative: Percussion Solo, Percussion in Chamber Music, and Percussion Ensemble. The specific works are Darius Milhaud’s *Concerto pour batterie et petit orchestre*, as the first percussion concerto, and Peter Sculthorpe’s *Sonata for Viola and Percussion*, as the first Australian work for percussion in chamber music. For the chapter on percussion ensemble two Australian works will be analysed and compared according to musical intent. Eric Bryce in his *Suite for Percussion Quintet* presents a Jazz piece for percussion ensemble. David Morgan’s *Loss* delves into the nuances of the title in personal, political and religious contexts. These four pieces will be analysed and compared in the context of their musical intent and the relationship with technique and instruments.
Chapter 3 Solo: *Concerto pour batterie et petit orchestre* by Darius Milhaud

### 3.1 Introduction

In 1929, Darius Milhaud wrote his *Concerto pour Batterie et Petit Orchestre* in response to a request from respected Belgian Timpanist Theo Coutelier who asked Milhaud for a concerto for a single percussionist as an examination piece for his students.\(^{253}\) According to the composer:

> Coutelier wished to use this piece for his examinations (for his percussion class in Schaarbeek near Brussels). The idea seduced me, and this is how I came to the concerto... It is a work of dramatic character.\(^ {254}\)

For reasons of grammatical expediency the work will be referred to as the Concerto for the remainder of the chapter.

The notion of a concerto for a single percussionist was a new concept and indeed posed a radical departure from the norm. Moreover, the work was scored for the purposes of examination, and as such needed to test techniques of rolls and grace notes, control of dynamics and articulation, timpani tuning, and techniques of playing accessory orchestral instruments. Milhaud however, placed these elements within a piece of music, the presentation of which is the ultimate aim of any technique. And he decided to base it on the musical strengths of the instruments to produce drama and atmosphere, the elements for which he used percussion in his theatrical works. As the first such piece for percussion, the Concerto has an intrinsic significance. It will be analysed in terms of the influences on Milhaud, his approach to music, the elements of the work, discrepancies within it, matters of interpretation, ongoing significance and the challenges it presents for performance.

\(^{253}\) Stephen W. Dodge, 'The *Concerto Pour Batterie et Petit Orchestre* By Darius Milhaud with a Look at Percussion In His Musical Life', *Percussive notes*, 1979, p. 58

3.2 Background: early writing for percussion

Previously percussion was used sparingly in orchestras consistent with the Austro-Germanic tradition where it was deployed primarily for reinforcement of volume and harmony (in a generic sense) and to accentuate rhythmic emphasis. On the other hand pursuit of Franco-Russian traditions of compositions yielded more adventurous use of percussion, but still only in a representational sense.

One of the earliest works to call for the snare drum is the opera *Alcione*, written by Marin Marais and premiered in Paris on February 18, 1706. In this work, Marais utilized the snare drum in the tempest scene to imitate the sound of a storm. He calls for the "Tambourin" to roll continuously, in an effort to produce the sound of thunder and rain.

These limited uses of percussion progressed into and through the nineteenth century. Distinctive examples are Bizet using castanets to convey the Spanish setting of his opera *Carmen*, Tchaikovsky writing for tambourine in the *Arabic Dance* of his *Nutcracker Suite*, and Saint-Saëns representing dancing skeletons on the xylophone in *Danse Macabre* and *Carnival of the Animals*.

Nevertheless, the prevailing attitude to percussion clearly favoured this secondary role. Rimsky-Korsakov in his *Principles of Orchestration* stated in the section titled 'Percussion instruments producing indefinite sounds'

Instruments in this group, such as Triangle, Castanets, little bells, Tambourine, switch or rod (Rute, Ger.), side or military drum, Cymbals, Bass Drum, and Chinese gong do not take any harmonic or melodic part in the orchestra, and can only be considered as ornamental instruments pure and simple. They have no intrinsic musical meaning, and are just mentioned by the way.

Cecil Forsyth categorised them into musical (tuned), and unmusical (untuned), and advised against using Bass Drum and Cymbals describing them as mere noise. Gordon Jacob believed that percussion instruments were useful in

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255 This can be ascertained by a quick examination of any of the scores of Symphonies of, for example, Mozart, Beethoven, Brahms, or Mendelssohn.
portraying a sense of local colour, such as Bizet’s use of castanets in Carmen to
reinforce its Spanish setting. As late as 1959 Joseph Wagner advised

Percussion instruments are of value only when they can add dimensions of
timbre and nuance unobtainable from the other sections... They are strictly
supplementary instruments with limited tonal definition which, in turn, affects
their scoring values.

In the twentieth century however, with the increase in contact with foreign
cultures, there arrived back into the Art Music world an influx of a wider array of
percussion instruments than had hitherto been available. Consequently new
and inspired compositions embraced more fully a dramatically altered
perspective on the use and application of percussion in performance thus
heralding the advent of percussion into a fresh and innovative realm of music-
writing and music-making, which continues to this day.

French composer, Darius Milhaud, was one of the earliest to respond to the
possibilities and potentials offered by the enlarged pool of new sounds and
instruments. Indeed he made the very first forays into a distinctive use of
percussion that forged new pathways in its role and perception. Prior to this
there had been some solo pieces written for percussion. In 1683 the brothers
Philidor wrote a March for Two Pairs of Kettledrums. But, as was usual for
percussion then it was a ceremonial fanfare, first performed in 1685 in the court
of King Louis XIV. Sometime during the mid-eighteenth century, Johann Carl
Christian Fischer wrote a Concerto in C major for 8 Timpani and orchestra
(previously attributed to Johann Wilhelm Hertel). The drums were used, not
just to emphasise the basic harmonies, but also to play an active part in the

259 Gordon Jacob, Orchestral Technique Oxford, Oxford University Press, 1931, p. 72
accessed 14 April 2015
263 Available on the CD: 18th Century Concertos for Timpani and Orchestra, Jonathan Haas
Timpanist, Harold Farberman conductor, Bournemouth Sinfonietta, 2002, CRD 3449
264 Brett Landry, “The New Solo Timpanist: An Analysis of Selected Compositions From the 20th
6-7 still attributes it to Hertel, but the article by Edmund Bowles, 'The Kettledrum', Encyclopedia
of Percussion, (John Beck ed), New York, Garland, 1995, p. 222 correctly ascribes it to Fischer in
accordance with accepted practice.
development of the thematic structure of the piece. The part begins traditionally, with the timpani playing in fourths at the beginning of each bar. This pattern continues, though the timpani part increases in rhythmic complexity till it plays throughout the bar in sixteenth note patterns. Towards the end of the first movement, the timpani play a cadenza of the main theme; and are then rejoined by the rest of the orchestra for the final restatement. The slow movement is virtually tacet for the timpani, which return for the Allegro of the third, playing both with the brass, as in the first movement, and also solo, answering or calling to the strings. The extra number of drums available to the composer (comprising G,A,B,C,d,e,f,g) allowed him to extend the role of the timpani by using extra notes. But even with this facility, the drums were only used in the loud passages, underlying the limited possibilities for the instrument.

Georg Druschetsky (Jiří Družecký), an oboist and timpanist, also wrote a number of works featuring Timpani during the late eighteenth century: Blair Sanderson reviewed the Hungaroton Classic recording unfavourably. Georg Druschetsky's concertos and concert pieces for multiple tympani and orchestra may hold interest for scholars as documents of the truly unusual in Classical music, and some practical value for tympanists [sic] in search of obscure repertoire; but the general listener will be mildly amused for about five minutes, and then grow impatient with these mediocre showpieces. The Concerto for six tympani and orchestra ... seems pleasant enough, if a little silly, like a joke by Mozart or Haydn. But as the piece progresses, the limited pitches, the restricted availability of keys, and the excessive use of tonic and dominant figures in the thundering solo part become extremely tiresome. The Concerto for oboe, eight tympani and orchestra offers more timbral variety and a fully diatonic tuning of the tympani, but the work's banality is pervasive, and the novelty has by this point worn off. Only the most stalwart listener will delve further into the Partita, the Gran Sinfonia, or Ungaria, which perhaps show Druschetky to have been an ingenious promotor, but third-rate as a composer. One trusts that tympanist Zoltán Rácz and the Erdődy Chamber Orchestra, under György Vashegyi, enjoyed themselves in performing these peculiar pieces, but their evident pleasure is insufficient enough to alleviate the boredom these works induce.

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265 The name is spelled variously as Jiří Družecký, Georg Druschetzky, Giorgio Druschetzky, also Druzechi, Druuzecky, Druschetzki, Držeczy, Truschetzki.

266 Available on the CDs: 18th Century Concertos for Timpani and Orchestra, CRD 3449 (footnote 7), and Works for Timpani and Orchestra (Erdődy Chamber Orchestra/György Vashegyi), HCD 32236

Sanderson makes a salient point concerning the lack of musical interest in the piece for a twenty-first century audience. Even for timpanists there is little technical challenge except in possibly playing the work on fewer than six timpani and pedalling the note changes, or replicating the original playing conditions of playing on calfskin heads in non-air-conditioned surroundings. The unreliability of the calfskin heads in changing weather merely served to compound the difficulties of maintaining the accurate tuning so vital for instruments playing exposed parts in ensembles.\footnote{268} Despite this brave attempt to show the solo potential of the percussion section with orchestra, for almost 200 years there was little written for this family to build on this beginning. And then Milhaud wrote his *Concerto pour Batterie et Petit Orchestre* for a single percussionist to undergo examination on an eclectic collection of 16 percussion instruments and effects, accompanied by a very small orchestra.

### 3.3 Milhaud’s approach to music

Milhaud had already used percussion differently, but nevertheless the decision to write for percussion, as opposed to using them as effects was a bold step and needs to be recognised as such. Had he merely scored ratchet or slapstick to create an industrial noise for example, possibly the decision may have been too incongruous. Milhaud, however, was more interested in the dramatic possibilities offered by the untuned field of sounds as he had shown in such operas as *Les Choéphores*. Even this use of them though was in more of a supportive role, albeit an important one.

Putting the percussion itself in the focal point of a piece of music however, involved a change of thinking giving precedence to the percussion instruments, and changing the relationship between them and the other instruments of the orchestra. Moreover, writing a rhythm for its own sake needed a greater consideration of the relationship between the timbre used and the sound produced, and its further relationship with the accompanying sound from the...

orchestra. In this sense the Concerto was very much an exploration of sound combinations with for example similar phrases played on the metal and skin sounds and just the skins (see ex. 3.01).

Ex. 3.01 Combining sounds, Milhaud *Concerto*, bars 22 and 34

In order to understand Milhaud’s motivation in accepting Coutelier’s commission it is important to understand his approach to music, his philosophy, his understanding of sound, and the relevance of it to life, something that had its beginnings in his childhood.269

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269 French anthropologist, Lévi-Strauss relates: “I remember quite well how, when I was living in New York during the war as a refugee, I had dinner once with the great French composer Darius Milhaud. I asked him, ‘When did you realise that you were going to be a composer?’ He explained to me that, when he was a child in bed slowly falling to sleep, he was listening and
Reading his autobiography\textsuperscript{270} one is struck by his love of life in its manifold complexities, and his desire to express this in his music.

Time after time we find Milhaud reacting with joy to everything human and with indifference and even hostility to what he considers narrow individualism. In art he is opposed to any intellectual system that fetters the impulses of the heart and impedes the direct flow of creative energy between nature and man...Milhaud’s ideas, based on age-old foundations of race and religion, are simple, sensible, and unsensational, and despite his attachment to tradition he always looks to the future. He has been interested since childhood in the concept of an unfolding universe; and it is this spirit of unending discovery that he seeks to express in music.\textsuperscript{271}

This alertness to life and love of humanity reflected in his musical tastes and endeavours.

His musical preferences are, first of all, for works of art that have a human quality; and second, for those that show inventive and imaginative qualities and a certain nobility of construction far removed from textbook rules and regulations. He loves Debussy for his originality, subtlety, and perfect formal equilibrium. Of Roussel he writes: “In Padnavāti the sentiment is always noble, the concept profoundly human, the orchestration serious; the vocal writing is full and rich and the dances are varied and never conventional.”\textsuperscript{272}

This reveals a person who feels very connected to his world of Nature and Man, who elevates personal artistic impulses and appreciates nuance, and who believes in an open spirit of enquiry as the basis of future musical development.

Moreover, this ennobled philosophical view transposed to his music making, with an experimental keenness to use remodelled techniques and approaches to produce completely new and original works. With this in mind the value of Milhaud’s pioneering contribution to an alternative and more profound direction for percussion was inestimable.

For much of his life Milhaud worked closely with Paul Claudel, poet, dramatist and diplomat, who took Milhaud under his wing, commissioning him to write music for Claudel’s plays, and taking him to Brazil to work in the French

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\textsuperscript{270} Darius Milhaud, \textit{Notes without music}, trans. Donald Evans, London, Carlyle Press, 1952


\textsuperscript{272} \textit{ibid}. p. 18
Embassy there. The close collaboration between the two on a daily level and across a variety of contexts no doubt influenced Milhaud’s writing. Claudel wrote in free verse, in long, unrhymed lines on themes that showed God’s infinite love of humanity, evoking the mystical and spiritual elements that transcended the material aspects of ordinary existence.

**Mary, Vehicle of the Promise**

The promise was not given to man but to woman. It is to her that petition must be made; it is in her womb that the seed of redemption germinates. As she was the instrument of the *fall–felix culpa*—she is the proprietress of salvation. (from *Accompagnements*, 140)

This use of settings that were seemingly distant from contemporary life indicated a personal rebellion against the mechanisation of society; and he retreated into a devout Catholicism, a belief he shared with Milhaud. So working with Claudel in this atmosphere of elevated, poetical spirituality, and marrying his music to the needs of the theatre, would have shaped the direction of Milhaud’s own compositional development. Already, however, Milhaud was drawing on sound sources outside of the mainstream of compositional thinking as seen, for example, in his approach to opera.

In 1913, work commenced on his opera *Les Choéphores*, and in two of the scenes, *Présages* and *Exhortations*, Milhaud felt the violence of their character could only be expressed by removing all pitch, and so making the sound serve the drama rather than the reverse. The narration by one woman was to be spoken in time against words and disjointed phrases uttered by the chorus, and

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273 Paul Claudel, in full Paul-Louis-Charles-Marie Claudel (1868 — 1955), poet, playwright, essayist, a towering force in French literature of the first half of the 20th century, whose works derive their lyrical inspiration, their unity and scope, and their prophetic tone from his faith in God. While pursuing his literary career, he was the French ambassador to Tokyo (1921), Washington (1927), and Brussels (1933). [http://www.britannica.com/biography/Paul-Claudel](http://www.britannica.com/biography/Paul-Claudel) - accessed 22 November 2015

274 Roger Nichols, *Conversations with Madeleine Milhaud*, London, Faber and Faber, 1996, pp. 15 & 96


277 An insight into Claudel’s views on life and examples of his poetry are found in Angelo Caranfa, *Claudel: Beauty and Grace*, Lewisburg PA, Bucknell University Press, 1989

278 *Les Choéphores (The Libation Bearers)* is the second of three plays by Aeschylus and concerns the plan by Elektra and Orestes to avenge their father Agamemnon’s murder by their mother Clytemnestra.
the speech elements supported by unpitched percussion instruments. The spoken Conclusion also was supported by unpitched percussion, emphasising the drama of the tragedy (see ex. 3.02).\textsuperscript{279}

Ex. 3.02, Voice and untuned percussion in opera, Milhaud, mvt IV, Présages, bars 6-9

These instruments were selected for the sounds they produce, and with a range covering high to low ‘noises’ they conveyed the maximum dramatic effect of this Greek tragedy. Milhaud’s principle of composing music that was inventive andimaginative was realised in the use of toys, military drums, folk instruments, and ‘noise-makers’. He used percussion in a similar manner in L’Homme et son Désir.\textsuperscript{280}

\textsuperscript{279} The instruments comprised suspended Cymbal, sleigh bells, Triangle, metal and wooden Castanets, Whip (Slapstick), Tambourine, Tambourin provençal (deep drum), Caisse roulante (tenor drum), Caisse claire (snare drum), tambour voilé (muffled [veiled] drum), Tam-tam, one Bass Drum played with Timpani beaters, a second played with a large Bass Drum beater, a plank beaten with a hammer, as examined in Chapter Two.

\textsuperscript{280} At the time, the percussion part needed seventeen players; since then it has been possible, because of improvements in playing standards and instruments, to rewrite the parts for six. Nichols, \textit{op.cit.}, p. 100
creating a cushion of drumming ... [in a piece imbued with] ... a haunting spirit of primitive mysteries.  

The question arises then as to what prompted him into using these non-instruments. By his own admission, Milhaud was intrigued by noise, the sounds that emerge randomly and collectively from animated and unanimated sound sources in the human and natural worlds.

I have always loved movement, and noise has never disturbed me, indeed quite the contrary; so it was a real joy for me to gaze down from my window at the crowded boulevard, and the tangled mass of cabs whose drivers wore shiny top-hats of waxed cloth, and the horse-drawn double-decker buses.

This is exemplified in his music when the consistent pounding on wood and the clinking of metal are reflected using percussion instruments in pieces like Les Choéphores and L’Homme et son Désir, to convey drama or evoke a primitive mystery. This appropriation of sounds from the landscape was corroborated by his wife, Madeleine Milhaud.

Darius was always very receptive to noise. He has described in his book the noises that he heard from his bedroom when the workers were operating the machines, and also the different types of rhythm. As for the insects, you never know what they are, they just appear at night and disappear – very mysterious.

Equally, as implied here by his wife, Milhaud also embraced the natural sounds around him, not regarding them as distractions or intrusions into his creative endeavours but indeed enthusiastically integrating them into his compositional armoury. Clearly it was Milhaud’s inclination to be inspired by, and embrace, the everyday sounds of the city and nature. These noises he abstracted into his writing as rhythmic sounds, creating yet another element of harmony. In what is customarily described as ‘noise’ he heard a beauty that others overlooked, but for him, added to his personal “threads of music”. With intention he then

281 Description by Joseph Stevenson, [http://www.allmusic.com/composition/lhomme-et-son-d%C3%A9sir-po%C3%A8me-plastique-ballet-for-4-voices-12-instruments-15-percussion-or-2-pianos-op-48-mc0002404219](http://www.allmusic.com/composition/lhomme-et-son-d%C3%A9sir-po%C3%A8me-plastique-ballet-for-4-voices-12-instruments-15-percussion-or-2-pianos-op-48-mc0002404219), accessed 22 November 2015

282 Milhaud, op. cit., p. 19

283 The umlaut (Choéphores) and acute accent (Choéphores) diacritic marks seem to be used interchangeably to indicate that the ‘e’ is to be pronounced as a separate syllable.

284 Roger Nichols, Conversations with Madeleine Milhaud, London, Faber and Faber. 1996, p. 3

285 Collaer, op. cit., p. 37
aimed to capture musically this uncommon sense of beauty, using an equally uncommon set of sound sources - percussion instruments.

Evident also was his interest in a wider, more unconventional use of rhythm. In a comparison between *Les Choéphores* and *L’homme et son Désir*, written three years later, noted researcher Barbara Kelly comments

Whereas in the former work the rhythm supports and complements the accompanying text, in the latter the rhythm provides the foreground. It becomes the principal musical focus of the ballet. ... Moreover, rhythm is capable of a wide range of expression and is active throughout the drama, ... [No] composer in France at this time [was] so inventive within this field.286

Clearly this deeper sensitivity of Milhaud’s to what constitutes ‘music’, and his flexibility and drive of exploration to find the instruments and sound-makers that could reproduce or reflect that sound, issued a completely new direction into percussion composition, using an eclectic array of percussion instruments and sound sources for specific and purposeful musical outcomes.

In addition to his verve for random sound, Milhaud translated into music his exuberance in simply being alive. His autobiography is peppered with comments that attest to his joy of life in all its parameters, viscerally, emotionally, intellectually and spiritually. He fully embraced,

... the sounds in the street – the hooves of mules and donkeys laden with milk, vegetables or earthenware pots, the queer guttural cries with which the peasants addressed their animals. This visit was sheer delight for us; everywhere we found the living presence of El Greco287

Reflecting this attunement to living a multi-dimensional life Milhaud displayed an enthusiastic willingness to compose in many original styles and settings, such as in May 1921, when Pierre Bertin presented an avant-garde show. Milhaud comments,

The negro Graton danced a ‘shimmy’ composed by me and entitled Caramel Man ...it was scored for Clarinet, saxophone, Trumpet, Trombone and percussion. Shows of this kind, so variegated in character, were excellent training for us,

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287 Milhaud, *op. cit.*, pp. 28-9
enabling us to experiment in all sorts of techniques and to strive constantly after new forms of expression.288

With the mind-set of a musical explorer Milhaud consciously pursued new techniques and expressions, and translated this knowledge musically into thematic, even spiritual, appreciations of the everyday world. For example in *Machines agricoles* (1919)289 he extolled the beauty and celebrated an anthropomorphised contribution to harvest of agricultural machinery, which unfortunately was not received by critics in like spirit.

I had written musical settings for descriptions of machinery taken from a catalogue... of agricultural machinery... I had been so impressed by the beauty of these great Multicoloured metal insects, magnificent modern brothers to the plough and scythe, that I thought of celebrating them in music... Not one single critic understood what had impelled me to compose these works, nor that they had been written in the same spirit as had in the past led composers to sing the praises of harvest time, the grape harvest, or the ‘happy ploughman’290

Despite its initial rejection, this multi-layering of interpretation through the use of percussion was to set brand new benchmarks for the greater evolution of the percussive genre.

Furthermore, since the time of Stravinsky’s *Le Sacre du Printemps*, Milhaud had expressed his fascination with polytonality, and analysed its elements for further use in composition. According to Collaer, Milhaud’s friend and biographer, the breadth of Milhaud’s research uncovered instances of polytonality in pieces such as Roussel’s *Pour une fête du printemps, Petrouchka* by Stravinsky and in other works by Satie, Ravel and Bartók.291

However his urge was to investigate deeply and thoroughly the nuanced potentials polytonality offered for his percussion compositions, highlighted by this personal record.

I had undertaken a thoroughgoing study of the problem of polytonality. I had noted – and interpreted as a sign for myself – that a little duet by Bach written in canon at the fifth really gave one the impression of two separate keys succeeding one another, and then becoming superimposed and contrasted, although of course the harmonic texture remained tonal. The contemporary composers, Stravinsky

288 Milhaud, op. cit., pp. 103-4
289 Milhaud, *Machines agricoles*, Vienna, UE, 1926
290 Milhaud, op. cit., pp. 106-7
291 Collaer, op.cit., p. 41
[sic] or Koechlin, made use of chords containing several tonalities, often handled contrapuntally or used as a pedal. I set to work to examine every possible combination of two keys superimposed and to study the chords thus produced. I also studied the effect of inventing them. I tried every imaginable permutation by varying the mode of the tonalities making up these chords. Then I did the same thing for three keys. What I could not understand was why, although the harmony books dealt with chords and their inversions, and the laws governing their sequences, the same could not be done for polytonality. I grew familiar with some of these chords. They satisfied my ear more than the normal ones, for a polytonal chord is more subtly sweet and more violently potent. 292

Resulting from this close examination Milhaud realized the “subtly sweet and more violently potent” 293 possibilities that polytonality afforded to musically dramatic expressions. In future compositions this learning was exploited, and issued a decidedly nuanced use of percussion in music. Elaborating on this analysis, Collaer quotes from an article Milhaud wrote in Revue Musicale (1 February 1923).

If one accepts the system of 12 definite tonalities, each based on a different degree of the scale, and the possibility of passing from one tonality to another by means of modulation, then it is quite logical to go further and explore ways in which these tonalities can be superimposed and heard simultaneously. Contrapuntal writing should also lead to this conclusion. The day that canons, other than at the octave, were conceived of, the principle of polytonality was proclaimed. 294

And so Milhaud’s sensitive and perceptive ear responded to new and individual levels of polytonality for new applications. However, Milhaud’s vision of the use of polytonality embraced more than just musical elements.

Collaer asked Milhaud, “What made you turn to polytonality; how are you able to hear music in that special way before you write it down?” Milhaud answered: It's difficult to explain. I don’t know if you can understand. But when I am in the country at night, plunged into silence, and I look at the sky, it seems to me that from every point in the firmament and even from the center [sic] of the earth, rays and impulses come toward me; each of these impulses carries a different thread of music, and all the infinity of musical lines cross and intersect each other without ever losing their individual clarity and distinctness. It is an incredible feeling. I have always tried to express this emotion, this sensation of a thousand simultaneous lines of music launched towards me. 295

This then, is a manifestation of the music of the spheres, a deep spiritual connection between music and all the elements of the universe. It would be no

292 Milhaud, op. cit., pp. 55-6
293 ibid., p. 56
294 Collaer, op. cit., p. 41
295 Collaer, op. cit., p. 37
exaggeration to say that Milhaud’s world was one of sound in all its multi-dimensional totality. And a world of sound that was natural or man-made or even God-given in which he recognised a complexity of harmony and intertwined melodic lines reflective of human existence. These elements characterise Milhaud as a unique composer who related very much to a greater spiritual universe. He was compelled in his music to express the seemingly inexpressible and used the multi-faceted timbres of sound offered by diverse percussion instruments.

Despite these noble ambitions Milhaud’s output of almost 450 works lay him open to the charge of accepting lower standards in his compositions, of producing works that were lacking the kind of quality control that is an inevitable outcome of revision. Superficially, his manner of composing rapidly seemed to support that charge. However the final commitment to mechanically writing the actual notes only came after a lengthy period of contemplation and thinking deeply about the work. This period could be extensive, as the thoughtful preparation would involve not just musical considerations of melody, rhythm and harmony. It also included subtle uses of music for particular effects and which sound-sources would reproduce them, as well as the loftier ambition of how the whole would sit within his perception of the ‘music of the spheres’.296 And so Milhaud’s prolific output was the end product of a dedicated and careful exploration of the nuances of musicality towards noble outcomes. Even in his process of creativity, Milhaud had a distinctive personal style.

Overall Milhaud’s approach to composition was more of a compulsion to continually develop new musical expressions that reflected and embraced the subtle temporal and sacred aspects of humanity. This personal philosophy powered his approach to create compositions in varied settings, capturing beauty in noise, using polytonality and launching new levels of experimentation with traditional and unconventional percussive sound-sources and instruments. All served to permeate Milhaud’s compositions with an elevated originality and imagination that had hitherto not been witnessed and gave his music another

296 Roger Nichols, *op. cit.*, p.100
dimension. This is the context in which the spirit that imbued his *Concerto pour batterie* must be examined.

### 3.4 Instruments

Initially the work was for the purposes of examination, and as such obviously aimed to test the students’ capability.\(^{297}\) As the first such piece, there was no existing tradition in which to set the parameters and these would be decided by Milhaud, in consultation with Coutelier. The first decision no doubt related to choice of instruments. As the students were preparing for a life in music, and probably in an orchestral setting, it would be deemed necessary to examine them in that context. So a selection of orchestral percussion instruments was chosen, on which orchestral playing techniques would be tested. Secondly, in order for percussion to be judged on a par with other instrumental families the examination would have to be a solo recital; and so the instruments would need to be grouped together in some manner. Thirdly, there would be the possibility of adding some other sound sources.

As challenging as it might be to play each instrument in a solo recital, Milhaud added an even greater challenge – playing across a range of these instruments and coordinating the movements. In addition there was one more challenge - that of performing a piece of music as opposed to just rhythmic figures on a disparate, and at the time odd and ‘unmusical’, set of sound sources.\(^ {298}\) In writing a solo piece using such a quantity of instruments, previously not seen as soloistic, Milhaud also recognized a personal challenge, as well as composing for a small accompanying orchestra consistent with the extent of the school’s instrumental offering. For him it was an opportunity to pursue his own inclinations,

\(^{297}\) This point seems largely to be ignored in articles on the work. Igor Lesnik ‘Darius Milhaud’s *Concerto for Percussion*, *Percussive Notes* April 1997, pp. 64-67 states that the first performance was part of the Pro Arte Orchestre concert series. This tends to imply that it was not an examination and is in apparent contradiction of Steinberg’s quote (see footnote 254 above).

\(^{298}\) Gary Cook, *op.cit.*, pp. 83-96
... I use such occasions as an opportunity to concern myself with forms I personally find interesting ... 299

Having accepted the commission and its terms of writing for an examination, Milhaud considered the nature of the percussion instruments and their role in the resulting composition. 300 Firstly he chose a variety of instruments across all three areas of untuned instruments, of skin, metal and wood, covering as great a range of sounds as possible (see table 3.01).

<table>
<thead>
<tr>
<th>The instruments</th>
<th>Characteristic sounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timpani</td>
<td>Tuned, low-high sounds of medium length</td>
</tr>
<tr>
<td>Caisse claire (snare drum)</td>
<td>Short sound, high skin timbre</td>
</tr>
<tr>
<td>Caisse roulante (tenor drum)</td>
<td>Short sound, medium skin timbre</td>
</tr>
<tr>
<td>Tambourin provençal (deep drum)</td>
<td>Short sound, low skin timbre</td>
</tr>
<tr>
<td>Bass Drum (pedal) / detachable cymbal</td>
<td>Med. length sound, low-very low skin timbre</td>
</tr>
<tr>
<td>Tambourine</td>
<td>High short skin/metal sound</td>
</tr>
<tr>
<td>Triangle</td>
<td>Medium length sound, high metal timbre</td>
</tr>
<tr>
<td>Cowbell</td>
<td>Short sound, high-medium metal timbre</td>
</tr>
<tr>
<td>pair Cymbals</td>
<td>Long sound, medium-high metal timbre</td>
</tr>
<tr>
<td>suspended Cymbal</td>
<td>Long sound, medium metal timbre</td>
</tr>
<tr>
<td>Tam-tam</td>
<td>Long sound, low metal timbre</td>
</tr>
<tr>
<td>Woodblock</td>
<td>Short, sharp sound, medium-high wood timbre</td>
</tr>
<tr>
<td>Castanets</td>
<td>Short sound, medium-high wood timbre</td>
</tr>
<tr>
<td>Whip (also called a Slapstick)</td>
<td>Short sound, medium-high wood timbre</td>
</tr>
<tr>
<td>Ratchet</td>
<td>Series of short sounds</td>
</tr>
</tbody>
</table>

Table 3.01 Sounds and ranges of the percussion instruments 301

To this he added a small orchestra – the extent of the school’s offering, which comprised,

299 Milhaud, op. cit., p. 225
300 This has not postulated anywhere in the research, but is the only plausible explanation for the manner in which he wrote for the various instruments within the context of the work and is explained further in this analysis.
301 Table compiled by author
Milhaud did not confine himself to limit the solo part to orchestral instruments and the percussion instruments chosen reflected different musical genres of classical, jazz, concert band, marching band, folk, and popular theatre. There is of course a crossover of instruments between the different genres, which has continued to typify their use in various musics as indicated in this table (see table 3.02).

<table>
<thead>
<tr>
<th>Genre</th>
<th>Instruments used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical</td>
<td>Timpani, Caisse claire, Caisse roulante, Triangle, Tam-tam, suspended Cymbal, Cowbell, Woodblock, Castanets, pair Cymbals, Tambourine</td>
</tr>
<tr>
<td>Jazz</td>
<td>Caisse claire, suspended, Cymbal, Cowbell, Woodblock, Bass Drum played with pedal + detachable Cymbal</td>
</tr>
<tr>
<td>Concert Band</td>
<td>Timpani, Caisse claire, Caisse roulante Triangle, Tam-tam, suspended Cymbal, Cowbell, Woodblock, Castanets, pair Cymbals, Tambourine</td>
</tr>
<tr>
<td>Marching Band</td>
<td>Caisse Claire Caisse roulante, pair Cymbals</td>
</tr>
<tr>
<td>Folk</td>
<td>Tambourin provençal, Castanets, Tambourine</td>
</tr>
<tr>
<td>Popular Theatre</td>
<td>Timpani, Caisse claire, Tam-tam, suspended Cymbal, Cowbell, Woodblock, Castanets, Whip, Ratchet, Tambourine, Bass Drum played with pedal + detachable Cymbal</td>
</tr>
</tbody>
</table>

Table 3.02 Milhaud *Concerto pour batterie et petit orchestre*, instrumental genres

Because of the challenges presented as an examination composition Milhaud may have been overly ambitious in accepting the commission from Coutelier. But such is the originality in the quantity of instruments used, the expressive elements realised, the freshness of new sounds and the magnitude of intent, that *Concerto pour batterie et petit orchestre* transferred swiftly into the general music domain and has subsequently been used as a dynamic performance piece.

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303 Table compiled by author
He then divided the instruments into different sub-groups of metal, instruments without beaters, drums (untuned), timpani, and a combined group of wood, skin and metal sounds, notated them in those groups and provided a legend for the notation (see table 3.03 and plate 3.01).

<table>
<thead>
<tr>
<th>Category</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>Triangle, Tam-tam</td>
</tr>
<tr>
<td>Instruments without beaters</td>
<td>pair Cymbals, Castanets, Whip, Ratchet, Tambourine</td>
</tr>
<tr>
<td>Untuned drums</td>
<td>Caisse claire, Caisse roulante, Tambourin provençal</td>
</tr>
<tr>
<td>Tuned drums</td>
<td>Timpani</td>
</tr>
<tr>
<td>Combined instruments</td>
<td>Suspended Cymbal, Cowbell, Woodblock, Bass Drum / Cymbal</td>
</tr>
</tbody>
</table>

Table 3.03 Legend of instrument groupings and Plate 3.01 notation legend

He also provided a necessary and elaborate set-up diagram with a detailed set of instructions in both French and German (see ex. 3.02).

---

304 Table compiled by author, notation legend by Milhaud, *Concerto*, piano reduction score, p. 3
With the instructions in two languages, it should be possible to determine the details of instruments and beaters referred to, and in most cases there are no problems. There is, however, a mistake, as a result of a mistranslation. The German ‘Holzschlägel’, even though it is marked ‘einen großen Holzschlägel’, is a wood beater, not a tam-tam beater; but as is obvious both from the French ‘mailloche’, and a reading of the score, the piece does in fact require a tam-tam beater.\(^{305}\)

\(^{305}\) Igor Lesnik, \textit{op.cit.}, p. 66. Grosse Trommelschlägel or Tam-tamschlägel would be the correct translation.
3.5 Analysis

The two obvious attributes across the spectrum of percussion are rhythm and atmosphere. From his work in the theatre Milhaud had used rhythmic elements in representational contexts to create atmosphere, most obviously in the dramatic movements in *Les Choéphores*. Now, freed from the restrictions of the theatre, he could concentrate on percussion’s raison-d’être itself, and in this frame of mind he wrote the work in 2 parts – the first part dramatic and crude (see ex. 3.03) and the second, atmospheric (see ex. 3.04). Consequently the primary foci of the piece were rhythm both pitched and unpitched, timbre. To achieve this he wrote a variety of rhythmic patterns within and across the groups of percussion instruments (see plate 3.01) and between the solo and orchestra exploring the variety of sound colours available to him. The first section of the work emphasised the drama that can be evoked from the roughness and crudity of a variety of percussive sound sources in a polytonal setting.
First section ($\text{Vif}=116, \textit{rude et dramatique})$:

Ex. 3.03 ‘Rude et dramatique’, Milhaud \textit{Concerto}, bars 8-11

The second half of the piece evoked an atmosphere of mystery with insistent rhythms and lingering sounds at times in hemiolic patterns (see ex. 3.04)
Second section (Modéré $\frac{2}{2} = 76$):

Ex. 3.04 *Modéré*, Milhaud *Concerto*, bars 92-96

The action of the work is summarised in this table (see table 3.04), and elaborated in the following analysis.306

306 This analysis is based on my own performances and discussions and lessons with George Gaber, Professor of Percussion at Indiana University (1977), and William Kraft, Timpanist Los Angeles Philharmonic Orchestra (1984) who both performed the piece with Milhaud.
### Summary of the Concerto

<table>
<thead>
<tr>
<th>Bars</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td><em>Vif</em>=116. Orchestra states theme</td>
</tr>
<tr>
<td>5-9</td>
<td>Percussion answers (4 Timpani, 3 Drums, BD/Cym)</td>
</tr>
<tr>
<td>10-11</td>
<td>Orchestra in brief restatement of theme</td>
</tr>
<tr>
<td>12</td>
<td>Percussion (4 Timpani, 3 Drums, BD/Cym)</td>
</tr>
<tr>
<td>13-14</td>
<td>Interplay between Orchestra &amp; Solo (4 Timpani)</td>
</tr>
<tr>
<td>15-19</td>
<td>Clarinet variation of theme in long tones over String pizzicato in imitation of Percussion</td>
</tr>
<tr>
<td>20-23</td>
<td>Solo (3 metal [tri, cym, cb], 1 wood [wb] &amp; skin [3 Drums, 4 Timpani]) + wind mirror of String rhythm over Bass pizzicato</td>
</tr>
<tr>
<td>24-27</td>
<td>Similar repetition of 20-23, but only Orchestra</td>
</tr>
<tr>
<td>28</td>
<td>Orchestral crescendo + Ratchet (‘long’ wooden sound)</td>
</tr>
<tr>
<td>29</td>
<td>Orchestral <em>ff</em> builds to…</td>
</tr>
<tr>
<td>30-33</td>
<td>…Restatement of original theme plus Tambourine, with added emphasis of BD/Cym (2 kinds of skin + metal)</td>
</tr>
<tr>
<td>34-43</td>
<td>Each orchestral instrument has own rhythmic line + Drums (tuned [4 Timpani], untuned [3 Drums] &amp; with pedal [BD/Cym])</td>
</tr>
<tr>
<td>44</td>
<td>Introduction of Whip (wood) as precursor to…</td>
</tr>
<tr>
<td>45-50</td>
<td>…Original theme + BD/Cym &amp; Clash Cymbals</td>
</tr>
<tr>
<td>51-57</td>
<td>2nd motif again, plus Castanets (wood)</td>
</tr>
<tr>
<td>58-74</td>
<td>All instruments play their own variant of a rhythmic pattern of Solo uses skins and metal (4 Timpani, 3 Drums, BD/Cym, Cym, Tam-tam)</td>
</tr>
<tr>
<td>75-77</td>
<td>Orchestra plays mainly long notes, with sixteenth note emphases of solo sixteenth notes on Drums + quarter notes on Triangle</td>
</tr>
<tr>
<td>78-80</td>
<td>Reminiscence of original theme as Orchestra, 2 Timpani, Ratchet, Cym and BD/Cym all crescendo to climax to end part I</td>
</tr>
</tbody>
</table>

Table 3.04a Summary of the action: *Rude et dramatique*
### Summary of the Concerto

<table>
<thead>
<tr>
<th>Bars</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>81-91</td>
<td>Modéré ($q = 76$) with simple orchestral lines in Wind and Brass with variants of quarter note phrases. Percussionist retunes 3 Timpani &amp; detaches Cymbal from BD</td>
</tr>
<tr>
<td>92-113</td>
<td>in Percussion across Drums, Timpani, Cb, Wb and Tambourine with ‘long’ sounds from BD, Tam-tam, Tambourin provençal and Timpani over long muted Strings, Clarinet and Trumpet; with the occasional hemiola of between Wind and String</td>
</tr>
<tr>
<td>114-120</td>
<td>pattern in Solo (2 Timpani) and also moves in the Clarinet and through the Strings, interspersed with long sounds</td>
</tr>
<tr>
<td>121-124</td>
<td>Linking passage of long sounds to...</td>
</tr>
<tr>
<td>125-143</td>
<td>...More insistent return of the Tambourin provençal, Timpani and strings against long Flute and Trombone, dying away and interrupted by...</td>
</tr>
<tr>
<td>144</td>
<td>...1 bar of the Vif opening statement in Orchestra and Whip variant of...</td>
</tr>
<tr>
<td>145-152</td>
<td>The modéré returns with an echoing of bars 125-143, but with Drums not Timpani playing the sixteenth-note pattern.</td>
</tr>
<tr>
<td>153-156</td>
<td>Long note crescendos in Orchestra and suspended Cymbal</td>
</tr>
<tr>
<td>157-160</td>
<td>Another Vif section with the Orchestra restating the opening and reply from the Timpani</td>
</tr>
<tr>
<td>161-168</td>
<td>The final modéré with the Orchestral sounds dying away, while the Soloist revisits the 4 Timpani, 3 Drums, Tam-tam, Triangle Cymbal and BD with one note on each ‘putting them to sleep’</td>
</tr>
</tbody>
</table>

Table 3.04b Summary of the action: Modéré\(^{307}\)

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\(^{307}\) Table compiled by author
The piece begins with a strong, fortissimo statement of the theme by the orchestra over four bars, moving from 4/4, through two bars of 5/4 and one bar of 3/4. The dominant phrase in each of these bars is the rhythmic one comprising the four sixteenth notes and following note; and the rest of the bar is the answering phrase (see ex. 3.05).

Ex. 3.05 Opening phrase, orchestra, Milhaud *Concerto*, bars 1-4

The soloist then responds to the orchestra (bars 5 -9) with a similarly flowing "melody", starting with the Timpani and then including the caisse claire, caisse roulante and tambourin provençale (in answer) as the pitch descends again to the range of the timpani, and finishes with an exclamation mark on the bass drum /cymbal l (see ex. 3.06).
It is important to state here that although these drums all have snares, Milhaud never intended to use them as snared drums, but rather as drums which provide a variety of relative timbres and sound colours. He specified these drums because at the time of writing, there was not the range of drums and stands that are available today. Moreover, if the drums were played with snares on, the sympathetic vibrations from the snares would totally obliterate any phrase played on the timpani and bass drum, and could also interfere with some of the orchestral phrases.

This interplay between the soloist and orchestra continues (bars 10 - 14) with a repeat of the theme by each, and two statements of a variation of the very opening - four sixteenth notes and following quarter note. This rhythmic phrase is the basis of the work; and is frequently heard in both solo and orchestral parts (see ex. 3.07).

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308 Discussions and lessons with Professor George Gaber, 1977 and William Kraft, 1984
309 Chinese Tom-toms that were in use in the bands and vaudeville shows at the time could only be mounted on the Bass Drum and so were not very accessible for a multiple percussion set-up.
Ex. 3.07 Interplay between the soloist and orchestra, Milhaud *Concerto*, bars 13-14

The concept of the dialogue is continued through the next section (15 - 19), a quieter, more lyrical *legato* passage played by the clarinets in octaves, and underpinned by *pizzicato* strings (see ex. 3.08).

Ex. 3.08 Interplay within the orchestra, Milhaud *Concerto*, bars 15-18

The *piano* entry of the solo part (bars 20 - 23), playing the rhythm of this passage is also mirrored in the flute and clarinet, with the double bass adding the bass. The percussion part provides its own dialogue, with metal and wood
instruments reflecting the clarinet line; and the drums providing the short, "pizzicato"-like interjections (see ex. 3.09).

Ex. 3.09 Dialogue between clarinet and solo, Milhaud *Concerto*, bars 20-21

The contrast in the dialogue is telling, as the metal percussion instruments produce somewhat longer sounds (and the woodblock is sufficiently different in character to remain longer in the aural memory) reminiscent of the *legato* nature of the previously heard clarinet part; and the shorter drum sounds are more aligned to the *pizzicato* strings.

This short passage is followed (bars 24 - 27) by another interplay between the clarinet and strings similar in rhythmic interchange, before a crescendo of flowing sixteenth notes (joined by the ratchet) leads to a repeat, at *fortissimo*, of the opening phrase by the orchestra (30) (see ex. 3.10).

Ex. 3.10 Rhythmic interplay between clarinet and strings, Milhaud *Concerto*, bars 26-28
The solo part (also a repeat of the opening rhythms) is played on the tambourine with some interjections by bass drum and cymbal on the climaxes of the phrases; and it marks the end of the first section of the piece (see ex. 3.11)

Ex. 3.11 End of first section Milhaud *Concerto*, bars 29-30

At this point (bars 34 - 52), the motifs used after the first subject are heard juxtaposed through the orchestra, though in different instrumental combinations and with some variations, while the percussion part explores some "melodies" based on a 3:3:2 rhythmic pattern. The theme returns with the
percussionist emphasising this 3:3:2 rhythm on bass drum and cymbals before moving to castanets during variations of the second orchestral motif in bars 53 - 57 (see ex. 3.12).

Ex. 3.12 Juxtaposition of motifs in different instrumental combinations, Milhaud Concerto, bars 34-36

The next motif used (58 -74) is based on the reversed melodic flow of the drums in bar 34 (see ex. 3.12) and is spread canonically through the orchestra and solo parts (with the latter being played on timpani and drums for 10 bars [see ex.
3.13}; and then on timpani and tam-tam for three bars before dying away on the tam-tam).

Ex. 3.13 Juxtaposition of rhythmic patterns, Milhaud *Concerto*, bars 64-68

The rhythmic phrase of the solo part is again a 3:3:2 pattern (see ex. 3.14), with the "2" being 2 eighth rests; at bar 70 it becomes a 3:3 pattern.
A variation of the main theme begins again (bars 75 - 80) at a *mezzo-forte* level in the winds and lower strings (see ex. 3.15) and gradually builds with the addition of more instruments till a crescendo brings the piece to its climax and ends the first half.

The percussion part reiterates the opening sixteenth note pattern on the various drums; and then moves to the timpani and finally the ratchet, bass drum and cymbals (see ex. 3.16).
Ex. 3.16 End of ‘Rude et dramatique’ section, Milhaud Concerto, bars 79-80

The Modéré section (usually regarded as the equivalent of the second movement of a concerto) reveals a change of mood, with the winds and brass playing a
variation of the opening sixteenth note pattern in short rhythmic figures, but more slowly at \( \dot{z} = 76 \) and at a pianissimo dynamic (see ex.3.17).

Ex. 3.17 Opening of ‘Atmospheric’ Modéré section Milhaud _Concerto_, bars 81-86

These figures are interspersed with an _mp_ clarinet melodic motif based on the chord of E. The eleven bars rest allows the percussionist to alter the tuning of the timpani and detach the cymbal from the bass drum.

When the percussion part enters (bar 92) it echoes the sixteenth note motif on a variety of instruments under the clarinet solo; and then builds a ponderous crescendo on bass drum (bar 98) to a tambourine and snare drum solo (bar 102) reminiscent of the tambourine part at bar 30 (see ex. 3.18).
The strings take up the sixteenth note motif (bar 106), below the trumpet solo, with the timpani and drums adding ornamented notes through it, before the timpani play their variation of the sixteenth notes (ending each phrase inconclusively on the last or the second sixteenth note of the beat), while the motif moves canonically down through the strings. Throughout this section the winds and brass take up the clarinet’s earlier melodic idea; and both these motifs move in dialogue between the various instruments (see ex. 3.19).
The timpani extends its motif into a continuous sixteenth note movement (bar 136), but the right hand moves between the A and C to create a 2:3:3 pattern between the hands reminiscent of the 3:3:2 movement on the drums at bar 34, now rhythmically reversed (see ex. 3.20).
Ex. 3.20 Insistent timpani pattern, Milhaud *Concerto* bars 134-141

This mood is interrupted by an explosion of sound from the orchestra (bar 144) playing the opening bar of the piece very quickly and loudly, with the percussionist playing a slight variation on the whip (see ex.3.21).
The third sixteenth note is omitted, probably because on that instrument it would prove too difficult to play in time, at that tempo.

The two lower drums then take up the motif from the timpani (bar 145), at a pianissimo dynamic, before the orchestra (this time with timpani) again interrupts with a further restatement of the opening theme (bar 157), after which the timpani reiterates it alone. The piece finishes with the strings playing the sixteenth note motif (and in the last few bars reducing it to eighth note triplets, eighth notes and two notes on the first and second beats), against the brass melody, while the percussionist quietly plays the skin and metal instruments in an eighth note and quarter note movement. The harmonic dissonance resolves into an A minor chord, and hence reduces the intensity in the music to a calm conclusion (see ex. 3.22).
3.6 Techniques and interpretations

As an examination piece, the work assessed elements of technique such as dynamics and articulation, timpani tuning and the execution of rolls and grace notes on membranophones, techniques of playing clash and suspended cymbals, tambourine, castanets, triangle and tam-tam. The techniques also included the various idiosyncrasies of the instruments such as picking and putting down the tambourine without making extraneous sounds, and changing beaters as the instrument and music demanded. However, as the first solo piece of music for percussion and the piece that set the direction for future compositions for the medium, it is important to analyse its elements, not just as an examination piece but as a piece of music.

The disparate nature of the instruments used presented a challenge in terms of playing action. Firstly, both hands and feet are used as the instruments include a

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310 Gary Cook, op.cit., pp. 233-236
311 ibid., p. 90
'bass drum with detachable cymbal', which means that consideration must be given to the weight of stroke as played with the foot as well as the hand-held mallets. Secondly, playing across a range of these instruments, with different beaters and coordinating the movements meant that the different surfaces of the whip, ratchet, cowbell, woodblock, and foot-operated bass drum required its own weight of stroke. To play a phrase on cymbal, triangle, cowbell, woodblock and the drums requires a different weight of stroke on each in order to produce an even sound.312

The timpani part offers another challenge to both playing action and musical interpretation. In bars 9, 12, 13, and 14 the original performance score has the following figure (see ex. 3.23).

Ex. 3.23 Original timpani figure, Milhaud, *Concerto*, bar 9

The piano reduction has a simplified version of the figure (see ex. 3.24)

Ex. 3.24 Amended timpani figure, Milhaud, *Concerto* (Piano reduction), bar 9

This is a significant change to the timpani part. The original was difficult in 1929 and accordingly may not have been fully appropriate in its depth of difficulty for its examination purposes. It is still not easy to articulate clearly today, as it requires fast, even, movement of both hands; and playing the *ostinato* rhythm on drums of different tensions (tunings) means one is playing on different vibration frequencies. So the balance in sound between the two drums could alter over the phrase with each beat hitting the drum at a different point in its vibration cycle, so that even playing a crescendo would not change this. However, the total sound

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312 This aspect of technique and effect on performance has received little attention in the research.
would be full-toned and more in keeping with the ambience of the piece. On the other hand the simplified phrase (see ex. 3.17) is simpler to play and gives a clearer sound, though it does have less tone overall, while the final note changes from an \( E^7 \) chord to a single note of D or E. (Milhaud no doubt changed the figure to accommodate the playing difficulty and decided on a compromise whereby the first and third figures finished on D and the second and fourth on E.) The conundrum of which version to play, is not easy to resolve. While the original adds a rhythmic intensity that increases the musical tension, it needs to be clearly articulated to successfully convey this. The amended version is easier, but is only a free-flowing rhythmic passage that adds no deeper interest.\(^{313}\)

### 3.6.1 Movement

This touches on another aspect of technique – movement. The sizes and types of the instruments require large movement of arms and of the whole body. To play, for example the timpani and untuned drums requires a stretch across either the drums to reach the timpani or, as is more likely today, across the timpani the play the drums, with a quick return in bar 9 to play the bass drum/cymbal with the foot (see ex. 3.25).

![Ex. 3.25 Movement across three types of instruments, Milhaud Concerto, bars 8-9](image)

The movement is even more pronounced in bars 22-23, with the inclusion of the triangle and suspended cymbal, as this also involves twirling the beater. This figure moreover is played at \( \textit{piano} \), so the fast and big movements are combined

\(^{313}\) Igor Lesnik, \textit{op. cit.} p. 65 also recognises this conundrum and states his preference for playing the original, based on the belief that “the timpani double- stops correspond better with the theme’s key 16th-note motive”, as do I.
with the extra control needed to play softly, increasing the level of difficulty (see ex. 3.26).

Ex. 3.26 Movement across instruments at piano volume, Milhaud Concerto, bars 22-23

In addition, there are the whole body movements involved with moving between instruments. The changes from whip (verga) to clash cymbals, while playing the bass drum/cymbal and then playing the castanets are big movements and obvious to the audience. As much as possible they need to be executed smoothly to keep the attention on the sound as it moves between wood, skin and metal and back to wood, with nuances of timbral and textural change as it does (see ex. 3.27).
A faster change of instrument, mood and consequently movement occurs at bar 144 (see ex. 3.28). From timpani and bass drum evoking a slow insistence of sound to a fast and furious whip interjection before returning to the slow insistence, this time on untuned drums involves two elements of the type of movement needed. Firstly the suddenness of the explosion of sound, whether as a dramatic reminder of the opening or a brutal intrusion into the mysterious atmosphere, is emphasised with an almost imperceptible picking up of the whip during the previous two bars and equally imperceptible putting it back down at the end of the drama of the moment. Secondly, a decision needs to be made as whether the beaters are put down and picked up, or kept in the hands while playing the whip. The former might give more attention to the drama of the
moment but can make the transitions clumsier. On the other hand if the beaters are held unobtrusively while playing the whip the transitions can be smoother.

Ex. 3.28 Movement and changing instruments, Milhaud *Concerto* bars 141-145

### 3.6.2 Sound

This issue of movement is also related to sound. Such a disparate group of instruments raises a few issues, firstly of timbral relationships. In 1929 without the plethora of instruments that exist today the sensitivity to possible nuances of sound was not developed. Milhaud wrote for whichever instruments and specific timbres were available. For example, three types of snare drum (caisse claire, caisse roulante and tambour provençal) were used to provide a set of untuned and unsnared drum timbres. This is obvious, as the sympathetic vibrations from the snares would obliterate the rhythmic figures on the timpani. However, the more probing question to answer is whether newer styles of drums would be equally acceptable. A truly authentic performance would insist on the original, but would also mean playing with calfskin heads on all membranophones, including the timpani and doing so in an uncontrolled environment.
On the other hand, from a logistical perspective it would certainly be easier to use roto-toms (see plate 3.03), but their sound is very different from two-headed drums; and the snare drum (unsnared) also has a different tone again from tom-toms, so to use them, or even three tom-toms would change the timbres significantly. The original instruments, moreover, also have a greater projection of tone.

Similarly, the choice of instruments and details of scoring raise another question. Writing for woodblock, castanets and whip, three different wooden idiophones, means three different sound sources are introduced into the piece, and so raise the question as to whether it is for reasons for sound or theatricality. If the former, a decision needs to be made as to whether there should be a noticeably large timbral different between them. It is also apposite to note that the woodblock is scored in a set of instruments where it is written on a line below the cowbell and so could be seen as being of a lower timbre than the cowbell. If this is accepted, the cowbell should then be lower than the suspended cymbal and all three, the cymbal, cowbell and woodblock, should be higher than the cymbal attached to the bass drum.

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315 At this point it must be raised that there is always debate and controversy from players over the attendant musical conundrum of which is more important in serving the intent of the work - to use authentic instruments or select new and improved instruments which can create a superior quality sound while supporting a more fluid performance from the player. Although there are many compelling arguments in favour of using either historic or contemporary instruments, within the scope of this thesis it would be a distraction to pursue this intellectual segue further. And so it is left for the reader to contemplate.
There are also challenges of playing detail. For example to play the figure at bars 20-22 on triangle, three drums, cymbal, woodblock and cowbell using the same xylophone beaters, whether wood, bakelite or plastic requires a different weight of stroke for each in order to produce a congruent musical phrase (see ex. 3.29). Alternately, the shaft of the beater could also be used, for example, to play the grace notes on the cowbell in bar 21, to reduce the possibility of producing a jarring sound in the middle of a piano phrase.

Ex. 3.29 Weights of stroke across different instruments, Milhaud Concerto, bars 20-22

The sound possibilities are further extended by the use of two different beaters – timpani beaters and xylophone beaters. The timpani are played with felt beaters, the other membranophones with wooden snare drum sticks and felt beaters. The triangle is played with a thin metal beater, the tam-tam with a large felt beater. Suspended cymbals can be played with wooden or felt beaters, Cowbell and woodblock generally played with snare drum sticks (though for softer sounds
felt beaters could also be used). The castanets, whip, ratchet, tambourine and clash cymbals with the hands (in their own ways), and of course the bass drum/cymbal with the foot (see table 3.05).

<table>
<thead>
<tr>
<th>The instruments</th>
<th>Usual Beaters</th>
<th>Milhaud’s Beaters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timpani</td>
<td>Felt beaters</td>
<td>Felt</td>
</tr>
<tr>
<td>Caisse claire (snare drum)</td>
<td>Snare drum (SD) sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Caisse roulante (tenor drum)</td>
<td>SD sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Tambourin provençal (deep drum)</td>
<td>SD sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Triangle</td>
<td>Metal beater</td>
<td>Wood</td>
</tr>
<tr>
<td>Tam-tam</td>
<td>Large felt beater</td>
<td>Large Felt</td>
</tr>
<tr>
<td>suspended Cymbal</td>
<td>Felt beater or SD sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Cowbell</td>
<td>Usually SD sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Woodblock</td>
<td>Usually SD sticks</td>
<td>Wood/Felt</td>
</tr>
<tr>
<td>Castanets (mounted on a stand)</td>
<td>Hands</td>
<td>Hands</td>
</tr>
<tr>
<td>Whip (also called a Slapstick)</td>
<td>Hands</td>
<td>Hands</td>
</tr>
<tr>
<td>Ratchet</td>
<td>Handle</td>
<td>Handle</td>
</tr>
<tr>
<td>pair Cymbals</td>
<td>Hands</td>
<td>Hands</td>
</tr>
<tr>
<td>Tambourine</td>
<td>Hands</td>
<td>Hands</td>
</tr>
<tr>
<td>Bass Drum (pedal) + detachable Cymbal</td>
<td>Foot-pedal</td>
<td>Foot-pedal</td>
</tr>
</tbody>
</table>

Table 3.05 Milhaud’s use of beaters on the various instruments

There are times in the piece when the beaters need to be changed quickly. This problem was solved with the compromise of using double-ended mallets (see plate 3.04), which at the time could have been made by the performer, by either fixing a felt beater onto a xylophone beater or vice versa.

Plate 3.04 double-ended mallets as suggested by Milhaud

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316 Table compiled by author
At one end (the top of the mallet in plate 3.04) was a felt timpani beater, and at the other a xylophone beater. Within the limits of this designation however, there are varieties of hardness that will determine the levels of clarity of articulation.

With medium, or preferably medium-hard felt, the rhythmic figures on the timpani would be more clearly articulated than if softer felt were used. The suggestion on the score also is that the xylophone beater is made of wood. However, while some xylophone beaters did have wooden heads, other material was also used such as rhinoceros horn and Bakelite, both of which produced a more full-bodied tone than wood, and with less ‘contact’ sound. It is possible that Milhaud had in mind the wooden xylophone mallets that were used on the old four-row ‘stroh-fiedel’ xylophones. They were still in use at the time, though in the process of being superseded by the keyboard style xylophones.

The performer then needs to decide what beaters to use, with consequences for the sound produced. The unpitched drums will sound very similar regardless of whether they are played with wood, horn or bakelite. The suspended cymbal if played with the tip of the beater will give a sharper tone from the horn or bakelite than from wood. The horn and Bakelite will also produce a more pronounced and clearer tone on the cowbell, woodblock and triangle, though a metal triangle beater will always produce a clearer triangle sound.

However, there are three extra elements to consider when selecting beaters. Firstly, because ethically rhinoceros horn is now an illegal import its use in any form is precluded. Therefore bakelite or maybe plastic beaters would be the best option. Secondly, there is a mistranslation in the German instructions and this relates to the tam-tam beater. Although the French mailloche, meaning large, felt tam-tam beater is correct, the German großen Holzschlägel has been translated as wooden beater, which if selected would be completely inappropriate.

317 Milhaud, *Concerto*, Reduction score, p. 2
318 With many beaters there are two sounds produced, the sound of the beater and instrument in contact and the resultant musical note. The former can distract from the music, so manufacturers continue to look for material that will produce a range of musical sounds without the distraction of the ‘contact’ sound.
319 Playing with the shaft of the beater on the edge of the cymbal can also give a full-bodied tone.
But the most significant challenge for contemporary performers is the grosse Caisse à pédale avec Cymbale décrochable (großes Trommel mit Pedal, as dem ein abnehmbares Becken) – the bass drum with foot-pedal and detachable cymbal (see plate 3.05), as these accessories are no longer made. This mode of playing was an early attempt to combine bass drum and cymbals for one player. In some works for Concert Band it may have worked in the loud passages, but as the cymbal was always loud, any attempt at subtle playing proved impossible. The instrument made a transition to jazz and its patent unsuitability led to developments that resulted in drummers playing Bass Drum with one pedal and a hi-hat with another. So one solution in the Concerto has been to use that combination and connect the two instruments with a board that is held in place with bulldog clips. However, Milhaud uses the bass drum /cymbal for punctuation, and using the hi-hat is not successful as the hi-hat sound is too soft. Unfortunately, there is no other easily available solution short of making one’s own. One possibility is to remove the top cymbal of the hi-hat, attach a beater or metal rod (see plate 3.06) to the rod of the hi-hat, which itself is attached to the bass drum and used as described above. This could give the desired sound.

320 Milhaud, Concerto, piano reduction score, p. 2
321 This also opens up possibilities for more creative interpretations of the detachable cymbal sound, with wooden or wound beaters for example, to give a less metallic sound. Of course, this is not ‘authentic’, but then neither is the hi-hat. Moreover, one could argue that it is in keeping with Milhaud’s preferences ‘for works of art that ... show inventive and imaginative qualities and a certain nobility of construction far removed from textbook rules and regulations’ as discussed above (footnote 21).
Plate 3.05a Bass Drum / detachable Cymbal in a typical drum set used in the theatre.\textsuperscript{322}
Plate 3.05b Bass Drum / detachable Cymbal detail (author’s collection)

Plate 3.06 Alternative method of playing the bass drum/cymbal and alternative sounds (author’s collection)

\textsuperscript{322} \url{http://www.vintagedrumguide.com/slingerland_drum_sets_1928.htm} accessed 5 November 2014
3.6.3 Notation and Discrepancies between Editions

Some unexpected problems emerged in respect to the notation, which impact on the interpretation and so are important to examine. The legend follows a staff notation, which is reflected in the setup; so for example, the tam-tam, as a low timbre is on the extreme left, and the triangle, as a high timbre is on the right; and this general staff notation is followed throughout the piece.\(^{323}\) This does, however, present logistical playing problems. Given the paucity of instrument stands at the time, and their inflexibility to be stationed, the setup of the ‘accessory’\(^{324}\) instruments would not necessarily follow a staff notation setup, so the logic of the intent was possibly lost in the practicality of its application.

The part also, as written, is difficult to follow, as the fluency of following the notes is continually interrupted by the need to read the abbreviated legend at the start of every system (see ex. 3.30). Even when there are fewer systems it is still necessary to read which grouping of instruments is referred to.

Ex. 3.30 Reading five staves, Milhaud *Concerto*, bars 22-29

\(^{323}\) This, of course, can be reversed if the German tradition of Timpani set-up is extended to the complete set-up.

\(^{324}\) The small and hand-held Percussion instruments have traditionally been referred to as ‘accessory’ in the orchestral context.
Moreover, in the piano reduction score, the instruments are grouped differently (see plate 3.07). The four ‘accessory’ instruments that he suggests are to be attached to the Bass Drum are notated on the top four-line system, the five accessory instruments that can be placed anywhere as they need to be picked up to play on the next five-line system. The following stave is a three-line system for the three drums, then a one-line system for the tam-tam, a normal stave for the timpani, and another one-line system for the bass drum / cymbal. This arrangement, if it were to be replicated in the solo part would be easier to read, as it would be possible to differentiate the number of lines and just memorise the groups attached to the various systems.325

![Plate 3.07 Concerto, instrument legend, Piano reduction](image)

While on the topic of the piano reduction it is apposite to analyse further the differences between the editions. There are four versions of the work, a performance score with orchestra, a miniature score, and two Piano reductions,

325 This point appears to have been ignored by the research into the work, and by the players.
326 Milhaud, Concerto, Piano reduction score, p.3
and there are some serious discrepancies between them.\textsuperscript{327} The performance and miniature scores are identical, so they will be referred to as the performance score or original for ease of reference. As regards the accompaniment, the piano reduction is lacking some of the orchestral lines, no doubt for ease of playing. While they do not detract from the essence of the work from an audience point of view, it is well for any performer to be aware of them (see table 3.06).

**Differences in editions (orchestral part)**

<table>
<thead>
<tr>
<th>Bar</th>
<th>Performance / Miniature score</th>
<th>Piano Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-14</td>
<td></td>
<td>No Viola line</td>
</tr>
<tr>
<td>34-44</td>
<td></td>
<td>No Violin 2 or Clarinet lines</td>
</tr>
<tr>
<td>37-38</td>
<td></td>
<td>No Double Bass line on beat 1</td>
</tr>
<tr>
<td>43-50</td>
<td></td>
<td>No Brass</td>
</tr>
<tr>
<td>56</td>
<td></td>
<td>No Flutes</td>
</tr>
<tr>
<td>59-73</td>
<td></td>
<td>No Clarinet 2</td>
</tr>
<tr>
<td>60-65</td>
<td></td>
<td>No Flutes</td>
</tr>
<tr>
<td>75-77</td>
<td></td>
<td>No Clarinets</td>
</tr>
<tr>
<td>79-80</td>
<td></td>
<td>No winds</td>
</tr>
<tr>
<td>102</td>
<td></td>
<td>No Violin 3 No Viola F#</td>
</tr>
<tr>
<td>157-8</td>
<td></td>
<td>No Viola line</td>
</tr>
</tbody>
</table>

Table 3.06 Discrepancies between editions (orchestral)\textsuperscript{328}

In the first fourteen bars, and again in bars 157-158 the Viola line is missing in the reduction, but as its role is to provide a greater depth to the harmony, this will not affect the transition to playing with orchestra. Of more importance is the lack of the second violin and clarinet lines in bars 34-44. The insistence of the descending rhythm line in the violin part (see ex. 3.31) and the extended melody in the clarinets (see ex. 3.32) add a greater complexity to the sound.

Ex. 3.31 Violin part missing in reduction, Milhaud *Concerto*, bar 34

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\textsuperscript{327} The 1958 Piano reduction has been amended and corrected in the later (1967) version, but some second-hand copies are obviously still in existence and players need to be aware of problems resulting from the discrepancies in the solo part. The accompaniment is the same in both editions.

\textsuperscript{328} Table compiled by author
Ex. 3.32 Missing clarinet part in reduction, Milhaud *Concerto*, bars 34-36

In bars 37-38 the double bass is the only instrument to play the following rhythmic figure of on the first beat of each bar (see ex. 3.33).

Ex. 3.33 Double bass part missing in reduction, Milhaud *Concerto*, bar 37

In bars 43-50 the brass punctuate the orchestral sound with the following figure, adding more weight to the harmony (see ex.3.34).

Ex. 3.34 Brass parts missing in reduction, Milhaud *Concerto*, bars 43-45

The lack of the flute line in bar 56 robs the piece of the sixteenth note phrase that adds brightness to the castanet rhythm at the end of that bar. The counter melody provided by the second clarinet is missing from bars 59-73. The high sound of the flute in bars 60-65 (an octave above the second violin), the intensity of the clarinet lines in bars 73-77, the harmonic density of the wind parts in bars 79-80 are all missing in the piano reduction.

The solo part also has some discrepancies as shown in the following table (see table 3.07).\(^{329}\) The solo part itself and the orchestral performance score do not have any playing directions. These appear only on the piano reduction score (and not in the solo parts). The recording referred to is conducted by Milhaud.

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\(^{329}\) Some of these discrepancies would be covered by the publisher’s note “La partie solo de la percussion dans la réduction pour piano diffère de celle de la version pour orchestre et peut être exécutée par un seul instrumentiste.” (The solo part in the reduction differs from that in the orchestral version and is perhaps played by a solo instrumentalist). However, it creates further confusion as firstly not all the discrepancies are due to this difference and secondly it implies that the orchestral version is for multiple percussionists (see footnote 254).
Differences in editions (solo part)\textsuperscript{330}

Changes in directions in italics; notational changes in roman script

<table>
<thead>
<tr>
<th>Bar</th>
<th>Performance score/Solo part and Miniature score</th>
<th>Piano Reduction</th>
<th>Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td>Timpani beaters</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Timpani marked [Image]</td>
<td>Simplified Timpani [Image]</td>
<td></td>
</tr>
<tr>
<td>12-14</td>
<td>Timpani marked [Image]</td>
<td>Simplified Timpani [Image]</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Mailloche (Tam-tam beater)</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Xylophone beaters</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>Timpani beaters</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>No Bass Drum/Cymbal Tambourine (roll) with thumb</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>Tambourine (roll) with thumb</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>No fermata [Image]</td>
<td>Pause on beat 3 - to give the soloist time to put down the Tambourine noiselessly &amp; pick up the beaters Shaken Tambourine roll &amp; place Tambourine on tray</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Timpani beaters</td>
<td></td>
</tr>
<tr>
<td>50-51</td>
<td>Bass Drum/Cymbal entry is on beat 3, finishing the phrase with the orchestra, with a mp clash Cymbals note on beat 2 in bar 51 to link the phrase to the orchestral section following</td>
<td>Bass Drum/Cymbal entry is on beat 4 and there is no Cymbals entry in bar 51</td>
<td>Conducted by Milhaud, the entry is on beat 4, mirroring bar 47. But it is hard to hear whether the mp clash Cymbals note in bar 51 is played.</td>
</tr>
<tr>
<td>58</td>
<td></td>
<td>Xylophone beaters on drums Timpani beaters on Timpani</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td></td>
<td>Pick up Tam-tam beater</td>
<td></td>
</tr>
<tr>
<td>69-74</td>
<td>Timpani beaters on cymbal, and Timpani. Tam-tam beater on Tam-tam</td>
<td>Tam-tam is marked mf, with no diminuendo.</td>
<td></td>
</tr>
<tr>
<td>70-74</td>
<td>Tam-tam is marked ( p ) with a diminuendo in bars 73-74.</td>
<td>The drums and Triangle are ( mp )</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>The drums and Triangle marked \textit{mf}</td>
<td>The drums and Triangle are \textit{mp}</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Timpani beaters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>79-80</td>
<td>There is a crescendo on the Timpani, but a Ratchet is also notated (with a crescendo, though that is not really possible) in bar 80. The two together are impossible to play, but it is possible to play the Timpani in bar 79 and Ratchet in 80, thus complying with the composer's original intent</td>
<td>The Timpani part is omitted</td>
<td>In Milhaud's recording the Ratchet entry is used.</td>
</tr>
</tbody>
</table>

Table 3.07 Discrepancies in the solo part between editions: \textit{Rude et dramatique}

\textsuperscript{330} Table compiled by author
<table>
<thead>
<tr>
<th>Bar</th>
<th>Performance score/Solo part and Miniature score</th>
<th>Piano Reduction</th>
<th>Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td></td>
<td><em>Re-tune Timpani, Detach Cymbal from Bass Drum</em></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td></td>
<td><em>Timpani beaters</em></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td></td>
<td><em>Tam-tam with beater</em></td>
<td></td>
</tr>
<tr>
<td>98-102</td>
<td>BD is marked $p$ with a crescendo to $f$ in bars 99-102. The Tambourine is marked $mp$</td>
<td>No dynamic marking for the BD. It should crescendo to $f$. <em>BD with pedal, hold beaters under the arm.</em></td>
<td>Played as marked in the performance and miniature scores</td>
</tr>
<tr>
<td>104-111</td>
<td></td>
<td><em>Xylophone beaters on drums</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Timpani beaters on Timpani</em></td>
<td></td>
</tr>
<tr>
<td>112</td>
<td></td>
<td><em>Tam-tam beater</em></td>
<td></td>
</tr>
<tr>
<td>114-121</td>
<td></td>
<td><em>Timpani with one hand, hold Tam-tam beater in other hand</em></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>The BD is marked $pp$</td>
<td>BD has no dynamic marking. It is to be <em>played with the pedal at $pp$</em></td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>The Tam-tam is marked $pp$</td>
<td>In the 1958 edition the tam-tam is marked $ff$. It should be played $pp$. This mistake is corrected in the 1967 edition.</td>
<td></td>
</tr>
<tr>
<td>125-131</td>
<td>No BD. It should be there on the first beat of each bar and marked $pp$. <em>Timpani beaters</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>134</td>
<td></td>
<td><em>Xylophone beaters</em></td>
<td></td>
</tr>
<tr>
<td>136</td>
<td></td>
<td><em>Timpani beaters</em></td>
<td></td>
</tr>
<tr>
<td>143</td>
<td></td>
<td>*Timpani entry is omitted. <em>Tam-tam played with beater (see note 44)</em></td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>There is a pause on beat 4 to allow for a change of beaters.</td>
<td>Pause as in the reductions</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td></td>
<td><em>Timpani beaters</em></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>The roll on the Tambourin provençal is omitted. <em>Tam-tam played with beater (see note 44)</em></td>
<td>Tambourin provençal roll is omitted, as it is difficult to play convincingly with the tam-tam entry as well.</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>The crescendo on the suspended Cymbal is omitted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>161</td>
<td></td>
<td><em>Play with one hand and pick up Tam-tam beater with other</em></td>
<td></td>
</tr>
<tr>
<td>165-168</td>
<td></td>
<td><em>Play with one hand with Timpani beater, Tam-tam, with Tam-tam beater, BD with pedal, Triangle with Xylophone beater</em></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.07 Discrepancies in the solo part between editions: Modéré

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331 Which beater is not made clear, but probably the timpani as to pick up and put down the tam-tam beater would be too awkward.
The discrepancy in the timpani part in bars 9, 12, 13, and 14 has been discussed in the section on movement. Briefly, the original performance score has the following figure (see ex. 3.35).

Ex. 3.35 Original timpani figure, Milhaud, *Concerto*, bar 9

The piano reduction has a simplified version of the figure (see ex. 3.36)

Ex. 3.36 Amended timpani figure, Milhaud, *Concerto* (Piano reductions), bar 9

The conundrum of which version to play, is not easy to resolve. As discussed in the section on playing action, the rhythmic intensity of the original increases the musical tension, but is more difficult to clearly articulate. The amended version is free flowing, but adds no deeper interest.

In bar 22 the last note, on the tambourin provençal, is missing in the reduction, possibly because it was deemed to be too difficult to play it (after the bass drum/cymbal note on beat four) and in the following eighth note rest twirl the beaters and enter in time on timpani on the next eighth. In bar 30 in the original part the accented second half of the second beat is punctuated by the bass drum/cymbal part, played underneath the tambourine. This bass drum/cymbal entry is missing in the reduction, as is the accent in the accompaniment. In bar 33 in the reduction there is a pause on beat 3 - to give the soloist time to put down the tambourine noiselessly & pick up the beaters. This pause is not indicated in the original, but in the recording, conducted by Milhaud, there is a

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332 The spelling 'provençale' in the score is a mistake. The correct spelling is the masculine 'provençal'
pause before the next bar, obviously to give the soloist time to change from tambourine to drums.\(^3\)

In bars 50-51 in the performance score the bass drum / cymbal entry is on beat 3, finishing the phrase with the orchestra, with a \(mp\) clash cymbals note on beat 2 in bar 51 to link the phrase to the orchestral section following. In the reduction the entry is on beat 4 and there is no cymbals entry in bar 51. In the recording conducted by Milhaud, the entry is on beat 4, mirroring bar 47, but it is hard to hear whether the \(mp\) clash cymbals note in bar 51 is played. The castanets in bar 53 are marked \(mp\) in the original and \(p\) in the reduction, but this is a minor difference, and the reality is that the dynamic at which the figure is played is determined as much by performance circumstances as intent.

The original has a \(p\) dynamic marking fort the tam-tam in bar 70 with a \(\text{diminuendo}\) in bars 73-74, but it is marked as \(mf\) in the reduction, with no \(\text{diminuendo}\). It should be \(p\) to match the timpani of the same phrase, and then should die away as a natural ending of the phrase before the drums announce a new mood. This new mood is marked \(mf\) in the original and \(mp\) in the reduction. The \(mezzo\text{-}\text{forte}\) is an indication of a more powerful section which climaxes to the end of the \(\text{Rude et dramatique}\) half of the piece. This climax Milhaud wanted to be very powerful in order to provide a stark contrast with the \(\text{Modéré}\) to follow, but he seems to have overscored the solo at this point. In bars 79-80 there is a crescendo on the timpani, but a ratchet is also notated (with a crescendo, though that is not really possible) in bar 80 against a timpani roll. The two together are impossible to play, but it is possible to play the timpani in bar 79 and ratchet in 80, thus complying with the composer’s original intent. The timpani is omitted from both bars in the reduction, which complies with Milhaud’s recording.\(^4\)

In the original (bars 98-102), the bass drum is marked \(p\) with a \(\text{crescendo}\) starting in bar 99 to \(f\) in bar 102, and the tambourine is marked \(mp\). The 1958


\(^4\) Lesnik \textit{op. cit.}, p. 66 proposes another, slightly different, though equally valid interpretation.
reduction contains no dynamic marking for the bass drum; however, the recording is played as marked in the original. This small section then presents the soloist with a dilemma. If played with a bass drum or tam-tam beater, the bass drum will sound more resonant, especially if played on a second, larger bass drum. This would also make the transition to snare drum easier as the tambourine, on the trap table, could be played with one hand and there would be no need to quickly but silently put it down. However, Milhaud’s direction at this point is *avec pedale* (with pedal), while holding the beaters under the arm in readiness for the snare drum entry, written “Gardez les baguettes sous le bras”.335

The understanding to reach is whether Milhaud wanted a drier sound, as it is possible to play the pedal bass drum with the felt beater, or whether it was necessary to give the performer enough time to play the tambourine in bar 102. If the pedal bass drum of 26” or 28” is used as suggested previously, deciding which beater to use becomes redundant, as the sound is very similar. If, however, the pedal bass drum selected is a smaller ‘kick’ drum of 18” or 20” diameter, the temptation to use a larger orchestral bass drum and play it with a bass drum beater to produce a more resonant sound, is very compelling. There is of course no definitive answer to this question, but it must be judged against the fact that there are other places where Milhaud specifically asks for the bass drum to be played with a beater (in particular bars 96 and 143), and elsewhere where he also asks for the pedal (bar 167).336

The timpani figure at 114 has a dynamic marking of *mf* with a *crescendo* to *sfz*, and the bars following have no other marking in the original, yet are notated *p* in the reduction. In the original the winds are *mf*, and the strings at *p*, so it makes sense for the solo to be a strong *mf*. The piano accompaniment however, is *p* like the strings, which explains the reason for the difference. This seemingly justifiable discrepancy then permits two different interpretations, both of which can bring a level of unresolved tension leading to the *Vif* in bar 144. However, in the recording the timpani are played softly through that section after the initial

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335 Piano reduction score, p. 16
336 Lesnik, *op. cit.*, p. 65 briefly discusses some of these.
crescendo, and the winds also are played at pp. As no comment has been made on this it is likely to remain a mystery, and point of controversy, though it is likely that Milhaud's preference would be for that section to be soft.

The bass drum is marked pp at bar 120 in the original, and has no marking in the reduction. This is interesting as the pp is set against a possible mf on the Timpani, but with a diminuendo in the winds it should be pp along with a diminuendo on timpani to reflect the general mood at that point. In the following bar (121) is the grossest discrepancy between the editions. In the original and the 1967 piano reduction the tam-tam is marked pp, but in the 1958 edition of the reduction it is marked ff; it clearly should be played pp, as it is in the recording. For some inexplicable reason also, the bass drum is missing from bars 125-126 in the reduction; it is in the original (on the first beat of each bar) and marked pp, clearly as a subtle, low-sounding introduction to the next rhythmic figure, a variation of the opening as played on the tambourin provençal.

The timpani entry in bar 143 (see ex. 3.37) is omitted in the reduction. It is also omitted in the recording, along with the bass drum, which is notated on beat one of that bar. There is also a pause inserted at the end of bar 144 in the reduction, and this is the way it is played in the recording. Clearly Milhaud heard a dying away of the atmosphere as a prelude to the Vif interruption in bar 144, before the resumption of the Modéré in 145, but at the time it was seen as too difficult to play, put down the beaters and pick up the whip, play that figure, put down the whip and play the drums. However, it can be played, and there are a few possible ways of doing it. To play it as originally notated, the whip can be picked while holding onto the beaters, and put down at the end of 144 when the beaters are ready to play the drums, which are to be played with the felt beaters at that point. This last action can be performed with or without a pause.337

Alternately the last three eighth notes of bar 142 can be played with one beater while the other is put down, bar 143 can be played with one beater, or even with the fingers while the other beater is put down, and the whip picked up and bar

337 Lesnik, op. cit., p. 65 again discusses possible interpretations.
144 played. To put the whip down and pick up the beaters again would probably best be done during a pause.

Ex. 3.37 Timpani part erased in reduction, Milhaud *Concerto*, bar 143

In bar 152, the tambourin provençal is omitted in the reduction; in the original a roll is notated for the first two beats of the bar as well as a tam-tam stroke on beat one. In the recording the tambourin provençal is omitted, as it was judged too difficult to play convincingly with the tam-tam entry as well. It is still difficult as the tam-tam is played with a different beater, but if that beater were to be suspended on the tam-tam both instruments could be played, though it would take some practice to execute smoothly at *pp*. Finally, the crescendo on the suspended cymbal in bars 155-6 is omitted in the reduction. There seems to be no reason for this as it is written in bars 153-4, it is played in the recording, and the crescendos add an intensity of tension before the piece gradually dies away to silence.³³⁸

3.6.4 Logistics of performance

Milhaud’s setup diagram as well as being essential at the time, is still a very good starting point for percussionists today, although it is limited by the instrument and stand situation which existed at that time. Over the years since he wrote the Concerto, there have been many changes, adaptations, and inventions relating to the various stands in response to performance demands. So the triangle, suspended cymbal, cowbell, and woodblock can be mounted on a stand such as one used for templeblocks, and placed behind the highest timpano. Alternately, between this stand and the timpano a trap table can hold the castanets, whip, tambourine, ratchet, and if necessary, the beaters (see plate 3.08).

³³⁸ Lesnik, *op. cit.*, p. 65
Plate 3.08 Templeblock stand, and general percussion stand, Kolberg catalogue 2007

The bass drum / cymbal can be placed behind the percussionist, and played by stepping back on the pedal; and the pair of cymbals can be located in any convenient spot. The three drums Milhaud suggests placing in front of the timpani; this is possibly to accommodate easy reach. Stands available now allow these drums to be positioned behind the timpani for their easier accessibility and playability. Improvements in drum design and manufacture have also contributed flexibility in instrument choice, for instance using roto-toms instead of the drums Milhaud scored for (see plate 3.03), especially as the tambourin provençal is not always easily obtainable. From a logistical perspective it would also be easier to use roto-toms, but their sound is very different from two-headed drums, as was discussed in the section on sound.

As well, the developments in design and manufacture of new drums and stands, have given more flexibility to where the various instruments can be positioned resulting in very different possibilities from the suggested setup diagram and legend of the Concerto. With the multiplicity of choice and adaptability of these stands, it is difficult to find a setup arrangement that can be made uniform, and so, equally difficult to decide on a standardised notation to reflect it. It can be said however, that for ease of reading, two staves can be used with the timpani on the lower stave and the other instruments on the higher. For example, the

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339 Kolberg Percussion Instrument maker, Uhingen, Germany, catalogues, 2007, p. 60 (Percussion) and p. 3 (Stands Pricelist)
various drums, tambourine and whip can be notated in the spaces of the upper stave, the triangle on a ledger line above the stave, the cymbals à 2 and tam-tam on a leger line below, and the other instruments on the staff lines (see plate 3.09).

Plate 3.09 an example of a different notational arrangement

Logistically, placing all those instruments together in one setup obviously presented problems that would probably have been collaboratively solved by Milhaud and Coutelier within the local limitations of available instruments and stands. Developments since have allowed for a greater flexibility of set-up.

3.7 Significance and Conclusion

Milhaud’s *Concerto pour batterie et petit orchestre* (1929-30) was a pioneering landmark in the role of percussion and its future application. Inspired by the philosophy of his own sensibilities to reflect the world and universe in all its natural and man-made soundscapes, Milhaud exploited selected potentials from an eclectic array of percussion instruments. In so doing he attained to a significant degree the realisation of his music ambitions within a difficult and multi-layered piece. He also consolidated new directions and opened creative possibilities for percussion as a discrete genre, for composers and their creative horizons and for percussionists in their performance choices. His contribution to the world of classical percussion beginning with the *Concerto pour batterie et petit orchestre* is exceptional.

340 Author’s conception
The Concerto heralded the first exposure to enhanced percussion possibilities. With its array of instrumentation, its multi-layered functions, diverse technical and theatrical requirements for the player percussion itself has undergone redefinition. From simply a rhythmic role, subordinate to melody and harmony, percussion is now regarded as a discrete musical instrument in its own right, containing myriad instrumental and non-instrumental elements ranging from timpani and marimba to triangle and slapstick. Accordingly it is recognised as a separate music Genre with implications for the percussionist and audience and composers. This monumental change of status and direction for percussion can be largely attributed to the innovations at so many levels introduced by Milhaud in his Concerto.

The Concerto is the very first example of a concertante or concerto work for mixed percussion, which bestows on it a certain historical significance. Previously such works as those of Fischer and Družecký did little more than emphasise the limitations of timpani, the primary percussion instrument used at that time. With their basic and inflexible tuning and construction, timpani could do little more than underpin the melodic and harmonic lines of the orchestral accompaniment. Historically, melody and harmony predominated over rhythm. Milhaud, by accepting the commission to write for a percussion examination and then composing a multi-percussion piece, exercised his ingenuity in placing the emphasis and focus on rhythm. This had not been attempted nor accomplished before. The level and style of performance inherent in this sophisticated piece, moreover, demanded that percussionists and audiences review and reshape their narrow pre-conceptions of percussion into an appreciation of a highly vibrant, challenging and newly directioned music genre. Within a singular work Milhaud achieved the transition from an examination piece into that of performance, with the Concerto proclaiming the uniqueness of Percussion as a discrete and primary focus of music presentation and one that was importantly, no longer filling that singular role of only accommodating melody and harmony.

As a direct result of this composition the medium of percussion was literally placed front of stage in its own performing right. This effectively changed the role and perception of percussion in music, going from only providing
accompaniment of volume and pageantry to one of equal importance with the other instrumental families. Although Milhaud personally was not a percussion specialist, in his desire to replicate sound-sources from the temporal and sacred worlds to which he had heightened sensitivity, he appeared to have found in the vast array of percussion and non-instruments, the sources he desired. Thus in the Concerto can be heard his highly innovative and experimental use of instruments and non-instruments taking them from the predictable into highly dynamic and even aurally challenging applications.

The manner in which Milhaud used the instruments also had broader musical implications. No longer did the instruments need to be umbilically tied to traditional contexts such as folk music, playing only specific rhythms in specific manners. Castanets for example, did not have to convey Spanish flavours and if that was the case, anything that could be hit, scraped or shaken could be used as a percussion instrument to provide timbral variety. The slapstick, castanets and woodblock could each bring their own subtle nuance of timbre to a ‘wooden’ rhythmic texture.

Using the instruments in this manner, Milhaud effectively challenged traditional techniques and playing methods. He indirectly challenged, for example, the necessity and desirability of using a marching-style (‘traditional’) grip, and learning marching-style patterns (the ‘rudiments’); turning beaters round would be easier using matched grip, and figures such as grace notes could be executed in a different manner from traditional marching-style executions in order to produce more musical effects. This work therefore required dramatic adaptations in technique acquisition and approaches for the players. And in the wider music community it is understandable that with such radical changes of perspective and emphasis in these new dimensions of music, it took considerable time for the Concerto to gain acceptance as a valid piece of music, even from percussionists themselves.341

Furthermore, the piece also raised more probing possibilities. If a snare drum could be played with xylophone mallets and timpani mallets, and with the snares

341 As late as 1975 there were still a number of, admittedly older, percussionists who regarded the work as unplayable and the music as incomprehensible.
off, potentially it could also be played with other beaters providing an even
greater range of sound nuance. As indicated in chapter 2, almost any beaters can
be used, including hands – the important issue is to decide what effect is
required, and what extraneous factors might place limitations on this.\footnote{It also seems likely that he was the first composer to notate for double-headed mallets; and
his use of them certainly legitimised the practice.} Milhaud highlighted these percussive possibilities for more subtle sound production, and
this has influenced the practices and approaches of percussionists today.

The piece moreover presented several logistical challenges for percussionists. At
the time the dearth of various stands for drums and accessory instruments
limited the possibilities for performance, and so the immediate challenges of
executing this piece resulted in developments in design and construction of set-
ups that are still utilised today with some modifications and adaptations.
However, the loss of the bass drum/cymbal attachments in use then, has created
another challenge to playing the piece authentically. Nonetheless, Milhaud's
inadvertent contribution to percussion in this way has been very practical.

This process of continually refining playing methods and approaches was
consequential to the demands of Concerto and is still continuing as new
compositions and unfamiliar instruments give us fresh avenues of approaching
musical performance. And the corollary of this is that percussionists now are
forced to take responsibility for the musical effect of playing, and to do this
across a variety of textures and sound sources all of which arose in that very first
piece. And so, for the performer and audience, the Concerto's innovations
demanded a whole new skill-set and way of approaching the music.

In coming to terms with the greater complexities of performing the Concerto a
new range of protocols have since been instigated for percussionists since.
Commensurate with the technical expertise necessary to master all the sound-
sources available in percussion, there are numerous other demanding
requirements for the percussionist. As well as the practice requirements for
memorising the music, possibly for many disparate instruments, attention must
be given to perfecting the logistical, physical and performance movements, being

\footnote{It also seems likely that he was the first composer to notate for double-headed mallets; and
his use of them certainly legitimised the practice.}
responsive to interpretations of phrasal meanings and musicality across an array of instruments, and theatrically, determining and practising the visual aspects of performance. Such multi-level demands on a music performer were unprecedented and to this day have been unmatched by any other music genre participants. And all these demands were signalled and sign-posted by the ground-breaking and complex Concerto all those years ago.

By giving leading roles to percussion, and making the piece rhythmic, the Concerto redefined not just percussion, but indeed music itself. Through the use of sophisticated polytonality Milhaud reflected in the orchestra the ‘untune-ness’ of the percussion, and so issuing in a reversal of the traditional approach to composing; and effectively presented the revolutionary premise that music does not need melody or harmony in the traditional sense, but can have a more expanded definition of itself by focusing on rhythm. This elevation of rhythm to one of equal status with melody and harmony allowed for the introduction of not only a greater range of percussion instruments, but also of sound sources that previously had been relegated to ‘effects’ such as the slapstick, or non-instruments like the brake drums of cars. Again, the Concerto opened the previously narrow view of percussion and its body of instruments and non-instruments to expand the very parameters of music itself.

Further to Milhaud’s nurturing of percussion rhythm was his determination to reflect a higher-level harmony, consistent with his background of hearing beauty in sounds, which others do not. So more than just writing disparate rhythmic phrases for different instruments, the use of these different ‘untuned’ instruments also presented a new kind of harmony, albeit one not aligned to well temperament. And this harmony could be homogenous with all skin (drums of different size), all metal (triangles, cymbals, ram-tams), or all wood (castanets, wood-blocks, whips); or it could be heterogenic across those various textures, with a range of sounds provided by a variety of beaters.

In this sense he effectively took the concept of polytonality one further step to another set of tonalities, not aligned to well temperament, but coexisting
alongside it and providing a different set of ‘rays and impulses’; another set of musical lines, both melodic and harmonic. As well, playing rhythmic patterns across these various timbres can also be said to constitute a type of melodic line. In Concerto the heightened use of polytonality and use of rhythmic patterns in a fresh and original way continue to influence percussion composition today.

Despite all these innovative and progressive contributions the Concerto is not without shortcomings. It is only seven and a half minutes, and really only explores textures of sound across different sound sources through quite basic rhythmic patterns. The piece is ripe for insertion of cadenzas – possibly 2 to reflect the 2 ‘movements’ – to allow the performer to display a virtuosic level of skill and artistry in true concerto fashion.

Milhaud always refused to write the cadenza for this concerto. In 1959, however, conductor Igor Markevicz asked a very fine French percussionist, Jacques Rémy to play one [Editor’s Note: Jacques Rémy is currently timpanist of the Orchestre de Paris.—M.R.]. The performance was warmly welcomed by the audience, but Milhaud was exasperated. Consequently, he suggested to Markevicz that next time he conduct the cadenza.

More radically, the piece could be reworked to also extend the orchestral part. These changes would make the work a more satisfying entity, both musically for audience to better absorb the dramatic, rhythmic and atmospheric ideas presented, and practically for the players to make it more programmable within a traditional orchestral concert structure. Overall, while the piece was a radical departure from the norm of the time, the inceptive circumstances have been overtaken by developments since and the Concerto is now placed in a new set of parameters that could allow for further departures from Milhaud’s original conception.

The significance of the contribution to percussion performance and music by Darius Milhaud in his *Concerto pour batterie et petit orchestre* is inestimable. Milhaud left a much greater legacy than just adding a piece to the repertoire. By

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344 Lesnik, *op. cit.*, with comment (in parenthesis) by editor Michael Rosen, p. 67
initiating the percussion-dominant repertoire, creating the new percussion
genre and dramatically changing the role and perception of percussion and
percussionists, Milhaud displayed vision and leadership. In the greater sphere,
by giving primacy to rhythm in such an emphatic manner and by highlighting
registral relationships of various timbres, he challenged and redefined the notion
of what constitutes music. This was unprecedented. And for percussionists new
frontiers of instrument adaptation or substitution, technical acquisition and
performance considerations have completely reconstructed their role. Finally, he
spearheaded the movement for other composers to take up the challenge of
writing for percussion with its myriad instruments and non-instruments, varied
set of tonalities and rhythms and in creatively imaginative applications.

These early musical explorations of this composer so very sensitive to sounds
spiritual, natural and man-made, together with his compulsion to transform
them into music of a distinctive percussive style, have created Percussion as a
discrete instrument and genre. As a young area of music it is still developing and
evolving but the principles and actions established by Milhaud in his *Concerto
pour batterie et petit orchestre* all those years ago in 1929, have shaped
Percussion as we know it today. The piece moreover, demonstrates how the
inter-relationships between the instruments, technique and repertoire set the
challenges for performance. However, and perhaps most importantly, Milhaud’s
greatest legacy lies in the biggest challenge he presented percussionists - that of
playing music as opposed to just rhythmic figures on a disparate, and at the time
odd and ‘unmusical’, set of sound sources.

The evolution of Milhaud’s legacy will be further examined in the following two
chapters.
Chapter 4 Chamber Music: *Sonata for Viola and Percussion* by Peter Sculthorpe

4.1 Introduction

Another field of music expression into which percussion made an entry in the twentieth century is that of chamber music. Traditionally this has not been an area in which percussion has had any place, for the very obvious reason that the instruments have been too bulky to fit comfortably into a ‘chamber’. Also for a considerable time previous, too few instruments were available with which to create musical interest, and their volume of sound was generally too loud for performances in small rooms.

However, in 1960 the first Australian percussion piece for chamber setting, *Sonata for Viola and Percussion*, hereafter referred to as The Sonata, was written by Peter Sculthorpe. The piece is an important landmark in the writing for percussion as in several significant ways it prompted a re-thinking of the conventional manner of use of percussion, challenged its place in the chamber setting; and in the process created some original and imaginative uses of percussion in music. The Sonata featured multiple untuned percussion for a single player in an intimate chamber setting, thus elevating the percussion's musical role to a shared equal partnership with another instrument; and it injected an Australian flavour in an atmosphere of mystery and timelessness, the detail of which is discussed below.

Sculthorpe's use of the different timbres of metal, wood and skin, with the ‘wash’ of instrumental colours, rhythmic punctuations and alternative harmonies added another original dimension to the music. And for percussionists responding to the challenges of the intimacy of a chamber setting, the piece highlighted their technical and artistic skills on a new scale. The work was very adventurous in its concept and far-reaching in its consequences. To understand its full import it is necessary to provide the background to The Sonata by investigating some of the

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earlier chamber music pieces, followed by an examination of Sculthorpe's musical intent, the instruments and techniques used, their musical characteristics and relationships as well as its performance challenges and interpretative possibilities.346

4.2 Background

With the broadening of music horizons from the time of Milhaud’s *Concerto* in 1929, several distinctive compositions emerged that introduced percussion into the chamber music genre; and the particular instruments used were not those that could be seen as complementing the strings and winds, such as marimbas and vibraphones, but unusually some of the untuned instruments. Moreover, there was an increasing tendency to score for multi-percussion within the genre and to select unusual sound sources. This had the effect of further redefining the role of rhythm in music and of expanding the range of admissible sounds, which in turn also made increasing demands on percussionists in terms of expanding and refining technique and developing a greater musical sensitivity.

Possibly the first such piece347 was Lou Harrison’s *First Concerto for Flute and Percussion*,348 written in 1938 in which he set a haunting melody on flute (see ex. 4.01) against a poly-rhythmic *ostinato* accompaniment, played by two players on a then unusual set of percussion instruments.349 The instruments are a tortoise shell or templeblock, tin can rattle or tambourine, 3 gongs, a rasp, 3 drums a

347 Two works by renowned* Armenian priest, ethnomusicologist and composer Komitas Vardapet† (1869-1935), which appear to be for voice, viola, piano and percussion, and viola and percussion are recent arrangements of folk songs for which the percussionist, Robyn Schulkowsky, added the percussion parts††. The works are *It Is Spring, but Snow Has Fallen* in 1905–6 and *The Crane* in 1911.
† [http://www.komitas.am/eng/index_eng.htm](http://www.komitas.am/eng/index_eng.htm) – accessed 22 March 2015
349 Lou Harrison, *First Concerto for Flute and Percussion*, New York, Peters, 1938
large bell and an inverted bowl. The rhythmic patterns are unchanged over each movement (see ex. 4.02) constituting a simple percussion function of rhythmic accompaniment. Nonetheless, the unusual sound sources and innovative juxtaposition of time signatures across the two parts opened the door for further experimentation. As an indication of how repertoire can influence technique, since the work was published, the standard of playing has increased to the point that the duo percussion part can now be performed by one percussionist.

Ex. 4.01 Flute part, mvt 3. The four-bar phrase, while containing the same number of total bars changes in order. For example a pattern of 4+6+3+5 becomes 4+3+5+6.350

Ex. 4.02 Percussion part mvt 3. The four-bar phrase is unchanging through the movement.351

John Cage wrote a voice and percussion duo in 1942352 entitled *Forever and Sunsmell*,353 which involves two percussion players, one on two tom-toms and

351 Lou Harrison, op. cit. p. 6
the other on suspended large china cymbal,\textsuperscript{354} so still keeping within the orchestral practice of allocating one instrument to one player. For most of the piece the voice and percussion alternate (see ex. 4.03) indicating an enhanced role for percussion, of sharing the limelight. However, the impact was diminished because the roles were unrelated, with no interweaving of their musical fabric.

Ex. 4.03  
\textit{Forever and Sunsmell} excerpt, bars 24-33, p. 2\textsuperscript{355}

But it was some years later in 1957 when the next significant development in percussion for chamber music arrived.\textsuperscript{356} Michael Colgrass, American

\footnotesize{
\textsuperscript{352} The title and text of \textit{Forever and Sunsmell} are from 26, one of 50 poems (1940) by e.e. cummings. \url{http://www.allmusic.com/composition/forever-and-sunsmell-for-voice-amp-2-percussion-nc0002388589} accessed 2 March 2016

\textsuperscript{353} John Cage, \textit{Forever and Sunsmell}, New York, Peters, 1942

\textsuperscript{354} A video of the piece is available on \url{http://www.allmusic.com/composition/forever-and-sunsmell-for-voice-amp-2-percussion-nc0002388589} accessed 2 March 2016


\textsuperscript{356} The Peggy Glanville-Hicks, \textit{Sonata for Piano and Percussion} (1951) and \textit{Musica Antiqua No. 1} (1957), and Axel Borup-Jørgensen \textit{Musik for slagtøj og bratsch} (\textit{Music for Percussion and Viola}) (1955-56), Op. 18 require forces that place them on the concert stage, and consequently out of the sphere of chamber music and not considered in this study.
}
percussionist and composer, wrote his *Variations for Four Drums and Viola*.³⁵⁷ But this piece as the title suggests, uses only four drums, and these drums are to be made from cardboard tubes, with skins stretched across the top of the shell and tuned. Specific instructions are given for the making of the drums and beaters, the latter to be particular, lightly weighted double-headed snare drum sticks.³⁵⁸

The form of the work consisted of an introductory theme followed by five variations and a finale, with the viola and drums playing either in unison or with alternating entries. Essentially, the piece explored possibilities of developing smaller tuned drums and so extending timpanic nuances,³⁵⁹ thus contributing an important flexible element of instrumentation to the development of percussion in a chamber setting and gave more importance to rhythm (see ex.4.04).³⁶⁰

Ex. 4.04 Colgrass, *Variations for Four Drums and Viola*, Variation II, bars 45-53. The drums are on the lower stave and scored in alto clef to avoid leger lines and maintain an easily discernible distance from the viola part.³⁶¹

³⁵⁷ Michael Colgrass, *Variations for Four Drums and Viola*, New York, Music for Percussion, 1957
³⁵⁹ Craig T. Paré, *op.cit.*, pp. 66-67
³⁶⁰ Since the piece was written, a greater variety of drums have come onto the market, and it is now possible to play the piece on Roto-toms using standard double-headed Snare Drum sticks. Colgrass has also approved the sound commenting on a Youtube performance by Ute Miller, viola and Drew Lang, percussion, February 27, 2012. This performance is one of the best I’ve heard. The percussionist even makes the Roto-toms sound quite acceptable.’ (Michael Colgrass) (https://www.youtube.com/watch?v=AaGaimqyclo accessed 11 April 2015).
³⁶¹ Michael Colgrass, *op.cit.*, p. 7
Clearly, chamber music compositions incorporating percussion were in evidence, and these examples clearly illustrate a gradual advance away from traditional and limited applications of percussion with innovative instrumentation and compositional approaches. However, there was little attempt to weave the characteristic sounds of the percussion into the fabric of the music. It is possible that these composers may have influenced Sculthorpe in his musical thinking and his rejection of European attitudes and approaches to composition. “It was clear that there were other composers who did not need the traditions of Western Europe.”

4.3 *Australian* Influences and Intent

At the time of writing the Sonata, Sculthorpe was fascinated with the variety of those sounds in nature, which created a distinctive Australian soundscape reflective of mysteries that seem hidden from everyday existence. Depiction of this vast and empty land with its nuances of nature and timeless history that contained such character and spiritual mysteries mesmerised Sculthorpe and he wanted to create a musical equivalent of the

...curious feeling of timelessness...a sense of endless space, of mystery, of legend, of life stretching beyond historical memory, of emptiness and yet an emptiness that is filled with the spirit of a people whose history begins with the beginnings of time but whose history can never be known

that is represented in Australian painting. In a BBC interview he observed that

In music there is no direct heritage on which the composer can draw for sustenance...the Australian composer has to create his own culture, to find his own creative roots, and, particularly, does he turn to the native legend, to the rich cultural history of the native Australian.

These statements provide the clue as to Sculthorpe’s musical intent - to find a way of representing timelessness, and emptiness, though of a mystical nature.

364 Graham Skinner, op. cit., p. 245.
365 *ibid.*, p. 245.
The Sonata then is the realisation of his personal quest to attempt manifestation of this intangible, mystical ‘Australianness’. Of course this intent presented both the composer and performers with a dilemma, as the presentation of music of necessity involves ‘time’ and the filling of space with sound. This seemingly insoluble paradox is discussed below and shows Sculthorpe’s inventive approach to sound.

The historic development of the Sonata in 1960 now requires addressing to appreciate further how Sculthorpe arrived at the use of percussion to project the nuances of his work. In 1959 Sculthorpe had written a cello solo piece, Sonata for Cello Alone, requested by a young Australian, but it was not well received by the cellist, who ‘refused to perform it, insisting it was unidiomatic and quite unplayable.’ In fact it did not receive a performance until 1980. Ironically, one reason for its non-acceptance was the inclusion of the simple percussive effect of slapping the neck of the cello. Sculthorpe was disappointed at this rejection, as he was already enjoying success as an emerging composer. Particularly he found agreeable the free-form themes he developed and was predisposed towards the percussive effects in the piece.

...The Sonata for Cello Alone is in one movement. It consists of a somewhat free set of variations upon three ideas: the first is a quasi-Mahlerian melody accompanied by plucked open strings, the second is a rapidly-repeated rhythmic figure, and the third a martial-like motive punctuated by percussive sounds.

So he decided to use the material in another work to be played at the Attingham Park Summer School. He thought it would be interesting to write a duo for cello and double bass, as that combination had not been written for. But on being told that an excellent violist would be attending, changed that to a viola and

$^{366}$ Peter Sculthorpe, Sonata for Cello Alone, London, Faber Music, 1959
$^{367}$ Peter Sculthorpe, op.cit., Programme Note
$^{369}$ His Irkanda II for string quartet won first prize in the Royal Concert Trust Fund Composer’s Competition in 1959.
$^{370}$ Peter Sculthorpe, op.cit., Programme Note
double bass duo.\textsuperscript{372} This changed yet again when his friend Wilfrid Mellers informed him that an excellent percussionist was coming, commenting that combination had not yet been written for; and so the idea for the \textit{Sonata for Viola and Percussion} was conceived.\textsuperscript{373} As Sculthorpe reviewed “Disappointed, I re-thought the music, and in 1960 I used it as the basis for my \textit{Sonata for Viola and Percussion}.”\textsuperscript{374}

The decision to adapt his \textit{Sonata for Cello Alone}, with its rhythmic, percussive importance, led Sculthorpe in the direction of blending the rhythmic, melodic and harmonic elements of the music in a more equal relationship.\textsuperscript{375} He also had to decide on the particulars of the percussion instrumentation, and the question arises as to what influenced his choice of instruments, and whether the instruments or compositional path were linked to his avowed wish to express his ‘Australianness’ musically.\textsuperscript{376}

The form of the Sonata followed the form of his \textit{Sonata for Cello Alone}.\textsuperscript{377} He liked what he had written for the cello and wanted to hear it performed. The three themes alluded to by Sculthorpe - the quasi-Mahlerian melody, the rapidly repeated rhythmic figure, and the martial-like motive – are the basis of both the \textit{Sonata for Cello Alone} and subsequent \textit{Sonata for Viola and Percussion}. Here they are exemplified to show their correlations of form as they appear in each composition (see exs. 4.05-4.07).

\begin{flushright}
\textsuperscript{372} Conversations with Peter Sculthorpe, 1970 - 2002
\textsuperscript{373} \url{http://www.fabermusic.com/repertoire/sonata-for-viola-and-percussion-1259} accessed 15 March 2015
\textsuperscript{374} Sculthorpe \textit{Sonata for Cello Alone}, London, Faber Music, 2002, Programme Note
\textsuperscript{375} Conversations with Peter Sculthorpe, 1970 - 2002
\textsuperscript{376} Graham Skinner, \textit{Peter Sculthorpe: The Making of an Australian Composer}, Sydney, UNSW Press, 2007, p. 244
\end{flushright}
1. **Quasi-Mahlerian melody**

![Image](image1)

Ex. 4.05a Quasi-Mahlerian melody, Sculthorpe, *Sonata for Cello Alone*, bars 43-46, p. 3

The theme remains essentially the same and is transferred to the viola. The percussion part is a variation of the *pizzicato* and is set contrapuntally against it.

![Image](image2)

Ex. 4.05b Quasi-Mahlerian melody, Sculthorpe *Sonata for Viola and Percussion* bars 49-52, p. 3

2. **Rapidly repeated rhythmic figure**

![Image](image3)

Ex. 4.06a Rapidly repeated rhythmic figure, Sculthorpe *Sonata for Cello Alone* bars 53-57, p. 4

The percussion adds to the viola’s freneticism with a series of expanding/contracting rhythmic phrases on clapsticks.

![Image](image4)

Ex. 4.06b Rapidly repeated rhythmic figure, Sculthorpe *Sonata for Viola and Percussion* bars 61-65, p. 4
3. Martial-like motive

Ex. 4.07a Martial-like motive, Sculthorpe *Sonata for Cello Alone* bars 79-83, p. 4

The intensity of the *Risoluto* is emphasised with a series of rhythms on snare drum.

Ex. 4.07b Martial-like motive, Sculthorpe *Sonata for Viola and Percussion* bars 88-94, p. 5

The cello work featured percussive sounds, and now he expanded on those elements by writing an extended percussion part in this new Sonata. In the reworking of the material Sculthorpe balanced to a much greater extent than in the original cello work, the pitched sounds of the viola and unpitched sounds of the percussion, thus revealing complementary functions and an equality of roles.

4.4 Musicological perspectives

Sculthorpe's intent included developing his own distinctive style by dissociating from previous commonplace uses of percussion and initiating what became his characteristically Australian voice. And so the Sonata represented a development in a very new personal direction. Rather than the percussion sounds performing as simple backdrop to the viola, he co-partnered the two instruments, each with their characteristic sounds and so reflected his aim to compose a work employing that very principle. Secondly, he felt very strongly that he wanted to write a work that expressed spiritually and emotionally his

Australianness,\textsuperscript{379} incorporating the landscape and inhabitants particular to Australia.

These two ambitions - elevating percussion to equal status with viola and imbuing the work with a new and distinctive Australian voice - presented a serious challenge to Sculthorpe, with technical and interpretive implications for the percussionists. Placing percussion in a prominent position in the intimate setting of chamber music creates technical and performance demands on the player that are very different from those on the concert stage in orchestral or percussion ensemble settings. Furthermore, a piece that is reflective of emotions by its very nature demands more nuanced technical and performance capabilities from a percussionist than simply rhythmic exactitude. Because of the interdependence of Sculthorpe's compositional ambitions and challenges, and the heightened demands on the percussionist playing in the intimate chamber setting, their examination and analysis will be conducted simultaneously.

However, Michael Hannan\textsuperscript{380} was critical of the Sonata with its extended inclusion of percussion (see Exs. 4.08a & 4.08b).

The fingerboard knocking of the cello version has been replaced by a rhythmic figure which gives the passage a martial feeling. The music thereby lapses into a gesture which is quite out of keeping with the composer's need to purge his art of clichés of association. Sculthorpe compounds his indiscretion by introducing this drum pattern into other parts of the work, probably to increase the rhythm's structural viability, but, in doing so, he unfortunately destroys the character of the original melody.\textsuperscript{381}

The specific passages referred to by Hannan are shown in the following examples of bars 79-93, and repeated in 138-152, in the \textit{Cello Sonata}, which become bars 106-109 in the \textit{Sonata for Viola and Percussion}.

\footnotesize

\textsuperscript{379} He declined the scholarship for him to attend the 1959 International Vacation Course for New Music at the Kranichstein Institute in Darmstadt, Germany that his teacher, Egon Wellesz, had organised for him to immerse himself more in the ambience of the Austro-Germanic school of composition of Middle Europe. Peter Sculthorpe, \textit{op.cit.}, pp. 48-9

\textsuperscript{380} Professor of Contemporary Music at Southern Cross University, New South Wales, Australia

\textsuperscript{381} Michael Hannan, \textit{Peter Sculthorpe, His Music and Ideas 1929-1979}, St Lucia, University of Queensland Press, 1982, pp. 45-46.
Hannan’s criticism of the Sonata presenting an inappropriate martial feeling is not sustainable. The percussion is played on the tom-tom, not snare drum, the usual instrument representing martial connotations. Similarly there is no
direction in the score to convey martial emotions; nor is the tempo that of a march, being slower than even the slow British march of $\frac{3}{4} = 108$.

However, herein may be an element of misunderstanding. If Hannan misconstrued the apparent use of martial overtones, it could have been because Sculthorpe required similar motifs for more symbolic purposes. At this time of composing he was concerned about his father’s deteriorating health with a diagnosis of terminal cancer. This sense of impending death could well have inspired the ‘march’ in the Sonata as a metaphoric reflection of the inexorable march of time towards death that attends all humanity. There is also a subtle difference between the marked tempo feel of risoluto and à la marcia, with the former conveying a feeling of movement with determination or intensity, a more complex nuance of concepts than a simple march as conveyed by the latter term. Consequently, there is no cliché of association, and no indiscretion committed as implied by Hannan. Moreover the rhythmic pattern used is not one that is confined to drums; any instrument could play that rhythm. So to call it a ‘drum pattern’ is to limit it to one mode of expression, of mono-dimensional interpretation. The further implication is that percussionists play ‘patterns’ rather than music, instead of recognising that like other instruments, percussion parts are also open to interpretation, an issue that is discussed at length below.

In his assessment of the Sonata, Hannan has taken this tom-tom phrase (see ex. 4.09b) out of context from the body of the work. Without investigating more deeply and accurately either the role played by the percussion, or the interplay between the percussion and viola, he concludes that it is an inferior piece to the Cello Sonata without actually providing analysis of Cello Sonata, and thus undermining his critical reasoning.

Hannan’s conclusion is quite different from one taken from the perspective of a performer, especially, in this case, of a percussionist. The role of a performer is essentially one of trying to bring out the music inherent in a composition, rather

than judging its value. A pre-judgement of a work could inhibit the performer’s ability to explore different nuances, and also impact negatively on the presentation of a convincing performance. In this context, matters of instrument selection, tuning, playing technique, and musical intent are all factors that have a bearing on how successfully the musical effects are realised, and how then the work might be perceived. These issues are discussed in more detail later.

Suffice it here to say that the percussion in this example (see ex. 4.09) is emphatically answering the statement of the viola, which itself is the climax of a phrase of increasing intensity. This statement is a melodic restating of the tomtom part in the first measure of the piece.

Ex. 4.09 Percussion answering viola, Sculthorpe *Sonata for Viola and Percussion* bars 87-93, p. 5

The figure as a whole in those measures is a variation on the opening theme as stated by the percussion. So any ‘feel’ conveyed must be seen and analysed in that context, and possibly contrasted against other feelings, effects or intents elsewhere in the work.

Contrary to Hannan’s condemnation of the piece, it is difficult to see any ‘indiscretions’ committed by the use of the pattern elsewhere in the work; the ‘structural viability’ of the work stands on its own merits, and the original melody rather than being ‘destroyed’ is simply being changed and revised to adapt to the new context, as suggested by Dr. John Peterson, composer and lecturer in composition, University of New South Wales (see ex. 4.10).

The work has a similar episodic structure to that of *Irkanda I*, but is more coherent in that the particular arrangement of motivic ideas provides a greater sense of

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383 George Gaber, *Perspectives of Performance*, Seminar at Banff Centre for the Arts, summer Performing Arts program, 1977
unity within the work... The percussion... provides primarily a supportive role, accentuating the rhythmic texture and supplying timbral colour as necessary.384

![Ex. 4.10 Example of percussion providing rhythmic texture and timbral colour, Sculthorpe Sonata for Viola and Percussion bars 49-54.](image)

Peterson goes on to say

...the percussion is used not just as rhythmic accompaniment but also as a source of timbral colour through the variety of instruments used.385

Furthermore, he adds (see Ex. 4.11)

One of the main motifs of the work demonstrates the use of the percussion not just for colour but as an integral part of the establishment of the character of the motif itself – the two instruments together form the complete musical figure.386

![Ex. 4.11 Complete musical figure, Sculthorpe Sonata for Viola and Percussion, bars 89-92.](image)

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385 John Peterson, *op. cit.*, p. 42
386 *ibid.* p. 42.
Peterson obviously sees the work in a different light from Hannan, viewing it on its own merits, and without comparison to the Cello Sonata. In fact he sees the piece as an integral whole that contains certain instruments, and bases his analysis on that. His vision of the music incorporates the particular harmonies and timbral nuances inherent in the percussion instruments and he analyses the resultant music in that context. Again contrary to Hannan’s assessment, Australian musicologist and music historian, Graeme Skinner makes the astute comment that

The Sonata for Viola and Percussion...remains the most interesting and important ‘early’ Sculthorpe work.387

This is also an attitude which is shared by the various violists with whom I have performed the work,388 and one with which I also agree.

It is also important to note what Sculthorpe says about the work.

Like Prophecy the Sonata is also concerned with duality. A double set of variations, albeit somewhat free, its structure foreshadows that of many of my later works. One of its musical ideas is a yearning Mahler-like melody. The other is a forceful rhythmic figure, somewhat martial in character, in this work, as in Irkanda I (1955) for violin alone, the two ideas simply alternate with each other; there’s no attempt to bring them into synthesis.389

At first glance it would appear that Sculthorpe’s view of the work accords with Hannan’s. However, the presence of the qualifier ‘somewhat’ before ‘martial’ modifies the emphasis from a militaristic rhythm, allowing a more flexible musical interpretation. As well, the assessment of the role of the percussion as providing a ‘forceful rhythmic figure, and the statement that the work is ‘concerned with duality’ as a ‘double set of variations’ all give clues to a deeper and more complex vision and compositional intent than just merely ‘martial in character’. Moreover, seen in the context of Sculthorpe’s desire to create music, imbued with atmosphere that reflects the sense of timelessness and mystery that

388 Discussions with Richard Hornung, Patricia Pollett, Kathleen Blair and Glynn Adams during rehearsals.
389 Peter Sculthorpe, Sun Music, p. 47.
pervade Australia, his comments relate more to the technical aspects of performing the work rather than the ideas underlying its conception.

These discussions on the work show very different viewpoints from a variety of perspectives. It is important to be aware of these issues in order to portray the various atmospheres that pervade the piece; and herein lie the clues for the performer's approach to the piece.

4.5 Interpretation and Performance Challenges

4.5.1 Instrumentation

A performer's perspective is different from that of a musicologist or composer, and no doubt betrays the bias of a specific instrument. For the percussionist this centres on the choice of instruments from the perspectives of sound and use. A percussionist would initially look at the instruments involved, with the questions “do I have them/can I get them?” uppermost in consideration of performing the piece; and often, for very practical reasons, the question goes no further. It is however, worth thinking more deeply about the specifics of the instrumentation of the work, even if, as is likely, these were the only instruments available to Sculthorpe.390

Sculthorpe scored the percussion part for one player playing tam-tam, suspended cymbal, chinese cymbal, triangle, bass drum, snare drum, tom-tom (originally tenor drum), bongos and claves or stick clicks.391 As regards the instruments he chose, it is difficult to escape the thought that he was influenced by Stravinsky’s L’histoire du soldat as the instrumentation of both the Sonata and L’histoire du soldat are very close as seen in this table (see. table 4.01) and there are no clues as to other reasons for the choice. Moreover, he was aware of Stravinsky's compositions and could have seen performances of his work, maybe

390 In 1960 a percussionist would have a collection that included these instruments, but maybe not much more.
391 Peter Sculthorpe, Sonata for Viola and Percussion legend, 1960 playing score, copy held Elder Music Library, (catalogue 785.58192, S437, 1) University of Adelaide, 1960
even the Soldier’s Tale itself; and he had a great respect for Stravinsky’s compositional approach. 392

Table of comparisons

<table>
<thead>
<tr>
<th>Sonata</th>
<th>L’histoire</th>
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</thead>
<tbody>
<tr>
<td>Tam-tam</td>
<td>Tam-tam</td>
</tr>
<tr>
<td>Suspended Cymbal</td>
<td>Suspended Cymbal</td>
</tr>
<tr>
<td>Chinese Cymbal</td>
<td>Tambourine</td>
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<tr>
<td>Triangle</td>
<td>Triangle</td>
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<tr>
<td>Bass Drum</td>
<td>Bass Drum</td>
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<td>Tom-tom</td>
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<tr>
<td>Snare Drum</td>
<td>Snare Drum 1 (large)</td>
</tr>
<tr>
<td>Bongos</td>
<td>Snare Drum 2 (small)</td>
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</table>

Table 4.01 Comparisons between the Sculthorpe Sonata and Stravinsky L’histoire393

The percussion instruments are divided into two main groups of metal and ‘skin’,394 with some significant interjections of wood sounds. The metal idiophones are tam-tam, ‘china’ cymbal,395 cymbal, and triangle; and an investigation of the sounds shows a harmonic pattern. Given that each of them comes in a variety of sizes and sounds, some decisions need to be made. It is now necessary to investigate the sizes and sounds of the percussion instruments and apply some principles to decisions concerning instrument choice.

Of metal idiophones the tam-tam generally is recognised as the lowest sounding or ‘bass’ and the triangle as the highest or ‘soprano’. The two cymbals then would fall into the ‘tenor’ and ‘alto’ ranges. The most appropriate description of the sound of the ‘china’ type would probably be a ‘flat’ sound, whereas the usual orchestral cymbal, ‘Turkish’ in origin,396 has generally a greater mix of overtones.

392 ‘An original composer if ever there was one…’, Peter Sculthorpe, Sun Music, p. 53
393 Table compiled by author, 2015
394 The nomenclature ‘skin’ is still used for the membranic percussion instruments, even though most now have plastic heads.
395 The terms ‘china’ and ‘chinese’ to describe these cymbals are used interchangeably by percussionists and describe cymbals that have upturned lips as opposed to the ‘Turkish’ cymbals that are in more general use in orchestras.
396 The timpani, bass drum, cymbals and triangle were used by the Ottoman forces as instruments of warfare; and the success of their wars against European forces led to them (along
and produces a brighter sound. So if the ‘china’ has a lower timbre one could imagine a minor scale of registral ambitus. This would match the ambience of the work and is still consistent with Sculthorpe’s listing of the cymbal as a large cymbal – it might also put the ‘alto’ sound of the ‘Turkish’ cymbal into a ‘contralto’ range. Alternately, if the ‘china’ is higher in timbre, because of the ‘flatness’ of the sound, the registral ‘harmony’ created could be heard as a type of diminished chord.

The membranophones comprise bass drum, tom-tom, snare drum and bongo. Following the same line of alternative harmonic thinking, the Bass Drum obviously provides the lowest sound. Past this, some decisions need to be made. The snare drums most used in the classical sphere are in the upper to upper-middle range of snare drum sounds. Bongos come in pairs of higher and lower sounds. So if one chose a high sounding snare drum the musical effect of that with the bongo would not be well balanced, with a predominance of sounds in the upper partials. Sculthorpe does not specify which of the pair of bongos is to be used, but the bongo entries are loud, sharp interjections and punctuations. So it makes sense to play these on the high bongo to add a greater piquancy to the sound.

The snare drum then should be tuned a little lower, in the ‘alto’ to ‘mezzo-soprano’ range to produce a mellower tone; and the tom-tom between that and the bass drum. A snare drum of 6½” depth and a tom-tom of 16” depth would blend well (and convey Sculthorpe’s original intent of tenor Drum). The bass drum poses another problem. At times it is to be played with a pedal, and at other times with soft mallets. The latter calls for a resonant sound, the former more of a punctuation. So the temptation is to use two bass drums, one set up in orchestral style suspended on a tilted stand, for ease of playing, and the other, a ‘kick’ drum from a drum set. By 1960, bass drums of 20” and 22” diameter were being produced to cater for the demands of the popular music market, but the larger drums were also still in use, usually in orchestra pits for musicals.

397 ‘Kick’ drum is the name by which pedal-operated bass drums have come to be known.
However, the smaller drums would produce a ‘dead’ sound, whereas a drum of
greater resonance would add to the general sound of the piece; and a bass drum
of 26” or 28” diameter would provide this. Moreover, all the bass drum entries,
including the pedal bass drum figures, are marked with a ‘let vibrate’ marking, so
the extra resonance is obviously important to Sculthorpe. If more punctuation of
the beats were wanted, a cork beater (as opposed to a felt beater) would give
this without sacrificing the resonant after-sound. This size drum (26” or 28”) can
also be played with the mallets, thus obviating the need for a second bass drum,
though the second bass drum could also be used. Using a larger one for the
second Bass Drum would add a greater range of sounds to the piece, as well as
being easier to play; it would also add to the theatre of the performance, as the
action would be visible to the audience.

There is one other sound source to be considered: the stick clicks, a hitting of the
sticks against each other to produce a ‘click’ (see ex. 4.12). Originally Sculthorpe
scored this for claves, but later changed it to stick clicks. To a percussionist this
direction of ‘stick clicks’ would suggest clicking the two snare drum sticks
together and the lack of any further explanation would tend to support that.

Ex. 4.12a Original instrumentation (claves), Sculthorpe Sonata bars 67-70
Sculthorpe said he wanted to have a sound reminiscent of Aboriginal clapsticks, and clicking snare drum sticks together would give that sound, though not as strongly as claves, making the reminiscence very faint. However, it is possible also that the reason for the change had as much to do with the fact that claves need to be held in a certain way to produce a nice resonance, and this way of holding is impractical in the context of the piece as fast changes of beaters are needed.

One clave (traditionally the lower-sounding one) is held in a cupped hand, and struck (approximately in the middle) with the other. This lower clave is held by the fingers, and rests in the groove on the butt of the palm, which means it is held at its nodal points - i.e. at the points where it does not sound when struck, approximately 2/9ths of its length from each end. So to pick up the two claves, set one in position, play them and then put them down again, and do so noiselessly, requires more time than the piece allows. This problem would have presented itself in the first rehearsal when the percussionist would have shown Sculthorpe the problem, and so could have prompted the change. There are other possible solutions to this dilemma though, and these are discussed in greater depth in the context of interpretation and challenges to performance.

Thinking of the instruments in terms of their ‘harmonic’ structure, it makes practical sense to set them up according to a type of staff notation, with the low sounds on the left and high on the right. There is no need to discuss the relative timbres of metal versus skin in this set up as the construction of the instruments and manner of playing them suggests two rows of instruments, with the
membranophones closer to the player and metal idiophones behind and above them (see ex. 4.49, 4.50). This also can be reflected in the notation with the membranophones notated in the spaces and metal idiophones on the lines. The stick clicks are notated by an ‘x’ above the stave (see plate 4.01)

Plate 4.01 Sculthorpe, Sonata, Legend devised by Pusz

The details of the instruments chosen will impact on fine points of playing techniques as these elements will determine the character of the piece. These points of technique - playing action, movement, sound, notation, logistics and visual aesthetics will be examined in the context of Sculthorpe's musical intent and the analysis of the piece.

### 4.5.2 Playing Action

There is nothing technically difficult in the percussion part of the Sonata, but there are certain decisions that need to be made about the music, which have implications for fine points of technique. As mentioned, Sculthorpe wanted to create a sense of timelessness and emptiness. It is therefore apposite to analyse how this musical paradox may be achieved, or at least approached in terms of playing and its consequential effects. Percussion’s raison-d’être is based on a strict adherence to rhythm and note values and applied with mathematical exactitude. So to create an atmosphere of timelessness would seem to be the very antithesis of percussion playing and at the least is a challenge to technique.

However, the movement of music is frequently not in strict adherence to a single tempo, as this would create a stiff robotic ambience and rob music of its emotional element. Rather music aims to create a synthesis of sound in which each instrument seamlessly plays its part; and any alternation of ideas, even if diametrically opposed, needs to be based on some agreement. The important areas of agreement are those of rhythmic fluency and relativity of importance. In a piece of chamber music also the principle that is uppermost in importance is
that of dialogue in which both players need to agree and where necessary, compromise. As in any language, the players need to ‘speak’ to each other and the rhythm needs to flow.

This situation has deep implications for percussion. Rhythmic fluency is a concept that is subtly different from rhythmic exactitude, allowing for some elasticity of rhythm within a constancy of movement. Using this approach to playing would synchronise the two instruments and produce a more musical performance. So the percussion phrases need to flow, but the movement of the flow needs to be reflective of the general flow of the music at any particular point. This is a vital concept to understand as the piece begins with a percussion solo, so the interpretation of the part can set the tone for the whole work.

As the piece opens with a repeated two-measure, solo figure (see ex. 4.13) a decision needs to be made about the playing action to be used as this can set the tone for the whole piece. If the figure is played sharply and rudimentally as a march, the work acquires a rigid, almost robotic flavour, making a sharp and incongruous contrast with the viola entry that follows. While it could be interpreted as a march, it is possibly not Sculthorpe’s intention. The tempo at $\frac{3}{4} = 160$ is too fast, or if felt at $\frac{3}{4} = 80$, too slow.

Ex. 4.13 Opening figure, Sculthorpe Sonata, bars 1-7

Moreover, the dynamic at $mp$ is too soft to convey the idea of troops marching on the parade ground and so the effect is not one of the traditional military march even though a regimented mobility is implied. Thus it is necessary to look further for Sculthorpe’s intention and so the instruments chosen must be examined. The figure is played on the tom-tom, not the traditional snare drum on which marches are conventionally played.

Hannan’s suggestion that it is a military march as stated here,
The fingerboard knocking of the cello version has been replaced by a rhythmic figure which gives the passage a martial feeling.\footnote{Michael Hannan, \textit{op.cit.}, pp. 45-46.} appears to be based on the presence of the grace notes, which are typically used in rudimental, martial playing. But in a march these grace notes are played very close to the main note, which is very effective on the tightly tensioned snare drums used in marches. In this section of the Sonata the figure is scored for tom-tom, which is generally more loosely tuned than a snare drum. If the opening two bars are played with the sticking of $^l_1 L R R R L R R R$ and repeated for the next two a lively tone is set with the expectation that something is about to happen. This expectation is realised with the \textit{forte} explosion in the next bar (see ex. 4.14).

Ex. 4.14 Opening phrase, Sculthorpe \textit{Sonata} bars 1-6

Using this sticking of $^r_1 R$ the grace notes, being spaced further apart than if a bounced, martial $^\uparrow R$ sticking was used, are more effective, creating an ‘open’ sound. Even if the figure was played with a bounce sticking, the grace notes would be slower because of this lesser tuning of tom-tom, but the articulation could lose some clarity. The $^r_1 R$ sound is more appropriate when the phrase is repeated and interspersed with viola \textit{pizzicati} (see ex. 4.15).

Ex. 4.15 bars 7-12, where sticking needs to be decided

When the figure returns at figure 2 but to be played with soft sticks, the alternate sticking is again easier to articulate, and is clearer in sound. Moreover, the grace

\footnote{The superscript $^l$ or $^r$ is the standard way of notating sticking of grace notes for percussionists.}
notes do not need to be the same distance from the main notes in every case of this opening phrase. Even if the rhythms themselves are played evenly, this approach to playing the grace notes can convey a sense of timelessness to the phrase; and this sense can be carried through to the two sixteenth note phrases by including a very slight *ritenuto* to them. In these bars it is set against a mournful melody on the viola, and contains a *molto rallentando* tempo change (see ex. 4.16).

Ex. 4.16 playing same figure as above but with soft sticks, Sculthorpe *Sonata* bars 21-26

In all of these different settings the rhythm has to flow, but the flow needs to be reflective of the musical direction and atmosphere. Consequently, the opening phrase needs to prepare the audience aurally for the following phrases and the sticking must be consistent to reproduce this. Thus the playing action and arm movements have to follow the movement of the music, itself determined by the consistent, resonant sound existing in space, and do so in a free-flowing manner for the aesthetics to visually convey the same effect.

The obvious visual movement of the mallets would also reinforce this sense of timelessness if the movement also differed for each grace note to main note. So the single grace notes (‘flams’) for example would be played with a greater movement of arms and mallets than the double grace notes (‘drags’) and triple grace notes (‘four-stroke ruffs’). The *ritenuto* mentioned above, if followed by a greater *ritenuto* in the second set of sixteenth notes would also reflect the *poco rallentando* in the viola entry in bars 13-14 (see ex. 4.17).
Ex. 4.17 Conveying ‘timelessness’, through arm movements, Sculthorpe Sonata, bars 7-19

The *molto rallentando* in the viola entry in bars 23-26 (see ex. 4.18) needs to be reflected in a rhythmically fluid movement by the percussionist; and the grace notes would be spaced further apart playing with soft sticks.

Ex. 4.18 Grace notes with soft sticks and rhythmic flow Sculthorpe *Sonata*, bars 21-26

This phrase then could be heard as the idea of giant footsteps walking across the land, a concept in keeping with Sculthorpe’s intention of writing ‘Australian’ music. With this intention, he continued the tradition of defining ‘Australianness’ through the relationship of man to an ancient and often hostile land that has been an ever-present theme in Australian literature and art; and extended it into the realm of music. One can imagine man imprinting his presence on this ancient ‘still’ land (the land represented in the viola entry), a presence that can be subtle at *mezzo-piano*, but with a rude awakening of the spirit through the *forte* bongo intrusion heralding a more aggressive presence. The four sixteenth notes
following can be martial if played with a rudimental ‘paradiddle’ sticking of RLRR. However, playing the four notes with just one beater gives a feeling of intensity, and in this case, a diminishing intensity, that is more abstract (see ex. 4.19), perhaps aligning man’s determination to walk from a life of repetition such as in the cities to the free-form, more abstracted space of the outback.

Ex. 4.19 Forte bongo and diminuendo tom-tom, Sculthorpe Sonata, bars 5-7

It is clear that decisions need to be made about the specifics of the playing action. As discussed in chapter two it obviously needs to be a relaxed action, but it also needs to convey this sense of space and timelessness of the Australian outback. So the specific action used for the opening section would relate to this sense and could differ from actions used to play other figures elsewhere in the piece. The final decision in each instance then, as to which playing action to use needs to be based not just on technical knowledge, but on the broader musical principles that aim to convey the composer’s intent. The actions used moreover, are closely related to the issue of movement.

4.5.3 Movement

This is always an important consideration for percussionists, as the manner of the movement can add to or detract from the audience’s enjoyment of the work. As Stravinsky said

...why not follow with the eye such movements as those of the drummer...which facilitate one’s auditory perceptions?401

The violist’s movements, while they can be exaggerated are still contained within the arc of the instrument. The percussionist however, is not restricted to one instrument, and in fact needs to consider movements over a wide range of

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400 Rudimental, marching drumming has traditionally been learnt by rote learning and use of onomatopoeic effect as the drumming patterns used need to be played from memory, there being no convenient way to read music while marching.

instruments and techniques. Without being too prescriptive, the techniques need to be efficient in order not to distract from the piece. So the drums can generally be played with a wrist action, though the extent of movement will vary. The double and triple grace notes would be executed with a *staccato* action, the single grace notes actions would be more *legato*.

In this work there is not a great deal of overt movement required, though there are two kinds of movement that can be identified as complementary to the music. Following the quiet opening, the *fortissimo* explosion on the Bongo can be emphasised with a flourish, with sticks seemingly ‘hanging’ in the air, after which they can visibly ‘shrink’ as they execute the diminuendo on the Tom-tom. This gestural movement can enhance the mood being portrayed and occurs intermittently through the piece.

Secondly, there are two kinds of more gentle and subtle movements at soft dynamic levels – single entries on cymbals and triangles, which need a movement reflective of the mystery their entries create and long rolls that add to the sense of the quiet stillness that underlies the frenetic activity elsewhere in the piece. Sculthorpe’s intent is to imbue the piece with an atmospheric sense of mysterious emptiness.

The single entries are on the higher metal instruments of triangle and cymbals that have an indefinite lifespan and indefinable quality, somewhat akin to stars appearing over a desert landscape. In bars 14-16, and 37-38 for example, they appear and quickly fade to leave a sense of emptiness (see ex. 4.20), yet the nature of their sound gives them a similar presence to that of a counter-melody.

Again the playing action, movement and aesthetics need to support the effect of sound suddenly appearing and existing in suspension, as stars do. So this needs to be reflected in the action of playing the cymbals and triangle; a slow *legato* stroke, with some follow-through would portray this most effectively. The further issue is what to do in the bars rest between these strokes. To continue the action and complete a circle over the length of the rest is excessive and detracts from the viola; it is preferable to stop and remain motionless at the ‘top’ of the stroke before ‘returning’ to play the next entry (see ex. 4.21).
Ex. 4.20 Cymbals and triangle entries, Sculthorpe *Sonata for Viola and Percussion*, bars 14-16 and 37-8. The Cymbal in bar 37 is the China Cymbal.

Ex. 4.21 Movement in cymbals and triangle entries, Sculthorpe *Sonata for Viola and Percussion* bars 14-19

Contrasted with this are rolls on the tam-tam (bars 242-259), china cymbal (bars 71-79) and bass drum (bars 43-49, and 179-199) (see ex. 4.22). They provide a backdrop for the viola and would be best executed with as little extraneous movement as possible. The direction for the tam-tam is to play near the rim, in order to emphasise the higher harmonics and produce a more ethereal, mysterious sound. On the other hand, the roll on the china cymbal produces a ‘flat’ sound, like the landscape of an ancient land over which the viola plays its frenetic, rapidly repeated figure. The bass drum rolls provide a resonant low sound that underpins firstly a section of the mournful melody punctuated by strong chordal *pizzicati*, and later an extended *pizzicato* section. To evoke these musical effects requires the various rolls to be executed with different rates of stroke, each with an awareness of the playing surface and musical sensitivity.

Ex. 4.22a *Sonata*, bars 244-250, Tam-tam roll (excerpt)
Ex. 4.22b Sonata, bars 71-74, china Cymbal roll (excerpt)

Ex. 4.22c Sonata, bars 44-48, Bass Drum roll (excerpt)

Ex. 4.22d Sonata, bars 188-194, Bass Drum roll (excerpt)

Like the land, these sounds are ‘un-moving’ though at times they are also combined with the bass drum and tom-tom as though referring back to the earlier ‘intrusion’ of man into this quiet, still land. The rolls then should be executed with as little extraneous movement as possible as in each of these cases the aim is to create a long, ‘timeless’ sound and illusion of mysterious emptiness. Much percussion playing relies on the creation of illusion, and this is a case in point. All percussion can do is create an illusion of a long sound, by playing a succession of short sounds, played so evenly that the listener accepts the result as one sound. To achieve this it is necessary to allow the mallets to bounce off the surface, and try to ‘feel’ the vibration that results in order to play the next stroke at the nadir of the vibration. Hitting the instrument at the zenith dampens the vibration, which starts a new vibration, and creates waves of sound, giving the impression of small crescendi. The challenge here is that there are different amplitudes of vibration between instruments, so the rolls on each will be at different rates of stroke requiring a range of sensitivities of roll technique. To
maintain a steadiness of sound requires constant concentration on working with the vibration, while still being aware of the viola figure.

### 4.5.4 Sound

The non-rolled entries on triangles and cymbals, as discussed above, are also in their own way soloistic, in that they have an obvious impact on the listener and create a different kind of space, so the issue of dynamics needs to be considered. It is obvious that the dynamic markings need to be interpreted in a relative sense; an *mf* against a single viola would of course be a lot softer than an *mf* in an orchestral *tutti*. But percussion dynamics are more complex than that. If played with the same energy, the snare drum will produce a louder, more penetrating sound than the other percussion instruments, the bongos would be louder than the tom-tom and bass drum, and the cymbals could momentarily overpower most of the instruments. All of the instruments could overpower the viola, so great care needs to be taken in the approach to playing them, especially when the same rhythmic figure is played across tom-tom and snare drum for example.

As well as dynamics, other aspects of technique need examination, as Sculthorpe's musical intent posed a challenge to other percussion traditions. Sculthorpe wrote for a number of long sounds on the various membranophones and metal idiophones. At the time the piece was written, 1960, many percussionists believed that the only 'legitimate' roll on the Snare Drum was the rudimental or double stroke roll and was notated as follows (see ex. 4.23); and this attitude was especially evident in the more regionally distant Australia. This notation is in fact a musical shorthand for thirty-second notes, and the sticks are bounced in a sixteenth note stick movement, at march tempo (MM = 120), it produced an acceptable illusion of a long sound. It was later adopted in orchestral contexts and adapted accordingly. The same notation was also often used for rolls on cymbal, bass drum and timpani, though on those instruments it was executed as a single-stroke roll.
Ex. 4.23 example of rudimental roll notation

Sculthorpe notated all the rolls in the same way, none of which matched the traditional notation (see ex. 4.24). This raises the questions as to the kind of sound he wanted, especially on the tom-tom and snare drum.

Ex. 4.24 Sculthorpe’s roll notations on cymbals, tam-tam and drums, Sculthorpe Sonata, pp. 4, 6, 9, 18, 21

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403 Six years later Rudziński used the same roll notation in his Variations and Fugue (see ex. 2.45 in Chapter 2).
The implication is that he was less concerned with how the sound was to be produced and more interested in having a long sound, and this method of notation raised questions about how to produce the desired sound. This debate extends beyond purely technical considerations into more musical issues, in particular debating the effect any particular kind of roll would produce. A single-stroke roll would produce a consistent sound across the gong (tam-tam), cymbal, bass drum and tom-tom, but would be empty and incongruous on the snare drum. A double-stroke roll on the tom-tom, because of its lower tuning could also sound hollow and stilted through being too measured a sound. A third possibility, and the most appropriate, would be to use a multiple-bounce roll on the tom-tom and snare drum, which would also produce a sound of greater tension. The rolls on the other instruments were meant to produce long sounds usually free of tension for which the single-stroke roll is appropriate. As an incidental result, multiple-bounce rolls, evenly played as triple- or quadruple-bounce rolls gradually became more accepted as legitimate expressions of long sounds.

The deciding factor as to which technique to use, in the instance a roll, again needs to be musical. Sculthorpe organised the percussion instruments into two families of registral ambitus of ‘skin’ and ‘metal’. The specifics of these ‘chordal’ families and methods of playing determine particular characteristics of the sound, which require musical consideration as to which playing techniques and beaters on specific instruments best portray the various moods called for.

This is made quite obvious in the a tempo before figure 22, where Sculthorpe specifically calls for a martial effect – alla marcia funèbre, and this section is played on the tom-tom, pedal bass drum, cymbals and tam-tam. This effect is set against the viola playing a variation of the risoluto referred to above (see ex. 4.09b). The percussion part is marked f against the ff in the viola part. However, it is very dramatic if the percussionist also plays ff, in effect almost drowning out the viola.404 The thunderous effect of this funeral march could wake the ghosts of

404 This idea was presented to me as a suggestion by Richard Hornung, who saw the dramatic possibilities of such an interpretation.
Port Arthur,\(^\text{405}\) and bespeaks tellingly of the violent aspects of Australia’s history (see ex. 4.25).

\[ \text{Alta marcia funebre} \quad q = 96 \]

Ex. 4.25 *Forte* Funeral March, Sculthorpe *Sonata*, bars 211-220\(^\text{406}\)

The variations of the rhythmic figure, in the *Risoluto* just before figure 9 (see ex. 4.26) could be played to produce a martial effect by using the ‘paradiddle’ \(\text{RLRR}\) sticking for the four sixteenth notes, and thinking of the next entry (two sixteenth and one eighth notes) as a variant of the ‘drag’ \(^9\text{R}\). However, the entry is underscored with the direction ‘well articulated’. A paradiddle sticking has a slight accent (even though it is not always marked) on the first note, and the last two notes can also be softer. This is not from laziness, but from the fact that marches have needed to emphasise the notes that occur on the beat more than the others. As a result, this method of playing the ‘paradiddles’ has become part of the performance tradition of percussion.

However, this rudimental approach would seem to be contrary to the Australian atmosphere of the piece, and at odds with the viola. Moreover, even an alternate sticking can be uneven because of a difference in strength between the two hands, or by just hitting different parts of the drumhead. This would be even more pronounced around figures 11 and 16, when the rhythm is played on the tom-tom. In order to match the preceding crescendo of the viola entry and the *risoluto* marking, the entry needs to be intense. The desired ‘well articulated’ sound of intensity is best achieved by playing with one beater only, in the same beating spot, and with the slightest of *crescendos*. This is necessary because when the drum is hit, the head begins vibrating, and the subsequent ‘hits’ can (and often do) land on the head at the peak of its vibration, thus acting against

\(^{405}\) Port Arthur was a nineteenth century penal settlement in Tasmania noted for the harsh treatment of convicts

\(^{406}\) R. Pusz, ed., Peter Sculthorpe, *Sonata*, p. 3
the resonance produced by the first hit, and deadening the sound. This can really only be countered by playing a very slight crescendo (see ex. 4.26).

Ex. 4.26 Deliberate’ articulation on snare drum, Sculthorpe Sonata, bars 87-93, (1960 score)

A very important element of the percussion part is the stick clicks. As mentioned before, Sculthorpe scored this originally for claves, but later changed it to stick clicks. As discussed above, the claves need to be held in a certain way to produce a nice resonance, and this way of holding is too awkward in the context of the piece. There are, however, other solutions. It is possible to use Aboriginal clapsticks as their shape enables them to be played by holding them loosely and in a similar fashion to other percussion mallets and still get a full-bodied resonance. This is demonstrated on the accompanying video and referred to in Appendix B. The resulting sound, being full-bodied is louder and clearer, and has more presence musically than the clicking together of snare drum sticks. The challenge then is whether they can be easily picked up and put back down. Before figure 6 they need to be picked up very quickly, while continuing to hold the soft beaters, and can be put down during the three measures before figure 9. The action though needs to be legato in order to give the impression of slowness and so continue the effect of the previous phrase (see ex. 4.27).

Ex. 4.27 Changing beaters to clapsticks, Sculthorpe Sonata, bars 55-57

The bongo and triangle entries in this section can be played with the clapsticks; the china cymbal roll at figure 7 (see ex. 4.28) and the tom-tom roll at figure 8 (see ex. 4.29) are of course both played with the soft sticks, but can be executed while holding the clapsticks.
It goes without saying that a certain amount of care needs to be taken in order for those rolls not to be intruded upon by an accidental hitting of the instruments with the clapsticks. There is ample time to pick up the clapsticks after figure 12, and the snare drum entry after 15 can be also be played with the clapsticks, even to the 4/8 measure after figure 17. The bongo and triangle entries in this section can be played either with the clapsticks, or with clapstick on the bongo and triangle beater on the triangle. It is also possible to hold the clapsticks through the whole section from before figure 6 to figure 17.

It is not possible to be definitive on this point of whether to use clapsticks or snare drum sticks either one way or the other. In my discussions with Sculthorpe on this point, he was quite supportive of the idea of using clapsticks, yet at other times he simply referred to clicking sticks, which is more vague. It must be said that clapsticks will give a more full-bodied sound, and the action with the clapsticks is more theatrical, and it also reinforces the Australianness of the work through the use of native instruments. Moreover using clapsticks is supported by Professor Anne Boyd who worked closely with Sculthorpe in the 1960s.

Sounds to me that the change was an expedient to suit a particular performance. I'm imagining claves is the originally desired sound. Good luck with your enquiries. And thanks for caring about this level of detail in honouring Peter's intentions.  

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407 Conversations with Peter Sculthorpe, 1970 - 2002
408 Email from Professor Boyd, 8 August, 2015
There are also two, more radical, options. Claves, as originally indicated by Sculthorpe, could be used, with one being mounted as shown, so only one would need to be picked up, making this a manageable option (see plate 4.02).

Secondly, instead of using clapsticks or stick clicks, a piccolo woodblock could be used, and played with the shaft of the snare drum stick. This woodblock could sit on the stick tray and be played very easily, and the sound would also be close to the original claves as envisioned by Sculthorpe. Here are two examples (see plates 4.03, and 4.04).

Failing all the above, using heavy, hardwood snare drum sticks would be preferable to lighter sticks, as this would come closer to producing a full-bodied click. This point relates to a recurring problem for percussionists – choice of beaters. Sculthorpe calls for hard and soft beaters and triangle beater, but does not specify more than that. It is quite obvious for this piece that the ‘hard sticks’ direction refers to snare drum sticks. At the time he wrote the work the only type

of snare drum sticks available had wooden tips. These days it is possible to buy snare drum sticks with wooden, plastic and metal tips (see plate 4.05).

Plate 4.05 Snare Drum stick varieties

The difference in sound between these tips on the drums is negligible. What is important is the weight of sound produced on the drums, and it would be preferable to use heavier sticks for this with oval acorn tips. There were well-weighted, heavy snare drum sticks produced in the United States of America in the 1970s and made from a hardwood, very similar to rosewood. Unfortunately they are no longer commercially available. When the cymbals are played with hard sticks, generally they are to be struck with the shaft of the stick, whether this is near the rim (for the greatest range of overtones) or on the dome. So again there is no difference in sound. The triangle when struck with wooden beaters is markedly softer, and not much louder when the plastic tip is used. So metal-tipped snare drum sticks would seem to be the answer, though the metal used is not very hard (usually aluminium or an alloy of it), and the sound emanating from the triangle would still be softer. The best tone would be produced with a specific triangle beater, necessitating some decisions on stick changes.

The soft beaters should not be too soft, as they would not provide enough projection of sound. Medium-soft felt or wound mallets would work best on all the membranophones and metal idiophones, with enough presence to make the rhythmic figures clearly articulated, and at the same time enabling the rolls to be easily executed without too much distraction of ‘beats’. In the main, there is sufficient time to both pick up and put down the necessary beaters, but it is more convenient to use double-ended beaters – snare drum sticks with felt or wound ends at the butt. This makes for easier and faster transition from hard to soft.

This touches on another aspect of stick changing that is an important consideration – the visual aesthetics. As any movement by the percussionist is obvious to the audience, distracting movements, that do not contribute to the music, need to be kept to a minimum. So a quick, unostentatious twirl of the stick is less distracting than an obvious picking up and putting down of beaters on a stick tray. As much as possible the movements, whether they are a twirling of the sticks or movement to and from the stick tray should be either unobtrusive or within the character of the music. So, for example, the change of the left hand beater between hard and soft, and the picking up and putting down of the triangle beater between figures 1 and 4 need to appear to be slow (see ex. 4.30 and 4.31).

![Ex. 4.30 Movement of beaters, Sculthorpe Sonata, bars 12-16](image)

The last note on the tom-tom after figure 1 then should end in a simultaneous twirling motion in both hands and a movement of the right hand to pick up the triangle beater, as part of the playing action of that note. The triangle beater then can be held through the playing of the tom-tom with soft sticks before again returning to playing the triangle and china cymbal. If these notes (before figure 4) are played with a more flowing movement then the subsequent putting down of the triangle is also not noticed.

The alternative is to start the piece holding the triangle beater. There should be no problem with this, and it eliminates the need to inauspiciously pick it up. Sculthorpe’s direction to play the first triangle entry with a hard stick needs to be seen in the context of percussion performance in 1960. At that time
percussion playing was not very advanced technically in terms of multiple percussion performance. Very few pieces had been written that demanded much beyond standard techniques and solo percussion performance was still in its infancy. Percussionists playing outside the orchestral sphere tended to use the techniques and approaches they were familiar with, i.e. those they used in the orchestra, where they would still usually only play on one instrument at a time and generally have plenty of time to change beaters and instruments. So it is possible, without casting aspersions on the ability of the player involved, that the percussionist may have indicated to Sculthorpe that it was too difficult to change to the triangle beater at that point (before figure 1); or Sculthorpe himself found it to be a problem when he performed the work. So the direction to use a hard stick was made for ease of playing. However, as already mentioned the sound from the triangle is very soft when using a wooden stick, and very few of the partials project. For these reasons it is preferable to use the triangle beater, necessitating awareness of the movements necessary to access the various beaters with the aim of again minimising extraneous, distracting movement.

Clearly the piece has a depth to it beyond the mere interpolation of rhythmic figures of martial connotation as suggested by Hannan. There is an intricate weaving of the characteristic elements of the viola and percussion into a piece incorporating images of deep mystery. In the process he created challenges for both players of technique and interpretation, the most obvious of which being the system of notation.
4.5.5 Notation and discrepancies between editions

Before discussing this, it is apposite to point out a few differences between editions (see table 4.02).

Discrepancies between versions

<table>
<thead>
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<th>Bar</th>
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<th>Later 1960</th>
<th>Pre-publication</th>
<th>Faber edition</th>
</tr>
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<td>3</td>
<td>\textit{mf}</td>
<td>no change from \textit{mp}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-37</td>
<td>very slowly, \textit{\textbullet} = c.96 \textit{ad. lib}</td>
<td>\textit{poco lento} \textit{\textbullet} = c. 96</td>
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<td></td>
</tr>
<tr>
<td>Bar 48</td>
<td>\textit{ad. lib}</td>
<td>\textit{poco rall}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>no dynamic change from \textit{pp} bass drum roll</td>
<td>\textit{mp}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-56</td>
<td>extra ‘gong’ notes written in, probably by Smith</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>roll ends on grace note</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>well articulated’</td>
<td>\textit{Marking crossed out}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>\textit{sticks}</td>
<td>\textit{Changed to rim}</td>
<td>\textit{rim}</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>\textit{f}</td>
<td>\textit{ff}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>well articulated’</td>
<td>\textit{Marking crossed out}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>201-203</td>
<td>\textit{mf}</td>
<td>\textit{Changed to \textit{mp}}</td>
<td>\textit{mp}</td>
<td></td>
</tr>
<tr>
<td>227</td>
<td>\textit{triangle beater} (‘pick up tri. beater’) in bar 225)</td>
<td>direction to ‘pick up tri beater’ crossed out ‘with beater’ put in ‘with beater’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>\textit{mp}</td>
<td>\textit{Changed to \textit{mf}}</td>
<td>\textit{mf}</td>
<td></td>
</tr>
<tr>
<td>266</td>
<td>\textit{No dynamic}</td>
<td>\textit{Made f}</td>
<td>\textit{f}</td>
<td></td>
</tr>
<tr>
<td>274</td>
<td>\textit{f}</td>
<td>\textit{Changed to \textit{ff}}</td>
<td>\textit{ff}</td>
<td></td>
</tr>
<tr>
<td>276</td>
<td>\textit{ff / f}</td>
<td>\textit{Changed to \textit{fff / ff}}</td>
<td>\textit{fff / ff}</td>
<td></td>
</tr>
<tr>
<td>277</td>
<td>\textit{ff}</td>
<td>\textit{Changed to \textit{fff}}</td>
<td>\textit{fff}</td>
<td></td>
</tr>
<tr>
<td>278</td>
<td>\textit{f}</td>
<td>\textit{Changed to \textit{ff}}</td>
<td>\textit{ff}</td>
<td></td>
</tr>
<tr>
<td>279</td>
<td>\textit{ff}</td>
<td>\textit{Changed to \textit{fff}}</td>
<td>\textit{fff}</td>
<td></td>
</tr>
<tr>
<td>290-299</td>
<td>\textit{snare drum or tom-tom}</td>
<td>\textit{snare drum}</td>
<td>\textit{snare drum}</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.02 Discrepancies between editions

In the 1960 manuscript Sculthorpe specifies gong, and in the 1979 edition this is changed to tam-tam.\textsuperscript{413} The sound of the tam-tam, with its overtones is correct, though if only a gong was available, playing it on or near the rim, as Sculthorpe at

\textsuperscript{413} A gong, strictly is an instrument of identifiable, usually specific tone, whereas a tam-tam is comprised of a number of overtones, akin to a cymbal, and so has no definite pitch or tone. The confusion over these names stems from the fact that the names are used interchangeably and irregularly, even by percussionists.
times specifies, would give a similar result of the atmosphere of mystery and legend that he seeks in the work.

The third bar of figure 8 has a grace note at the end of the roll in the 1979 edition that is not present in the manuscript. However, the Faber edition would be correct as almost every other roll finishes with grace notes in order to convey a sense of timelessness that a definite single stroke ending would not give (see ex. 4.32).

Ex. 4.32 Notation of rolls in manuscript and printed edition, Sculthorpe Sonata figure 8 (a) 1979 edition; (b) 1960 manuscript

Similarly, in the second bar of figure 10, the manuscript indicates the flam to be played with sticks, while the 1979 edition specifies them to be played on the rim of the snare drum. Again the 1979 edition is correct as to execute the figure on the sticks would be clumsy at best (see ex. 4.33).

Ex. 4.33 Notational differences playing on rim and sticks, Sonata figure 10 (a) 1979 edition; (b) 1960 manuscript

The a tempo section around figure 24 is notated differently in both editions, though the 1960 manuscript is quite probably just a shorthand version of the figure, written to save time. This view is supported by the pencilled-in playing indication above the figure written by Richard Smith (percussion) who
performed it with David Powell (viola) in July 1967 during Sculthorpe's visit to Adelaide (see ex. 4.34).\footnote{Richard Smith was my percussion teacher at the Elder Conservatorium for twelve years, 1960-1970, and 1975-1976, and I am very familiar with his writing and music writing styles.}

Ex. 4.34a Notation of 32nd notes, Sculthorpe Sonata, figure 24, 1979 edition

Ex. 4.34b Notation of 32nd notes, Sculthorpe Sonata, figure 24, 1960 manuscript

The last section, beginning in the fifth bar after figure 29 offers the percussionist a choice of instrument. The part is written on the tom-tom line, but the direction is for 'Tom-tom or Snare Drum'. The 1979 edition places the part on snare drum (see ex. 4.35).
Ex. 4.35 Notational difference in instrument between manuscript and printed edition, Sculthorpe *Sonata*, figure 20 (a) 1979 edition; (b) 1960 manuscript\(^{415}\)

In the preceding section Sculthorpe allows the percussionist a great deal of freedom in interpreting the part (see ex. 4.36). This freedom was not in the 1960 version and only seems to have been added when Sculthorpe edited the piece for publication (see ex.4.37).

Ex. 4.36 Notated freedom of interpretation, Sculthorpe *Sonata* score, figure 24, printed edition

Ex. 4.37 Notated freedom of interpretation, Sculthorpe *Sonata* score hand-written score with amendments, p.11\(^{416}\)

Finally, in the original manuscript (1960), Sculthorpe specified a large ‘chinese’ cymbal, and small, suspended cymbal. In the 1979, Faber edition the sizes are reversed and the instruments are listed as china cymbal and large suspended cymbal (see plate 4.06).

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\(^{415}\) Peter Sculthorpe, *Sonata*, p. 12 & manuscript, p. 22

\(^{416}\) All the changes and ‘fine-tuning’ of explanations on the manuscript as preparation for publishing Sculthorpe wrote in red ink.
On the matter of notation, Sculthorpe wrote only a score, with the percussion part on two lines and the name of the particular instrument just above each change of instrument. This, combined with the fact that the music is on ten pages makes it difficult for the percussionist, as s/he has to concentrate on the logistics of playing the piece. As well as playing the musical figure the percussionist needs to read the name of the instrument to be played and remember it till the next change rather than being able to devote her/his energy to its music.

There is now, however, an edited computer copy of the percussion part, which was sent to the publisher with Sculthorpe’s agreement. The legend, as shown above, makes it very clear to the performer where the various instruments are notated. There is no diagram as providing one would not cover all the playing alternatives (as discussed in this dissertation). In fact, two or three would be required to present all the possibilities; and this in itself could be confusing. Moreover, the setup is not difficult for a percussionist to work out.

The legend however, is necessary and has become an increasingly standard inclusion for multiple percussion pieces as the setups differ with each set of instruments. For the performer it also mentally consolidates the placement of instruments and notation, which makes the part easier to read. And the part, being on only three pages instead of ten (see ex. 4.38), obviates the need for page
turns and also eliminates this set of distracting movements from the performance.

Ex. 4.38a Sculthorpe, Sonata, percussion part, p. 1

417 Percussion part notated and edited by Ryszard Pusz and published by Faber
Ex. 4.38b Sculthorpe, Sonata, percussion part, p. 2
* If desired, the percussionist may imitate the shape of the preceding melody, playing the given rhythms on differently pitched drums.

Ex. 4.38c Sculthorpe, Sonata, percussion part, p. 3
So instead of having to read this (see ex. 4.39)

Ex. 4.39 Reading printed score, Sculthorpe Sonata, 1960 edition, bars 66-70

or originally this (see ex. 4.40)

Ex. 4.40 Reading original score, Sculthorpe Sonata, original manuscript, bars 67-70

the percussionist can read the following (see ex. 4.41), knowing from the legend at the top of the music that the ‘x’s above the stave represent stick clicks, the metal sounds are on the lines and membranic sounds on the spaces. There is no need then for the player to have to read and remember instructions such as ‘sticks (‘claves’)’ or ‘bongos/tri’ in addition to reading the notes.

Ex. 4.41 Reading edited part, Sculthorpe Sonata, percussion part bars 64-77
4.5.6 Logistics and Staging

Related to the issue of movement is the matter of the staging. This essentially is determined by the acoustical property of the viola as well as the need to have eye contact with each other. To project the sound out to the audience the viola player needs to stand stage right. So the percussionist will stand stage left and face diagonally across the stage towards both the violist and (part of) the audience (see plate 4.07).

Plate 4.07 Setup without the second Bass Drum (audience below the photo or in the south-west corner). A selection of possible beaters, including a pair of Clapsticks, is shown on the Tom-tom for visual clarity (author’s collection)

Immediately a problem presents itself, albeit a minor one. The tam-tam, seen here behind the player, is a long distance from the other metal idiophones, which could cause difficulties of movement between them. This would especially be the case if the second bass drum were to be included in the setup, as its most obvious placement would be to the left of the tom-tom as seen by the performer. One solution would be to place the Tam-tam between the second bass drum and the tom-tom. The tam-tam would then need to be raised in order to be easily reachable; but this would block the view of the player for a section of the audience. Alternately, the second bass drum could be moved further to the back, and that could easily accommodate the tam-tam in a lower position.

There is also a more radical solution, which, while it might cause another minor difficulty, is a more artistic presentation. The tam-tam could be placed on a high stand to the right of the triangle, and so at the back of the stage (see plate 4.08).
Plate 4.08 alternative set-up (author’s collection)

This is contrary to the staff notation indicated earlier, so the notation could be changed to accommodate this new setup to look like this (see plate 4.42)

Plate 4.09 Sculthorpe *Sonata*, Legend (amended)\(^\text{418}\)

This change in notation is not really necessary, as percussionists have to learn new legends and setups for each piece, and it is not difficult to memorise the position of the tam-tam in a departure from staff notation. The tam-tam in this setup would face the audience, so the player when rolling on it would have her/his back to the audience; and the audience would be watching an almost motionless performer with the beaters moving almost imperceptibly while a ghostly sound emanated from this circle of metal. Done with conviction, it could be an entrancing moment in the piece and enhance Sculthorpe’s concept of portraying the

…curious feeling of timelessness...a sense of endless space, of mystery, of legend, of life stretching beyond historical memory...\(^\text{419}\)

This could be further enhanced with the use of lighting or imaginative staging. Provided they can see each other clearly, there is no need for the performers to

\(^{418}\) R. Pusz, ed., Peter Sculthorpe, *Sonata*, percussion part

\(^{419}\) Graham Skinner, *op. cit.*, p. 245.
be too close to each other; so two overhead spotlights could highlight their positions on the stage. The spots could also be of different hues – perhaps a blue and a red to highlight the duality in the piece and reflect the colours of the Australian outback. Moreover, the players could be set on two different levels and thus further emphasise this duality. While either could be higher, reflecting landscape features of Australia, without detrimental effect on the presentation if the percussion is elevated this can make it difficult for the audience to see what the percussionist is doing. In fact if the staging can have the audience looking down on the players, this is most satisfying. For both these reasons, if one player is to be elevated, it should be the violist.

Of course, it is not always possible to present a work in ideal conditions. Every performer knows this, but for percussionists the problems and pitfalls cover a wider range of possibilities. An example is a personal performance of this Sonata in a country town in 1998 and is detailed in the Appendices (see Appendix A). The piece was played on borrowed instruments and beaters and brought to the fore a few issues, some of which are beyond the scope of this dissertation, but need to be mentioned briefly. Firstly, it clearly shows the lack of standardisation in percussion. Issues of specific tuning of the drums, lack of certain instruments such as the clapsticks and china cymbal, limited beater selection, logistical constraints and restrictions of staging had implications for the sound and manner of playing and of course, loyalty to the composer’s intentions.

Secondly the issue arises of how vital the nuances of the untuned percussion instruments are. In this performance in the country town for example, the bongo part was played on a conga, which was pitched lower than the snare drum; and the lack of a china cymbal meant that had to be played on another part of the Turkish cymbal. The percussion instruments then did not meet all the criteria, yet the general impression of the piece was conveyed. By the very nature of being untuned, percussion instruments have an inherent roughness of sound; so it could be argued that any attempt to refine that sound runs counter to the intent of using untuned instruments. On the other hand this does tend to suggest that the concept of loyalty to the score and the composer’s musical intentions can only be approximately adhered to. This issue, of the acoustical properties of
percussion instruments and resultant musical effects, while beyond the scope of this study, is worthy of further investigation.

Music is the most abstract of the art forms. Its representations, effects and emotions can only be suggested leaving further interpretation by the listener to the background of her/his own experiences of life. Within this context there is clearly a necessary and greater leeway conferred to players in the performance of percussion works. In terms of instrumentation, the lack of standardisation, their precarious availability, and the variable appropriateness of beaters all contribute further elements which influence different interpretations of the score.

**4.6 Conclusion**

Undeniably a landmark composition in Australia, *Sonata for Viola and Percussion* by Peter Sculthorpe is the first significant piece of chamber music to use percussion and in a manner that challenged previous conventions. It featured multiple, untuned percussion for a single player in an intimate chamber setting and as a cornerstone feature introduced elevation of percussion’s musical role to shared equal partnership with another instrument, the viola. Furthermore it injected an Australian flavour with its use of clapsticks to suggest the rhythms of the Australia's Indigenous peoples and directions such as playing on the rim of the tam-tam to create the air of mystery and timelessness that characterise the interior of the country.

By adventurously exploring the medium to reveal its 'harmonic' potential with different timbres of metal, wood and skin, the Sonata momentously charted a new course for the future of percussion. The ‘wash’ of a variety of instrumental colours, the rhythmic punctuations and alternative harmonies all combined to add another original dimension to the aesthetic pictorial of the music. And for percussionists responding to the challenges of the intimacy of a chamber setting, the piece highlighted their technical and artistic skills on a new scale. In these ways the *Sonata* has gifted percussion a new and legitimate role as an active and equal participant in the chamber music genre and has justified its presence on equal terms with any other instrument.
Chapter 5 Percussion Ensemble in Australia

5.1 Introduction

The inclusion of more players in percussion ensemble performances magnifies the complexity of the inter-relationships and consequent challenges that exist between the instruments, technique and repertoire. Therefore composing for percussion ensemble involves more than just writing complex percussion parts. These issues will be examined with detailed reference to two Australian compositions for percussion ensembles that explore different musical pathways and to other works as appropriate. These two works are Suite for Percussion Quintet by Eric Bryce (hereafter known as The Suite) composed in 1980, and Loss by David Morgan in 1982. This analysis is conducted within the context of the musical intent of the pieces, its possible effects on both the percussion medium and technique, and the resultant challenges presented for performance. Personal close collaboration with both composers on these works during their process and in their year of inception highlighted the challenges of the Australian local context in terms of instrument use and specific technique application. It also contributes primary source material to this analysis.

Before examining the two compositions, it is necessary to outline the difficulties in stating what constitutes ‘Percussion Ensemble’ and how this relates to the choice for this dissertation of these two ensemble compositions. Unlike other instrument families there is no concrete concept of a ‘Percussion Ensemble’. It is a generic title for a group consisting of any number of players and containing an indeterminate quantity and type of either homogenous or heterogeneous tuned and/or untuned instruments. Furthermore there is no standardisation of the instruments, as illustrated in chapter one. This complexity is compounded by the fact that Percussion Ensembles are not restricted to particular styles or genres of music, are notated using different notation systems and at times have to adapt the works to the exigencies of the instruments. Therefore it is almost

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420 These are works commissioned for the ensemble Adelaide Percussions, 1980 and 1982, and on which I have worked in close collaboration with the composers.

421 This is especially so when playing transcriptions, but also when for example, arranging marimba ensembles for Steelband.
impossible to choose works for a dissertation that will adequately typify the
genre of the percussion ensemble. Until such time as there is a sufficiently large
body of work covering most ensemble combinations or until the instruments and
styles attain a certain standardisation, the analysis of percussion ensembles
remains limited in scope.

Consequently, this dissertation will analyse two ensembles in separate
soundscapes – one that explores distinct jazz styles of music and the other that is
a work of representational expression. This investigation will reveal what the
pieces can contribute to the genre, the presentation of percussion music, and the
challenges for performance. In consideration of this contextual backdrop, the
two percussion ensemble pieces by Bryce and Morgan will be examined.

The *Suite* by Bryce is ostensively a simple piece without high demands of
technique. However, as a jazz piece solely for percussion instruments it opened a
door for the genre while also exploring new ranges of sound sources. These
directions had implications for both technique development and performance
presentation that required consultation with the composer. Morgan’s *Loss*, on
the other hand, is a manifestly larger work, and together with its
representational conceptualization created significantly more complex
implications for percussion ensemble. Presenting challenges of technique
especially in logistics and theatrical aesthetics as well as challenges in musical
interpretation of the emotion and symbolism implicit in the title all gave cause
for explicit discussions with the composer. These two works are chosen because
they are examples of early Australian writing for percussion ensemble in two
different genres and approaches, thus following the cultural and
representational traditions of Roldán and Varèse respectively and with close
collaboration between composers and performers during the writing process.
Moreover, the problems they present show the difficulties of writing for
percussion and interpreting what is written.
5.2 Background – Early writing for percussion ensembles

The percussion ensemble as a separate musical entity first appeared in 1899 with Percy Grainger’s *Eastern Intermezzo* for Tuneful Percussion,\(^{422}\) and was expanded over the next thirty-two years by Darius Milhaud, *Les Choëphores* (1917), Dmitri Shostakovich, *Entr’acte* in *The Nose* (1928), Amadeo Roldán *Ritmicas 5 and 6* (1930) and Edgard Varèse, *Ionisation* (1931).

In 1899 Grainger scored his *Eastern Intermezzo* for a large ensemble of tuned percussion instruments, including some which were barely known such as the metal marimba, which derived from the metal bar instruments of the Indonesian Gamelan and became the prototype for the development of the vibraphone (see plate 5.01 and ex. 5.01).

Plate 5.01 Deagan metal marimba\(^{423}\)

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\(^{422}\) He did however include the Piano and other similar Keyboards, which he regarded as Percussion instruments.

While Grainger’s original instruments such as the metal marimba, are no longer available there are some current equivalents (see plate 5.02).

424 This facsimile was obtained in 1987, courtesy of the Grainger Museum, University of Melbourne in accordance with the composer’s wishes.
Grainger's Instrumentation and the Current Equivalents

<table>
<thead>
<tr>
<th>Grainger's Instrumentation</th>
<th>Current Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glockenspiel</td>
<td>Bells</td>
</tr>
<tr>
<td>Xylophone</td>
<td>Xylophone</td>
</tr>
<tr>
<td>Steel Marimba</td>
<td>Vibraphone</td>
</tr>
<tr>
<td>Wooden Marimba</td>
<td>Marimba</td>
</tr>
<tr>
<td>Tubular Bells</td>
<td>Chimes</td>
</tr>
<tr>
<td>Staff Bells</td>
<td>Suspended Handbells with no clappers</td>
</tr>
<tr>
<td>Bar Piano</td>
<td>Obsolete</td>
</tr>
<tr>
<td></td>
<td>(Sounds similar to a vibraphone -- allows for a choice of mallet hardness. Finger operated keyboard with damper pedal)</td>
</tr>
<tr>
<td>Bell Piano</td>
<td>Obsolete</td>
</tr>
<tr>
<td></td>
<td>(Sounds similar to staff bells -- allows for a choice of mallet hardness. Finger operated keyboard with damper pedal)</td>
</tr>
<tr>
<td>Celesta</td>
<td>Celesta</td>
</tr>
<tr>
<td>Piano</td>
<td>Piano</td>
</tr>
</tbody>
</table>

Plate 5.02 Example of Percy Grainger's Instrumentation and current equivalents

Grainger was very interested in exploring non-European sources of sound, such as the Gamelan; and he wrote music to reflect those sounds using various bells, xylophones, and marimbas. Furthermore, he was keen to develop the harmonic possibilities of tuned percussion to include lower sounds in order to balance the high, piercing sounds of the glockenspiel and xylophone.

“To use orchestrally a glockenspiel without a metal marimba and a xylophone without a wooden marimba, is just as absurd and incomplete as it would be to use a piccolo without a flute, violins without the lower strings, the top two octaves of a piano without the lower octaves.”

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426 John Anthony Roscigno, *op.cit.*, p. 57
These compositions had direct and deep implications for percussionists. They had to play more and for longer periods than in the few existing orchestral excerpts; and the parts also were, at that time, more complex. Consequently, percussionists had to develop techniques of playing that would incorporate a level of technical fitness to enable long stretches of playing without causing undue stress, while still including the usual musical elements of dynamic control, phrasing, accuracy of note placement and clarity of articulation; and to do so without seeming to have a concrete basis of technique on which to build. Fortunately, the transferability of technique discussed in Chapter Two, meant that the general playing action used in percussion provided this basis.

In a completely different direction from Grainger’s, a very artistic exploration of percussion ensemble was undertaken by Darius Milhaud in 1917. His opera Les Choéphores scored three movements, Présages, Exhortation and Conclusion, for only untuned percussion with spoken voices. An original decision at the time, Milhaud used the untuned percussion orchestra in both musical and artistically dramatic roles (see ex. 5.04). The musical role was elaborated upon by Paul Collaer, Belgian musicologist and biographer of Darius Milhaud.

Sometimes the texts Milhaud uses are completely incompatible with a musical setting. In his own words, the two scenes of exhortation in Les Choéphores, “on account of their cannibalistic character, presented one of the most difficult problems. The sentiment is not musical. How could this outburst be represented in artistic terms? I therefore decided to have the text rhythmically declaimed and arranged in measures as though sung. I wrote spoken choruses accompanied by an orchestra made up solely of percussion instruments.”

By juxtaposing the acrimonious tones of the human voice against wooden, metal and skin timbres in measured, controlled anger he registered the depth of the rage that was felt by the operatic characters, Electra and Orestes. The intensity and savagery of their emotions in vocal counterpoint was dramatically enhanced by the shrill and emphatically rhythmic untuned instruments. Thus Milhaud so effectively highlighted the “hurricane” of human emotions as explained by Collaer.

To introduce natural speech against the background of piano or orchestra, as is sometimes done in romantic melodrama, is to mix fire with water; the rhythmic patterns of words and music are in conflict... In contrast, adapting musical rhythms to spoken words and placing them against a background of percussion instruments leads to a homogeneous musical ensemble of indeterminate tones.429

This dramatic musical technique of enhancing the spoken and sung word with percussion sound and rhythm also reinforced the structure of the opera by providing a meaningful and fluent nexus between musical moments and scenes.

This technique is not only admirably adaptable to particular scenes, but with rhythm and percussion used as connective tissue, the composer can easily pass to subsequent scenes in which speech resumes its normal role.430

Furthermore, by shepherding the structure from emotional chaos to normality through its rhythmic continuity, the untuned percussion brought cohesion to the whole text. As Collaer stated, “By retaining the musical rhythm he preserved the unity of the work.”431

In these movements, the earliest instances of such instrumentation, Milhaud wanted to heighten the drama of this Greek tragedy (see ex. 5.02).

In “The Choephoroi”...two scenes are to be found which create a difficult problem for the composer: they are savage, cannibal, as it were. The lyrical element in these scenes is not musical. How was I to set to music this hurricane [sic]? I finally decided to make use of a measured [sic] speech, divided into bars and conducted as if it were sung.432

Noted researcher, Barbara Kelly, Head of Research, Royal Northern College of Music, Manchester, comments further on this dramatic effect.

By dispensing with melody and text, Milhaud could focus on the short repeated rhythmic patterns of percussion writing, while retaining a human element within the overall sound panorama. Non-verbal sounds such as breathing and hissing add a primitive dimension to the menacing chanting on the libation-bearer... He builds in the maximum complexity into the climax on p.116 bar 1, creating ten simultaneous rhythmic patterns with the choir, percussion instruments and solo voice. It is a powerful moment in which percussion and voices fuse to form one rhythmic and contrapuntal force.433

429 Paul Collaer, op.cit., p. 50
430 Paul Collaer, op.cit., p. 50
431 Paul Collaer, op.cit., p. 50
433 Barbara, L. Kelly, Tradition and Style in the Works of Darius Milhaud 1912-1939, Aldershot, Ashgate, 2003, p. 51
And so through the rhythm and sounds of the untuned percussion orchestra, the Opera gained a textual continuity and cohesion in an artistically dramatic manner. And this pivotal structural role in the Drama *Les Choéphores* signified a groundbreaking use of percussive impact, signalling the birth of an enhanced theatrical role for untuned percussion. At the same time, percussionists had to undertake a new approach by thinking about musical and dramatic aspects of their performance as well as technical elements and how to elucidate the former through development of the latter.

Ex. 5.02 Milhaud *Presages*, climax, p. 116
In a similar dramatic role to Milhaud, to reflect activity on stage, Shostakovich in 1928 composed a piece for an untuned percussion ensemble as an entr’acte within his opera of Gogol’s absurdist play, *The Nose*. Conveying the sense of confusion, panic and flurry of activity as chief of police Major Kovalyov scurries out of the barbershop to search for his nose, which had mysteriously disappeared overnight, the discordant percussion also reflected the pace of his uncontrolled anxiety. The tempo was 132-144, and the instrumentation comprised triangle, tambourine, castanets, snare drum, tom-tom, suspended cymbal, clash cymbals, bass drum and tam-tam (see ex. 5.03). Once again, the music demanded more than just clear enunciation of short rhythmic phrases. To portray a sense of scurried confusion requires an awareness of one’s role within the greater whole and sensitive rendition of the part.

Ex. 5.03 Shostakovich *The Nose*, Entracte 434

This score, as well as illustrating the tension of this drama, also demonstrates some of the extra difficulties of presenting percussion performances. The

434 Shostakovich *Collected works*, volume 19, Moscow, State Publishers “Music”, 1979, p. 58
instrumentation is shown in abbreviated Italian, as is the sticking indication for the suspended cymbal (see ex. 5.04).

Ex. 5.04 suspended Cymbal part in Italian, Shostakovich The Nose, Entracte, figure 69

However, one playing direction for the pair of cymbals is in Russian - ТЕРЕТЬ ОДНУ О ДРУГУЮ – rub the two cymbals together. The part, however is labelled in Italian (piatti, abbreviated P-ti⁴³⁵) as is another playing direction of secco (see ex. 5.05). This is a further challenge for percussionists to be flexibly well-versed in multiple music languages to meet the lack of linguistic homogeneity, something which still afflicts some scores.

Ex. 5.05 Clash cymbals part in Italian and Russian, Shostakovich The Nose, Entracte, figure 70

This work, while it was for percussion instruments only, and untuned as well, and played a very useful function to enhance the dramatisation of the piece, was still only a small part within the consuming context of a larger work, the opera The Nose and so only has a raison-d'être within the drama of the whole opera.⁴³⁶

Soon after, however, there appeared the first compositions for untuned percussion ensembles as completely stand-alone compositions. They were Ritmicas 5 and 6 by Amadeo Roldán composed in 1930 (see ex. 5.06) and Ionisation by Edgard Varèse written in 1931 (see ex. 5.07). Performance details for the Roldán were in Spanish, and though more recent publications have English explanations of playing directions, instrument nomenclature is still in Spanish emphasising yet again the need for percussionists to have multi-lingual

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⁴³⁵ The suspended cymbal is labelled Piatto and abbreviated P-to.
⁴³⁶ It does nonetheless receive occasional performances outside of its operatic context, in percussion ensemble concerts.
instrumental knowledge. The Varèse was in French, though the 1966 edition had English translations and explanations.\textsuperscript{437}

The appearance of these two works in such close proximity was no coincidence as the two composers corresponded and Roldán introduced Varèse to the sounds of the Afro-Cuban percussion instruments some of which (cencerros, bongos, maracas and güiro) Varèse used in \textit{Ionisation}. Roldán was keen to add these instruments to the general orchestral palette.\textsuperscript{438}

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<table>
<thead>
<tr>
<th>Ritmica No. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clave 1 (muy aguda)</strong></td>
</tr>
<tr>
<td><strong>Cencerros</strong></td>
</tr>
<tr>
<td><strong>Clave 3 (grave)</strong></td>
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<tr>
<td><strong>Quijada</strong></td>
</tr>
<tr>
<td><strong>Clave 2 (aguda)</strong></td>
</tr>
<tr>
<td><strong>Bongó</strong></td>
</tr>
<tr>
<td><strong>Timbales de orquesta</strong></td>
</tr>
<tr>
<td>Marimbula or Contrabass (played pizzicato)</td>
</tr>
</tbody>
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Ex. 5.06 Amadeo Roldán, \textit{Ritmica No. 5}, bars 1-5, p. 1\textsuperscript{439}

The \textit{Ritincás}, are based on the Cuban dance forms of son, and rumba and expressed in at times poly-rhythmic intensity on traditional Afro-Cuban folk

\textsuperscript{437} Copyright assigned 1966 to Colfranc Music Publishing Corporation, New York

\textsuperscript{438} John Richard Hall, "Development of The Percussion Ensemble through the Contributions of the Latin American Composers Amadeo Roldán, José Ardévol, Carlos Chávez, and Alberto Ginastera" DMA Ohio State University 2008, pp. 23-37

instruments combined with timpani to produce a lively multi-timbral primitivism. Ionisation, was in Varèse’s words

[a musical representation of] inside a star the battering of the particles by one another, and more especially the collision of the ether waves (X-rays) with atoms, caus[ing] electrons to be broken off and set free … This breaking-away of electrons from atoms is called ionization.440

The conductor of the première performance and recording, Nicolas Slonimsky, wrote of the recording session,

We engaged the percussion players from the New York Philharmonic, but it soon became clear that they could never master the rhythms. In desperation, we appealed to fellow composers to take over the task; to them the Varèsian asymmetry was child’s play.441

These two works displayed different aspects of percussion. The Roldán, based on folkloric rhythms is the first work to notate these rhythms so that the folkloric elements are conveyed accurately.442 The Varèse explored the musical concepts of timbre, sonority and texture in a representational conception of sound.

Ionisation is the climax of his long exploration of the expressive power of percussion443

Both pieces present challenges to the performer. The Roldán requires an appreciation of the subtleties of Afro-Cuban dance styles and the technical capability to play the instruments in the traditional manner, while the Varèse needs accurate playing of the phrases within a poly-rhythmic structure as well as a sensitivity to Varèse’s conception of the collision of cosmic or ether waves.444

442 John Richard Hall, op. cit., p. 24
444 Professor George Gaber, who played the work under Varèse’s direction, stated it was a depiction of New York in 1931, though this was possibly a suggestion to give the players a concrete concept to assist the musical expression of abstract ideas. Weekend of Percussion, Victorian College of the Arts, Melbourne, June 1975.
Ex. 5.07 Edgard Varèse instance of score⁴⁴⁵

⁴⁴⁵ Edgard Varèse, *Ionisation*, Milano, Ricordi, 1931, p. 1
All of these compositions mentioned so far in this chapter recognise the use of percussion for very specific and varied effects. *Eastern Intermezzo* represented the sounds of the Indonesian Gamelan on European/American instruments, *Les Choéphores* emphasised dramatic elements of Greek tragedy. *The Nose* conveyed the sense of panic and flurried, directionless activity. *Ionisation* was a musical representation of cosmic activity, and the *Ritmicas* portrayed the folkloristic aspects of Cuban music. But almost all employed large numbers of players. The Milhaud used fifteen players, the Shostakovich needed nine and the Roldán and Varèse pieces called for eleven and thirteen players. Grainger also called for large numbers but when not enough were available, substituted pianos.\(^{446}\) This was a natural development from the orchestral tradition where percussionists were only called upon to play one instrument, and this only changed after Milhaud's *Concerto pour batterie* gave composers and percussionists the impetus to experiment with combining different instrumental groupings for each player.

Moreover, the increasing availability of a wide variety of percussion instruments from different cultures and their attendant techniques, coupled with growing demands made on percussionists by more innovative composers inevitably led to improvements in playing standards. This, in turn, encouraged composers to write more demanding parts. Contributing to this gradual evolution was the emergence of a percussion ensemble, *Les Percussions de Strasbourg* in the 1960s dedicated to playing and giving wider exposure to percussion works.

This impacted considerably on the percussion and music landscape. In 1967, forty-four years after the initial recording that percussionists from the New York Philharmonic Orchestra had difficulty with, the then director of *Les Percussions*, Georges Van Gucht, with Varèse’s approval rescored *Ionisation* from thirteen to six players by adapting instruments and having players play multiple parts while remaining true to Varèse's intent (see plate 5.03).

\(^{446}\) In the period February-April 1933 Grainger made [a new] version for Tuneful Percussion. It is written for trumpet, double bass, harmonium, 2 pianos, glockenspiel, 'Shaker', chimes and other bells, dulcitone and staff bells, metal marimba (vibrphone) and tubular bells, xylophone, wooden marimba. [http://www.percygrainger.org/progno10.htm](http://www.percygrainger.org/progno10.htm) accessed 2 October 2015
Varèse Edgard - *Ionisation*

**Creation:** 11/11/1967, Südwestfunk, Baden-Baden  
**Composed:** 1929 – 1931

**Number of musicians:** 6 percussionists (original version for 13 percussionists)  
**Duration:** 7 mn

Originally written for 13 percussionists and a conductor, *IONISATION* will be performed by the six Strasbourg percussionists, thanks to particular ways of making instruments (claves on a stand, pedal sirens, etc ...) which in no way mutilate the original version. This version for 6 percussionists was arranged by Georges Van Gucht, Strasbourg’s former Director of Percussion, with the composer’s agreement and was performed for the first time on 11 November 1967, on the Südwestfunk radio in Baden-Baden.

Plate 5.03 Information on *Ionisation* from *Les Percussions de Strasbourg* 447

The emergence of *Les Percussions de Strasbourg* changed the musical landscape as pieces began to appear that called for percussionists to play on a multiplicity of instruments in percussion ensembles. 448 Moreover, percussionists began to form into ensembles throughout Europe and the Americas to play these pieces. 449 In Australia this development emerged in the 1980s when local composers wrote for *Synergy* 450 and *Adelaide Percussions*. 451 The players encountered similar challenges to those posed by Roldán in his scoring of Afro-Cuban dance styles, and Varèse’s intricate poly-rhythmic phrases. These challenges are exemplified in the *Suite for Percussion Quintet* by Eric Bryce and *Loss* by David Morgan.

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448 Louise Devenish, “... And Now for the Noise: Contemporary Percussion in Australia, 1970-2000”, Doctor of Musical Arts, University of Western Australia School of Music, 2015, pp. 25-32  
449 Louise Devenish, *op.cit.*, pp. 12-16  
450 The Sydney-based percussion ensemble founded by Michael Askill  
451 Louise Devenish, *op.cit.*, pp. 69 & 88
5.3 Bryce Suite for Percussion Quintet

In 1980 Eric Bryce wrote a *Suite for Percussion Quintet*, (hereafter known as the Suite) being the first Australian jazz composition for percussion ensemble. The work is in three movements, *Prelude*, *Games*, and *Pranks*, and is firmly entrenched in the jazz idiom, with an A-B-A format. In this respect it follows a similar path to the *Ritmicas* of Roldán, presenting a percussion piece within a cultural context, using the traditional ways of playing the instruments, but with the addition of a few unusual sounds.

The work is straightforward with no intention of extending technique. Rather it aims to present a piece of jazz music using only percussion instruments. So the vibraphone and marimba are the main melody instruments, with glockenspiel, xylophone and tubophone adding some (usually higher range) melodic motifs, while timpani and kick drum provide the bass line and a variety of drums add rhythms.

It was written for *Adelaide Percussions*, a local Australian percussion ensemble and in that context explored some different avenues. The tubophone and flexatone are used to give a different instrumental colour, derabucca brings an exotic drum sound, and bowing techniques add a unique dimension to the piece.\(^{452}\)

The first movement, *Prelude*, opens with a glissando on wind chimes,\(^{453}\) which is added to by bowed cymbal and glissando on vibraphone 2. The bowed cymbal also produces a mix of sounds. The instrument used in the initial performance was an 18” quite heavy cymbal, which produced low fundamentals with some mid-range overtones, providing a balance to the higher sounds of the other two instruments. This mix of untuned overtones is reflected in the vibraphone 1 part, which calls for bending of notes longer than half notes (see ex.5.08).

\(^{452}\) These instruments and playing techniques were newly acquired by the ensemble.

\(^{453}\) The wind chimes were also known as a Mark Tree, possibly after the person who originated or popularised the concept.
Ex. 5.08 Wind chimes, bowed cymbal and vibraphone, Bryce *Prelude*, bars 1-9

It is further reflected in the xylophone part at letter B (see ex. 5.09), which called for the notes to be bowed and bent, which at that time was an unusual technical demand.\(^{454}\)

Ex. 5.09 Bowing and bending notes on xylophone, Bryce *Prelude*, bars 20-24

\(^{454}\) This sound is one I discovered during a workshop session with composers and performers in the Australian Contemporary Music Ensemble at Latrobe University in 1978, directed by Keith Humble. It is produced by bowing the note while moving a hard mallet from the node towards the centre.
A further innovation comes just before letter D with the introduction of a derabucca (see ex. 5.10). The instrument was newly acquired by the ensemble and Bryce decided to include it to add a further sound element instead of using bongos in every movement.

Ex. 5.10 Derabucca, Bryce Prelude, bars 42-43

When the concept of writing the work was discussed, Bryce expressed his reservation at composing a jazz piece for an ensemble that in his experience was so divergent from the norm of the jazz idiom. This reservation shows in the choice of the name Prelude as a title for the movement – to start with an idea that hopefully can be developed. So Bryce decided to add a few, to him new, sound sources to expand the harmonic and registral spectrum. The background was created with the untuned and unfamiliar sounds of wind chimes and bowed cymbal, overlaid with a mix of notes on vibraphone 2, and later also on tubaphone. Over the top then came four notes on vibraphone 1 (see ex. 5.11).

Ex. 5.11 Vibraphone, Bryce Prelude, bars 4-5

This immediately gave the impetus to reverse the direction of the notes, repeat the initial movement, and introduce variations (see ex. 5.12).
Ex. 5.12 Opening melody on vibraphone, Bryce Prelude, bars 5-9

A direction of Rubato allowed for some compositional flexibility; but by letter A the direction of the piece was set by the previous figures. Bryce then decided to continue on his experimental path and introduce the bowed and bent notes on xylophone, with rhythmic interjections on derabucca before introducing the vibraphone improvisations that typify the jazz idiom (see exs. 5.13 and 5.14).

Ex. 5.13 Mix of sounds with tubophone (stave 1, soft mallets), vibraphone 1 (stave 2), vibraphone 2 (stave 3), xylophone (stave 4), triangle (stave 5), bars 21-24

Ex. 5.14, Improvised section, Bryce Prelude, bars 50-54

The second movement saw a change of emphasis. In this movement, Bryce set firstly the two wooden keyboard instruments against each other, with the mellow lyrical tone of the marimba (top stave) interrupted by a hard, 'glassy' interjection from the xylophone (third stave), and an exclamation from the Guiro (bottom stave). The bass line was provided by the vibraphone (second stave)
and timpani (fourth stave), while the wind chimes (bottom stave) added more instrumental colour (see ex. 5.15).

Ex. 5.15 Variety of sounds from wooden idiophones, Bryce Games, bars 7-10

The xylophone (now with softer mallets) then dominated with a variation of the melody and echoed by the glockenspiel, while the marimba provided a chordal accompaniment (see ex. 5.16).

Ex. 5.16 Variety of sounds from wooden idiophones, Bryce Games, bars 14-20

In the second section the Games took on aspects of a hurdy-gurdy style repetition, with a repeated dotted eighth note, sixteenth note, quarter note rhythm in ascending movement on the xylophone, then glockenspiel and then tubophone before they joined to finish the phrase. The marimba took on a bass
role and congas echoed the rhythm of the melody (see ex. 5.17), which heightened the playfulness of mood, before reverting to the calmer opening section for the remainder of the movement.

Ex. 5.17 Second subject, Bryce Games, bars 61-75

For the last movement, Pranks, Bryce reverted to a more standard jazz format with both vibraphones playing the melody, and in the main sections supported in quasi-descant style by the glockenspiel. The timpani, sometimes in walking bass style, played a bass line, and bongos were used to give a driving rhythm section, while bowed (large, 24") cymbal, the marimba and the flexatone added extra timbre.
5.3.1 Performance challenges

Ostensibly, such a simple piece would not offer many challenges. However, a deeper examination reveals a different story of a piece that affected instrument use and through the choice of instruments also challenged the traditional ideas of jazz instrumentation. Moreover, it raised and still raises challenges of technique, which in turn affected interpretation.

Firstly, the piece introduced a range of new instruments into the jazz spectrum, and by doing so also strengthened connections between jazz and classical modes of music presentation. The timpani provided a bass line, vibraphones, marimba and xylophone, along with an extra range of harmonic instrumental colours from the tubophone and glockenspiel the melody and tuned harmony. The drum kit contributed the standard jazz rhythmic element to which were added the instrumental and timbral colours of the derabucca, bongos, cymbals, wind chimes, triangle, congas, güiro and flexatone. This mix and use of instruments expanded the horizons of presenting a jazz performance and simultaneously brought a strong jazz influence into the classical concert sphere, giving an extra dimension of percussion only to both. This also affected playing techniques.

As has been discussed in previous chapters, when instruments are extracted from their cultural contexts the method of and approach to playing them also changes. Thus the playing action on the derabucca was an adaptation of the action used on congas and bongos, with the low sounds educed with the hand playing at the centre of the drum and high sounds produced by fingers at the edge. Wind chimes, being at the time a newly invented instrument, had no cultural context. They had become the instrument of choice over the bell tree as more convenient, lighter, easier to transport and more flexible to play, as specific mallets were not required. Quickly the standard method of playing them became a straight glissando across the entire length of the tubes to give a full-toned sound. However, Bryce did not specify any details of this glissando, reflecting his personal greater interest in the music than the detailed particulars of
So any kind of glissando, provided it produced a musical sound would be acceptable, and this opens up a few possibilities. It could be interesting to, for example, play in contrary motion to the glissando on the vibraphone. Alternately, a very slow glissando could, by juxtaposing two different speeds, on wind chimes and vibraphone, create a changing set of harmonies. A third approach would be to generally imitate the method used to play a vibraphone glissando, and play a ‘stepped’ glissando by playing on a few of the tubes in one spot for a few seconds before moving to the next spot and repeating the process across the range of the instrument. Thus the playing action could be expanded from a straight movement across the length of the instrument to a greater and more delicate use of finger technique. Bryce also did not specify the type of wind chimes, but the instrument that was available was made of brass tubes and that was the sound he had in mind.

This movement involved in playing the derabucca, meant the movement also was closer to that used on congas and bongos, while the movement on the wind chimes introduced a subtle difference. A more obvious impact of the piece was seen on the tubophone. The bars of the tubophone are round (see plate 5.04).

Plate 5.04 tubophone (from the author’s collection)

455 Conversations with the composer between 1974 and 2006
456 As the piece developed in performances these various playing actions have been more in evidence.
457 Conversation with the composer during rehearsals 1980
458 This was modelled on the tubophone in the Percussion Department, Indiana University.
Consequently, when the mallets strike the bar, they will bounce off at an angle of reflection according to the laws of physics, and in a similar manner to light rays (see plate 5.05).

Plate 5.05 Reading on Refraction, part 2

The black line in the diagram represents the stroke hitting the middle of the bar. If the mallet hits the bar at this point it will bounce back in a straight line directly above the bar. The other coloured lines indicate how far away from the middle of the bar the mallet will bounce if played away from the centre. It is important then, when playing the tubophone, to focus not just on the notes to be played, but the spot on the bar that needs to be hit, and subsequent movement. Even though the tubophone part in the first movement of Bryce’s Suite is quite gentle, it nevertheless calls for concentration as the part is quite exposed (see ex. 5.18).

Ex. 5.18 Tubophone, Bryce, Prelude, bars 25-35

In addition to this type of movement, the movement between instruments is also an issue, and is discussed in the context of logistics, below.

One issue that cause difficulties is that of sound, as the conception and realisation of it can be very different in the minds of composers and players. The former will envisage sounds as related to the type of sound wanted for the piece.

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459 [https://www.asu.edu/courses/phs208/patternsbb/PiN/rdg/lenses/lenses2.shtml](https://www.asu.edu/courses/phs208/patternsbb/PiN/rdg/lenses/lenses2.shtml) accessed 18 November 2015
performers often will relate to the specifics of the instrument and beater. As a result when the piece is written, not all decisions arrived at by the author are seemingly achievable. These then must be addressed by the percussionist who makes more practical decisions while keeping in mind the intent of the composer. One such instance here is Bryce’s specification of mallets that were not seen to be appropriate. Soft mallets on vibraphone for example, while producing a beautiful and gentle tone, do not project. Similarly, soft mallets are inappropriate on the xylophone. And so the percussionist, in interpreting the effect that is required by those directions will adapt the mallet choice by following the spirit of the directions rather than the letter. In these instances a discussion with Bryce solved the difficulty. The vibraphone was played with slightly less attack and softer i.e. hard rubber mallets were used on the xylophone. As so often happens, these alterations were not written into the score and the issue of achieving the required sound and good instrumental balance remained and still remains in the hands of the percussionist.

This is also demonstrated in the part written for derabucca as it allows for some interpretation. The part, as written, is very simple and even the extensions at D (see ex. 5.19), some eight bars later (see ex. 5.20), again at letter F (see ex. 5.21) and later (see ex. 5.22) are only minimal. The derabucca part is on the second stave from the bottom in each example.
However, the part is more of an indication of the important rhythmic elements, allowing room for some improvisation within it. The two notated sounds are obtained by playing at the edge for the higher sound and the centre for the lower. Nonetheless, there are varieties of nuance within those notations obtained by playing, for example, at the extreme edge, and even producing a pseudo-rim shot. Equally, the lower sound can be produced with a flat palm, with a cupped palm, or with fingertips to produce a variety of low sounds. These different high and low sounds can increase the tonal spectrum of the piece. Secondly, the part can also be expanded with the addition of grace notes, though it is important to note that the derabucca is nonetheless minor, and supportive of the lead instruments. Its essential role is to provide a strong rhythm along with the Drum Set under the two improvisation sections – a gently swung, laid back improvisation on vibraphone 1, followed by a driving Mambo-Rock on vibraphone 2.

This is not notated and indeed the notation, though simple and generally traditional is not always clear. The güiro in the second movement, Games, is notated as a glissando with a diagonal line leading up to the ‘note’ (see ex. 5.23). The questions this raises are whether the stroke should finish on the fourth beat, start on it, or be nebulously placed within the general compass of it and how long the stroke should be. The presence of the accent on that beat further complicates the issue. Bryce, in fact, intended the stroke to start on the fourth beat, be very short and finish with an accent – in short to provide an end the previous phrase as an exclamation mark on the xylophone's emphatic statement.
In addition, the piece presents other challenges. The combination of large and small instruments carries implications for the logistics. On the one hand, sightlines between players need to be preserved, without ignoring the aesthetics of the presentation as various instruments play leading roles at different times in the piece. So, depending on the configuration of the stage and demands of other pieces in the concert, an elementary starting point would be the placing of the two vibraphones facing each other in a slight 'V' formation and ringed by the other instruments in a semi-circle, with the details determined by the allocation of parts, as there is no need to keep to the order in the score. If it were possible to have this second ring of instruments raised, or have the stage below the level of an audience in raked seating, this would also add a visual element of enjoyment to the piece. Moreover, visual aesthetics would be aided by eliminating as much extraneous movement as possible by, for example, placing the smaller instruments like the derabucca on easily accessible stands, thus obviating the need for extra chairs.

The musical intent of the work is clearly to present a jazz piece as performed on purely percussion instruments, but the details reveal a second layer with implications for performance. The Prelude begins with a mix of metallic sounds that shroud a simple a melody and this develops out of the mysterious sonic fog into a simple tune, still depicting this metallic atmosphere. Into this metallic

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460 It is of course more valid to divide the parts according to the relative strengths of the players.
461 This option was not available when the piece was conceived.
sketch intrudes the wooden sound of bowed and bent xylophone notes to extend the mystery as it gradually changes character with the introduction of skins and leads to a characteristic jazz improvisation. The derabucca, as discussed above can provide some mystery as the part can be variously interpreted, and improvisation in music always operates on a level of mystery. The movement climaxes at the end of the second improvisation and from that point gently recalls the early elements of simplicity and air of mystery, though this time with the former in ascendancy as the movement fades away.

The second movement, *Games*, can be heard as a parody on life, where people are set against each other, whether this be physically in sport, or children's games, or psychologically in politics, where the *Games* can take on a different dimension. The movement has no improvisation section, so the notation is to be followed as written. In addition, there is no indication to ‘swing’, all of which was deliberate on Bryce's part. He often in conversation reflected on aspects of life, but usually as gentle commentary, and never directly indicated that the piece should be any more than it appeared. However, he did like the slightly ‘crazy’ elements in the performance, such as the extra ‘bite’ given in performance to the single, fast and accented güiro strokes such as in the sixth bar after A. The faster section, from D to eight bars before F, could be heard simply as more light-hearted, or as something more sinister. As the score gives no clues as to whether a more sinister interpretation was appropriate, either interpretation is valid.

The ‘prank’ of the third movement is the suggestion in the opening phrase that the two vibraphones will be in opposition to each other, over the grating sound of the bowed cymbal, engaging in argument. The listener then steels her/himself for a conversation of conflict. By the fifth bar however, they are playing ‘harmoniously’ together, and continue in that vein through most of the piece (see ex. 5.24). Even the two improvisational sections are in the same “easy swing feel”,462 conveying similar moods.

462 Composer's direction at letter D, bar 15
Ex. 5.24 Opening third mvt, Bryce Pranks, bars 1-8

The work overall is ostensibly a simple piece as it does not have high technical demands and as such might be seen as contributing very little to the repertoire. However, as the first jazz piece for a mixed percussion only ensemble it does open a door for the genre by introducing some new instruments such as flexatone, derabucca and tubophone, highlights the importance of developing improvisational skills; and explores new ranges of sound sources such as bowing and bending xylophone notes. In the area of technique there is an obvious transference of skills from jazz into classical along with the extension of non-percussive techniques. It also requires careful consideration of issues of logistics and aesthetics of the presentation. Its simplicity moreover should not blind the performer to the idea that it can offer possibly biting insights into life as exemplified by the Games movement. Finally, the simplicity of the work also carries with it the implicit thought that simplicity of concept can best be enunciated through a perceived and real ease in its realisation, through a relaxed approach of technique.
5.4 David Morgan *Loss for Percussion Quartet*

In 1982 David Morgan wrote *Loss* for Percussion Quartet, a work that was inspired by two kinds of loss. *Solidarity*, the Polish trade union, had been crushed after only just a year from inception; and the brother of a close friend of the composer’s had died in mysterious circumstances at age 28. These two events were linked as they both concerned death at an early age. The first was the demise and death of a significant trade union, which wanted to protect the rights of the vulnerable workers and improve their living conditions. However, the movement grew beyond its original charter to demand more honest and transparent government to counteract abuses in the system. The ‘Strike Poet’ declaimed on the ‘Strike Radio’ in the town of Rzeszów previous government attempts to keep workers silent on abuses.

The times are past
when they closed our mouths
with sausage.464

Morgan’s empathy with the workers’ demise and the despair he felt at the pessimistic outcome that ensued was made palpable to me in a conversation in 1981.465 As well, with the ever-growing popularity of *Solidarność* (Solidarity) threatening the Soviet control of its satellite states, it was crushed in its infancy just over a year after it began. Moreover Morgan’s commissioner’s familial roots were in Poland and so both personal and political connections to Poland and its workers were forged, thus inspiring his response in *Loss*.

The second ‘loss’ was also personal in that it related to the enigmatic death of a brother of a dear friend. As a known young adult his loss emphasised the despair

\[\text{\scriptsize 463 At the time the crushing of Solidarity seemed permanent. The events are well covered by Timothy Garton Ash, *The Polish Revolution 1980-82*, London, Jonathan Cape, 1983. The Introduction gives the historical context, pp. 1-34.}\]
\[\text{\scriptsize 464 Timothy Garton Ash, *op.cit.*, p. 128}\]
\[\text{\scriptsize 465 At the time we worked together in the Music Branch of the Education Dept of SA and often discussed musical and other matters. The drop of the shoulders that accompanied his ‘oh’ of disappointment in reaction to a comment of mine betrayed his depth of feeling on the matter.}\]
\[\text{\scriptsize 466 Timothy Garton Ash, *op.cit.*, pp. 343-349 (chronological table of events).}\]
of unrealised potential. Personally moved by both these events Morgan wrote a representational work expressing the depth of emotions surrounding them, and to portray them in a number of contexts. This concept of ‘loss’ as reflected in the score will be examined in terms of the implications for technique and performance.

The work is in five movements entitled, Battery, Funeral Music, Requiem, Cloud Cuckoo Land and Fons Amoris, with the fifth movement as long as the first four. The first four movements deal with life and death on earth, while the fifth alludes to adjusting to life after death, with the power of love being central to restoration. The first movement, Battery is, according to the composer, ‘Short, rhythmic and emotionally detached’.

On a superficial level this description of the movement is correct, but a closer examination reveals a deeper narrative, and one more closely related to the title of the work. The movement begins with snippets of tunes on marimba, xylophone, vibraphone and glockenspiel, all reminiscent of birdsong, and followed by slow tam-tam strokes at a piano dynamic. Thus the opening scene is ostensibly set for a pastoral idyll where life is harmonious and unsurprising (see ex. 5.25).

However, the tam-tam’s soft, long and lone sound of some thirteen bars underscores the imminent violence of an unexpected event portrayed in the next phrase by the snare drum, used to presage the coming disaster of death (see exs. 5.26 - 5.29).

467 David Morgan, Loss, 1982, manuscript, program notes
468 Morgan was acutely aware of the number and variety of birds in his garden at Glenelg North (a seaside suburb of Adelaide), and in conversation often referred to their songs as a source of inspiration.
Ex. 5.25 Opening, Morgan Battery, bars 1-21

This serenity however, is rudely fractured by the entry of a martial motif on the snare drum at a *fortissimo* dynamic, and repeated nine times. The snare drum rhythm at *Tempo Giusto* of \( \alpha = 76 \), though martial, is not a march.

Rather, it is the menacing presence of imminent death. It can allude to the massing of troops to violently crush a protest, or the shock and horror of the unexpected death of a loved one. Against this bellicose rhythm (snare drum, stave two) are heard the softer metal sounds of the tam-tam (stave one), cup gongs (stave three) and glockenspiel (stave four), though not in the gentle harmonies of the initial birdsong. Instead, they produce more jarring sounds, suggesting a confusion of normality disrupted, an abnormality in the timing of events, even possibly nature itself being affronted by the events (see ex. 5.28).
And symbolically the birdsong has disappeared to be replaced by the disorientation of harmony lost.

Ex. 5.26 Snare drum martial motif, Morgan Battery bars 22-25 (motif repeated across bars 22-63, player 2)

Ex. 5.27 six cup gongs, Morgan Battery (motif repeated across bars 30-62, player 3)

Ex. 5.28 glockenspiel, p. 2 Morgan Battery (motif repeated across bars 35-62, player 4)

Ex. 5.29 Tam-tam, snare drum, cup gongs, glockenspiel, Morgan Battery, bars 30-36

The sudden drop in dynamic for the snare drum, itself muffled (see ex. 5.30) at bar 64 to **ppp quasi niente** is a dramatic introduction to the **piano, Lento** section, in which the marimba plays a fragment of the previous glockenspiel motif creating the expectation or pressing desire to return to the idyll of the birdsong (see ex. 5.31).
Ex. 5.30 *ppp* snare drum, Morgan *Battery*, bars 64-65

Ex. 5.31 Marimba entry, Morgan *Battery*, bars 70-71

But after eight bars this gentle sound is drowned out by the return of the snare drum and cup gongs shattering all illusions and insisting on the return to reality (see ex. 5.32). There will be no escaping the horror of loss.

Ex. 5.32 ‘Shattering of illusions’, Morgan *Battery*, bars 74-78

A variation of the martial rhythm returns at bar 103 in 3/4, this time with snares off. Set against it, the glockenspiel and xylophone play the same motif in 9/8, but in rhythmic juxtaposition to each other, and joined by the timpani playing in 6/8 to reinforce the insistent presence of the military menace (see ex. 5.33).
Ex. 5.33 Martial motif at faster tempo, Morgan *Battery*, bars 102-112

The implied violence of the dynamic and motifs increases in intensity as all four players gradually move to untuned instruments and continue this martial atmosphere, building the threat and insisting the victims’ attention be given to the intimidating action (see ex. 5.34).
The release of tension with the return of the xylophone and vibraphone playing the glockenspiel motif only serves to provide a hiatus before the climax of the movement, or moment of death, in bars 149-150 (see ex. 5.35).

The death, of both the young man and the trade union, is sudden, and in itself complete, palpably shown in the silence of the two beats rest. However, in the greater scheme any one death is but an incidental event followed by the aftermath, usually emotionally muted. So the glockenspiel, supported by vibraphone and marimba, reiterates its motif over a pianissimo martial theme on
snare drum (see ex. 5.36). The vibraphone continues its chordal variation of this motif over Woodblock, timpani, and tam-tam, and all at a piano dynamic to the end of the movement. This section however, does not signify a return to the pastoral idyll suggested at the beginning of the movement. Instead it represents the immediate time after death, when the forces of circumstance and the emotions of people become aligned to the expectations of the post-death event of the Funeral.

Ex. 5.36 Reiteration of tuned motifs over snare drum, time after death, Morgan Battery, bars 145-158

The second movement, Funeral Music, is based on the style of the Marche Funèbre from Chopin’s Piano Sonata No.2 in Bb minor,469 and is an obvious allusion to the Polish situation of the crushing of Solidarity under Communist

469 Chopin wrote the Funeral March in November 1838, which was the anniversary of one of the most tragic events in Polish 19th century history– the November Uprising. Wojciech Oleksiak, Breaking it Down: Chopin’s Sonata No. 2, http://culture.pl/en/article/breaking-it-down-chopins-sonata-no-2 accessed 4 April 2016
direction. This was made poignant by the very clear connections, firstly with Chopin’s Polish roots and secondly, that he wrote this movement of the Sonata on the anniversary of the quashing by Russian troops of the Polish rebellion against the Tsar in 1831. These historic parallels heighten the intensity of the narrative drama of *Loss*.

However Morgan’s aim in using this motif is to mirror death and not particularize it only to Solidarity. And so both types of death are encompassed—political and personal. He further portrays three narrative funereal elements relevant to the deaths of both Solidarity and the young man. These are the funeral itself, the despondent movement away from the grave or the location where Solidarity met its demise, and the emotions connected to the grief. These are the inspirations for the reflective musical elements of orchestration, as well as the musical flow and contrast.

Morgan simultaneously treats these funereal elements of national and personal mourning and grief. He also contextualises them in a nebulous set of circumstances that lacks finality, because in both instances the people are left in a state of uncertainty and the situations lack resolution. The *Solidarity* trade union was crushed without formal surrender and the brother died in mysterious circumstances. Consequently, Morgan intertwines these two events in a collage of musical motifs, overlaying the sorrow of the Chopinesque *Funeral March* with the tenor drum slow march and measured footsteps of the marimba’s quarter notes and underpinned by the lingering darkness of atmosphere on bass drum and tam-tam. This is established in the opening four bars (see ex. 5.37).
Morgan accentuates the sadness that accompanies the loss of loved ones setting a poignant melody over the military slow march on drums and the marimba's footsteps. He achieves this by stretching the melody across the common time signature, giving the vibraphone its own set of time signatures of 7/8 and 6/8; and is guided in this by his belief that particular time signatures determine the playing style (see ex. 5.38).\textsuperscript{470} For the players this presents challenges of timing and ensemble that need to be met before the phrase can be thought of in terms of interpretation. The rhythm of each part needs to be mastered within the longer phrase and with an awareness of the other parts; and the whole performed at a soft dynamic to convey the grief at the loss.

\textsuperscript{470} He iterated this belief in discussions during the compositional process and during rehearsals, 1981-3 and the issue was debated among the players.
Ex. 5.38 Juxtaposition of time signatures, Morgan *Funeral music* figures D and E

The outward manifestations of grief in the melodic lines of marimba and vibraphone are underlaid with the emotional turmoil of the drums and higher melodic instruments. This juxtaposition of internal confusion and external order is emphatically stated with a scoring over three time signatures. The recapitulation in 3/2 of the original melody on the vibraphone is set against a series of descending diminished chords on marimba in 3/4, arpeggiated on glockenspiel in 6/8, and juxtaposed against a 6/8 pattern on Drums (see ex. 5.39). So again, matters of timing and ensemble arise, though are simpler to resolve. Nonetheless, the movement of the music is different in these various time signatures, so each player needs to master her/his own part and then be aware of the other parts in order to fit seamlessly with them.
Ex. 5.39 Emotional turmoil, Morgan *Funeral music* figures F and G

The roles of vibraphone and marimba interchange, and the glockenspiel provides an ethereal counterpoint before all parts coalesce in 4/4 and forcefully declaim the *Marche Funèbre* (see ex. 5.40).

Ex. 5.40 ‘Metal beaters on vibraphone’, Morgan *Funeral music* figure H
Moreover, Morgan is aware that grief comes in a variety of forms, and uses the timpani and xylophone to express this (see ex. 5.41). The xylophone phrases ascend in minor seconds to climax on diminished or seventh chords before finishing in similar style at a softer dynamic. The timpani begin with the military funeral march on C, ascend to Gb and roll in a downward glissando to F. The effect is representative of a welling up of emotion before a slight release precedes the next welling up.

Ex. 5.41 Welling up of emotion, Morgan *Funeral music* timpani (bottom stave), figure I

A series of these waves of emotion bring back the Marche Funèbre at ff before softer tears are heard on marimba, xylophone and glockenspiel against snatches of the Marche Funèbre as the movement gradually fades to a calm resolution (see ex. 5.42).
A fortissimo low tam-tam note heralds the Day of Wrath in the third movement, the *Requiem*. The hubbub of anguished souls is depicted on the timpani and tomtoms and is followed by the ‘gnashing of the teeth’ as the small tam-tam is scraped with a triangle beater (see ex. 5.43).
Ex. 5.43 Opening Morgan *Requiem* bars 1-17

The judgement and condemnation of these souls is emphasised on the small bass drum before being taken up by the other drums, with the occasional glimmer of happiness heard from the triangle (see ex. 5.44).
Ex. 5.44 Judgement and condemnation on bass drum, Morgan Requiem bars 19-22

The judgement climaxes with an **ffff** tam-tam note and the *Dies Irae* is pounded on the timpani as the tom-toms and snare drum emphasise further the condemnation (see ex. 5.45).

Ex. 5.45 Climax of judgement and *Dies Irae*, Morgan Requiem bars 32-35

No relief is offered by the ascending, incomplete scale passages on the tuned instruments, which revert to descending passages announcing the descent of the souls into hell as the tubular bells more deliberately toll out the *Dies Irae* (see exs. 5.46 and 5.47).
Ex. 5.46 Ascending scale passages, Morgan *Requiem*, bars 36-41

Ex. 5.47 Descending scale passages, Morgan *Requiem*, bars 51-61
This is followed by the day of battle, *Dies Belli*, between the forces of good and evil, whether these forces be external as the human combatants in the demise of *Solidarity*, or internal in the soul of a recently departed loved one. In either case the battle intensifies with the addition of more snare drums over the constant pounding of the bass drum in a quick march (see ex. 5.48).

Ex. 5.48 *Dies Belli* 'Day of Battle', Morgan *Requiem* bars 77-86

The march is interspersed with the movement of people, depicted on tom-toms, woodblocks and templeblocks, and a brief respite from conflict on the keyboard instruments at *piano* volume before the battle's conclusion and segue into the *Rex Tremendae*, acclaiming the glory of the Great King.

The battle is over, the Funeral March concludes, judgement is pronounced and the spirits pass into eternal light, *Lux Aeterna* and rest, *Requiem Aeternum In Paradisum*. The *Lux Aeterna*, *Requiem Aeternum* and *In Paradisum* are notated for the ethereal sounds of vibraphone and glockenspiel and call for the other two players to chant the words in time. In total contrast to the rest of the movement this last section is very calm and quiet, resonating the peace of spiritual resolution (see ex. 5.49).
Ex. 5.49 Acclaiming the glory of the Great King and coming of eternal Light, Morgan Requiem bars 151-161

With the funeral behind, Morgan moves the attention of the listener to those affected. The loss of the young man unfurls deep, unresolved grief with questions unanswered and an inexorable void left by his departure. Similarly, the loss of a powerful force in society like Solidarity leaves a vacuum. Musically, Morgan expresses this as an existence in *Cloud Cuckoo Land*, a place or time of suspension of reality, where the consciousness, either personal or communal, is totally disoriented and almost fringing on madness, with the Australian colloquialism for it being 'cuckoo'. The movement begins with the sound of the cuckoo on xylophone and marimba with an extra tension of 'shuffling' sixteenth notes on the tubo (metal shaker). An attempt to create a melody on vibraphone also slides into a cuckoo interval where it is joined by a cuckoo whistle and the
grating effect of the guiro. This disorder increases in volume and degenerates into a cacophony of sounds of whistles, sirens, catcalls, jeers and shouts followed by a sudden and so dramatic silence of one beat (see ex. 5.50). This derisiveness is directly called for by Morgan who states, 'The general dynamic to be forte, the effect irritating and derisive'.

Ex. 5.50 Emotional turmoil, Morgan Cloud Cuckoo Land, bars 16-26

The sense of order that returns in bar 27 is only illusory. The figures are rhythmic, but the content is still one of the madness of cacophony. Its rhythmic constancy merely allows an even crescendo to intensify the insanity and lead to a pounding, cracking hurricane of sound to beat on the mind (see ex. 5.51).

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471 Playing direction from the composer and written into the score. David Morgan, Loss for Percussion Quartet, manuscript in author’s collection, 1982
A small breathing space of calm very quickly turns into the craziness of a merry-go-round hurdy-gurdy aptly played on a small casio, battery powered keyboard that has a thin, tinny sound lacking in substance. This evinces a state of psychological chaos, an effect increased by the accompaniment on imitation toy drums. The drums are tuneable drum practice pads with the internal foam removed to give a ‘tinny’ approximation of the sound of toy drums, as demonstrated in the video (appendix B). This also overcomes the difficulty of mounting actual toy drums and so the analogy of almost chaotic child-like retreat into temporary madness gives no respite from the grieving (see ex. 5.52).
Ex. 5.52 More craziness, on casio and toy drum, Morgan *Cloud Cuckoo Land*, bars 41-59

The movement ends, after a quick farewell from the cuckoo, with two very loud ‘cuckoo’ chords followed by a stroke on two tam-tams that is to die away of its own accord. This is a very strict instruction from the composer to enhance the moment of emotional transformation from chaos to cessation that occurs naturally within the grieving process (see ex. 5.53).

So, after an extended roller-coaster emotional period, where grief and the sense of disorientation interspersed with even madness, may seem interminable and without relief, and where the vacuum created by the departed entity appears almost endless, it all suddenly stops. After a long period the emotional intensity just evaporates; and this was scrupulously reflected in the musical dynamic, structure and flow by Morgan.
Ex.5.53 Closing bars, Morgan *Cloud Cuckoo Land*, bars 60-70

The final movement, *Fons Amoris*, has as a heading, a quote from John Donne

“...’twas but a dream of thee.”472

The movement is in Morgan’s words “evocative of the consolation and power of love”.473

As such it is a counter-balance to the previous four movements, which are concerned with the loss of love, of life, of freedom, and therefore it is fifteen minutes long - as long as the previous four combined (see ex. 5.54).

472 John Donne *The Good-Morrow*, a song to Anne More, who he secretly married in 1601.
473 David Morgan, *Loss*, 1982, manuscript, program notes
Philosophically this idea seems logical and satisfying. However, it is difficult to maintain interest over such a long period of time, and Morgan was probably too close emotionally to the events that inspired the work to be able to inject any lightness into this movement. Consequently it seems repetitious of the same theme at a slow tempo and generally soft dynamic exacerbating the long tremulous intervals between changes of mood. In the first hundred bars there are only a few interjections at \textit{mf} or \textit{f} levels. Perhaps the tension created by this nearly six minutes of soft, gentle atmosphere of stillness is the reason behind the crescendo from \textit{p} in bar 101 to \textit{fff} in bar 107 and scream in bar 111 before returning to the placidity of the previous dynamic (see ex. 5.55).\textsuperscript{474} Grief too, often returns at unexpected moments to interrupt the muted calm of the new situation.

\textsuperscript{474} Morgan's comment to me was that "I just felt at that point that I had to scream."
Ex. 5.55 *ff* interjection and scream, Morgan *Fons Amoris*, bars 107-117

The movement continues in similar gentle vein, as life does, broken by occasional interjections of *forte* phrases seen in bars such as 144-5 (see ex. 5.56) and again in bars 159-164 (see ex. 5.57).
Ex. 5.56 *forte* interjection, Morgan *Fons Amoris*, bars 144-146

Ex. 5.57 *fff* interjection *Morgan Fons Amoris*, bars 159-164
The only other noticeable change of mood occurs at bar 247 with the introduction of greater movement into the piece on glockenspiel (stave 1) and tubophone (stave 2) introducing a slightly lighter vein (see ex. 5.58), though in reality there is little change to the overall mood or sound.

Ex. 5.58 Brief change of mood, Morgan Fons Amoris, bars 247-254

At bar 259 the gentleness resumes till 290 (see ex. 5.59), at which point the glockenspiel and vibraphone have moving parts till almost the end at a slower tempo of $\text{\textbf{j}} = 72$. 
Ex. 5.59 End of piece, Morgan *Fons Amoris*, bars 296-299

However, even with those few interjections the mood is generally unchanging, and at fifteen minutes is too long to maintain interest. A movement of five to seven minutes would amply depict the ‘power of love’.

### 5.4.1 Performance challenges

This piece was Morgan’s first for percussion ensemble and was commissioned as part of a plan to encourage Australian composers to write for this medium, in order to produce a significant body of such Australian compositions. So as to
have as broad a range of pieces as possible, few restrictions were imposed on the composers save an indication of the instruments that were available, sometimes an idea of duration, and an encouragement to write in their own style. It was also agreed that there would be as much collaboration and feedback in the process as the composers and performers felt was necessary.

Such an approach presented a number of challenges for performance. Firstly, the most obvious was the number of instruments used. In this piece, Morgan scored for some seventy-five instruments. Furthermore, the piece introduced the idea of multiples of the same instruments, with multiple bass drums, snare drums, tam-tams and woodblocks adding a greater depth to the soundscape of the work. As a result, the relative timbres of each of these instruments emphasise the intricacies of nuance of sound and highlight the relationship between the tuning of each instrument and its place within the sound spectrum. These details of instrumentation place the work out of reach of most players outside of institutions, as even orchestras would not necessarily have those numbers or types of instruments.

Secondly, the nature of the instruments could present challenges. The work was written specifically for *Adelaide Percussions* and the instruments in their collective possession. So instruments such as tubophone, cup gongs (trompong) and wind machine would not be readily available to all ensembles. The tubophone was home made. The wind machine was also a homemade instrument, and the cup gongs were a set of Balinese trompong for which a stand was made. Although tubophones are no longer produced, crotales or a second glockenspiel could be used, as the range is the same. There would be a loss of resonance, but this is not crucial to the ambience of the piece; and using a slightly softer set of beaters would give added contrast. If a wind machine were not available, a gently played thunder tube would be an acceptable substitute, as would any set of six gongs, preferably small to medium, to generally replicate the trompong.

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475 The instrument was based on the measurements of the instrument in the Percussion Department at Indiana University.
Like the Bryce Suite, *Loss* also had an effect on playing technique. Morgan also scored the tubophone, so the same issues of playing action apply here as well as to the Bryce. Moreover, Morgan extended the technique, with triadic chords and moving passages (see ex. 5.60).

![Ex. 5.60 Tubophone, Morgan *Fons Amoris*, bars 225-234](image)

In the third and fourth movements, *Cloud Cuckoo Land*, Morgan calls for whistles, catcalls, and other derisive sounds, a direction that demands the players suspend any personal or musical inhibitions and embarrassments - anything less than a full commitment to the direction nullifies the effect (see ex. 5.61).

![Ex. 5.61 Whistles and derisive noises, Morgan *Cloud Cuckoo Land*, bar 25-26](image)

In addition the vocal sounds also need to be made while playing certain instruments, involving an extra level of coordination, and one not usually called for (see ex. 5.62).
Ex. 5.62 p Coordinating voice and instrument, Morgan *Cloud Cuckoo Land*, bar 27-33

As both need to be clearly and convincingly articulated, this demand is a definite extension of technique, which also impacts on visual aesthetics of presenting this derisive, irritating annoyance. Similarly the chanting in the *Requiem* also needs to convincingly impart an ethereal atmosphere (see 5.63). In both examples a direct and personal connection needs to be made between the players and the audience that is not reliant on the intercession of instrumental presence.

Ex. 5.63 Chanting, Morgan *Requiem*, bars 165-170

Moreover, in the *Requiem* in bars 54-67 the xylophone and marimba players have to play a motif of five eighth notes in a repeated pattern (eighteen times) playing double stops of sevenths at a tempo of $\frac{1}{12} = 84$ at a *forte* dynamic (see ex. 5.64).
While not impossible, at the time of writing this technique of such speed of execution was not evident in the repertoire. To achieve the desired effect of the violent passage of the soul into hell required dedicated practice of upstroke playing action using full wrist movement to play the notes and arm movement to move across the notes. Only with this full action is it possible to produce the necessary sound. This level of playing is now an accepted part of a percussionist’s technical armoury.

A further challenge presented by the piece concerned the physical movements of the players caused by the need to incorporate fast changes between instruments without interrupting the flow or atmosphere of the music. For example, Player 3 in the second movement needs to change from xylophone to glockenspiel and then to snare drum/bass drum, with the moves befitting the dignity of a funereal atmosphere (see ex. 5.65).
Ex. 5.65 Changing instruments as edited, between xylophone, glockenspiel, and snare/bass drum, Morgan Funeral Music, figures E to I

The first change at letter G is not difficult if the glockenspiel can be set up near the xylophone, because the same mallets can be used for both. It would also help if there were two glockenspiels, as Player 1 also needs access to one. The second change is a little more awkward. Snare drum sticks are needed to play the rolls on the snare drum, so either a stick change needs to be executed or snare drum sticks with plastic ends used for the whole section from the entry of the xylophone. Moreover, if only one snare /tenor drum/ tom-toms/pedal bass drum set up is used there needs to be a quick change between Players 1 and 3 at rehearsal letter H (see ex. 5.66).
Ex. 5.66 Sharing instruments, edited part, Morgan *Funeral Music*, figures F-H. Player 1 starts the page on tenor drum/bass drum. 476

All these changes, even if quick, need to either be imperceptible or appear slow to match the funereal atmosphere. As Player 3 needs to return to glockenspiel and xylophone, the second option of double-ended beaters is preferable, as the change would not appear jarringly out of context. Alternately, the beaters could be changed as part of the motion in playing the last note of each phrase. Player 1 would need to use snare drum sticks with a hard felt end, or play the tenor drum with the wooden end of timpani beaters.

Then the sharing of the instruments needs to be practised to effect a smooth changeover. If the tomtoms can be set up on a high and separate stand above and behind the pedal bass drum, they and the pedal bass drum can be played in a standing position. The tenor drum can be positioned to their left, or the low tomtom could be used as a tenor drum, with the snare drum on the right. One possibility is for Player 1 to play the bass drum with her/his right foot with the tenor drum on the left of the bass drum. After playing the bass drum part in the Bar before H, Player 1 would quickly turn the beaters round and move to the timpani. Then Player 3 could play the bass drum with her/his left foot with the snare drum to the right of the bass drum (see ex. 5.67).

Ex. 5.67 Changing beaters, edited tenor drum/3 tomtoms/bass drum, timpani part, Morgan Funeral Music, figures F-H

Clearly then, the appearance of this work has forced percussionists to consider more than just the notes of a piece. Having to resolve such pressing matters of movement in the set-up of the instruments has also involved editing the parts to make the playing efficient and to be able to execute appropriate movement between instruments to complement the mood and atmosphere of the music.

The choice of beaters also becomes an important issue in consideration of the quantity of instruments to play, and the different nuances of sound required. As discussed in chapter one, certain instruments or technical figures need specific beaters, and these beaters are not necessarily compatible with other instruments. One solution can be, as indicated, to use double-ended beaters.477 In

477 At the time the work was written double-ended beaters were not readily available. In fact the range of beaters generally was quite limited, and Percussionists often made their own using a variety of materials. Stands also were limited. As a result, hardware stores, bead shops, craft
addition, in the second movement, *Funeral Music*, Morgan called for the vibraphone to be played *ff* with metal beaters. The effect, at that point, of harsh metallic sounds would have been very dramatic (see ex. 5.68).

Ex. 5.68 Vibraphone with metal beaters, Morgan *Funeral Music*, figure H

But using metal or even plastic beaters at a *fortissimo* dynamic would damage the instrument, possibly irreparably. In the performances, hard vibraphone beaters were used, but the effect was less dramatic as a result. It would however be possible on song bells, if they are available, or in the lower octave of a better quality glockenspiel.\(^478\) This solution does, however impact on movement. Beaters need to be changed quickly at letter H, or during the previous passage, but the change back is more awkward (see ex. 5.69). So double-ended beaters would need to be used in this section.

Ex. 5.69 Changing beaters, glockenspiel to vibraphone, Morgan *Funeral Music*, figure I

The notation, although based on traditional, standard, musical notation also presents a challenge to technique. One of Morgan’s compositional techniques to accentuate a mood is to stretch a melody across a time signature. In the second

\(^{478}\) The glockenspiels available in Adelaide at the time had only a thin sound, with a basic mounting system. Loud playing would have produced an unmusical sound, and with only basic fixing of the bars, they could have come loose and fallen on the floor.
movement, *Funeral Music*, the vibraphone has its own set of time signatures. This is necessary because it would be very awkward to write the second triplet and even more difficult to execute had the vibraphone part been written in 4/4 time (see ex. 5.70).

Ex. 5.70 Juxtaposed time signatures, Morgan *Funeral Music*, figures D-E

The vibraphonist in this case has to think in eighth notes in order to execute the individual notes, and at the same time be aware of how these notes fit into the greater musical figures. So the entry points of the triplet at D (In black against the 'pulse' in red) for example would look like this (see ex. 5.71).

Ex. 5.71 vibraphone entry points, Morgan *Funeral Music*, figure D

Counting in eighth notes defines the triplet into an easily playable figure, but to ensure a musical interpretation, the notes must maintain an intensity, which is
achieved by playing a slight crescendo across the triplet. The following phrase can start a little softer leading up to climax on the F in the beginning of the next bar, and slightly ease off over the next two notes to complete the phrase. Even more important, the other members of the ensemble also have to think in eighths and quarter- or half-notes simultaneously in order for the players to be able to synchronise the ensemble playing and also be aware of the greater musical phrase. By combining different types of notation and so demanding a different approach to executing the figures, the piece extended the parameters of technique acquisition.

### 5.4.2 Logistics and visual aesthetics

Logistical management of the size of instrumental set-up posed yet another challenge. Morgan's approach was based on the sounds that suited the narrative element or the musical phrase, or were needed to balance the effect. As a result the score, as written, had the players doubling many of the instruments. Had it been performed as written, the work would have been burdened with a very large and unwieldy set-up for each player, and a significant increase in movement between instruments. This also would have restricted any performances to a large stage only. A collaborative editing of the score however, significantly reduced this as a problem (see table 5.01).

**Editing the instrument allocation of Loss**

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<th>Original Score</th>
<th>Edited Parts</th>
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<tbody>
<tr>
<td><strong>Player 1</strong></td>
<td>glockenspiel, 2 tam-tams, snare drum, large bass drum, xylophone, vibraphone</td>
<td>glockenspiel, snare drum, 2 bass drums, 2 Woodblocks,</td>
</tr>
<tr>
<td><strong>Player 2</strong></td>
<td>xylophone, snare drum, marimba, vibraphone, glockenspiel, medium bass drum, medium tam-tam</td>
<td>marimba, snare drum, 2 timpani</td>
</tr>
<tr>
<td><strong>Player 3</strong></td>
<td>vibraphone, 6 Cup gongs, snare drum, xylophone, 2 Woodblocks</td>
<td>xylophone, tam-tam, cymbal, bass drum</td>
</tr>
<tr>
<td><strong>Player 4</strong></td>
<td>marimba, glockenspiel, 6 Cup gongs, 2 timpani</td>
<td>vibraphone, 6 Cup gongs, snare drum,</td>
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Table 5.01 Table of instrument allocation, mvt 1

479 Tables compiled by author, 2015
### Movement 2

<table>
<thead>
<tr>
<th>Player 1</th>
<th>vibraphone</th>
<th>4 timpani, 3 tom-toms, tenor drum/pedal bass drum, cymbal, tam-tam</th>
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</thead>
<tbody>
<tr>
<td>Player 2</td>
<td>marimba, large bass drum, snare drum/pedal bass drum</td>
<td>marimba, large bass drum, tubular bells</td>
</tr>
<tr>
<td>Player 3</td>
<td>tenor drum/pedal bass drum, 3 tom-toms, snare drum, glockenspiel, med. tam-tam, med-high gong, xylophone</td>
<td>xylophone, glockenspiel, 2 tam-toms, snare drum/pedal bass drum, gong</td>
</tr>
<tr>
<td>Player 4</td>
<td>2 tam-tams, xylophone, glockenspiel, 4 timpani, large cymbal, tenor drum, tubular bells</td>
<td>vibraphone</td>
</tr>
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</table>

Table 5.02 Table of instrument allocation, mvt 2

### Movement 3

<table>
<thead>
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<th>Player 1</th>
<th>2 tam-tams, triangle, glockenspiel, xylophone, snare drum</th>
<th>5 timpani, vibraphone, snare drum, glockenspiel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 2</td>
<td>vibraphone, 5 timpani, snare drum, marimba, medium tam-tam,</td>
<td>5 tom-toms, marimba, snare drum</td>
</tr>
<tr>
<td>Player 3</td>
<td>5 tom-toms, marimba, snare drum, 2 Woodblocks, 4 templeblocks, large tam-tam, 4 timpani</td>
<td>2 tam-tams, xylophone, glockenspiel, snare drum, triangle, 2 Woodblocks</td>
</tr>
<tr>
<td>Player 4</td>
<td>small bass drum, snare drum, medium cymbal, Tubular Bells, large tam-tam, 4 tom-toms, 5 templeblocks, glockenspiel</td>
<td>Tubular Bells, small bass drum, snare drum, 5 Templeblocks, large cymbal, tam-tam</td>
</tr>
</tbody>
</table>

Table 5.03 Table of instrument allocation, mvt 3

### Movement 4

<table>
<thead>
<tr>
<th>Player 1</th>
<th>xylophone, Whip, vibraphone</th>
<th>xylophone, 4 roto-toms, 3 practice pads, wind machine, 2 tam-tams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 2</td>
<td>marimba, Guiro, various whistle/siren etc effects, Ratchet, xylophone,</td>
<td>marimba, xylophone, guiro, various whistle/siren etc effects, ratchet,</td>
</tr>
<tr>
<td>Player 3</td>
<td>vibraphone, various whistle/siren etc effects, 2 Roto-toms, 4 timpani, Casio-MT31 Keyboard,</td>
<td>vibraphone, various whistle/siren etc effects, Whip</td>
</tr>
<tr>
<td>Player 4</td>
<td>shaker, cuckoo call, various whistle/siren etc effects, wind machine, 3 Remo pads, 4 Roto-toms, 2 tam-tams</td>
<td>Tubo, cuckoo, various whistle/siren etc effects, 4 timpani, Casio-MT31 Keyboard</td>
</tr>
</tbody>
</table>

Table 5.04 Table of instrument allocation, mvt 4

### Movement 5

<table>
<thead>
<tr>
<th>Player 1</th>
<th>vibraphone, suspended finger cymbal, glass chimes, 2 bass drums, tenor drum, large tam-tam, glockenspiel,</th>
<th>glockenspiel, large tam-tam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 2</td>
<td>vibraphone, suspended Finger cymbal, Glass Chimes, Tubular Bells, tubophone, 2 tam-tams</td>
<td>vibraphone, suspended finger cymbal, glass chimes, 2 bass drums, tenor drum, tubular bells, triangle</td>
</tr>
<tr>
<td>Player 3</td>
<td>glockenspiel, Casio-MT31 Keyboard, 2 tam-tams, 2 bass drums, Tubular Bells, vibraphone, triangle, Glass Chimes, suspended Finger cymbal</td>
<td>vibraphone, tubular bells, glass chimes, suspended Finger cymbal, 2 tam-tams, 2 bass drums, tom-tom, Casio-MT31</td>
</tr>
<tr>
<td>Player 4</td>
<td>tubophone, Casio-MT31 Keyboard, vibraphone, suspended finger cymbal, Glass Chimes, tom-tom, Tubular Bells</td>
<td>tubophone, Casio-MT31 Keyboard, 2 tam-tams, Tubular Bells</td>
</tr>
</tbody>
</table>

Table 5.05 Table of instrument allocation, mvt 5
The total number of instruments allocated to each player was reduced by the reallocation of parts and careful instrument placement to enable sharing (see table 5.01f).

<table>
<thead>
<tr>
<th>Original Score</th>
<th>Edited Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 1</td>
<td></td>
</tr>
<tr>
<td>Glockenspiel, 2 tam-tams, snare drum, large bass drum, xylophone, vibraphone triangle, whip, suspended finger cymbal, glass chimes, 2 bass drums, tenor drum,</td>
<td>Glockenspiel, snare drum, 2 bass drums, 2 Woodblocks, wind machine, 5 timpani, 3 tom-toms, tenor drum/pedal bass drum, vibraphone, cymbal, tam-tam xylophone, 4 roto-toms, 3 practice pads, 2 tam-tams</td>
</tr>
<tr>
<td>Player 2</td>
<td></td>
</tr>
<tr>
<td>Xylophone, snare drum, marimba, vibraphone, glockenspiel, medium bass drum, 2 tam-tams large bass drum, snare drum/pedal bass drum vibraphone, 5 timpani Guiro, various whistle/siren etc effects, Ratchet, suspended Finger cymbal, Glass Chimes, Tubular Bells, tubophone,</td>
<td>Marimba, snare drum, 2 timpani, tubular bells, 5 tom-toms, xylophone, guiro, various whistle/siren etc effects, ratchet, vibraphone, suspended finger cymbal, glass chimes, 2 bass drums, tenor drum, triangle</td>
</tr>
<tr>
<td>Player 3</td>
<td></td>
</tr>
<tr>
<td>Vibraphone, 6 Cup gongs, snare drum, xylophone, 2 Woodblocks tenor drum/pedal bass drum, 5 tom-toms, glockenspiel, 2 tam-tams med-high gong, xylophone, marimba, 2 Woodblocks, 4 templeblocks, 4 timpani various whistle/siren etc effects, 2 Roto-toms, Casio-MT31 Keyboard, 2 bass drums, Tubular Bells, triangle, Glass Chimes, suspended Finger cymbal</td>
<td>Xylophone, cymbal, 2 bass drums, glockenspiel, 2 tam-tams, snare drum/pedal bass drum, gong triangle, 2 Woodblocks vibraphone, various whistle/siren etc effects, Whir tubular bells, glass chimes, suspended Finger cymbal, tom-tom, Casio-MT31</td>
</tr>
<tr>
<td>Player 4</td>
<td></td>
</tr>
<tr>
<td>Marimba, glockenspiel, 6 Cup gongs, 4 timpani, 2 tam-tams, xylophone, large cymbal, tenor drum, tubular bells small bass drum, snare drum, medium cymbal, 4 tom-toms, 5 templeblocks, shaker, cuckoo call, various whistle /siren etc effects, wind machine, 3 Remo pads, 4 Roto-toms</td>
<td>Vibraphone, 6 Cup gongs, snare drum, Tubular Bells, small bass drum, 5 Templeblocks, large cymbal, 2 tam-tams, tubo, cuckoo, various whistle/siren etc effects, 4 timpani, Casio-MT31 Keyboard</td>
</tr>
</tbody>
</table>

Table 5.06 Table of total instrument allocation for each player

Nevertheless, despite the editing, the piece still required some doubling of parts so a total set-up had to still be carefully organised to allow for this. Placement of instruments and trap tables for accessory instruments and beaters needed to both be convenient for the players’ easy reach, and allow for easy movement between instruments. So each player’s instruments must be set up in such a way that is logical to reach each instrument as needed, and to fit into the flow of the music. To do this one needs to follow a pre-determined set of principles, so that, for example, instruments can be set up following staff notation, or commonality of beaters. These principles are usually determined by the player within the context of her/his perception of ease of performance.
It is accepted that each ensemble makes its own decisions about set up, both of each individual part and, where necessary, the instruments to be shared between players. In this case, Player 1 in the first movement of the Morgan needs to have the glockenspiel, woodblocks, and snare drum close together in order to move seamlessly between them. These instruments also can be played with the same set of mallets (see ex. 5.72 and ex. 5.73). There is ample time to move to and from the bass drums, so they can be positioned further away (see ex. 5.74). So if the bass drums are shared between Players 1 and 2 it makes sense to position them where both players can access them.

Ex. 5.72 Playing glockenspiel and snare drum, Morgan Battery, bars 61-74

Ex. 5.73 Playing glockenspiel and woodblocks, Morgan Battery, bars 161-169

Ex. 5.74 Playing glockenspiel and bass drums, Morgan Battery, bars 113-152
In setting up the instruments for percussion ensembles, consideration also needs to be given to the needs of the other players, and this is another area in which percussion differs from other instrumental ensembles. Instruments can often be played by two or sometimes three players, and so need to be set up in a manner that allows for easy access by all who need to play them (see ex. 5.75).

![Ex. 5.75 Direction for players 1 & 2 to share bass drum, Morgan, Funeral Music, figure C](image)

As much as possible the logistics needed to take into account the visual aesthetics. In order to portray the musical and dramatic effects of the various personal emotions, and religious and political overtones the visual aesthetics play a very important role, especially in relation to movement. This could be aided by careful spatial management to eliminate awkward or unnecessary movement between set-ups, enabling the physical movement between instruments to be conducted with grace and discretion so as not to distract from the music.

Such a manifestly large work, Loss by David Morgan, has commensurately significant implications for percussion ensemble. Firstly it expands the musical potential of percussion into wider and deeper associations, forcing percussionists to combine technical skills and musical sensitivities in order to depict a range of dramatic emotions. The implication of this is that percussionists need to expand their technical skills and develop a greater understanding of how to use technique to produce these musical and extra-musical effects.

The second implication is one of management in a very new dimension for the presentation of percussion concerts. This dimension includes a formidable multiplicity of set-ups for seventy-five instruments, a demanding operation for such a number alone. This has to accommodate the logistical needs of players to easily reach the various instruments and in a physical manner that complements
the atmosphere while not detracting from the music. Other considerations are
the theatrical effects of presenting a piece of music to highlight the musical
elements as well as the player’s technical prowess. In summary, although David
Morgan’s *Loss* created enormous technical, management, logistical and theatrical
challenges in its execution, as a work of representational symbolism it has
broadened and deepened percussive playing and instrumental management
horizons as well as adventing a new dynamic role for percussion in interpreting
aesthetics and symbolic essence present in such compositions.

### 5.5 Legacy

In addition to the direct impact of these pieces on technique and instrument use,
there were indirect results. As the first works for percussion written for
percussion ensemble in South Australia, the *Suite for Percussion Quintet* and *Loss*
were a catalyst for other compositions, not least from Bryce and Morgan
themselves. A further significance of these inaugural works is that creatively for
both composers the writing of them demolished compositional barriers, Bryce
because he did not believe it was possible to write a Percussive Jazz piece, and
for Morgan, because he had a fear of writing for Percussion (see plate 5.06).

Plate 5.06 David Morgan, *Fun and Games*, manuscript, title page 1984

Over the following thirty years Morgan and Bryce wrote more works for
percussion ensemble, as well as solos for marimba and vibraphone, a percussion
concerto each, and some chamber music pieces with percussion. Their pieces
remained true to their own genre and style, but continued to follow new
pathways of compositional direction for percussion, thus expanding the depth as
well as the breadth of the repertoire.

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480 David Morgan, *Fun and Games*, manuscript in the author’s collection, 1984
These works also contain challenges for technique and instrument use, as both composers continued to explore sounds in the percussion world, some examples of which are referred to below. In Morgan’s quartet, *Fun and Games* for example, players 1-3 are asked to bow and bend notes, down and back up again, on xylophone, marimba and vibraphone respectively, while player 4 plays a ‘metallic buzz’ by holding a metal beater loosely against the tam-tam while rolling on it with a heavy tam-tam beater (see ex. 5.76). The direction to bend the notes back up to the original pitch is not a usual direction, and calls for careful coordination between bow and mallet. Bending the note down is achieved by moving a hard mallet along a struck or bowed bar from the node towards the centre. Returning the mallet back to the node will reverse the sound, but if the mallet comes too close to the centre of the bar the sound is dampened and the reverse procedure cannot produce the bending back up.

Ex. 5.76 Coordinating bow and mallet, Morgan, *Fun and Games*, bars 109-120

In the second movement of the same work, player 3 is asked to play a grace note on the Hi-hat with a hard stick while the main note is played with the foot (see ex. 5.77). This too is unusual, and challenging to coordinate.
Ex. 5.77 Coordinating hand and foot playing grace notes, Morgan *Fun and Games*, bars 113-116

Moreover, even when Morgan uses traditional time signatures, he treats them differently. 12/8 for example is divided in 2 + 3 + 3 + 2 + 2, on top of which the time signatures change frequently, with precise changes of tempo to maintain rhythmic exactitude (see ex. 5.8).

Ex. 5.78 12/8 Time signature divided into 2 + 3 + 3 + 2 + 2, Morgan *Fun and Games*, bars 34-38

Morgan’s duo for clarinets and percussion, *Voyage into Solitude* also asks the percussionist to coordinate all four limbs to play different rhythms on wind chimes, cymbal, snare drum, pedal bass drum and vibraphone, while standing up
(see ex. 5.79). The piece in total uses twenty-five different percussion instruments, and five different clarinets to be played by the two players.

Ex. 5.79 Coordinating wind chimes, cymbal, snare drum, pedal bass drum and vibraphone, Morgan, *Voyage into Solitude*, bars 15-33

In his *Concerto for Percussion*, while he does not demand that level of coordination, Morgan does call for some very fast changes of instruments and beaters (see ex. 5.80).
Bryce continued to write in a jazz genre, using different instrumental settings. His *Jazz Suite* is for Percussion Keyboard quartet, and is a parody on three different styles – Be-Bop, Blues, and Ragtime. The third movement is quite slow, in the tempo and mood of early ragtime pieces. After rehearsals and discussion with Bryce, it was agreed that the piece could be beneficially extended with a coda summarising the third movement, and played at double tempo (see ex. 5.81). This direction is not written into the score, but is an accepted part of the piece, which is now always performed with the addition. In this form it links the early ragtime style with the later 1930s rags, which were played much faster than those of Scott Joplin and his contemporaries, and reflected the ‘Age of Speed’ of faster travel on trains and cars. This faster and more exciting style of ragtime coincided with the emergence of fast, ‘showy’ xylophone solos, encapsulated in the works and playing of George Hamilton Green, a prominent American xylophonist.481

481 In conversation Bryce expressed the thought that the addition of this coda improved the piece, and gave it the extra level of bright, carefree atmosphere that he intended for the movement. It also made the ending of the work more forceful.
Ex. 5.81 Opening, third movement Bryce, *Jazz Suite, (Richard's Rag)*, bars 1-8

In the second movement of his *Concerto for marimba/vibraphone* Bryce writes for one-handed tremolo on marimba (see ex. 5.82). This was discussed in more detail in Chapter Two.

Ex. 5.82 One-handed tremolo, Bryce, *Concerto for marimba and vibraphone*, bars 101-106
His solos for marimba and vibraphone also explore different styles of the Jazz and Latin genres. *Uncle Bill*, for marimba and Piano has a section, which, while written out, also allows the option of improvising (see ex. 5.83).

*Uncle Bill* is a catchy jazz tune set above a standard jazz chord progression. The name refers of course to Count Basie, the famous Big Band leader who was known for his sparse notes and frugal piano style.482

Ex. 5.83 Option of improvisation, Bryce, *Uncle Bill*, bars 34-37

Another interesting outcome of the Bryce *Suite for Percussion Quintet* and Morgan *Loss* is that they led to more compositions for percussion by other composers. Tristram Cary, Atis Danckops, Larry Sitsky, Ralph Middenway and Douglas Knehans all wrote works for *Adelaide Percussions* and Cary, Sitsky, Middenway and Llewellyn also wrote solo percussion works. These compositions also contain their own challenges or reveal new insights into percussive avenues of expressing musical ideas such as combining with tape, using stones, and including steel drums with percussion ensemble. The works by other composers have been written in various settings such as writing percussion solos with choir because, having heard the works of Bryce and Morgan, were inspired to delve further into the realm of percussive sound sources.

482 Eric Bryce, *Six pieces for Percussion*, program notes, 1987
5.6 Conclusion

It is clear from the examinations of both the Suite for Percussion Quintet by Eric Bryce and Loss by David Morgan that composers access different kinds of percussion instruments and other sound sources to find the particular sonority that will suit the dramatic or musical effect or specific combination of sounds. This is amply demonstrated by the use of the güiro in both pieces, taken out of its cultural context and used for a different purpose. Bryce used it sparingly to emphasise the end of a phrase (see ex. 5.23), while Morgan used it as a noise-maker to add an extra dimension of dissonance to the Cloud Cuckoo movement (see ex. 5.50).

This introduction of new instrumental uses to the genre focused the attention of percussionists on the nuances of sound required, which in turn have had implications for technique advancement. While most of the instruments are played in the traditional manner, certain instruments call for a greater refinement of those techniques due to the peculiarities of the instrument as demonstrated on the tubophone. The concentration required moreover, to play in different time signatures concurrently, the need to develop finger techniques, the demand for chanting as well as playing all present an opportunity to extend techniques.

Other issues of sound also needed and need to be resolved. If for example, tubophones are not available, crotales or possibly song bells might be appropriate substitutes.\(^483\) Alternately, a second glockenspiel played with different mallets could provide the necessary contrast.\(^484\) Consequently, these pieces heightened percussionists’ awareness of the range of sound sources in their instrumental repertoire, and raised sensitivity to the nuances between them. As well, the alternative ways of accessing these sounds has since highlighted the need for players’ flexibility and ingenuity in instrumental

\(^{483}\) Crotales are not in common use outside of orchestras and conservatoriums, and Song Bells are rare; there might be only six throughout Australia.

\(^{484}\) One glockenspiel could be played with metal beaters, and the other with bakelite for example.
sourcing and has become essential in the mental preparation for percussionists to consider for score interpretation as compositions become more demanding.

These various examples of instrument use require awareness on the part of the player of their differences and the technical ability to reproduce them. As demonstrated, and also as a result of these pieces, instrumental logistics and visual aesthetics have become key focal points for the performer.

Overall the *Suite for Percussion Quintet* and *Loss* by Bryce and Morgan, as well as showing some directional leadership in the actual music they wrote for percussion in their own genre are equally remembered for the challenges their works had on percussion performance. Because both pieces are representative of, and demonstrate, the central challenges and problems that compositions create for performing percussion, it is appropriate to use these works as specific illustrations of percussion generically.

These issues are not specific to these works. In most works for percussion ensemble they have needed and do need to be resolved; and their resolution is vital to the success of concert presentation, but these works highlight the challenge. Most importantly, however, the *Suite* and *Loss* amply demonstrate that using a wide range of sound sources and in close collaboration with the composers, percussion can vividly present emotions, dramatic situations, cultural character and associations, as well as representational musical concepts across different musical genres.
Conclusion

This dissertation has attempted to show the developments in the explosion of use of percussion over the course of the twentieth century. This was done by investigating a representative selection of instruments, analysing crucial elements of technique and referring to a few select works. This approach is both the strength and weakness of the study. The selection of only four works could be seen as limiting by not providing a wider picture, but this would of necessity be more superficial. On the other hand, choosing a few works allows for a deeper analysis of the pieces in terms of their musical intent and the challenges they contain for instrument use and technique. For this reason works were chosen that are representative of solo, chamber music and percussion ensemble performance situations. They are works with which the author has a strong personal connection, having worked collaboratively Sculthorpe, Bryce and Morgan and with percussionists who worked with Milhaud. Hopefully, the progress made will inspire further research.

Percussion Art Music performance during the twentieth century went through many changes as a new identity was forged, placing the medium in the centre of the stage rather than in a supporting orchestral role. The growth of percussion into the largest of all instrumental families resulted from the movement last century of a large number, type and style of percussion instruments. Their migration out of contained and usually narrower cultural situations enabled them to be used in different contexts; and they were adapted to suit the new situations. The various membranophones, such as Chinese tom-toms, Cuban bongos, mid-Eastern derabucca and military snare drums epitomise this process of adaptation. These various instruments with their natural skin heads and distinctive sounds, but with limited or crude tuning possibilities, morphed into drums with similar tuning mechanisms and then expanded into a greater range of sound sources. The improvement of plastic heads provided a greater consistency of sound, and easier, more accurate tuning created a nuanced range of timbres. The fixed snares on the snare drums were advanced with the development of easy-action snare strainers when adopted into indoor percussion concert settings, which in turn, found a position back in the Drum
Corps and Military Bands. The development of different stands and accessories such as foot pedals, also gave more flexibility in the use of the various instruments. Additionally because the plastic heads provided a consistent and predictable sound, percussion performance acquired more sophistication through the further exploitation of nuances of timbre on the different drums.

Similarly, the adaptation of the European four-row xylophone into a keyboard layout led to an exponential growth of tuned idiophones of metal and wood textures, then further developed to situational exigencies with the adoption of plastic, kelon bars for outdoor performances. With these improvements came a larger range of beaters of various materials of wood, metals, plastic, rubber, felt and yarn. These inter-related pathways of change are continuing to develop with instruments still being adapted to different performance situations, as seen in the example of the rounded strip of plastic on the cowbell enabling a more flexible playing approach and adding another textural dimension to the sound.

The instruments, within their various cultures and situations, had an established set of techniques and roles in the repertoire, but taken out of that context the relevance of these traditional roles and techniques was not always applicable. Consequently, the instruments could be treated as new sound sources, to be played in whatever manner would match the required musical effect, and also used for their culturally defined techniques and musical roles. This situation is further complicated by the fact that the instruments themselves do not have defined roles. Bongos can in one piece have the lead part and in another be a part of rhythmic accompaniment or general texture. In a third piece they can represent a Cuban cultural association, or simply provide interjections of a high register in a fourth. In addition, techniques that were related to specific instruments have also been transferred to other instruments when taken out of their original contexts and the specificity of role played by the instruments in traditional repertoire has not been binding in any new type of repertoire. This flexibility of application has positively advanced a musical and theatrical versatility to percussion performance making the instruments easier to use. Paradoxically these inter-related changes have placed increased technical and
musical demands on percussionists to play them, while effectively incorporating the sounds into the intent and performance of the music.

Fuelled by the alterations and adaptations of instruments, the consequential changes in playing approach focused the attention of players on developing their own personal techniques, which then impacted further on general technique progression. This is exemplified by the change in emphasis regarding movement on the keyboard percussions which prompted the notion of using three or four mallets to play chords and so intensify the harmony of a piece. In turn, this gave rise to developing variety in chord voicings and applying a more pianistic approach leading to experiments with different grips. Accordingly, as players focused upon and emphasised their own growth and approach to playing, the reading of the music and enunciations of performance became more individualised and personalised.

Similarly the limitations of cultural techniques such as the traditional 'snare drum' grip and the left-hand bongo movement in playing these membranophones also attracted greater scrutiny, leading to a movement away from the constraints of these traditional playing approaches. As a result the altered playing actions, still based on wrist movement, are continuing to evolve within specialised applications. Keyboard percussion also demands more sophisticated use of four-mallet technique, with greater independence of the individual mallets; and this approach is also transferring to membranophones and other idiophones, which in multi-percussion pieces can involve playing simultaneously with three different types of mallets with their respective variations in weights of stroke. Similar actions are being increasingly applied to finger techniques, which are no longer restricted to the traditional hand drums, but are being used in expanded form across a range of membranophones and idiophones. Clearly the challenges to evolving technique acquisition are considerable.

As a consequence of these related progressions, artistic techniques for the performing percussionist are gaining further complexity, predominantly
following two main directions. The first emphasises a movement away from the imposed limitations of traditional contexts, viewing the instruments as sound sources from which to evince a variety of sounds. The second still embraces the traditional approaches, while at times also incorporating these new changes of technique and approach. As a result, sounds that previously were not possible using traditional techniques alone, or simply dismissed as undesirable, are now being explored anew even to the outer reaches of the instruments, techniques and repertoire and across all genres of music. Many of these changes to artistic performance technique are recent and as such have not been abstracted into a standardised set of techniques that need to be developed. However, with an open approach to sound exploitation and the strong associations between traditional and unconventional technique application, the obvious implication is that in time this will happen.

The development of these specialisations also impact on movement, which both supports the playing action and visually enhances the musical or dramatic effect. Because percussion playing is based on a single playing action, techniques developed on one instrument can sometimes be used on other percussion instruments in which context they can produce other musical or dramatic effects. For example, an LRRR sticking to play rolls on marimba can also be used on membranophones to create a rhythmic insistence of sound; and can be expanded to also use the feet in an F(oot)H(and)HH combination. These changes and developments in techniques not only broaden the range of performance possibilities for players and composers, but also create further technique demands for the players in their quest to deepen the interpretive spectrum.

With this extensive array of instruments, percussionists have had to develop a keener awareness of the sound limitations and potentials of these sound sources and the effect that playing action and movement have on them. Tension in the technique will produce an uneasy, tense result, softer beaters will produce a sound with less definition, while playing on certain parts of the instruments produces a different nuance. The long sounds produced by rolling on the drums are now seen in more subtle ambiences and accordingly, to accentuate these nuances, different beaters or actions are used to project these musical effects. In
turn, this challenging issue of sound creation impacts on notation, as the
different kinds of rolls need to be clearly indicated in the score. Like much in
percussion, notation is not standardised and is still evolving, so at the moment
percussionists need be familiar with five very different styles of notation, each
with its own set of characteristics, and often only locally realised and
understood. Wrestling with these complex sound and notational variables
presents enormous challenges for individual players to produce in concert, a
seamless performance outcome.

Interwoven with sound and notation is the issue of logistics, or spatial
management of the instruments themselves, highlighted by their nature and size.
The set up of the instruments should be in a manner that enables easy
playability. They need to be accessible and congruent with the notation and
movements pertaining to the playing of each instrument and movement between
them, while preserving the necessary sightlines between players. However, these
factors of accessibility, notational congruency, movement and sightlines are not
always compatible. Accessibility can mean using more instruments or editing the
score and reallocating parts. Setting up in accordance with staff notation cannot
follow rigid principles as each situation differs according to the space available,
instruments used and methods of playing and moving between them. The level of
difficulty of accommodating this set of conditions moreover increases with the
number of instruments involved. These issues need to be resolved within the
context of performance, which introduces the further complication of the visual
aesthetics of presentation. Because the spatial orbit of percussionists is greater
than the limits of the instrument this more obvious and usually big movement,
an integral part of the performance, must be considered in the player's fluidity of
movement. The visual perception of the sounds being played, the playing action
and gestural and theatrical movements are obvious to the audience and as such
demand congruency with the feel and intent of the music. These aesthetic
aspects of logistics and movement are serious challenges for every percussionist
because they determine the visual quality of artistic performance.
Overall, percussion technique has evolved into much more than just mastering the playing of notes, resulting in both exciting, and sometimes formidable, challenges for performance. The technical components of playing action, sound, notation, logistics, movement and visual aspects of performance all play a role that is still unfolding, complemented and enhanced by developments in composition, instruments and beaters. Techniques continue to build on and expand from the limitations of traditional contexts, and percussionists are focusing more on treating the instruments as sound sources from which more subtle and sophisticated sounds can be elicited. Further adaptations of these more refined techniques have been applied across the range of percussion instruments, aiding in the evolution of multi-percussion by exponentially increasing the types and ranges of sounds one player can produce.

Because of the lack of conformity and predictability of all these performance variables compared to other instrument families, greater musical leeway is conferred on the performer and is deemed essential to the success of the presentation of percussion works. The lack of standardisation of what constitutes a set of percussion instruments, the unavailability of certain instruments scored for, the wide variety of beaters and the lack of a standardised role for the instruments all contribute to what can be very disparate interpretations of the music. This necessary interpretive freedom for the player is accepted in the percussion milieu at present, where every sound, short of any that will damage the participants or instruments, is deemed a legitimate sound, to be used with musical appropriateness; and any sound source that can produce this outcome is a legitimate instrument. This has decisively contributed to more creativity and volume in compositional writing, as well as player self-reliance and initiatives taken in delivering performance outcomes.

This new percussion medium, developed only over the last hundred years, has also inspired the writing of pieces that revealed and utilised an abundance of sound sources, encouraging composers to continue this exploration in a variety of genres, styles and performance situations while consequentially creating new challenges for the performer. To address these challenges to more refined performance outcome, the immediate and geographically local connection of
collaboration between composer and performer has played a vital role, determining the direction of some details of the compositions as they relate to technique and instrument specifics. As well as reflecting advances in technique the compositions also served to progress them further, with pieces for multi-percussion using different combinations of instruments with specific and sometimes radically new, technical requirements. Expanding further the sound possibilities, are the variety of beaters that are used to produce nuances of sound. However, it is not yet standard practice to play the various percussive techniques such as rolls on divergent instruments with specific beaters; nor to differentiate between them in a standard notation.

This exponential growth in the essential elements of percussion instruments, technique and repertoire led to changes in approaches and practices. As these changes were neither static nor predictable, both the inter-relationships between these elements and performance challenges attained greater complexity. Indeed, almost every alteration in any one of these elements effected changes in the other two, but also further impacted upon the original element. This then fuelled ongoing cycles of instrumental, technical and compositional development. Moreover the challenges presented by these inter-relationships and their ongoing cycles of change directly affected the attitudes and practices of both players and composers towards achieving consummate performance outcomes. Influencing both players and composers, and providing direction for the percussion genre as a whole, the major shifts and transformations evidenced in the twentieth century firmly established the practices and principles of percussion approach that are still relevant and followed today.

With the continuing development of techniques demanded by the increasing intricacies of musical effects, alongside a greater awareness of the subtleties of available nuances, growth in percussion composition will undoubtedly continue to advance, despite the lack of current clear direction as to what paths composition might take. This period of directional ambiguity with its attendant lack of medium and notational standardisations is particularly challenging for both the composer and the player. Therefore, where possible, close collaboration between composers and percussionists would facilitate amelioration of some of
the technical and aesthetic difficulties while simultaneously providing opportunity to progress the music towards more creative and technically satisfying performances.

The developing percussion repertoire has also revealed a plethora of sonorities, textures and timbres that have not only expanded the horizons of percussion, but also those of wider musical expression. The four compositions analysed demonstrate the pioneering work of innovation and experimentation by those composers who accorded percussion an elevated status that impacted directly on performance practice. Darius Milhaud in his Concerto, set the pioneering path for redefining the parameters of percussion performance and of what constitutes a presentation of music, with his vision of polytonality, elevation of rhythm and introduction and transfiguration of new non-instrumental sound sources. By removing the cultural associations from the instruments he abstracted their musical role within a structure of timbral harmonies of wood, metal and skin. His desire to represent ethereal effects through multi-percussion has had wide ramifications for music development with later composers progressing these ideas in a multiplicity of directions. In these significant ways Milhaud presented percussionists with the demanding challenges of incorporating these very new technical demands into a musical presentation.

Peter Sculthorpe’s Sonata, as the first significant Australian piece of chamber music to use multi-percussion, continued to challenge previous conventions. It featured multiple, untuned percussion for a single player, in an intimate chamber setting and sharing equal partnership with another instrument. Furthermore it injected a distinctly Australian flavour with the use of clapsticks suggesting the rhythms of Australia’s Indigenous People. Directions such as playing on the rim of the tam-tam to create the air of mystery and timelessness that characterise the interior of the country enhanced this Australian flavour and broadened the use of instruments for musical and dramatic effect. The challenge for percussionists lay in the appreciation of adapting dynamics to an intimate performance situation and the projection of musical intent with subtle nuances of timbre to depict the pictorial aesthetic of the piece.
The Suite by Eric Bryce was the first Australian piece to use a varietal mix of only percussion instruments in a jazz context, introducing instruments not common to the genre and at the time not usual in Art Music concerts. Thus he challenged the performers’ technical skills, musical sensitivities and understanding of spatial management to present a performance of an innovative work combining jazz and classical elements and injected with a touch of humour.

David Morgan’s representational and symbolic piece *Loss* highlights the different levels of challenge percussion works present for performance. The playing of so many instruments requires an understanding of the deeper issues of spatial management in order to minimise unnecessary and distracting movement and preserve sightlines within the visual aesthetic of performance. Morgan’s use of unusual instruments, extended demands of metric assimilation and vocal and instrumental coordination, also call for the refinement of techniques and overcoming constraints of inhibition. These demands all contributed dynamic technical and aesthetic elements to the percussionist’s performance repertoire.

These four works demonstrate that with a wide range of sound sources and close collaboration between composers and performers, percussion can vividly portray the emotion and drama that representational music conceptualises and present different musical genres such as jazz and symbolism of cultural character and association. With its direct impact on the advancement of percussion technique, the use of multifarious sound-sources by composers across a vast array of multi-percussion, tuned, untuned and found instruments, has also contributed to enhanced technical and artistic aspects of performance. The works cross generations, genres, cultures and contexts of performance. This span of compositional history, as exemplified in this dissertation, indicates that the complexity of inter-relationships and challenges of medium, technique and repertoire ubiquitously permeate the genre of percussion performance.

This symbiotic relationship has had, and continues to have, profound implications for percussionists in the presentation of performance. Percussion is evolving in a changing and dynamic music environment. The medium itself is
undergoing continual adjustment as instruments are improved or adapted to specific musical situations, while other sound sources are being introduced and transfigured into legitimate instruments; and the various beaters are also being modified to educe as great a range of sounds as possible from these many and varied instruments. Techniques are in the process of ongoing refinement and expansion across a growing variety of playing surfaces with an increasing disparity of beaters. In less than one hundred years the repertoire has developed from rhythmic patterns at the back of the orchestra to a continually increasing number and expanding range of pieces that highlight percussion as a discrete instrument family in its own right. Compositions of great variety and genre are written for disparate numbers and types of instruments in solo, chamber music and percussion ensemble centre-stage contexts. In themselves then, the elements of medium, technique and repertoire are myriad in number and intricacy. While each element continues to expand with changes and developments in their complex inter-relationships, the ongoing evolution presents for percussionists considerable performance exigencies that must be constantly addressed in practice and approach.

The challenge then for percussionists in this changing and complex musical landscape is to mature their practices and approaches towards mastering accomplished performance outcomes. Firstly, there is the need to develop cognisance of both the perennial evolution and the intricacies of the inter-relationships between medium, technique and repertoire. As well, progressing physical practices and attitudinal approaches to address the impacts that these complexities extend to their own performance is imperative. Meeting this challenge cannot be restricted to only conscientiously developing the necessary techniques and interpretive qualities of playing their vast instrument base. They must also be literate in both the overt and subtle musical and aural languages of the genre and its composers; understand the complexities of how these sounds can be elicited from their diverse and voluminous instrument armoury of myriad tuned, untuned and found instruments and their accompanying, diverse mallet base; develop effective communication skills to collaborate closely with fellow musicians and composers; be technically competent to adapt and change
instruments to suit changing situations and context; effectively manage spatial requirements to articulate interpretation and movement aesthetics consistent with music intent; finally, learn and develop further the skills and theatrical requirements to present musically and aesthetically cohesive and satisfying performances.

Clearly, to realise performance accomplishment, these approach and practice requirements of percussionists are extremely broad ranging and technically demanding. To learn and master the overt and subtle aptitudes of their vast instrument base in a variety of music and performance contexts, to develop the necessary attitudes and approaches that embrace flexibility and inclusivity in each music situation in the constantly evolving percussion genre, collectively creates considerable professional and personal challenges, both exciting and formidable, for the performing percussionist.

In this context of dynamic percussive change, to deliver consummate performance outcomes through seamless integration of the complex inter-relationships between instrument, technique and repertoire, is indeed, the percussionist’s ultimate challenge.
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2015  Adelaide Drummers Forums, Adelaide, Australia

2014  Adelaide Drummers Forums, Adelaide, Australia

2013  Adelaide Drummers Forums, Adelaide, Australia

2006  Percussion Festival & Workshops, Żagań Poland

2005  Percussion Festival & Workshops, Canberra, Australia

2004  Percussion Festival & Workshops, Żagań Poland

2001  Perkusja 2001, Percussion Festival & Workshops, Warsaw Poland

1992  Percussion Festival & Workshops, Bydgoszcz Poland

Residency at the University of the West Indies, Port of Spain Trinidad

1991  Percussion Festival & Workshops, Bydgoszcz Poland
1990  Workshop by the Steve Reich Ensemble, Flinders Street School of Music
        Percussion Festival & Workshops, Bydgoszcz Poland
1989  Percussion Workshop, Chopin Academy of Music, Warsaw Poland
1987  International Percussive Arts Society Conference, USA (via telephone link
        from Adelaide)
1982  Australian Composers & Musicians Conference, LaTrobe University,
1979  Australian Percussion Festival & Workshops, SCAAE, Adelaide, Australia
1977  Seminars, Workshops, Performances at Banff Centre for the Arts, summer
        Performing Arts program, Banff, Canada
1975  Weekend of Percussion, (with Professor George Gaber) Victorian College of
        the Arts, Melbourne
(presented in reverse chronological order)

2015


**Jul 8** at launch of *Tour Down Under*, Royal Adelaide Hospital site, South Australia; with Tim Irrgang and Yo Han Lee; of R. Pusz *Tour De Taiko*

**Jun 20** Workshop at University of South Australia; of R. Pusz *On The Outer*, R. Pusz *An Elemental world*, R. Pusz *Variations from Kandy*


**Apr 8** at University of Western Sydney, Australia; of R. Pusz *On The Outer*, R. Pusz *An Elemental world*, Francisco Tarrega/R. Pusz *Recuerdos da Alhambra*, Pujol/Pusz *Variaciones*, Merlin/Pusz from *Suite del Recuerdo*, Llewellyn *Song Ball/ Song Web*, R. Pusz *Variations from Kandy*, Gerard Brophy arr R Pusz *The room of the saints (for marimba and derabucca)*, Bela Bartok arr R Pusz *from Mikrokosmos*

**Mar 1** at *Whispered Shadows* concert, Migration Museum of South Australia; of Maximo Pujol/Pusz *Variaciones Sobre un Tema de Atahualpa Yupanqui*, Miyagi Michio *Spring Sea*, R. Pusz *On The Outer*, Anne Norman *Shadow of a Shadow* with Anne Norman, shakuhachi

2014

**Sept 6** at Mt. Barker Art Group, South Australia; of R. Pusz *On The Outer*, R. Pusz *An Elemental world*, R. Pusz *Variations from Kandy*, R. Pusz *Derabucca Improvisation*

Waiting for... (for marimba), Richard Lavenda Split 5 Ways, Becky Llewellyn Song Ball/ Song Web, R. Pusz Variations from Kandy

2013


2012


2011


In Oman at Maqamat, Halban and Royal Guard of Oman Headquarters, directed RGO Steelband, Royal Oman Symphony Orchestra (ROSO) Percussion Ensemble, Muscat Philharmonic School percussionists and Military School of Music

**Jan 27** directed and performed *Wadaik Oman* concert at Japanese Embassy of Oman with Wataru Takeda (taiko), Luca Blasio (violin), Clara Sanfilippo (violin), Fabio Pirola (violin), Fernando Fracassi (flute), Rocio Rodriguez (harp); of traditional arr R. Pusz *Buchiawa-se*, B. Llewellyn *Wretched Hourglass* Brophy *Room of the saints* R. Pusz *Drum Variations*, traditional arrangement R. Pusz *Chi-Chi Bu*, P. Tanner *Diversions for flute and marimba*, J. Merlin *Suite del Recuerdo*, E Bryce *Uncle Bill*, traditional arrangement R. Pusz *Miyake*, M. Houllif/R. Pusz *Blue Samba*

**2010**


Directed ROSO Percussion Ensemble, Muscat International School and TaiSM at The British School; of R. Pusz *Timetech*, Houllif arr. R. Pusz *Blue Samba*, Monton/Durand arr R. Pusz *Yellow Bird*

**2009**

**Feb** directed Timéa Szigeti (viola) and percussionists from Royal Oman Symphony Orchestra at German Embassy of Oman; of Peter Sculthorpe *Sonata For Viola and Percussion*, Gerard Brophy *In the room of the saints*, R. Pusz, *Kandian Variations*, R. Pusz *Timetech*

**2007**

**Apr** at Reutlingen, Germany, *Musica Nova Concert*; of R. Pusz *On The Outer*, Becky Llewellyn *Sticks And Stones*, R. Pusz *Variations on a Kandian Etude*, James Tenney *Having Never Written A Note for Percussion*, Ross Edwards *Marimba Dances*, Máximo Pujol/Pusz *Variations on a South American Folksong*

**2006**


July Percussion Studio Concert Series, “Into every Life...”, Harrogate, South Australia; with Andrew Timko (conductor), Andi Aldam (violin), Alana Dawes (double bass), Timothy Frahn (trumpet), Adam Junger (clarinet) and Aleksander Pusz, Brett Madigan, Benjamin Gallasch, Katie Seaman (percussion); of Graeme Leak Drum Song, Aleksander Pusz River Of The Ancient Galleon and The Wish, Ian Seaborn Wetlands, Andrián Pertout Oración Afro-Cubana, Gerard Brophy In the room of the saints, Philip Houghton arr. R. Pusz Three Pieces (Mantis And The Moon, Lament, Alchemy), George H. Green Log Cabin Blues, Michael Colgrass From Allegro Duets, Bela Bartok from Mikrokosmos (Change of Time, Staccato, 7/8, Chords Together and Opposed, Moto Perpetuo)

2005

Oct at Noarlunga Technical And Further Education (TAFE), South Australia, with Sasha Semyonov; of Ian Seaborn Wetlands, Becky Llewellyn Sticks & Stones, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra (marimba), Eve Duncan Where Are You Now? (guitar & marimba), Richard Charlton Red Earth (guitar & marimba), Maximo Pujol Variations on a Theme (marimba)

2004

July at The Percussion Studio Concert Series, Harrogate, South Australia, with Patricia Pollett (viola); of Gerard Brophy In the room of the saints, Robert Lloyd Etude on Kandian Rhythms, R. Pusz On The Outer, Roland Leistner-Mayer Poem IV, Nigel Sabin arr R. Pusz/P. Pollett Postcards from France

Apr at Reutlingen, Germany, and Wroclaw, Poland with Bogdan Kazimierczak and Sasha Semyonov; of Aleksander Pusz Viscous Summer Days, Becky Llewellyn The Wretched Hourglass, Wilfred Lehmann Theme & Variations, Michael Whiticker Winamin, Richard Charlton Carpentaria Suite, Maria Grenfell Di Primavera, Simon Reade Five Bagatelles, Veit Erdmann-Abele Waiting for... , Becky Llewellyn Sticks & Stones, David Morgan It-Bit

Performance and workshops at Zagan International Percussion Festival and Workshops with Jacek Wota and percussionists from Zagan and Wroclaw; of Robert Lloyd Sticks, Veit Erdmann-Abele Waiting for..., Graeme Leak Drum Song, Bela Bartok Cztery miniatury fortepianowe z cyklu “Mikrokosmos” w oprac. na marimb”, R. Pusz On The Outer, Becky Llewellyn, Sticks and Stones, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, Robert Lloyd Etude on Kandian Rhythms

Mar at Adelaide Arts Fringe, South Australia with Aleksander Pusz, Bogdan Kazimierczak, Sasha Semyonov, Wendy Heiligenberg; of Gerard Brophy In the room of the saints (violin and derabucca), Richard Charlton Carpentaria Suite (guitar & marimba), Astor Piazzolla Bordel (violin, guitar & derabucca), Virginia Lakeman Lighten (violin, guitar & marimba), Becky Llewellyn The Wretched Hourglass (violin and marimba), Wilfred Lehmann Theme And Variations (violin and marimba), Aleksander Pusz Zaffron (violin, guitar & percussion)

Feb at Rhythm of Life concert, Adelaide Arts Fringe, South Australia with Aleksander Pusz, Bogdan Kazimierczak, Sasha Semyonov, Wendy Heiligenberg; of Michael Colgrass from Allegro Duets (Allegro con brio, Allegro marziale),

2003


Aug at Flinders University Concert, South Australia, with Wendy Heilgenberg Violin/Viola; of William Kraft Morris Dance, Peter Sculthorpe Sonata for Viola and Percussion, Astor Piazzolla L’histoire de Tango

July at The Percuzzion Studio Concert Series, Harrogate, South Australia, with Sasha Semyonov and Bogdan Kazimierczak; of Virginia Lakeman Trio for Violin, Marimba and Guitar, Richard Charlton, Carpentaria Suite

June at The Percuzzion Studio Concert Series, Harrogate, South Australia, with Patricia Pollett (viola); of David Morgan, An Itsy Bitsy Collection, Gerry Brophy, The room of the saints, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, Peter Sculthorpe Sonata for Viola and Percussion

Feb at The Percuzzion Studio Concert Series, Harrogate, South Australia, with Sasha Semyonov and Bogdan Kazimierczak; of Michael Whiticker arr. R. Pusz, Winamin, Becky Llewellyn, The Wretched Hourglass

2002

Oct at The Percuzzion Studio Concert Series - Opening Concert, Harrogate, South Australia; of Richard Charlton Carpentaria Suite, Veit Erdmann-Abele Waiting For…, Aleksander Pusz Viscous Summer Days, Becky Llewellyn Sticks and Stones, Wilfred Lehmann Theme And Variations for Violin And Marimba, Bela Bartok From Mikrokosmos (Change of Time, Staccato, 7/8, Chords Together and Opposed)

Jun at Darwin International Guitar Festival of Maria Grenfell, Di Primavera (guitar and marimba)

2001

Jun at Perkusja 2001, International Percussion Festival, Warsaw, Poland. Performance and workshops of Tristram Cary Black, White and Rose (for solo percussion and tape), David Harris Concerto for percussion (with percussion ensemble), David Morgan Loss (for percussion quartet), David Morgan An Itsy-
*Bitsy Collection* (for marimba), Aleksander Pusz *Zaffron* (for percussion quartet), *Daiko-San* and *Adelaide Matsuri*, Eric Bryce *Jazz Suite* (for percussion quartet), Atis Danckops *A Different Kind of Jazz*, Becky Llewellyn *Sticks And Stones*

**May-Jun** Further workshops and masterclasses in Wroclaw and Poznan in Poland, and Stuttgart in Germany, where I also performed with the percussionists of the Musikhochschule in a percussion recital; of Tristram Cary *Black, White and Rose* (for solo percussion and tape), David Harris *Concerto for percussion* (with percussion ensemble), David Morgan *An Itsy-Bitsy Collection* (for marimba), Atis Danckops *A Different Kind of Jazz*, Becky Llewellyn *Sticks And Stones*

**2000**

**Dec** in Music Academies in Warsaw, Wroclaw, Reutlingen, Chichester, Norwich; of Graeme Leak *Drum Song*, Aleksander Pusz *Zaffron*, Veit Erdmann-Abele *Recitatives from Requiem für einen Baum*, Atis Danckops *A Different Kind of Jazz*, David Morgan *Funeral Music from Loss*

**Nov/Dec** at St Martin’s-in-the-Field, London, and Reading, with *Stix ‘n’ Tones and Voiceworks*; of Graeme Leak *Drum Song*, Aleksander Pusz *Zaffron*

**Nov 11** at Farewell Concert by *Stix ‘n’ Tones, Voiceworks* and Bogdan Kazimierczak on the eve of departure for European concert/workshop tour; of Graeme Leak *Drum Song*, Aleksander Pusz *Zaffron*, Wilfred Lehmann *Theme And Variations* (for violin and marimba), Peter Sculthorpe *Sonata for Viola And Percussion*

**Nov 4** for the opening of the Dame Roma Mitchell Arts Education Building, Adelaide, South Australia with percusSON and *Kin no Taiko*; of Graeme Leak *Drum Song*, Aleksander Pusz *Zaffron*, “Chick” Corea *Spain*, Aleksander Pusz *Adelaide Matsuri*, R. Pusz *Tsunami*


**Sep 3** at Pilgrim Church, Adelaide, South Australia in the *Chamber Players of SA - Celebrating Australian Music* concert with Bogdan Kazimierczak (violin); of premiere performance of Aleksander Pusz *Viscous Summer Days* (for violin and percussion)

**Aug 30** recording of *ACME concert of the Festival of Australian Music*, Australian Broadcasting Commission, South Australia, of David Harris *Six Lyric Piece*

**Aug 25** at *Festival of Australian Music*, Flinders Street School of Music, Adelaide, South Australia with percusSON; of Graeme Leak *Drum Song*, Aleksander Pusz
Zaffron, Eric Bryce Jazz Suite, Atis Danckops A Different Kind Of Jazz, Nigel Westlake Omphalo Centric Lecture, Robert Lloyd Sticks

**Aug 23** at ACME Concert Festival of Australian Music, Studio 520, Australian Broadcasting Commission (A.B.C.), Adelaide, South Australia; of Tristram Cary, *Black, White and Rose* (for solo percussion and tape)

**Jun 7** at Chamber Music Workshop, Adelaide, South Australia with *percusSON*; of Graeme Leak *Drum Song*, Aleksander Pusz *Zaffron*, Eric Bryce Jazz Suite, Atis Danckops *A Different Kind Of Jazz*, Nigel Westlake *Omphalo Centric Lecture*, Robert Lloyd *Sticks*

**Mar** at Adelaide Fringe, Caos Café, South Australia; of Graeme Leak *Drum Song*, George H. Green *Log Cabin Blues*, Mongo Santamaria arr A. Pusz *Afro Blue*, Aleksander Pusz *Zaffron*, Eric Bryce Jazz Suite, Dizzy Gillespie arr A. Pusz *Soul Sauce*, “Chick” Corea *Spain*

1999

**Dec 31-Jan 1** Click! 2000 Millennial Event: director and performer Victoria Sq, Adelaide, South Australia of R. Pusz *Click Suite for 2000 drummers*

**Sept 18** at Elder Hall, Adelaide, South Australia, the Australian premiere of “*Requiem for a Tree*” (for solo marimba, organ and choir) by Veit Erdmann-Abele, with Ashleigh Tobin, organist, and Voiceworks under Carl Crossin.

**Aug 28** at Adelaide Festival Centre Theatre, South Australia, Chamber Players concert; of Felix Werder *Fractured Fancies*, Tristram Cary *Rivers* (for percussion quartet & two tapes), Marta Ptaszyńska *Dream Lands, Magic Spaces* (for solo violin, piano & percussion ensemble - with Nicholas & Michael Milton & Rodney Smith)

**Jun 20** at Australian Broadcasting Commission studios, Adelaide, South Australia, ‘Sunday Live ‘ with Gabriella Smart (piano) & *percusSON* (percussion duo); of Adriana Figueroa Manas *Argentinian Rhapsody*, Marta Ptaszyńska *Concerto for marimba*, Atis Danckops *A Different Kind of Jazz*, Graeme Leak *Drum Song* (percussion quartet), Eric Bryce Jazz Suite (percussion quartet)

**May 15** at Charity concert, ”Any Dream Will Do”, Adelaide, South Australia, for sufferers of Myalgic Encephalopathy (ME) with Gabriella Smart (piano); of Adriana Figueroa Manas *Argentinian Rhapsody*

1998

**Nov** in Mildura, New South Wales, Australia, with Patricia Pollett; of Peter Sculthorpe *Sonata For Viola And Percussion*

**Jun 16** at Scots Church, Adelaide, South Australia with Ruth Saffir, Alison Rosser and Richard Hornung; of Veit Erdmann-Abele *Drei Duettini* (for cello and marimba), Veit Erdmann-Abele *Three Solo Recitatives* from the *Requiem*, Jennifer Fowler *Lament for Mr Henry Purcell*
May 4 in Reutlingen, Waiblingen and Gauselfingen with Vokalgruppe Ralph Scheidle, conductor Gunter Maier of premiere performance of Veit Erdmann-Abele *Requiem for a Tree* (for solo percussion and choir)

1997

Sept 4, 5, 6 at *Nexus Cabaret*, Adelaide, South Australia with Gabriella Smart (piano); of Tristram Cary *Black, White & Rose*, Richard Lavenda *Split 5 Ways*, Becky Llewellyn *Sticks And Stones*, James Tenney *Having Never Written A Note for Percussion*, David Harris *Six Lyric Pieces*

Apr 29 at Flinders Street School of Music concert, Adelaide, South Australia with Richard Hornung (viola) and Alison Rosser (flutes); of Marta Ptaszyńska *Cadenza*, Leistner-Mayer *Poem IV*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*, Peter Sculthorpe *Sonata For Viola and Percussion*, David Morgan *An Itsy-Bitsy Collection*

Apr 17 at Australian Broadcasting Commission, Adelaide, South Australia for *Sunday Live* with Richard Hornung (viola); of Richard Lavenda *Split Five Ways*, Becky Llewellyn *Sticks And Stones*, Peter Sculthorpe, *Sonata For Viola and Percussion*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra* (for solo marimba), Leistner-Mayer *Poem IV*, David Morgan *An Itsy-Bitsy Collection*

1996

Directed performances and workshops at Institut Seni Indonesia, and the Chamber of Commerce, Jogjakarta of Eric Bryce *Suite for Percussion Quintet*, Carlos Chavez *Toccata*, István Marta *Doll’s House Story*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*

Performance for *Tristram Cary's 70th Birthday Concert* at the Elder Conservatorium, Adelaide, South Australia, of Tristram Cary *Black, White and Rose*

Performance in Orange, New South Wales, Australia, at the *Orange Music Workshops* of Tristram Cary *Black, White and Rose*, Peter Tanner *Diversions* (for flute and marimba)

Performance in concert at Flinders University of South Australia, of Tristram Cary *Black, White and Rose*, Marta Ptaszynska *Cadenza* (for flutes and percussion)

Recording at the Australian Broadcasting Commission, Adelaide, South Australia; of Tristram Cary *Black, White and Rose*, Becky Llewellyn *Whales Weep Not!*

Performance in concert at Cabra College, Adelaide, South Australia, with Adelaide Chamber Singers of Becky Llewellyn *Whales Weep Not!*

1995

Performance at The Tasmanian Conservatorium, Hobart, Australia; of Tristram Cary *Black, White and Rose*, Richard Lavenda *Split 5 Ways*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*
Masterclass/Performance at Victorian College of the Arts, Melbourne, Australia; of Tristram Cary Black, White and Rose, Richard Lavenda Split 5 Ways, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, Marta Ptaszynska Concerto For Marimba, Alan Hovhaness Fantasy On Japanese Woodprints

Masterclass and Performance at Canberra School of Music, Australian Capital Territory; of Tristram Cary Black, White and Rose, Richard Lavenda Split 5 Ways, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, James Tenney Having Never Written a Note for Percussion, Becky Llewellyn Sticks And Stones, Robert Lloyd Etude on Kandian Drum Rhythms, Marta Ptaszynska Concerto For Marimba, Alan Hovhaness Fantasy On Japanese Woodprints

Performance at Flinders Street School of Music, Adelaide, South Australia; of Marta Ptaszynska Concerto For Marimba, George Dreyfus The Seasons

Performance at the Barossa Music Festival, Barossa Valley, South Australia, in concert with Adelaide Chamber Singers; of Tristram Cary Black, White and Rose, R. Pusz Fanfare for a Drummer, Becky Llewellyn Whales Weep Not! (Premiere), Veljo Tormis Raua needmine

Performance in Adelaide Youth Orchestra Concert, Elder Hall, Adelaide, South Australia; of Eric Bryce Concerto For Marimba/Vibraphone

1994

Performances/workshops during a residency in the Stuttgart Hochschule, Germany; of Tristram Cary Black, White and Rose, David Morgan An Itsy-Bitsy Collection, David Morgan Concerto For Percussion, David Lumsdaine Kangaroo Hunt, Nigel Westlake Omphalo Centric Lecture, Steve Reich Six Marimbas, Richard Lavenda Split 5 Ways, James Tenney Having Never Written a Note for Percussion, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra

Performances in Chamber Players Series, Price Theatre, Adelaide, South Australia; of Marta Ptaszynska Cadenza, Becky Llewellyn Sticks And Stones, Tristram Cary Black, White And Rose, James Tenney Having Never Written A Note For Percussion, Roland Leistner-Mayer Poem IV, Richard Lavenda Split 5 Ways

Performance in Fezbah concert, Festival Centre of Adelaide, South Australia; of Marta Ptaszynska Concerto For Marimba, Becky Llewellyn Sticks And Stones, Richard Lavenda Split 5 Ways, Eric Bryce Concerto (for marimba/vibraphone), Alan Hovhaness Fantasy On Japanese Woodprints, Aleks Pusz Swaying Dance

Performance in Orange, New South Wales, Australia, during Orchestral Workshops; of William Kraft Morris Dance, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, John Beck, Overture for Percussion Ensemble

Recording at the Australian Broadcasting Commission, Adelaide, South Australia of Tristram Cary Black, White and Rose.

Performance in Adelaide Youth Orchestra Concert, Elder Hall, Adelaide, South Australia; of Marta Ptaszynska Concerto for marimba

Performance in Adelaide Percussion Festival, South Australia; of Tristram Cary Black, White and Rose, David Morgan Concerto for Percussion
Performance in *PolArt* ‘94 concert, Nexus Cabaret, Adelaide, South Australia; of Marta Ptaszynska *Concerto For Marimba*, Becky Llewellyn *Sticks And Stones* (Song Web), Eric Bryce *Concerto For Marimba/Vibraphone*

**1993**

Performance in *The Black Tie Fare Concert*, COME OUT ‘93 Festival in the Adelaide Town Hall, South Australia; of Neil Currie *Sonata for percussion*, Desmond Waite *The Hammer*, traditional arr. R. Pusz *El Cumbanchero* (for Steelband), John Beck, *Overture for Percussion Ensemble*

Performance at *Flute Society Concert*, Adelaide, South Australia; of Peter Tanner *Diversions*


**1992**

Performances and workshops in Poland at the *Opole International Percussion Festival*; and then in the Music Academies at Poznan, Katowice and Wroclaw, (Poland) and Madrid (Spain); of Tristram Cary *Black, White And Rose*, David Morgan *An Itsy-Bitsy Collection*, David Morgan *Concerto For Percussion*, David Lumsdaine *Kangaroo Hunt*, Eric Bryce *Concerto For Marimba/Vibraphone*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*


Performances in Singapore, Kuching, Penang and Kuala Lumpur, Malaysia, with the *Corinthian Singers*; of Andre Oosterbaan *Time Of Light*, George Gershwin *Fascinatin' Rhythm* and Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*

Performance in the Lights Ensemble, at the *New Music Festival*, Melbourne, Victoria, Australia; of Quentin Grant *Comes Fresh Life*, John Hines *Untitled*, Andi Aldam *Lightmotives*, John Polglase *Charivari*, Peter McIlwain *A Little Halo*

Performance at the Flinders School of Music Concert, Adelaide, South Australia; of David Morgan *An Itsy-Bitsy Collection & Concerto for Percussion*, Tristram Cary *Black, White And Rose*

Performance at *Adelaide Festival of the Arts*, South Australia; of Henryk Gorecki *Good Night*

Performance at *Adelaide Festival of the Arts*, South Australia; of Charles Ives *All The Way Round And Back*, Morton Feldman *The Viola In My Life 1 & 2*, Warren Burt *63 Whispers In Memoriam Morton Feldman*

Performance in *Recital Room Series*, Flinders School of Music, Adelaide, Australia; of George Crumb *Dream Sequence*, David Baker *Singers Of Song and Weavers Of*
1991

Performances and workshops in the inaugural Prague Percussion Days, Prague; of Eric Bryce Concerto For Marimba/Vibraphone, Ross Edwards Marimba Dances, Graeme Leak Drum Song, David Morgan An Itsy-Bitsy Collection

Performance in Franz Liszt Academy, Budapest, with the Hungarian Youth Orchestra; of premiere of David Morgan Concerto for Percussion and performance of Carl Orff Carmina Burana, David Lumsdaine Kangaroo Hunt, Ross Edwards Marimba Dances

Performances and workshops at the Fifth International Percussion Festival and Workshops in Bydgoszcz, Poland; of Eric Bryce Jazz Suite, James Tenney Having Never Written A Note For Percussion, Raymond Chapman-Smith Untitled 17.6.90, David Morgan An Itsy-Bitsy Collection, Atis Danckops A Different Kind Of Jazz, Graeme Leak Drum Song

Performances and workshops in Trinidad of Eric Bryce Jazz Suite, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra, David Morgan An Itsy-Bitsy Collection, Atis Danckops A Different Kind Of Jazz, Graeme Leak Drum Song

Performance for an Australian Education Council Dinner; of Atis Danckops A Different Kind Of Jazz, Francisco Tarrega/R. Pusz Recuerdos De La Alhambra, Sonitus Humarimba #1 & #2, “Chick” Corea Spain, Alice Gomez Rainbows, J. Kent Williams African Sketches, Robert Lloyd Sticks, Nigel Westlake Omphalo Centric Lecture, Eric Bryce Jazz Suite, Alice Gomez Folk Dances

Workshop for Chamber Music Workshop, University of Adelaide, South Australia; of Bela Bartok Sonata (for two pianos and percussion)

Performance in Elder Hall, Adelaide, South Australia; of Martin Redel Traumtanz für Schlagzeug und Orgel, Bela Bartok Sonata (for two pianos and percussion), Eric Bryce Concerto For Marimba/Vibraphone, David Morgan An Itsy-Bitsy Collection, Larry Sitisky Phantom Drummer Of Tedworth, David Lumsdaine Kangaroo Hunt, Henk Badings Passacaglia for Organ and Timpani, David Morgan Partita alla Tedesca

1990

Performance in the Adelaide Festival of the Arts, Kaffee Series; of Eric Bryce Jazz Suite, Atis Danckops A Different Kind Of Jazz, Francisco Tarrega/R. Pusz Recuerdos De La Alhambra, Sonitus Humarimba #1 & #2, "Chick" Corea Spain, Alice Gomez Rainbows, J. Kent Williams African Sketches, Robert Lloyd Sticks, Etude on Kandian Rhythms.

Performance in concert at Flinders University South Australia; of Atis Danckops A Different Kind Of Jazz, Francisco Tarrega/R. Pusz Recuerdos De La Alhambra, Sonitus Humarimba #1 & #2, “Chick” Corea Spain, Alice Gomez Rainbows, J. Kent Williams African Sketches, Robert Lloyd Sticks, Nigel Westlake Omphalo Centric Lecture
Performance and broadcast in *Urizen Concert Series*, Adelaide, South Australia; of Atis Danckops *A Different Kind Of Jazz*, Robert Lloyd *Sticks*, Nigel Westlake

*Omphalo Centric Lecture*

Performance in concert *Sonitus*, presented by *Urizen*, Adelaide, South Australia; of Steve Reich *Six Marimbas*, John Cage *Imaginary Landscape No 2*, Raymond Chapman-Smith *Untitled*

Recording for national broadcast on Australian Broadcasting Commission-FM Radio; of Felix Werder *Fractured Fancies*, David Harris *Chamber Concerto* (for marimba and percussion ensemble)

Performances and workshops in the *Fourth International Percussion Festival* and Workshops in Bydgoszcz, Poland; of Larry Sitsky *Phantom Drummer Of Tedworth*, Felix Werder *Quinny On The Roof*, Ross Edwards *Marimba Dances*, Eric Bryce *Concerto For Marimba/Vibraphone*, David Harris *Chamber Concerto* (for marimba and percussion ensemble), Robert Lloyd *Sticks*, David Morgan *Down Under Suite*

Performance in *Chamber Players Concert Series*, Adelaide, South Australia; of Larry Sitsky *Phantom Drummer Of Tedworth*, David Morgan *Partita alla Tedesca*, Martin Redel *Traumtanz für Schlagzeug und Orgel*, Henk Badings *Passacaglia for Organ and Timpani*, Felix Werder *Fractured Fancies*, David Harris *Chamber Concerto* (for marimba and percussion ensemble)

Performance at Flinders Street School of Music, Adelaide, South Australia, with visiting virtuoso Steven Schick and the Technical And Further Education Percussion Ensemble, in a concert of contemporary percussion music; of Steve Reich *Music For Pieces Of Wood*, Frederic Rzewski *To The Earth*, Larry Sitsky *Phantom Drummer Of Tedworth*, Graeme Leak *Drum Song*, Karlheinz Stockhausen *Zyklus No 9*, Peter Sculthorpe *Sonata For Viola And Percussion*, Peter Garland *Apple Blossom*, Iannis Xenakis *Rebonds*

**1989**

Premiere performance for the *COME OUT* Festival of Eric Bryce *Concerto for Marimba/Vibraphone* with Adelaide Symphony Orchestra.

Performance in *Urizen Concert Series*, Adelaide, South Australia; of Felix Werder *Fractured Fancies* and David Harris *Chamber Concerto* (for marimba and percussion ensemble), Ross Edwards *Marimba Dances*, Alan Hovhaness *Fantasy on Japanese Woodprints*, Eric Bryce *Concerto For Marimba/Vibraphone*

Performance in a *Chamber Players* concert tour of the South-East of South Australia; of Henk Badings *Passacaglia for Organ and Timpani*, Martin Redel *Traumtanz für Schlagzeug und Orgel*, David Harris *Chamber Concerto* (for marimba and percussion ensemble)

Performance in concert at Flinders University of South Australia; of Eric Bryce *Jazz Suite*, Eric Bryce *Concerto for Marimba/Vibraphone*, Murray Houllif *Blue Samba for percussion ensemble*, John Beck, *Overture for Percussion Ensemble*

Performance at Flinders Street School of Music, Adelaide, South Australia; of David Lumsdaine *Kangaroo Hunt*, Ross Edwards *Marimba Dances*, Eric Bryce
Marimba, Introspection, Uncle Bill, Inner Self, Indian Pacific, Blue Dew (for Marimba/Vibraphone & Piano)

Performance in concert at Broken Hill, New South Wales, Australia; of Ross Edwards Marimba Dances, Eric Bryce Concerto For Marimba/ Vibraphone, George Hamilton Green Xylophone Rags, Francisco Tarrega/R. Pusz Recuerdos de la Alhambra

Performance in an Accompanists' Guild concert; of David Harris Six Lyric Pieces, Alan Hovhaness Fantasy On Japanese Woodprints, Bela Bartok Sonata for two pianos and percussion

Performance with Urizen, a contemporary classical concert, Adelaide, South Australia; of Felix Werder Fractured Fancies

Performance at Flinders Street School of Music, Adelaide, South Australia; of Felix Werder Fractured Fancies, Martin Redel Rounds for percussion solo, Hildemann Kol Nidrei for viola, clarinet and percussion

Performances at Concert/Lecture tour of USA and Europe; of Alan Hovhaness Fantasy On Japanese Woodprints, Eric Bryce Concerto For Marimba/Vibraphone, Ross Edwards Marimba Dances, David Harris Six Lyric Pieces, Tango, David Lumsdaine Kangaroo Hunt, Robert Lloyd Etude On Kandian Drum Rhythms, Felix Werder Fractured Fancies, Chaldaean Zones, Peter Clinch Apostrophe, Warren Burt 63 Whispers, Peter Sculthorpe Sonata For Viola And Percussion, Peter Brideoake Dialogue 2.

Performance at Adelaide Festival Centre Concert and live ABC-FM broadcast; of Alan Hovhaness Fantasy On Japanese Woodprints, Eric Bryce Marimba, Introspection, Uncle Bill, Inner Self, Indian Pacific, Blue Dew for Marimba/Vibraphone and Piano, Ross Edwards Marimba Dances, David Harris Six Lyric Pieces

Performance at Adelaide Town Hall, South Australia, as conductor of Alan Hovhaness Fantasy On Japanese Woodprints

1988

Performed at the opening ceremony Adelaide Festival of Arts; of Ryszard Pusz Drumworks: Fanfare for 75 Drummers, Anthony Cirone 4/4 for Four, J Kent Williams African Sketches Graeme Leak Drum Song with Adelaide Percussions

Three concerts as part of the Adelaide Festival of Arts; of Eric Bryce Jazz Suite, Tristram Cary Rivers, Atis Danckops A Different Kind Of Jazz, Robert Lloyd Sticks

Performance at a Chamber Players Concert; of Peter Brideoake Dialogue for Two, Douglas Knehans Dawn Panels, William Kraft Suite For Percussion, J. Kent Williams African Sketches, David Baker Singers of Songs, Weavers of Dreams

Performance at a Chamber Players Concert; of George Dreyfus The Seasons, Larry Barnes Sunlight Dialogues, John DeBeradinis Two Sketches, Alan Hovhaness Fantasy On Japanese Woodprints

Performance in a concert at Flinders University of South Australia; of Alan Hovhaness Fantasy On Japanese Woodprints, David Harris Six Lyric Pieces, Larry Barnes Sunlight Dialogues, John DeBeradinis Two Sketches, Larry Weiner Fusions
Recording for 5UV Radio, Adelaide, South Australia; of Felix Werder *Fractured Fancies* and David Harris *Six Lyric Pieces*

Performance in the *Breakthrough Festival of Contemporary Classical Music*, Adelaide, South Australia; of James Tenney *Having Never Written A Note For Percussion*, Morton Feldman *Durations One*, Richard Wolff *Exercise I*

Conducting a percussion ensemble in the *Breakthrough Festival of Contemporary Classical Music*; of Steve Reich *Music For Wood Pieces*, Michael Colgrass *Three Brothers*, Henry Cowell *Ostinato Pianissimo*, Edgard Varese *Ionisation*, Michael Udow *African Welcome Piece*, James Tenney *Three Pieces for Percussion Quartet*

Performance in a community concert of Alan Hovhaness *Fantasy On Japanese Woodprints*

Performance and recording for the Australian Broadcasting Commission for national broadcast in a *Total Sync* concert, Elder Hall, Adelaide, South Australia; of Peter Brideoake *Dialogue for 2*

**1987**

Performances in the *COME OUT* Festival, at a community concert and on *IN TEMPO* (ABC-FM Radio); of Eric Bryce *Jazz Suite*, David Morgan *Fun And Games*, Atis Danckops *A Different Kind Of Jazz*, Robert Lloyd *Sticks*, Ralph Middenway *Mosaics* & Percy Grainger *Eastern Intermezzo, Arrival Platform Humlet, Sailor’s Song, Bahariyale V. Palaniyandi*; Broadcast of Eric Bryce *Jazz Suite*, David Morgan *Fun And Games*, Robert Lloyd *Sticks*

Performance in an *Accompanists Guild* concert, Adelaide, South Australia; of David Lumsdaine *Kangaroo Hunt*

Performance of Iannis Xenakis *Komboi* in "Verandah", a dance piece realised by Leigh Warren for an Australian Dance Theatre season

Performances with Australian Dance Theatre; of *Hidden Garden* - a piece for Dance and Percussion, Harp and Clarinet

Performance in a *Chamber Players Concert* of Darius Milhaud *Concerto for marimba/vibraphone*, David Lumsdaine *Kangaroo Hunt*, Peter Sculthorpe *Sonata For Viola And Percussion*, Iannis Xenakis *Komboi*, Francisco Tarrega/R. Pusz *Recuerdos de la Alhambra*

Premiere performances in a *Chamber Players* concert; of Tristram Cary *Rivers*, Felix Werder *Renunciation for Viola, Percussion and Orchestra*, Eric Bryce *Jazz Suite*

**1986**

Opening Ceremony, *Adelaide Festival of Arts*, directed percussion ensemble in outdoor performance of Robert Lloyd *Sticks*, Graeme Leak *Drum Song*

Performance in concert for the *Adelaide Festival of Arts*; of Atis Danckops *A Different Kind of Jazz*, Atis Danckops *Songs for Dark Hours* and Ralph Middenway *Mosaics for Reeds & Percussion*

Performance in the *Berio Festival series for the Adelaide Festival of Arts*; of Peter Sculthorpe *Sonata For Viola and Percussion*,

370
Performance in the *Adelaide Festival of Arts*; of Andre Oosterbaan *All the Reed Will Say*, with Claire Cochrane

Performance in a Chamber Players concert – *An all Australian Percussion Concert*; of Larry Sitsky *Diabolus in Musica*, David Morgan *Fun and Games*, Robert Lloyd *Sticks* and Atis Danckops *A Different Kind of Jazz*

Performances in community concerts at the Adelaide Festival Centre and Elizabeth City Centre, South Australia; of Anthony Cirone *4/4 for four*, J. Kent Williams *African Sketches*, arr. Adelaide Percussions *Mallet Medley of popular pieces*, David Morgan *Fun and Games*, Larry Spivack *Quartet for paper bags*, Atis Danckops *A Different Kind of Jazz*

Presented a workshop on percussion notation via a telephone link to the *International Percussive Arts Convention* in the USA using David Morgan *Voyage Into Solitude*, David Lumsdaine *Kangaroo Hunt* and Peter Sculthorpe *Sonata For Viola and Percussion* as examples.

**1985**


Performance at Elder Hall, Adelaide, South Australia; of Karlheinz Stockhausen *Zyklus No 9*, Jacques Casterede *Alternances*, Darius Milhaud *Concerto pour marimba et vibraphon*, Darius Milhaud *Concerto pour batterie et petit orchestre*, Werner Tharichen *Konzert für Pauken und Orkester*

**1984**

Performances at the *Adelaide Festival Fringe*, South Australia; of David Morgan *Voyage into Solitude* in one *Adelaide Percussions* concert and David Morgan *Loss* Recording ABC with Sarah De Jong *Without Limits*.

Performance in Adelaide, South Australia; of Andre Oosterbaan *All the Reed Will Say* and David Morgan *Voyage into Solitude*

Performance at a *Chamber Players concert*; of Atis Danckops *A Different Kind of Jazz* and Ralph Middenway *Stone River*

Concert/Lecture tour of the USA in Bloomington Indiana, Corpus Christi Texas, San Francisco California; of Eric Bryce *Suite for Percussion Quintet*, David Morgan *Voyage into Solitude*, David Morgan *Loss*, David Lumsdaine *Kangaroo Hunt*, Peter Sculthorpe *Sonata For Viola & Percussion*, Atis Danckops *A Different Kind of Jazz*
1982
Adelaide Percussions’ inaugural concert featuring commissioned works David Morgan Loss and Eric Bryce Suite for Percussion Quintet.
Premiere performance of Andre Oosterbaan Time of Light in a concert with Corinthian Singers.

1980
First concerts of commissioned works: Adelaide College of Arts and Education concert with Glynn Adams, Stephen Whittington, Stephen Carter, Ian MacDonough; of Bozidar Kos Quartet, John DeBeradinis Dialogues for violin & percussion, Peter Sculthorpe Sonata for Viola & Percussion, Henry Cowell Set of Five
Percussion Society of Australia concert, Adelaide, South Australia; of Eric Bryce Suite for Percussion Quintet

1978
Concert of percussion works at Elder Hall, Adelaide, South Australia; of Carlos Chavez Toccata, Kent Williams African Sketches, George Frock Asiatic Dances, Dale Rauschenberg Discussion, Tony Cirone 4/4 for Four
Performance at Magill Art Centre of Karlheinz Stockhausen Zyklus

1977
Performances in Indiana University and in Banff Festival, Banff Arts Centre, Canada, under the direction of Professor George Gaber; of Carlos Chavez Toccata, Kent Williams African Sketches, George Frock Asiatic Dances, Dale Rauschenberg Discussion, Luis Bonfa arr G. Gaber Manha de Carnaval, George Gaber Batucadas, Johann Altenburg arr G. Gaber Concerto, David S. Bernstein Ziz
Performance with Verdon Williams and Adelaide Metropolitan Orchestra of Darius Milhaud Concerto pour batterie et petit orchestre

1976
Performance of Peggy Glanville-Hicks Sonata For Piano And Percussion Quartet, Peter Brideoake Sonata For Flute & Percussion, Helen Gifford Myriad (flute & percussion ensemble), Craig Schlenker Piece for flute and percussion for Modern Flute and Percussion Evening in the Flute Convention.
Performance of Richard Meale Interiors/Exteriors, David Lumsdaine Kangaroo Hunt in New Music SA’s concert.

1975
Performances, rehearsals and workshops in St Peter’s College Hall and Victorian College of the Arts under the direction of Professor George Gaber; of Carlos Chavez Toccata, Kent Williams African Sketches, George Frock Asiatic Dances, Dale Rauschenberg Discussion, Luis Bonfa arr G. Gaber Manha de Carnaval, George Gaber Batucadas, Johann Altenburg arr G. Gaber Concerto, David S. Bernstein Ziz, Varèse Ionisation
Performance of Darius Milhaud *Concerto pour batterie et petit orchestre*

**1964-70**
Community concerts in Adelaide and Elizabeth of William Kraft *Theme and Variations for Percussion Quartet*, transcriptions of Bach fugues, and arrangements of popular music by Brian Porter and Michael Kenny, with Michael Askill, Michael Holland and Ian MacDonald.

**1963**
Performance at South Australia State Music Camp with Michael Askill, Michael Holland and Ian MacDonald; of William Kraft *Theme and Variations for Percussion Quartet*, transcriptions of Bach fugues, Ian Owens *Piece for Percussion Quartet*, and arrangements of popular music by Brian Porter and Michael Kenny.
Appendix A

Performance of the Sculthorpe Sonata in a country town

In 1998 coincidence found Peter Sculthorpe, the Perihelion ensemble and me in the country town of Mildura, Australia. Knowing that Patricia Pollett (violist in Perihelion) and I had played the work Sculthorpe joked that it was a shame that the piece could not be performed that night. We decided it was worth trying.

A copy of the score was faxed down from Brisbane, and the afternoon was spent driving round the town looking for substitute instruments and beaters.

The instruments were all borrowed from Kit Drummers, so the Bass Drum was a small 18” diameter ‘Kick’ Drum, heavily muffled for nightclub playing conditions; so I played much of the Bass Drum part on the floor Tom-tom to address the need for resonance. So when the two were played in the same phrase, different part of the Tom-tom had to be played to obtain a contrast in sounds.

A conga was used for the Bongo, the bell of a Cymbal for the Triangle; and for the china Cymbal I experimented through the performance on various parts of a normal Cymbal for different sounds. I also used 2 pairs of beaters – Snare Drum sticks and wound xylophone beaters as no double-ended beaters were available; nor were there any Triangle beaters, but I was able to use a thin metal rod that the Art Gallery had amongst its tools. Amazingly I did find a Tam-tam, though it was not possible to bring any artistry on it in the performance as it was on a low stand and not able to be positioned to best effect. The audience heard the sound but were not fully aware of its source. I had to play sitting down because the drum stands were all low, though the conga was not so I reached up for that; and I played from the score, with all the parts on two lines, so much turning of pages as well.

Neither of us had played the piece for 2 or 3 years, and never with each other, but a quick run through at 7pm worked well, as we both found the other easy to work with. So the piece was performed and the audience showed its appreciation warmly and Sculthorpe was also pleased.
Appendix B Videos (see attached DVD)

This is a selection of short videos showing the diversity in a few of the smaller or accessory instruments. Very little scholarly attention has been given to this aspect of the instruments and they have generally been treated as ‘one instrument’ and ‘one sound’. However, as the video demonstrates a variety of sounds are available from them. This not an exhaustive treatment of the matter, there are many more sizes and sounds that can be exploited. This is just a glimpse from the author’s collection.

<table>
<thead>
<tr>
<th>Track</th>
<th>Instrument</th>
<th>Start Time</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shakers</td>
<td>00:00:00</td>
<td>00:04:42</td>
</tr>
<tr>
<td>2</td>
<td>Scrapers</td>
<td>00:04:43</td>
<td>00:07:12</td>
</tr>
<tr>
<td>3</td>
<td>Triangles</td>
<td>00:07:13</td>
<td>00:08:52</td>
</tr>
<tr>
<td>4</td>
<td>Woodblocks</td>
<td>00:08:53</td>
<td>00:11:30</td>
</tr>
<tr>
<td>5</td>
<td>Clapsticks (used in Sculthorpe Sonata for Viola and Percussion)</td>
<td>00:11:31</td>
<td>00:12:20</td>
</tr>
<tr>
<td>6</td>
<td>Toy Drums (used in Morgan Loss)</td>
<td>00:12:21</td>
<td>00:12:39</td>
</tr>
</tbody>
</table>

**Shakers:** The video shows shakers made from plastic, wood, gourd, rawhide, bean and metal and the sounds that are possible from them using two different playing methods.

**Scrapers:** Like the shakers, scrapers come in various sizes and are made from gourds, wood, bamboo and metal. Each scraper can educe two or more timbres.

**Triangles:** Triangles also are made in different sizes, usually for specific purposes. As a sound source they can educe different sounds by being played in different places.

**Woodblocks:** Originally from China, woodblocks have been treated as 'one sound'. However, the variety of sizes and different beaters and approaches to playing can produce different sounds.

**Clapsticks:** This demonstrates how clapsticks can be used in the Sculthorpe Sonata. The different way of holding them from claves makes them easy to pick up, so enabling a more flexible playing approach.

**Toy drums:** The toy drums score for in Morgan’s Loss are impracticable to obtain, to mount and so to play. A more practicable approach is to use tunable practice pads as demonstrated. This, moreover, is the sound Morgan wants.

NOTE:
The DVD containing 'Recorded Performances' is included with the print copy of the thesis held in the University of Adelaide Library.
Appendix C Recordings (see attached CD)

Peter Sculthorpe Sonata for Viola and Percussion
Eric Bryce Suite for Percussion Quintet
David Morgan Loss for Percussion Quartet

The Sculthorpe Sonata was recorded in 1998 by the Centre of Applied Learning Systems of Adelaide, TAFE with violist Richard Hornung.

The Bryce Suite is of a performance in 1984 by students at Indiana University and conducted by me.

The Morgan Loss was performed in 1982 by Adelaide Percussions and recorded by the ABC.

All the recordings are unedited.

<table>
<thead>
<tr>
<th>Track No.</th>
<th>Detail</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Peter Sculthorpe Sonata for Viola and Percussion</td>
<td>10:47</td>
</tr>
<tr>
<td>2</td>
<td>Eric Bryce Suite for Percussion Quintet: Prelude</td>
<td>07:05</td>
</tr>
<tr>
<td>3</td>
<td>Eric Bryce Suite for Percussion Quintet: Games</td>
<td>05:39</td>
</tr>
<tr>
<td>4</td>
<td>Eric Bryce Suite for Percussion Quintet: Pranks</td>
<td>04:01</td>
</tr>
<tr>
<td>5</td>
<td>David Morgan Loss Battery</td>
<td>03:52</td>
</tr>
<tr>
<td>6</td>
<td>David Morgan Loss Funeral Music</td>
<td>06:30</td>
</tr>
<tr>
<td>7</td>
<td>David Morgan Loss Requiem</td>
<td>03:41</td>
</tr>
<tr>
<td>8</td>
<td>David Morgan Loss Cloud Cuckoo Land</td>
<td>02:31</td>
</tr>
<tr>
<td>9</td>
<td>David Morgan Loss Fons Amoris</td>
<td>17:16</td>
</tr>
</tbody>
</table>

NOTE:
The CD containing 'Recorded Performances' are included with the print copy of the thesis held in the University of Adelaide Library.

The CD must be listened to in the Music Library.
Appendix D

Due to copyright restrictions only certain pages have been reproduced. The whole scores and parts are available from the publishers for the Milhaud Concerto and Sculthorpe Sonata. Sculthorpe’s hand-written manuscripts are available from the National Library Canberra. The Bryce Suite and Morgan Loss are available from the Australian Music Centre.

Darius Milhaud, *Concerto pour batterie et petit orchestre* 378

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David Morgan, *Loss for Percussion Quartet* 411

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3. *Requiem* 414
4. *Cloud Cuckoo Land* 415
5. *Fons Amoris* 416
**Milhaud *Concerto pour batterie et petit orchestre***

Attached are sample pages from four versions of the score and three versions of the solo part. I also hand wrote a solo, but have not included it as it is written on A2 size paper was not possible to reduce and obtain a clear copy. Like the Williams, my copy was based on the 1958 piano reduction score and contained the errors of that edition. There is an implication in the 1967 version, on the solo part, that an edition exists for multiple percussion players, but no evidence has been found for such an edition.

The versions in order are:

1. Original orchestral score (1929/30)
2. Miniature score 1931
3. Piano reduction score (1958)
4. Piano reduction score (1967). The date is on the solo part. It is not shown on the score, which lists only the original publication date of 1931.
5. Original solo part, to be played with orchestra, 1931
6. Solo with piano accompaniment (1967)
7. Solo (hand written by Verdon Williams: easier version, and with tam-tam error), undated
1. Milhaud Concerto, Original orchestral score
A PAUL COLLAER

CONCERTO

pour batterie et petit orchestre

DARIUS MILHAUD

Copyright 1966 by Universal Edition A.G., Wien
Universal Edition Nr. 15906
3. Milhaud Concerto, Piano Reduction score (1958)
Milhaud Concerto, Piano Reduction score (1958)
CONCERTO
pour batterie et petit orchestre

DARIUS MILHAUD
(1926/30)

VIF 4.116 Rude et dramatique

Triangle
Cymbale suspendue
Bloc de métal
Bloo de bois
2 Cymbales
Castagnettes
fouet
crikette
tam-tam de basque

caisse claire
caisse roulante
bambouin provençal

tam-tam

4 timbales

grosse caisse à pédale avec
cymbale décrochable

VIF 4.116 Rude et dramatique

Piano (Réduction du petit Orch.)

(Signatures des Timbales)
(Paul Cussechington)
Milhaud Concerto, Piano Reduction score (1967)
CONCERTO POUR BATTERIE ET PETIT ORCHESTRE

DARIUS MILHAUD

Percussion

Triangolo
Tam-tam

2 Pinã½s
Castagnetti
Verga
Baganella
Tamburo basco

Tamburo piccolo
Cassa rullante
Tamburino prov.

4 Timpani

Piatto sospeso
Métal-block
Wood-block
Piatto
Gran Cassa

Copyright 1967 by Universal Edition A.G. Wien

Universal Edition Nr. 13867

5. Milhaud Concerto, Solo (original)
Milhaud Concerto, Solo (original)
6. Milhaud Concerto, Solo (1967)

La partie solo de la percussion dans la réduction pour piano diffère de celle de la version pour orchestre et peut être exécutée par un seul instrumentiste.

Die Solo-Schlagzeugstimme der Klavierreduction divergiert von jener der Orchesterversion und kann von 1 Spieler ausgeführt werden.
CONCERTO POUR BATTERIE
ET PETIT ORCHESTRE

Vif (1-116)
Rude et dramatique

Triangolo
Tam-tam

C 1 5 2 3 4

2 Piatti
Castagnetti
Verga

3 4

Raganello
Tamburo basco

C 1 5 2 3 4

Tamburo piccolo
Cassa rulante
Tamburino prov.

C 1 5 2 3 4

4 Timpani

in Fa, Si, Re, Mi

Piattolo rospeto
Metal-block
Wood-block
Piatti
Gran Cassa

C 1 2

==

Tambico
C. rel.
7th pr.

C 5 3 4

Temp.

Copyright 1967 by Universal Edition A.G. Wien

Universal Edition Nr. 6433a
Milhaud Concerto, Solo (1967)
7. Milhaud Concerto, Solo (hand written by Verdon Williams: easier version, with tam-tam error)
Sculthorpe *Sonata for Viola and Percussion*

There are a number of versions of the Sonata in existence. The analysis in this study is based on four of them, two very early manuscripts, a pre-publication manuscript that contains Sculthorpe’s corrections and final editing and the published Faber edition of 1979. Unfortunately, it has not been possible to again sight the very first copy, which contains the reference to ‘claves’ and the only written authentication is Hannan’s quote on page 46 of his book on Sculthorpe. I had a copy of this early manuscript, which was scored for claves, but I disposed of it after making my copy of the percussion part and receiving the Faber edition. It is possible that a copy is in existence but as at June 2016, no copy was found in the National Library of Australia, where all Sculthorpe’s material has been catalogued, and I have found no person of those I know to have performed the work to have a copy either.

The scores and parts are listed below in the following order:

1. 1960 version held in the National Library, Canberra
2. 1960 version held in the Elder Conservatorium Library
3. 1960 pre-publication version, with notes by Sculthorpe
4. 1979 published score (Faber)
5. Percussion part, hand written, 1979, from the original score
6. Sculthorpe *Sonata* percussion part updated 2015

For ease of reference the table below referred to the score in the same order.

In the pre-publication manuscript there is also this note written by Sculthorpe at figure 12, which was either ignored by the publishers, or decided against by Sculthorpe, as those four bars are still in the printed 1979 edition.
### Discrepancies between versions

<table>
<thead>
<tr>
<th>Bar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td><em>mf</em></td>
<td>no change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-37</td>
<td>very slowly, <em>♩= c.96 ad. lib</em></td>
<td><em>poco lento ♩ = c. 96</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar 38</td>
<td><em>a tempo, ♩ = 96</em></td>
<td>no change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar 48</td>
<td><em>ad. lib</em></td>
<td><em>poco rall</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>no dynamic change from <em>pp</em></td>
<td><em>mp</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-56</td>
<td>extra ‘gong’ notes written in, probably by Smith</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td></td>
<td>roll ends on grace note</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>well articulated’</td>
<td>Marking crossed out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>sticks</td>
<td><em>Changed to rim</em></td>
<td>rim</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td><em>f</em></td>
<td><em>ff</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>well articulated’</td>
<td>Marking crossed out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>201-203</td>
<td><em>mf</em></td>
<td><em>Changed to mp</em></td>
<td><em>mp</em></td>
<td></td>
</tr>
<tr>
<td>227</td>
<td>triangle beater ('pick up tri. beater') in bar 225</td>
<td>direction to ‘pick up tri beater’ crossed out ‘with beater’ put in</td>
<td>‘with beater’</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td><em>mp</em></td>
<td><em>Changed to mf</em></td>
<td><em>mf</em></td>
<td></td>
</tr>
<tr>
<td>266</td>
<td>No dynamic</td>
<td>Made <em>f</em></td>
<td><em>f</em></td>
<td></td>
</tr>
<tr>
<td>274</td>
<td><em>f</em></td>
<td>Changed to <em>ff</em></td>
<td><em>ff</em></td>
<td></td>
</tr>
<tr>
<td>276</td>
<td><em>ff / f</em></td>
<td>Changed to <em>fff / ff</em></td>
<td><em>fff / ff</em></td>
<td></td>
</tr>
<tr>
<td>277</td>
<td><em>ff</em></td>
<td>Changed to <em>fff</em></td>
<td><em>fff</em></td>
<td></td>
</tr>
<tr>
<td>278</td>
<td><em>f</em></td>
<td>Changed to <em>ff</em></td>
<td><em>ff</em></td>
<td></td>
</tr>
<tr>
<td>279</td>
<td><em>ff</em></td>
<td>Changed to <em>fff</em></td>
<td><em>fff</em></td>
<td></td>
</tr>
<tr>
<td>290-299</td>
<td>snare drum or tom-tom</td>
<td>snare drum</td>
<td>snare drum</td>
<td></td>
</tr>
</tbody>
</table>
1. Sculthorpe Sonata, 1960 version held in the National Library, Canberra
2. Sculthorpe Sonata, 1960 version in the Elder Conservatorium Library

First performed B.B.C. broadcast from Attingham Park Summer School,
Percussion, for one player, consists of base drum, large gong, large suspended cymbal (known as "Chinese"), small suspended cymbal, tom-tom (or side drum without snares), side drum, sticks (i.e. drum sticks to be struck together), bongo and triangle; hard sticks, soft sticks, bass drum foot-pedal (only where indicated) and triangle beater.
3. Sculthorpe Sonata, 1960 pre-publication version, with notes by Sculthorpe
4. Sculthorpe Sonata, 1979 published score (Faber Music)
Sculthorpe Sonata, 1979 published score (Faber Music)
Sculthorpe Sonata, 1979 published score (Faber Music)
5. Sculthorpe Sonata, Percussion part, hand written, 1979, from the original score
Sculthorpe Sonata, Percussion part, hand written, 1979, from the original score
6. Sculthorpe Sonata percussion part updated 2015

Peter Sculthorpe

SONATA
FOR VIOLA AND PERCUSSION

PERCUSSION
Part updated 2015

Legend
- bass drum
- tam-tam
- jingles cymbal
- triangle
- sticks

Peter Sculthorpe ed. Ryszard Pusz

percussion

\[ \text{Animato} \quad \mathbf{\text{f}} \quad \mathbf{\text{mf}} \quad \mathbf{\text{poco rall}} \quad \mathbf{\text{a tempo}} \quad \mathbf{\text{molt rall}} \quad \mathbf{\text{pp}} \quad \mathbf{\text{mp}} \quad \mathbf{\text{tr}} \quad \mathbf{\text{pp}} \]

\[ \text{Poco lento} \quad \mathbf{\text{dim}} \quad \mathbf{\text{accel.}} \quad \mathbf{\text{rim}} \]

\[ \text{Animato} \quad \mathbf{\text{f}} \quad \mathbf{\text{mf}} \quad \mathbf{\text{poco rall}} \quad \mathbf{\text{a tempo}} \quad \mathbf{\text{molt rall}} \quad \mathbf{\text{pp}} \quad \mathbf{\text{mp}} \quad \mathbf{\text{tr}} \quad \mathbf{\text{pp}} \]

\[ \text{Poco lento} \quad \mathbf{\text{dim}} \quad \mathbf{\text{accel.}} \quad \mathbf{\text{rim}} \]
* If desired, the percussionist may imitate the shape of the preceding melody, playing the given rhythms on differently pitched drums.
Suite For Percussion Quintet

1. Prelude
   Duration: 7 mins
   Percussion: a) Tubaphone, Drum Kit
   b) Vibes
   c) Vibes
   d) Cymbals (banged), Xylophone (bowed), Dumbcsnec
   e) Wind Chimes, Triangle, Timpani

2. Games
   a) Marimba
   b) Vibes, S AGO
   c) Xylo
   d) Triangle, glock
   e) Wind Chimes, gong, tubaphone

3. Rounds
   a) Vibes
   b) Vibes
   c) Cymbals, glock, marimba, triangle
   d) Banjo, Harp
   e) Timpani
Bryce Suite, Prelude

Duration: 7 mins
Bryce Suite, Games

Suite: for Percussion Quintet

1. Games

Composer: Bryce

M.M. = 108 (Approx.)

23/5/80
Bryce Suite, Pranks

Suite for Percussion Quintet

Pranks

M.M. 1=132 (approx)

Composed by: Eric Bryce

30/5/80

Duration: 6 mins

Vibes 1.
Vibes 2.
Cymbal (4 pairs) - Glock - Marimba - Timps (last 2 bars)
Bongos - Flexitone
Timps - (22'' F - D - Eb)

(28'' A - Bb - G (last 2 bars))
Bryce Suite, Pranks
Morgan *Loss for Percussion Quartet* (with editing indications)

This is the original score, with my editing for instrument allocation. Morgan then rewrote the score from which the parts were written.
Morgan Loss, Battery
Morgan Loss, Funeral Music

II

FUNERAL MUSIC.

LENTO (d=60)

Medium Tenor Drum

With heavy beat

pp
Morgan Loss, Cloud Cuckoo Land
Morgan Loss, Fons Amoris

(The piece has finished when the last sound has died away.)

Gloriously North, Sara Austin.