

Chapter 4

As composers break new ground exploring the subtleties of percussion instruments and the intricacies of the multi-percussion set-up, their need for specialised knowledge is evidenced by their collaboration with percussionists.

This chapter seeks to demonstrate a somewhat unique relationship which at times exists between composer and percussionist. It does not postulate that relationships/interplay/collaborations do not exist between composers and other instrumentalists but that some aspects are unique. Further, this chapter provides an overview needed to support the contentions of Hypothesis 3.

A Composer/Performer Interplay

Ian Cleworth and Ross Edwards “talked a lot about different things”¹ leading up to Edward’s composition *Yarrageh* (1989). There were discussions of techniques, sounds and philosophies:

Yarrageh was commissioned by the ABC, and composed especially for the percussionist Ian Cleworth, one of our finest musicians, whose collaboration I found very valuable in writing the solo part.²

When Cleworth was asked about this collaboration with the composer and generally about the problems of writing for orchestral percussion instruments he replied that there are so many instruments in the percussion section and that this is part of the problem the composer faces when asked to write a piece for percussion: “exactly what instruments to use?” He says that the composer must restrict themselves because of the practicalities of putting many

Driftglass (Dench 1991) which uses a large and complex set up. Dench drew a suggested diagram, but performer Peter Neville found that an alteration to this was necessary. The percussionist may influence the composition with specific instructions re set-up. For example, percussionist Steve Shick wanted pieces written for instruments he could travel with in a suitcase - Brian Fernyhough obliged with a piece for eight small objects.⁸ In a letter to Graeme Leak (27.8.86) Keith Humble draws a suggested set-up for the various instruments in *Module 1* but quite naturally asks the advice of the performer about the appropriateness of certain mallets (eg. knitting needles) for the cymbals section as well as the 'set-up'.

Also in a letter to P.Martin (30.7.92) Humble notes:

In the first place almost *all* my works have been written for, and in collaboration with, specific performers in mind. Secondly, a large number of these performers collaborated in musical projects or programs that I directed. Such was the case with Jean Charles [Françoise] who was my student, assistant, co-director and colleague in K.I.V.A. Needless to say, influences would be inevitable..... both ways.

Prominent Australian chamber groups playing contemporary music such as Elision, Synergy, Perihelion and Flederman (1978 to 1988) are in the main, only working with living composers and those with whom there is personal contact. Elision have regular workshops and communication with commissioned composers, including those from overseas such as Donatoni.

Choices Of Instruments

Commissioning of works by performers is a paramount connection between composer and performer(s). At this nexus, the percussionist influences the instruments to be written for, sometimes surreptitiously, by showing off some new or favoured sound. Peter Neville, percussionist with Elision, notes in an essay

on aspects of this interplay between composers and performers of percussion music:

The first stage of my collaboration with many composers has been a demonstration of the instruments in my collection and this has directly influenced the final choice of instruments in many works. Thus, in collaboration, Gordon Kerry was introduced to my six ceramic mixing bowls and was able to employ their clear, resonant tone in an important structural way.⁹

Liza Lim has also made use of these ceramic bowls in various compositions including *Garden of Earthly Desire* (1988-89), where her request of Neville for “bright” sounds led to the selection of multiple triangles, a bell-tree and some small Japanese bells.¹⁰ Minor adjustments to compositions are commonplace when composers attend rehearsals of their works. In percussion music, however, the process of timbral choice and decision continues at a more significant level.

Neville continues in his observations:

Even in cases where the composer has a definite instrumentation in mind, or a completed part arrives, the selection process is scarcely narrowed, for unlike other instruments, there is, in most cases, no percussive archetype upon which to base a choice. A woodblock, for example could be any one of the ten within my collection, each marked by its own individual register and timbre. Similarly, a cymbal could be any one of the twenty types and sizes in my possession. Even when a composer specifies the type and size of an instrument, the sound will often vary according to other criteria. For example, the request for a sixteen inch crash cymbal disregards the fact that its sound will vary considerably according to its thickness and brand-name. Collaboration and experimentation is therefore the only way for a composer to be sure a sound fits his/her needs. By this process Haydn Reeder's request for a “small cymbal” in *Dance In A Mirror Of Time* was best met by the use of a 21 centimetre, very thin Zildjian “splash” type cymbal.

The Rehearsal/Revision Process

Collaboration during the rehearsal stage has also been of great benefit to composers, with many altering the selection of instruments in response to deficiencies in tone, attack, or their ability to blend with other instruments. For her sextet *Blaze*, Liza Lim originally chose six temple blocks, for which we ultimately

substituted wood-blocks to gain a more incisive tone and greater projection. Mark Pollard, in his work *With Six Nailed Sorrows*, was able to substitute a very large gamelan gong for the original tam-tam to gain a more centred and less “splashy” tone. At times I have instigated the change for practical drums and wood-blocks presented an impossibility in finding sticks that were hard enough to work on the woodblocks, without damaging the log-drums. A workable compromise was reached by swapping temple-blocks for wood-blocks.¹¹

The instruments played by the members of any ensemble will influence compositional aspects of any commissioned work. In the case of percussionists this is highlighted further by the (sometimes) open discouragement¹² of set-ups with large numbers of instruments and/or bulky instruments. The pragmatic composer, whether commissioned, briefed or otherwise may take into account the decreased likelihood of repeat performance where the set-up is time-consuming and unwieldy. For example the piece *Quartet* by Colin Bright is considered by Synergy members to be an excellent composition, but receives less performances than they consider to be deserved, owing to the size of the set-up.¹³

Conclusion

The nature of the Percussion ensemble is organically unique in that instruments/timbres, particularly of indefinite pitch, are continuously being added to it. The array of timbral choices (other than traditional core instruments) will vary from ensemble to ensemble and the physical restraints of combining certain instruments per player requires specialist knowledge. This specialist knowledge may well be beyond the reasonable expectations of a composer’s day to day knowledge of ‘how to write for’ a percussion soloist or ensemble. Therefore, an increased connection/communication between composer and performer has become somewhat commonplace with compositions for percussion. That is, an increased connection/communication comparative to writing for other instrumental ensembles.

It has been noted above that little published information for the composer exists about the set-up parameters of percussion ensembles with its multi and varying size or the timbral uniqueness of brands and their size.

An interplay, collaboration or simply communication between composer and percussionist has led to timbral refinement in writing for percussion. The combination of a wealth of timbres and the informational interplay between composer and performer has led Australian composers, like composers throughout the world, to gain compositional ideas from the emergence of the percussion ensemble and the virtuoso percussionist.

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- 1 Ian Cleworth. Interview, Sydney, January 1993.
 - 2 Ross Edwards. Sydney Symphony Orchestra's: *Meet the Music*. Teaching kit, 1989, p.3.
 - 3 Ian Cleworth. *op. cit.*
 - 4 Synergy. Interview, Sydney, January 1993.
 - 5 Michael Askill. Interview, Sydney, January 1993.
 - 6 *Ibid.*
 - 7 Reginald Smith-Brindle. *Contemporary Percussion*. Oxford University Press, London, 1970 (reprinted 1975).
 - 8 Peter Neville. Interview, Melbourne, January 1992.
 - 9 Peter Neville. From an unpublished essay, Melbourne 1991.
 - 10 Peter Neville. Interview, *op. cit.*
 - 11 Peter Neville. From an unpublished essay, *op. cit.*
 - 12 Michael Askill. Interview, *op. cit.* and Peter Neville, Interview, *op. cit.*
 - 13 Michael Askill. Interview, *op. cit.*

Chapter 5

Compositional Concepts

Introduction

At the Geelong (Victoria) music camp in 1993 Colin Piper, as guest instructor for the 12 percussionists, notes that all the students were familiar with the compositions *Defying Gravity*, *Omphalo Centric Lecture*, *Quasar* and *Reflections*. Many of the older students were also familiar with *Raintree* (Takamitsu). Importantly, the students were from all over Australia; Perth, Brisbane, Sydney, Melbourne, Adelaide and various country centres. Therefore, a knowledge of these pieces is not from regionalised performances by Synergy. However, the availability of these pieces as recordings by Synergy promotes dissemination by radio and home stereos.

Piper and Lagos (Synergy members) also acknowledged that these pieces are now being taught in the music institutions for percussion studies, whereas some years ago the training repertoire was mostly from Europe or America. Further, Synergy members remarked that advice from teachers, lecturers and students alike, is that the students enjoy playing these pieces.¹

Other Australian pieces which feature in the Sydney Conservatorium of Music percussion studies are *Fabian Theory* (Westlake), *For Marimba and Tape* (Wesley-Smith), *Marimba Dances* (Edwards) and *Concerto for Percussion* (Carl Vine). Colin Piper has commented on this situation:

There's a lot of solo works from all around the world, but these are pieces they (the Sydney Conservatorium students) want to play. These are the pieces they gravitate towards.²

This chapter tests Hypothesis 3 (a) through comments and observations made by composers and percussionists on the influence of non-Western (European) musics and Hypothesis 3 (b) by analysing selected works.

Non-Western (European) Influences

In the course of researching this thesis musicians and composers made note of various influences on their music other than Western European ones. Such influences as Eastern European, African, South American and Australian Aborigine musics were noted. But by far the most commonly cited influences emanated from the various cultures of Asia.

Ian Cleworth's study of the Japanese *taiko* drumming style has influenced his approach to music and particularly to ensemble playing:

....you can't separate the music and the playing from the way of thinking. It is very much based on different psyche, like the way Japanese society is structured...an hierarchical structure. You're very much part of the group.... the group mentality is very important.the approach to playing is one of being very open to the music, open to feelings, to each other's feelings... I suppose universals.³

Another influence of Ian's Japanese studies has been the acquisition by the ensemble of a set of Japanese drums:

The drums have become very popular with local composers; replacing what might have been written for tom toms or roto toms or different variations on 'Western' drums, now they tend to use the traditional Japanese drums. Not necessarily in a Japanese context but just because the sound is so characteristic and good.⁴

The Thai gongs, popular with composers for their timbral interest, are also helping to give a unique sound to the ensemble. Cleworth's philosophies and musical temperament, influenced by his Japanese studies, would have influenced the collaborative bond with Ross Edwards who composed *Yarrageh* for orchestra (1989), especially for Cleworth. Edwards' own, non-Western (European) influences are expressed in a note for one of the Sydney Symphony Orchestra's, Meet the Music Teaching Kits issued in 1989.

It's reasonable to say that this work, along with much of my other music, represents an attempt to localize some esoteric Oriental musical forms by relating them to my own environment. Much of *Yarrageh* was conceived while I was walking through the Australian bush in September. The title is an aboriginal word which means the spirit of spring.

Other Australian works featuring the Japanese drums, bells or Thai gongs are *Arks and Heresies* (Douglas), *Going On* (Askill), *Fantasy* (Pratt), the new symphonic work with Synergy from Carl Vine and *Reflections* (Edwards).

In *Yarrageh* Edwards makes use of the *Dobachi* (Japanese temple bell) to play a recurring figure reminiscent of the music of the Japanese court, *gagaku*.⁵ Michael Askill, in the composition *Going On*, originally set out to explore music in a Japanese context. This was because the piece was composed for a concert which was to have an Asian theme, however, Askill notes that he and other composers, when using Asian instruments, are seldom implying an Asian context.

In *Lemurian Dances* the high and low gongs give periodic accents to the music, not dissimilar to some Gamelan music where a high gong is struck every four bars and a low gong every eight bars. However, Askill recollects that in composing the piece, he was more interested in the sounds of the particular instruments used (including instruments other than the gongs.) He considers that

“It wasn’t a conscious reference to Balinese musics.”⁶ There is also a prominent ostinato pattern in *Lemurian Dances* but this again was not a particular ostinato pattern from a particular country or region. Nonetheless he has suggested that “the idea was certainly influenced by Asian music.”⁷ As the first serious attempt at composition *Lemurian Dances* perhaps naturally reveals various influences which have imposed themselves upon its composer. The contour, length and swing of the opening melodic phrase is not unlike many jazz Be-Bop tunes. Askill accepts this influence and, as well, recollects that the answering and/or unison of the first thematic material in this composition, by various other instruments, contains images for him of certain African musics of someone signalling and then other players taking up that signal. Whilst Askill hasn’t formally studied any musics of non-Western origin his extensive and attentive listenings to a lot of different musics may be regarded as a form of research.

Apart from non-Western (European) influences on interactions and the music of Synergy, these influences are recognized by several Australian composers who often feature percussion in their works. In an article by James Murdoch (1972) Peggy Glanville-Hicks is quoted as saying:

I use a melody-rhythm structural principle that has to some extent, been crystallized and refined by a study of Asian practices, but I use it independently of the materials from which in part it was deduced.

It seemed to me that modern composers are unduly pre-occupied with the element of harmony, to the detriment, I feel, of the more basic primary elements of melody and rhythm.⁸

Peggy Glanville-Hicks made this comment in the context of her influences and frustrations with Modernism, Neo classicism and Atonalism. Being bored with the expressive limitations of dissonance, Glanville-Hicks began a searching re-examination of music’s basic materials:

My conclusions led me to throw out the element of harmony altogether, and with it of course departed dissonance.⁹

Murdoch wrote further:

....it is fascinating to see how her long interest in non-western music is now coinciding with the developments taking place in the young composers of Australia.¹⁰

The influence of Japanese drumming on Synergy is noted above. The Gagaku music from Japan is an influence in Ann Boyd's *The Metamorphoses of the Solitary Female Phoenix* (1971) for wind quintet, piano and percussion) and on *Landscape II* (1978) by Peter Sculthorpe. Sculthorpe recognizes the influences of Balinese musics as well.

Sculthorpe had from about 1960, been excited by Japanese gagaku and the music of the Tibetan Buddhist monks. But he could not incorporate these into his music in any way because of their tonal and structural properties.

The discovery of Colin McPhee's lengthy study of Balinese music soon after its publication was a revelation to Sculthorpe, for here was a music which fitted exactly into his four and eight-measure structural units, and which was based upon exact repetition in both its micro-structure and macro-structure. There are it can be seen, numerous other similarities. Sculthorpe's distinctive use of percussion for accompanying punctuation is similar in concept to the so-called colotomic structure of genres like gamelan gong, in which the group of instruments with melodic and decorating function are accompanied by a punctuating pattern of a few large and small gongs.¹¹

Ostinati and pedal notes are characteristic of Sculthorpe's works as well and may be considered as influenced by Balinese gamelan music and the Didgeridoo of Australian Aboriginal music respectively. The displacement effect in *Sun Songs* is an Indonesian influence of a 3 note repetition in a 4 time unit (Example 1).

Example 1

Example 1 is a musical score for a Marimba and four other instruments. The Marimba part is marked 'MARIM' and includes dynamics like '(f)'. The accompaniment consists of four staves, with the top staff marked 'Alto Saxophone' and a circled '5' above it. The score shows a complex polyrhythmic structure with various note values and rests.

The use of layered rhythm or polyrhythm, achieved by displacement or varied accents (from a reference pulse) is influenced in Sculthorpe's case by Balinese 'rice pounding music'. At a more macro level distant punctuations may be the result of similar influences. Sculthorpe has remarked that:

....naturally they don't think in bars, but one woman may have a rhythm that's five bars long, another twelve bars long and another, say, eleven bars long..... they begin together then they get out of phase and come together again at the common multiple.¹²

Balinese gamelan played its part in the educational background of Richard Meale. He played *Tjalung* on the CBS recording *The Exotic Sounds of Bali* during his studies at UCLA. At UCLA he studied practical as well as theoretical aspects of Asian musics including Javanese, Balinese, Indian and Persian. In the composition *Images* (1966) for orchestra there is the Japanese *Nagauta* influence.¹³

Apart from Asian influences, the musics of Africa and Australian Aborigines have been noted above. It will be seen below that aspects of musics associated with Eastern Europe appear in *Quasar* (Bozidar Kos) and aspects of Latin American musics in *Defying Gravity* (Carl Vine) and *Omphalo Centric Lecture* (Nigel Westlake).

Compositions: Explorations In Timbral And Polyrhythmic Possibilities

Hypothesis 3b is tested by analysing the works *Quasar* (Kos), *Defying Gravity* (Vine), *Reflections* (Edwards), *Omphalo Centric Lecture* (Westlake), *The Speed of Sound* (Smetanin), and *How the Stars Were Made* (Sculthorpe) with particular reference to timbral and polyrhythmic aspects. All of these works are part of the Synergy repertoire.

***Quasar* (Bozidar Kos)**

The form of *Quasar* has similarities to approaches by other Australian composers of percussion music, in that the controlled choice and/or limitation of instruments suggests a structure where one timbral group evolves to another, particularly with respect to resonance/brightness and frequency spectrum. For example a skin group combines with wood - then combines with metal, before a middle section of all metal, and then a return to wood - then skins. This approach to form has precedence in Varèse's *Ionisation* (1931) where each significant change in timbre and texture is also a demarcation of the form.¹⁴

In *Quasar* timbral variations and their relationships to form may be observed where changes to the tempi are made (not including metrical modulations). At these tempi changes, a substitution of beaters is always made.

The basis for rhythmic organization in *Quasar* is the Fibonacci series represented by the number series 1,2,3,5,8,13,21,34,55 and an alternate series (the Lucas Series) 1,3,4,7,11,18,29,47, using the same additive concept but starting after the number 3.¹⁵

The relationship of rhythm to the Fibonacci series is evident from the start of the piece, where player I has an attack on the lower tom tom every 3 quavers. Player IV has a bass drum beat every 8 quavers and then a tom tom every 5 quavers. Even players II and III with continuous glissandi on timpani have a subtle Fibonacci relationship, in that each notated pitch for player II is 5 semiquavers apart and for player III every 4 triplet quavers, (the composer cites his alternate numerical organization NB. 1,3,4,7,11 etc).

By bars seven and eight (Example 2) one can see the following Fibonacci groupings, from attack to attack.

| | | | |
|--------------|-------|----|------------------------|
| Player I - | every | 3 | quavers |
| | every | 8 | quavers |
| Player II - | every | 13 | quintuplet semiquavers |
| Player III - | every | 4 | triplet quavers |
| | every | 11 | triplet semiquavers |
| Player IV - | every | 5 | quavers |
| | every | 7 | semiquavers |

4/4 $\text{♩} = 72$

I Tam Tam ff *ev.*

II Large Cymbal on Timpani p *cresc.* *poco* *a* *poco* f *Stop hemato on the cymbal but continue gliss on the timpani.*

III Large Cymbal on Timpani p *cresc.* *poco* *a* *poco*

IV 2 Bongos, 2 Tom toms, Bass drum with pedal ff *sticks*

I 2 Bongos, 2 Tom toms, Bass drum ff *sticks* p ff

II 2 Bongos, Tom toms, Bass drum ff *sticks* p ff

III 3 Rolo toms, Shave drum, Zimbaro toms, Bass drum, Cymbal on Timpani ff *sticks* p ff ff *Stop hemato on the cymbal but continue glissando on the timpani.*

IV 2 Bongos, 2 Tom toms, Bass Drum ff *sticks* p ff

Wood. 2 Wood blocks, Temple block, Slit drum p ff ff

Wood. 2 wood blocks, 2 Temple blocks, Wood plate drum p ff

**) Place the cymbal upside down on the timpani. Play a tremolo on the rim of the cymbal while executing with the foot glissando on the tpm. according to the notation.*

(5) **(7)**

These polyrhythmic components continue although the various groupings are sometimes made up from composite parts. In example 3, player IV (second staff) combines with player I to produce an attack on lower tom tom every three quavers.

Example 3 bars 10-11

$\text{♩} = 72$

(10)

W.B.
T.B.
I. Bongos
1. Tom
2. drum

W.B.
T.B.
II. Bongos
1. Tom
2. drum

W.B.
T.B.
III. Bongos
1. Tom
2. drum

W.B.
T.B.
IV. Bongos
1. Tom
2. drum

Example 5

$\text{♩} = 72$

W. Blows
T. Blows
Wood Wind
Bongos
T. Toms
B. Drm.

W. B.
T. B.
Silt Drm.
Bongos
Timbales
B. Drm.

W. B.
T. B.
Silt Drm.
Roto Tom
Snare
B. Drm.

W. B.
T. B.
Wood Metal
Bongos
T. Toms
B. Drm.

Example 5 (bars 21-22) may also be used to show a further permutation of numbers and variations through numerical processes. By numbering the five lines of the staff, for each player's wood part, to represent the relative pitches; a constant permutation of the ordering of 1,2,3,4,5 can be observed. This can be more clearly observed in the wood part at bars 33-34 below.

Example 6 bars 33-34

$\text{♩} = 72$

Wood I
Skins

Wood II
Skins

Wood III
Skins

Wood IV
Skins

35

Detailed description of the musical score: The score consists of four systems, each with a Wood instrument and a Skins instrument. The tempo is marked as quarter note = 72. The first system (Wood I/Skins) has a tempo of 72 and a circled bar number 35. The second system (Wood II/Skins) includes dynamics like mf and f, and articulations like Sim. and triplets. The third system (Wood III/Skins) has dynamics like f and mp. The fourth system (Wood IV/Skins) has dynamics like mf and f. The Skins part in the first system has a circled bar number 35.

A further influence on the ordering of any five wood sounds, is the music of the Balkans, a feature of which is the grouping of units into two's and three's. Kos was born in Eastern Europe and he recognizes the influence of Balkan folk music.¹⁶

Once units of groups of notes in *Quasar* have grown to five note groups (or more) then, Kos says, he was aware of this two's and three's 'influence'.¹⁷ Five or eight note groups, for example, would be ordered into subgroupings of two's and three's as $2 + 3 = 5$, $3 + 3 + 2 = 8$.

In the wood group, player III (Example 7 bar 47), a sense of the two and three note grouping can be seen where the quintuplet is broken up into descending note groupings of three and two followed by another descending two note group.

Example 7 bars 46-47

(46) ♩ = 72

The musical score consists of four systems, each with a Wood part and a Skins part. The tempo is marked as ♩ = 72. The first system (labeled I) shows a Wood part with a quintuplet of sixteenth notes, followed by a rest, and then another quintuplet. The Skins part has a single note with a dynamic marking of *p*. The second system (labeled II) shows a Wood part with a series of eighth notes and a dynamic marking of *ff*. The Skins part has a single note with a dynamic marking of *p*. The third system (labeled III) shows a Wood part with a series of eighth notes and a dynamic marking of *ff*. The Skins part has a single note with a dynamic marking of *p*. The fourth system (labeled IV) shows a Wood part with a series of eighth notes and a dynamic marking of *ff*. The Skins part has a single note with a dynamic marking of *pp*.

Again at bars 55-56 in the skin group, the distances between attacks are related to Kos' Fibonacci numbers. For example, for player IV there is a diminishing distance between attacks: 11 semiquavers to 7 semiquavers to 4, to 3, to 2 and 1.

Example 8 bars 55-56

(55) ♩ = 92

Wood I
Skins

Wood II
Skins

Wood III
Skins

Wood IV
Skins

11 x 1 1 4 3 2 1

At bar 107 the pulses from the various subdivisions of the crotchet are presented in a rhythmic canon (in augmentation). A Fibonacci ordering is used as a basis for the canon.

Example 9 demonstrates the beginning of the rhythmic canon; players I and III. Each player has two skin timbres of higher and lower relative pitches. The lower pitch in skins I displays an initial distance of thirteen semi quavers, from a crotchet subdivision of seven (ie. 13 x septuplets), between attacks. This is followed by a distance of 8 x septuplets between attacks. In fact the tom tom occurring on beat four (skins I bar 107) may be thought of as position zero ¹⁸ where subsequent attacks on this instrument/timbre appear at a distance of 5,8,13,21 x septuplets, making the first two attacks in this bar represent - 13, - 8 consecutively. The higher pitch (skins, player I) fills the tom tom pulses with accented groupings to the value of 3 and 2 semiquaver septuplets.

Player III imitates player I from beat three, triplet 3 of 5, to begin the rhythmic canon in augmentation. Player II follows from beat two (bar 109) and player IV from beat four (bar 110).

At bar 113, Example 10, the imitative features of a canon is visually clearer.

Example 10

The musical score for Example 10 consists of four staves, labeled I Skins, II Skins, III Skins, and IV Skins. The score is divided into two systems. The first system begins at bar 113, indicated by a circled number above the first staff. In this system, Player I (Skins I) starts with a forte (*f*) dynamic and a rhythmic pattern of eighth notes. Player II (Skins II) enters with a piano (*p*) dynamic, playing a triplet of eighth notes. Player III (Skins III) enters with a piano (*p*) dynamic, playing a quintuplet of eighth notes. Player IV (Skins IV) enters with a piano (*p*) dynamic, playing a single eighth note. The second system continues the rhythmic canon, with Player I playing a sextuplet of eighth notes, Player II playing a triplet of eighth notes, Player III playing a quintuplet of eighth notes, and Player IV playing a single eighth note. Dynamics are marked as forte (*f*) for Player I and piano (*p*) for the other players. The score includes various articulation marks such as slurs, ties, and dynamic markings.

The dynamics scored for *Quasar* are highly structured, and are used to define the varying durations - attack to attack. For example the entry of Wood in player III part has, from attack to attack, 11 semiquaver sextuplets and is played *piano* (Example 2) which in keeping with the composer's matrix of dynamics (Example 11). Similarly the wood entry in player IV part which, from attack to attack, equals 7 semiquavers, attracts the dynamic *p* as well. The matrix and/or the composition has been organized in such a way that all the various wood parts begin *piano*.

Example 11 Composers autograph

Handwritten musical notation for five parts (I-V) showing rhythmic patterns and dynamics. The notation includes notes with stems, flags, and dynamic markings (*p*, *mp*, *mf*, *f*, *ff*). Some notes are circled or have arrows pointing to them, indicating specific rhythmic values or dynamics.

Part I: *Wood* (circled), *Opportunity*. Notes: 11 (circled), 8, 21, 13, 34. Dynamics: *p*, *mp*, *mf*, *f*, *ff*. Annotations: "smaller than attack", "number of notes", "P.N.", "6", "7", "6", "7", "6", "7", "6", "7", "6", "7".

Part II: Notes: 4, 11, 7, 12, 21. Dynamics: *p*, *mp*, *mf*, *f*, *ff*. Annotations: "P.N.", "5", "7", "5", "7", "P.N.", "5", "7".

Part III: *Wood* (circled), *Opportunity*. Notes: 7 (circled), 4, 11, 5, 13. Dynamics: *p*, *mp*, *mf*, *f*, *ff*. Annotations: "P.N.", "7", "4", "11", "5", "13", "P.N.", "7", "4", "11", "5", "13".

Part IV: Notes: 24, 18, 34, 4, 5. Dynamics: *p*, *mp*, *mf*, *f*, *ff*.

Part V: Notes: 18, 47, 24, 34, 8. Dynamics: *p*, *mp*, *mf*, *f*, *ff*.

Taking a further example from the matrix (Example 11). When from attack to attack is 11 semiquavers (but in groups of 3) the dynamic should be *mf*. This is borne out in the score at bar 21 where wood in part I develops from 2 note groups (at a distance of 4 quavers and therefore attracting *mp*) to 3 note groups at a distance of 11 semiquavers and is to be played *mf*. (Example 12).

Example 12

The musical score for Example 12 consists of two staves: Wood and Skirt. The Wood staff begins at bar 20, marked with a circled '20'. It contains four measures of music. The first measure has a dynamic of *mp*. The second measure has a dynamic of *mp*. The third measure has a dynamic of *mf* and includes a fingering '2'. The fourth measure has a dynamic of *mf* and includes fingerings '5', '2', and '4'. The Skirt staff also begins at bar 20 and contains four measures. The first three measures each have a dynamic of *f*. The fourth measure has a dynamic of *mf*. The score is written in a single system with a vertical bar line between the second and third measures.

The matrix is for wood only and the concept of 5 levels is again apparent with 5 dynamic levels *p*, *mp*, *mf*, *f* and *ff*, as well as 5 different groupings. It was noted above that there are 5 different relative pitches (or timbres) to each player's wood part.

A further rhythmic device used by Kos in *Quasar* is one of speeding up and slowing down, not by changes of tempi but by the juxtaposition of various tuplet groupings (bars 151-152, Example 13) and contemporary notation such as the complex beaming on the last crotchet of bar 150.

Example 13

$\text{♩} = 58$ (151)

Cowbells I
Vibr.
Triangle
Cymb.
Metal Pipes
C. Bell
Cowbells II

Example 14

(135)

Cymb.
Skins
Cymb.
Skins
Cymb.
Skins
Cymb.
Skins

The element of speeding up and slowing down is reinforced in the composition by the use of Fibonacci distances between attacks of certain timbres. At bar 134 (Example 14), where suspended cymbals introduce the metals, the diminishing distances of 18,11,7,4,3 semiquavers in part III (the alternate Fibonacci series used by Kos) emulate a sense of speeding up. It should be noted that subsequent entries of the cymbals in other parts are in canonic imitation, a technique introduced earlier in the piece.

Metric modulation occurs occasionally (eg. bar 438 Example 15) but the composer recognizes these as the result of other compositional material rather than a device in itself.

Example 15

The musical notation for Example 15 consists of a single staff. At the beginning, there is a circled time signature '4/31' and a tempo marking '♩ = 84'. The notation is divided into three distinct rhythmic groups: a group of 5 measures, a group of 3 measures, and a group of 6 measures. The first group of 5 measures is marked with a dynamic of *fff*. The second group of 3 measures is also marked with a dynamic of *fff*. The third group of 6 measures is marked with a dynamic of *ff*. Above the 6-measure group, there is a tempo marking '♩ = 126' and a small musical notation showing a 6-measure group.

All the predominant techniques, Fibonacci pulses, 2 and 3 note groupings, permutations of the timbres within a discrete group and speeding up/slowing down, continue to be developed to the end of the piece.

In *Quasar*, Kos has explored a variety of timbres inside the discrete groups of skin, wood and metal and complex polyrhythms through the layering of pulses and rhythmic units inspired by the Fibonacci series.

Defying Gravity (Carl Vine)

In *Defying Gravity*, as in *Quasar* the structure of the music is influenced by the choice of instruments.

...a number of boundaries were set up by choosing a number of instruments that Synergy (the commissioning ensemble) could easily get together...in fact there is quite a lot of structuring in *Defying Gravity* simply by the choice of instruments.¹⁹

The form is broadly A B A₁, where A₁ (after recapitulating the original melody on tom toms) uses similar rhythmic concepts in its organization - but different durations. Significantly, there is a timbral and textural contrast between A and A₁. In the last section, the lower frequencies from the 'skin' group (timpani and bass drums) are used alongside the tom toms and the higher resonating frequencies of the anvils outline the rhythmic groupings.

From a growth point of view the form has an increasing resonating factor, from the relatively dull and short resonating and sustaining character of the tom toms to the marimbas, and somewhat more resonating finger cymbals and occasional bass drum in the B section. The B section then leads to the intense use of anvils which presents a more resonating and sustaining character than the marimbas and finger cymbals. The resonant timpani is then introduced and is accompanied by a more frequent use of the bass drum.

The initial feature of the piece is a 'melody' of non-defined pitch, achieved by 12 differently tuned tom toms.

At bar 20 a new subdivision of the crotchet pulse (semiquavers instead of quavers) is introduced, and then followed by rhythms based upon a triplet subdivision of the crotchet. Both the semiquavers and triplet subdivisions

are grouped into units of three, causing rhythmic counterpoint or polyrhythms with the continuing quaver rhythms of other parts. The writing of these new units as one note every three semiquavers (Example 16) and one note every four quaver triplets (Example 17), may be aurally perceived as the pulse of new tempi. In this manner, there are polymetric relationships between the original quaver patterns and the semiquaver and triplet patterns.

Example 16 (see example 18 for notational Key)

$\downarrow = 112$

20

p

1

2

3

4

Detailed description: This musical score consists of four staves, numbered 1 to 4 on the left. The time signature is 3/4. Above the first staff, there is a tempo marking: a quarter note followed by '= 112'. The first staff contains a sequence of eighth notes and quarter notes. The second staff contains a sequence of eighth notes with 'x' marks above them, and some notes have a '7' below them. The third and fourth staves contain eighth notes and quarter notes. The score is divided into two measures by a vertical bar line. The first measure contains the first two staves, and the second measure contains the last two staves.

Example 17

21

1

2

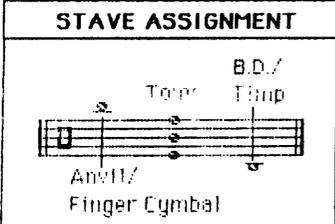
3

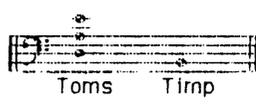
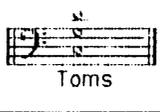
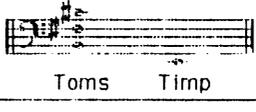
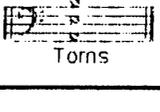
4

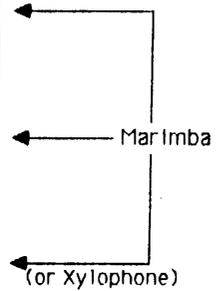
Detailed description: This musical score consists of four staves, numbered 1 to 4 on the left. The time signature is 3/4. Above the first staff, there is a tempo marking: a quarter note followed by '= 112'. The first staff contains a sequence of eighth notes with 'x' marks above them, and some notes have a '3' above them. The second staff contains a sequence of eighth notes with 'x' marks above them, and some notes have a '3' above them. The third and fourth staves contain eighth notes and quarter notes. The score is divided into two measures by a vertical bar line. The first measure contains the first two staves, and the second measure contains the last two staves.

Vine himself considers this superimposition akin to a multi-track tape recorder where overdubs are layered on a fundamental idea.²⁰

Example 18 KEY to notation in *Defying Gravity*.

| KEY : Defying Gravity | |
|--|---|
| IN DRUM SECTIONS PLAYED WITH FINGERTIPS : ↓ = use stick ↘ = use stick near rim | |
| GENERAL : All strokes are undampened unless marked with a staccato to indicate a "dead" stroke (ie. the drum is dampened BY the stroke). | |
|  = strike rim of drum (with stick) | <div style="border: 1px solid black; padding: 5px; text-align: center;"> STAVE ASSIGNMENT  </div> |
|  = strike shell of drum (with stick) | |
|  = strike sticks together | |
|  = press head of stick into drum head, strike shaft with second stick | |

| PLAYER | INSTRUMENTS AND TUNING | |
|--------|---|--|
| 1 |  | Anvil (hi) |
| 2 |  | Bass Drum (med) Anvil (med.hi) susp. Finger Cymbal |
| 3 |  | Anvil (med.lo) susp. Finger Cymbal |
| 4 |  | Bass Drum (lo) Anvil (lo) susp. Finger Cymbal |



Bar 29 may give the listener the impression of a spatially and physically large drum kit. Combining the individual rhythms, (Example 19) consisting of 8th and 16th note subdivision produces a composite rhythm (Example 20) not unlike rhythmic 'fill-ins' in regular use by Rock music drummers.

Example 19

Musical score for Example 19, consisting of four staves. The first staff contains a melodic line with a dynamic marking of *mf* and accents. The second, third, and fourth staves provide accompaniment, also marked with *mf* and accents. The piece is in 3/4 time.

Example 20

Musical notation for Example 20, consisting of four groups of five vertical lines, each with an accent (>) above it, representing a tremolo effect.

Example 21

Musical score for Example 21, consisting of four staves. The piece is in 5/4 time and marked with a dynamic of *ppp*. A box labeled 'A' is placed above the first staff. The score features a melodic line in the first staff and accompaniment in the other three. Accents (>) are used throughout the piece.

Example 22

The image shows a musical score for four parts, labeled 1, 2, 3, and 4. The score is written on four staves. The first measure is labeled '37'. The notation includes various rhythmic values such as eighth notes, quarter notes, and rests, with some notes marked with diamond symbols. The score is divided into measures by vertical bar lines.

Letter A (bar 31) begins the development of material presented in the first 30 bars, starting with the quasi-melody of the 12 pitched tom toms (Example 21). At bar 35 rhythmic material presented at bar 20 takes on a new timbre with use of sticks on the rim of the tom toms. As the rhythmic pattern is then spread across other parts, the sticks on different pitched rims are heard as the superimposition of a new pulse or tempo (Example 22)

The individual parts 1 and 2 have a rim accent every 3 quavers; the composite of these two parts produces a rim accent every 3 semiquavers.

Rhythmic complexity is furthered at bar 40 where patterns based on 16th triplets are introduced through player 3, (Example 23) and alternated with player 4 from bar 42.

Example 23

The image shows a musical score for Example 23, consisting of four staves labeled 1, 2, 3, and 4. Staff 1 and 2 contain eighth-note patterns. Staff 3 features triplet markings (3) and a dynamic marking 'p'. Staff 4 contains eighth-note patterns. A measure number '41' is visible above staff 2.

At bar 45 patterns based on semiquaver triplets are replaced with patterns based on quaver triplets. At this point in the composition, rhythmic patterns based on quavers, semiquavers and quaver triplets are working with and against each other producing units of 9 against 8 which dynamically builds from *p* to *mf* at letter B. Nine against eight is achieved over six crotchet beats where one unit is built on semiquavers and the other on quaver triplets. That is, one timbre divides 6 beats into 8 groups of 3 semiquavers, another timbre divides 6 beats into 9 groups of 2 quaver triplets. (Example 24)

Example 24

The musical score for Example 24 is divided into four systems, each with four staves. The first system (measures 44-46) features dynamics *p* and *mp*. The second system (measures 47-49) features dynamics *mp*. The third system (measures 50-52) features dynamics *mf* and is marked with a boxed letter 'B'. The fourth system (measures 53-55) continues the rhythmic patterns. The score includes various rhythmic notations such as triplets and complex note values.

At letter B the 9 against 8 over 6 crotchets is made metrically clear by changing the time signature to $\frac{3}{4}$, causing the pattern to begin again every two bars. This can be identified in Example 24[B] by composites of (stick near rim \times) in parts I and II (=8 x the value of three semiquavers) and 'basic' sticks (\times) in parts III and IV (=9 x the value of two quaver triplets). This two bar entity is played a total of nine times, and grows in intensity at letter C where a continuous 3 against 2 is

interpolated with the 9 against 8 figure (parts I and III). The 3 against 2 is achieved initially through the composite of parts III and IV against parts I and II.

Example 25

The musical score for Example 25 consists of four staves, numbered 1 to 4. At the top left, a common time signature 'C' is enclosed in a box. The first measure is marked with the number '62'. The score is characterized by complex polyrhythmic patterns, including numerous triplet markings (indicated by a '3' above or below a group of notes) and dynamic markings such as 'f' (forte). The notation shows intricate rhythmic relationships between the four parts, with notes often beamed together to indicate specific rhythmic groupings.

Repetition of polyrhythms (such as 9 against 8) is employed in order to develop an aural perception of the polyrhythm rather than a perception of asymmetrical, irregular autonomous rhythmic units. The composer notes that even the musicians (Synergy or others) with highly developed rhythmic abilities require a certain amount of repetition before there is an aural understanding of the integrated polyrhythmic unit of 9 against 8. The integrated sense may be exasperated by the distance between players in a typical percussion set-up, where each player's part may appear more autonomous than integrated.

The distance between players, however, is used to achieve a spatial effect by the composer through the rotation of parts in otherwise repetitive rhythmic sections. Rotations of rhythmic units between parts may be found throughout the

score. An example is at letter C where a repeat of the two bar pattern involves part 1 being given to part 2, part 2 being given to part 3, part 3 being given to part 4, and part 4 being given to part 1. As well as a spatial shift, a timbral variation is achieved by this rotation in that the similar instruments will have differences of relative pitch. The use of timbral/relative pitch differences is exploited as a method of variation to the rhythmic repetition within individual parts as well. For example bars 46-47 in part III (Example 24) have a rhythmic pattern repeated at bars 48-49 (Example 24) but there is a variation in the ordering of tom toms: a variation in relative pitch.

After repetition (and variation) of the 9 against 8 polyrhythmic unit there is a homorhythmic triplet pattern leading to a metric modulation where $\text{♩} = \text{♩}$ results in a faster crotchet pulse ($\text{♩} = 112$ becomes $\text{♩} = 168$ as 2 is to 3, 112 divided by 2×3). This is prepared by the previous quaver triplet phrase.

Example 26

The musical score for Example 26 consists of four staves, numbered 1 to 4. The first two staves (1 and 2) are in 3/8 time, and the last two staves (3 and 4) are in 2/8 time. The score is divided into three measures. The first measure is marked with a tempo of $(♩ = 112)$ and a 3/8 time signature. The second measure is marked with a tempo of $♩ = 168$ and a 2/8 time signature. The third measure is marked with a tempo of $♩ = 168$ and a 2/8 time signature. The score shows a 9 against 8 polyrhythm in the first two measures, which then transitions to a homorhythmic triplet pattern in the third measure. The notation includes various rhythmic values, including eighth notes, quarter notes, and triplets, with some notes marked with 'x' to indicate specific timbral variations.

At this same place (b72) variation in accents and rhythmic groupings is achieved through changing metres ($\frac{7}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ $\frac{3}{4}$ $\frac{9}{8}$). Letter D continues with irregular units and accents through the use of changing metres ($\frac{4}{4}$ $\frac{6}{8}$ $\frac{5}{8}$). Letter D also begins a development of timbre and dynamic with 'all sticks' being employed and by bar 91 all accents as well as attacks are homorhythmic. Rhythmic units continue with contrasting units of 2 and 3. (See Appendix III)

After a further grouping of 3 quavers, at *Con Tutta Forza* (bar104) 4 note rhythmic units are introduced and then with a reverse of the original metric modulation the tempo is returned to $\text{♩} = 112$ while sparse timbral variation prepares for the middle section (movement) of the work which features marimba.

The marimba-dominated section which begins at letter E in 15_{16} (where $\text{♩} = \text{♩}$) is influenced by the Mexican mariachi bands²¹ to the extent that three players were intended for one marimba. This became impractical (particularly considering one player would have to learn the instrument from the 'other side'... upside down). The tongue-in-cheek approach to some of this movement is further exemplified by the discussions between composer and performers as to whether the performers should wear Mexican hats. This consideration was discarded (!).²²

As stated at the beginning of this analysis of *Defying Gravity*, broad structural decisions were based on the percussion instruments themselves. Timbral variety is explored through striking the instruments at various places with different implements. Polyrhythms are achieved by the layering of rhythmic units of varying values.

Reflections (Ross Edwards)

Reflections (1985) along with *Defying Gravity* and *Omphalo Centric Lecture* was a unanimous selection by Synergy members as a favoured work from their repertoire. It is popular with the members and audiences alike.²³ Michael Askill has remarked that it was particularly popular with Parisienne audiences. (Paris tour 1989). *Reflections* contrasts other works in the Australian group's repertoire by its predominantly pianissimo quality, the suspension of any sense of metre and the tranquil exploration of sonorities through timbral combinations, such as chordal attacks by piano and vibraphone with simultaneous soft gong, tam tam or cowbell (Examples 27 and 28).

Example 27

(61) $\text{♩} = 63$

The musical score for Example 27 is written for four instruments: Piano, Tam-tam, Vibra, and Glock. The tempo is marked as $\text{♩} = 63$. The score is in 3/8 time and consists of four measures. The Piano part has a key signature of one sharp (F#) and includes dynamic markings like PP and PP 8b. The Tam-tam part has a key signature of one sharp and includes a 'Small song' section. The Vibra part has a key signature of one sharp and includes a 'Small song' section. The Glock part has a key signature of one sharp and includes a 'Small song' section.

Reflections is part of a series of works which Edwards refers to as his sacred music. The previous works of the sacred series, *Shadow D-Zone* (1977), *The Tower of Remoteness* (1978), *Kumari* (1980), and *Etymalong* (1984), demonstrate an increasing concern with compositional austerity. By contrast, *Reflections* (commissioned by Synergy), uses a much more expansive palette of sonorities.²⁴ Piano is the predominant instrument, however, the vibraphone is often used to timbrally modify the decay of the piano sonority. This is achieved by scoring the vibraphone after the piano attack (allowing the natural decay of both instruments). The entry of the vibraphone is often masked, being allocated a quieter dynamic than the piano. Example 29 *a,b,c*. This same (three part) example demonstrates further timbral modification and variety being applied to the piano motives/gestures through the employment of the percussion ensemble's cowbells, gongs, tam tam, and glockenspiel.

With regard to harmonic and rhythmic aspects of this work Michael Hannan writes:

Most chords involve one or more major seventh intervals although several intervals, notably the major ninth, minor seventh and major second, are also prominent. Apart from similar intervallic 'constructions' there is a persistent pattern of motives or sections of motives which involve three closely spaced attacks.²⁵

Some examples of this trend are given in Example 29: the three relevant attacks in each case are numbered.

Example 29

(a)

Musical score for Example 29 (a) in 3/8 time. The tempo is marked $\text{♩} = 63 \rightarrow 72$. The score consists of four staves: 1. Piano (Pno), 2. Gong, 3. Vibraphone (Vib), and 4. Glockenspiel (Glock). The Piano part features a melodic line with dynamics *mp*, *p*, and *pp*, and includes a circled '3' indicating a triplet. The Gong part is marked '3 Gongs' and 'timpani stick at centre' with a *ppp* dynamic. The Vibraphone part has a 'motor off (always)' instruction and a *pp* dynamic. The Glockenspiel part includes a 'Cowbell' instruction and a *p* dynamic. The measure numbers 'M 1-2' are indicated at the bottom.

(c)

Musical score for Example 29 (c) in 2/4 time. The score consists of four staves: 1. Piano (Pno), 2. Gong, 3. Vibraphone (Vib), and 4. Glockenspiel (Glock). The Piano part has a melodic line with dynamics *p*, *pp*, and *p*, and includes circled '3's for triplets. The Gong part has a *pp* dynamic. The Vibraphone part has a *pp* dynamic. The Glockenspiel part has a *p* dynamic. The measure numbers 'M 6-8' are indicated at the bottom.

(b)

Musical score for Example 29 (b) in 2/4 time. The score consists of three staves: 1. Piano (Pno), 2. Tam-tam, and 3. Vibraphone (Vib). The Piano part has a melodic line with dynamics *pp* and *pp*. The Tam-tam part has a *ppp* dynamic. The Vibraphone part has a *pp* dynamic. The measure numbers 'M 22-23' are indicated at the bottom.

The continually changing time signatures in *Reflections* represent not a conscious compositional technique of complexity but a concept that negates the use of accents contrary to the natural metrical stress of any particular time signature. The composer says:

Rather than have something consistently in $\frac{4}{4}$ and putting accents all over the place, if you divide up a musical phrase so that you've got a $\frac{5}{8}$ or a something, and then there's a high point which occurs on the next $\frac{3}{8}$ bar or whatever, this is making it clear. To me it's not complex, it's just the way of working that I've fallen into and nobody's really complained yet.²⁶

This concept is also exemplified in Carl Vine's *Defying Gravity* (above), and is consistent with Vine's philosophy of not unduly cluttering a score with accents.²⁷

Reflections explores the colourful envelopes of many percussion timbres, particularly the various gongs, by leaving room in the composition for their decay.

The opportunity of using a wider variety of timbres than in the previous three works of the series has enabled the composer to explore to a greater extent his idea of the randomness of the intersecting rhythms of nature.²⁸

The above quote (28) implies the timbral possibilities inherent in the percussion ensemble and the idea that the percussion ensemble may enable greater exploration of complex rhythmic units.

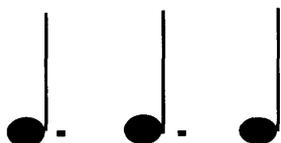
***Omphalo Centric Lecture* (Nigel Westlake)**

Written especially for the final concert of Synergy's 1985 season, *Omphalo Centric Lecture* uses compositional material in a manner often associated with minimalism: Ostinati, where continually repeated patterns slowly mutate, and limited pitch material.

It deals with the basic principles of repeated rhythm, melodic fragments and high energy mallet virtuosity. The name is taken from a painting by Paul Klee which indirectly influenced the piece.²⁹

Through accents, this composition also displays groupings, which are synonymous with Latin American rhythms, particularly repetitions of the (first-bar) Son Clave pattern (Example 30) which organizes quavers (in 4_4) into groups of 3,3,2.

Example 30



From the beginning of the composition this pattern is prominent in marimba IV part (albeit beginning in 2_4 with a subdivision of semiquavers). Marimba III, muted by soft material, has accents on the quaver offbeats, supplying a reference pulse for the syncopations. Marimba I has a two bar syncopated pattern with accented groupings of (2) 3,2,3,2,4,2. (Example 31)

Example 31

♩ = 114 (+ splash cymbal)

Marimba 1
muted (+ log drums)

Marimba 2
muted (+ shaker)

Marimba 3
mf (when muting marimba 3 leave for "H" & "B" un-muted.)

Marimba 4

4

so

The 'mute' indications for parts 2 and 3 refer to the placing of soft material between the lower (natural) and upper (sharp) marimba bars in order to obtain a shorter, staccato note.³⁰

When marimba I joins marimba IV a composite rhythm results as in Example 32.

Example 32

2
4

At bar 45 a hexatonic A minor scale is presented in an isometric way. That is, a recurring pattern of 14x16ths is mapped onto a 12_{16} (or 3_4) metre causing displacement of the pattern each repeat. (Example 33)

Example 33

45

Musical score for Example 33, starting at bar 45. The score is for four tubas (Tbe1, Tbe2, Tbe3, Tbe4). Tbe1 has a 'solo' marking. The score shows a complex rhythmic pattern of 14 sixteenth notes per measure, which is mapped onto a 12/16 (or 3/4) time signature, causing a displacement of the pattern in each subsequent measure.

The use and resolution of suspended fourths is a significant part of the pitch organization in the first section of the piece. Various transpositions of this suspension/resolution are superimposed over a common pedal note or ostinato. The pitches B and A which feature in the lowest register (NB from bar 22, and from bar 69) form this ostinato, the importance of which is suggested by the composer's instruction to leave these notes unmuted. (Example 34)

Example 34

22

Musical score for Example 34, starting at bar 22. The score is for four tubas (Tbe1, Tbe2, Tbe3, Tbe4). The score shows a complex rhythmic pattern of 14 sixteenth notes per measure, which is mapped onto a 12/16 (or 3/4) time signature, causing a displacement of the pattern in each subsequent measure.

Example 34 (cont.)

69

75

There is a development of polyrhythm from bar 61 (and again at bar 120) where a rhythmic variation to a four note melodic cell (in marimbas I and III) contrasts with the pulsating rhythm of marimba IV and the syncopations of marimba II. (Example 35)

Example 35

61

non solo

From bar 167 each marimba part is made more independent. In marimba I (from bar 168) the irregular ordering of four pitches lends a rhythmic variation to the stream of semiquavers. By bar 169 the triplets from marimba III produce a polyrhythm of 3 against 4 which is enhanced by irregular accents in marimba parts II and IV. (Example 36)

Example 36

167

170

The musical score for Example 36 consists of two systems of four staves each, labeled Mb a1, Mb a2, Mb a3, and Mb a4. The first system begins at bar 167. Mb a1 starts with a dynamic marking of *mf*. Mb a3 has a *solo* marking. The second system begins at bar 170 and includes dynamic markings of *pp* and *cresc.* (crescendo). The notation is dense with rhythmic markings, including accents (>) and triplets (3).

The untuned percussion are introduced from a middle section. From this point, (b.178) there is also an increase in dynamic levels and rhythmic intensity. (Example 37)

Example 37

The musical score for Example 37 consists of two systems of four staves each, representing different parts of a marimba quartet (Mb1, Mb2, Mb3, Mb4). The first system starts at measure 178. The top staff (Mb1) has a melodic line with an accent (^) and a dynamic marking of *ff*. The second staff (Mb2) has a rhythmic pattern with a dynamic marking of *mf*. The third and fourth staves (Mb3 and Mb4) have complex rhythmic patterns with many accents (>). A section labeled "to scribe" begins in the second measure of the first system. The second system starts at measure 180 and continues the rhythmic patterns for all four parts.

Being primarily a marimba quartet, and notwithstanding the use of log drums, splash cymbal and shaker, *Omphalo Centric Lecture* does not exploit the timbral possibilities of the percussion ensemble to the degree with which the preceding compositions do (as analysed above). It is, however, a very rhythmic composition, containing pulsating syncopations, the repetition of which give rise to polyrhythm when new patterns are eventually introduced or superimposed.

The Speed of Sound (Michael Smetanin)

Subtle dynamic gradations do not feature in this composition written in 1983. The general request is that the entire piece be performed *hard* and *very loud*.

The piece starts with *Klangfarbenmelodie* principles (Example 38), with motivic units of 3 and 2, after which homorhythmic parts are varied through metrical change: 2_4 3_4 4_4 6_4 etc.

Example 38

$\text{♩} = 80$. Extremely loud and hard.
(Ten-Ten)

Player 1 (Kst) 5_4 7_4 fff L.V. Hold Sheet L.V.

Player 2 5_4 7_4 fff Hold Sheet L.V.

Player 3 5_4 7_4 fff Hold Sheet L.V.

Player 4 5_4 7_4 fff L.V.

Player 1 (Kst) 4_4 2_4 4_4 fff (Scrubella)

Player 2 4_4 2_4 4_4 (Small Group)

Player 3 4_4 2_4 4_4

Player 4 4_4 2_4 4_4

The rhythmic approach to *The Speed of Sound* is more homorhythmic than polyrhythmic. That is, all play the same pattern or players II, III and IV accent or decorate rhythmic units established by player I (on kit). (see Example 40)

At other times the percussionists are allocated parts which, as a composite, forms a typical Rock drum pattern with drum-kit embellishments. Example 39 shows one bar from such a situation and whilst player I has the instruction *Ad Lib*, (N.B. 1) refers to improvisational instructions (see below) which restrict the *ad lib* in such a way as to more resemble embellishment.

Example 39

Ad Lib (N.B. 1)

The musical notation for Example 39 consists of five staves. The top two staves are labeled 'Ad Lib (N.B. 1)' and contain a double bar line with a slash, indicating improvisation. The third staff has a 'z' symbol above it. The fourth staff has a 'z' symbol above it and a note head below it. The fifth staff has a 'z' symbol above it and a note head below it. The notation is a complex, improvised drum pattern.

Variation to the overall rhythmic approach is achieved through sections of improvisation allocated to the drum-kit (player I). With regard to these improvised and embellished sections the composer has written:

Due to the nature of, and the way in which drum kit performance has developed (ie. through jazz, funk and rock music), drum kit parts are rarely fully notated except when only a simple part is called for. The development of the individual drum-kit performer is of a very personal nature as far as style and the type of patterns, 'fills' and 'feats' he or she will achieve. Therefore no player will achieve exactly the same natural style as another.

Smetanin believed that the best solution to the problem of notation for the drum-kit part was to leave it open to the performer to elaborate or improvise with the basic patterns given in the score. He considered that this would achieve unity with the other parts while maintaining the personal style of the drum kit performer.³¹

In the score referenced above (68) and under the title: Drum-kit Improvisation Notes, Smetanin provides a key to markings in the score. The marking *N.B.1* instructs that the drummer should elaborate or improvise with the basic pattern given, the elaboration may include any techniques or "fillings" that the player feels are suitable but should "fit around the parts of the rest of the ensemble". These markings (and their instruction key) continue numerically throughout the score. By way of further example *N.B.6* instructs: "the elaboration of all the following patterns given in this section should be of the nature of Tom-Tom fills". *N.B.8* is described as a "Cadenza" and states that this section has been left completely to the drummer.

The instructions continue that: "it should be virtuosic and aggressive in style" and that the punctuations played by the rest of the ensemble not only add "strength of volume/sound" but are also to be taken as "pillars" around which the improvisation is to be structured. The instructions given to improvised sections marked as *N.B. 8* appear to have the greatest potential to lend polyrhythms to the composition.

At bar 73 (Example 40) triplets are introduced and remain the subdivision of $2_4 \text{ } \downarrow = 80$ for 86 bars. (This might have been more easily notated in 6_8 using metric modulation.) There is a metric modulation at bar 136 where $\downarrow = 80$ becomes $\downarrow = 120$. That is, the real-time duration of a quaver triplet is equal to a quaver in the new tempo. Every 2 quavers becoming a pulse rather than every 3 quavers: a 2:3 relationship. (Example 41).

Example 40

The musical score for Example 40 is divided into two systems. The first system, starting at bar 73, features four staves: Player 1 (Ktr), Player 2 (Contrabass), Player 3 (Melodians), and Player 4 (Melodians). The time signature is 2/4. At bar 73, the time signature changes to 3/4 for all players. The notation includes triplets and a dynamic marking 'Horn Mtr slightly open.' The second system begins with a double bar line and a slash, followed by the instruction 'Ad lib continues.' and a 'x5' multiplier. It continues with 'x5' and 'x3' multipliers, and ends with 'Continue Ad lib (N.B. 4)'. The time signature returns to 2/4. The notation includes triplets and a dynamic marking '(cresc) (p)'. The bottom of the second system has 'x5', 'x5', and 'x3' multipliers under the first three measures.

Example 41

The musical score for Example 41 is written for four players. Player 1 is designated as the Kit player. The score is in 4/4 time with a tempo of ♩ = 120. A rehearsal mark indicates a tempo change to ♩ = 80. The score includes dynamic markings such as 'Damp' and 'Ad Lib (N.B. 5)'. The notation features various rhythmic patterns, including triplets and accents, spread across the four staves.

The Speed of Sound is written for drum-kit (on which the piece centres) and three percussionists playing a variety of skin drums and metal instruments. It is rhythmically pulsating. The overall effect is a magnified drum kit solo, with its power coming from the compositional organization of accents, inherent dynamics (notwithstanding the overall dynamic of *fortissimo*), flams and spatial effects. The spatial effects are achieved by allocating parts of a phrase, commonly played by a single kit-drummer, to the various percussion players. In this way spreading the phrase across the stage. In fact score instructions to the percussionists are occasionally...*quasi "kit"* and the composer's instructions to the drum-kit player re the final pattern are clear:

For rehearsal the drum-kit player should let the other 3 players hear the solid feel of this final pattern, because the intention is that the entire ensemble sound like a "super-drum-kit".³²

The composer is specific in certain instrument requirements:

The metal pipes should be made from steel pipes 6-7 cms in diameter. The six pipes required are to be evenly graduated in length, the smallest pipe being 0.75 metre and the longest 1.5 metres. They should be struck with very hard hammer like mallets. The cowbells must all be very large, however Player 2 must have the largest.....The octatoms must have the skins loosened slightly so as to reduce the amount of pitch produced.³³

These instructions show a compositional involvement with specific timbres and sonorities, the likes of which have become expected from the contemporary percussion ensemble. Further, whilst this composition is less involved with polyrhythmic complexities than *Quasar* or *Defying Gravity*, like *Omphalo Centric Lecture* it is driven by interlocking rhythmic units and patterns the performance precision of which is often associated with the Percussion Ensemble.

How the Stars Were Made (Peter Sculthorpe)

Sculthorpe based this composition on an Aboriginal Dream Time Legend. The form and some stylistic aspects were motivated by programmatic considerations. Some of the sound events, as well, are instigated by story rather than organic development.³⁴

There are eight movements to the work:

- I *Prelude*
- II *Sea*
- III *Interlude*
- IV *Seashore*
- V *Interlude*
- VI *Fire*
- VII *Interlude*
- VIII *Stars*

The *Prelude* and interpolated *Interludes* are notated in a rhythmically indeterminate manner and use fundamentally non-pitch material. Events and their temporal placement are indicated by the passing of time in seconds (eg. 8 secs). Rolls on the various percussion instruments are to be somewhat irregular, being notated as a trill-liberamente. Textures and timbres predominate in the absence of specific pitch and rhythmic units.

Example 42 is the *Prelude* and It should be noted that the available score is the original for six players.

Example 42

The musical score is divided into two main sections, A and B, each with multiple staves. Section A includes parts for Marmba and Tam tam (L). Section B includes parts for Kim tam (M) and Tam tam (L). The score contains various dynamic markings such as *ff*, *mf*, *f*, *fff*, *mp*, *f*, and *dim.*, along with performance instructions like *liberamente*, *dim. poco a poco*, *dim. al niente*, *molto dim*, and *ritacca*. There are also circled numbers 1, 2, 3, and 4 above certain notes, and asterisks marking specific points in the music.

Pitch material for this composition is introduced by the movement *Sea* which draws on material employed in *Night Pieces* (in particular *Stars*) 1970-1971.³⁵ Untuned percussion serves as reinforcement and additional colour to the tuned percussion which presents the melodic/harmonic material. (Appendix IV p.2)

Seashore (movement IV) explores various timbres from the untuned percussion family and begins with trills/sustains from the sandblock and maracas which, along with a sparse introduction of other timbres to be used throughout the movement, give a quasi indeterminate effect. Their effect provides a bridging from the indeterminate *Interlude* (movement III) to movement IV which is to be a pulse-orientated movement beginning at rehearsal cue 8. (Example 43) At this point rhythmic motives of varying lengths are superimposed and occasional punctuations by tam tams and cymbals highlight the common multiple of these motives. (For a more extended observation see Appendix IV from page 6).

Example 43

System 1:

- Staff A:** Sandblock (mp)
- Staff B:** Music sticks (mf), Bongos (mf), Music sticks (mp), Bongos (mf)
- Staff C:** Maracas (mp), Conga(s) (mp), cresc.

System 2:

- Staff A:** Tim tam (H) (mp)
- Staff B:** Music sticks (mf), Bongos (mf), Tabla (mp), Tabla (mp), cresc.

System 3:

- Staff A:** Music sticks, Tim tam (H), Music sticks, Tim tam (H), Music sticks
- Staff B:** Timbales, Tabla, Timbales, Tabla

Tempo: $\text{♩} = \text{c. } 112$

In Example 43 it can be seen (from rehearsal cue 8) that the bottom stave consists of a 3 note pattern on tabla; the next stave up, employing bongos uses a recurring 3 bar pattern; above that again is a 5 bar pattern containing the timbres - music sticks and tom toms. At bar 15 the three note phrase on tabla is displaced so as to start on the third beat of the prevailing 4_8 time signature (originally starting on the second beat) and the three note motif is represented by a starting note and then two eighth note rests. These motives are perpetuated throughout the movement with minimal variation.

Fire begins (rehearsal cue 15) with material from the opening of the work (the rolls/trills on cymbal and bongos) superimposed with harmonic material from the first movement in *Seashore*. From rehearsal cue 16, which is bar 11 of this movement, there is a further working of material introduced previously in *Seashore*, with a slight variation timbrally, the three bar and five bar patterns (referred to above) recur. However, the original three note pattern (3 quavers) on tabla appears now as a four bar repetitive pattern with a subdivision of sixteenth notes, where conga drum replaces the original timbale punctuation and the timbales replace the role of the tabla in the original phrase. (see Appendix IV p13)

In the final movement - *Stars* the first 14 bars are the same as from bar 3 in the first movement - *Sea*, although with a change of timbre and an octave higher. This octave change is considered by Sculthorpe as somewhat programmatic: representing the move from earth-bound 'sea' to the 'stars'.³⁶ The change of timbres and octave is also indicative of the composers style, where repetitions of sections have some variation. In regard to this Michael Hannan writes in his book, *Peter Sculthorpe, His Music and Ideas 1929-1979*:

If there is one absolute self-imposed rule in Sculthorpe's music it is that everything repeated must be varied in at least some slight way. Thus one finds that even the immediate repetitions of the two- and three-measure motives and figurations are varied.³⁷

The movement itself is an example of variation inside repetition. Evidence may be found in this movement by observing the opening six bars where a three bar phrase is repeated $4_8 4_8 2_8 4_8 4_8 2_8$. Bar 5 is different from bar 2 only in the second sixteenth changing from Bb to Db and the Eb in bar 6 is displaced by an octave when compared with bar 3. Further repetition with minimal variation can be seen by comparing rehearsal cue 26 to 27 to rehearsal cue 24 to 25. (See Appendix IV pp. 25-29).

How the Stars Were Made shows timbral exploration in the *Prelude* and *Interludes* and the improvisatory nature of instructions in these sections produces an inevitable complexity of internal rhythms. The more melodic movements, rather than explore the rhythmic complexities available from highly-trained percussionists, explore the pulsating regularity of developing motivic ideas. Whilst the precision of such ideas is not the sole domain of the percussion ensemble it is expected from a percussion ensemble.

Conclusion

Non-Western (European) musics often feature comparatively complex rhythmic structures, give prominence to rhythmic aspects or provide a different approach to rhythmic organization than traditional European musics do. Also, there is a vast array of timbral choices available from the percussion family of these musics. Given this, it is not surprising that these musics (in particular, from a regional point of view, the musics of Asia and the Australian Aborigines) have proved a source of inspiration for many Australian composers interested in writing for percussion.

A notable aspect which may be concluded from the analyses presented here, is the organization of timbres into discrete groups. This organization may affect form and other compositional considerations. All compositions except *Omphalo Centric Lecture* explore a wide variety of percussion timbres as available in an ensemble such as Synergy.

The layering of discrete rhythmic patterns evident in *Quasar*, *Defying Gravity* and other compositions, which in themselves would project a pulse, may tend to obscure (through complexity) a fundamental regular pulse. Synergy prefers to play pieces without conductors, so the preferred pieces are often clear, to the players at least, as having a perceptible pulse if not an audible one.³⁸ Exception to this, according to the above analyses, would have to be *Reflections*.

The importance and influence of Synergy has been identified in Chapter 3. This importance and the regular performance of certain Australian works by Synergy has prompted the analysis of the above works. The analysis of these works exemplifies the regard by composers for both the discrete and individual nature of timbres in the percussion ensemble as well as the ability of the percussion ensemble to deal with complexities of rhythmic organization.

1 Synergy. Interview, January 1993.

2 *Ibid.*

3 Ian Cleworth. Interview, January 1993.

4 *Ibid.*

5 Michael Hannan. Interview with Ross Edwards, Sydney Symphony Orchestra's: *Meet the Music*. Teaching kit, 1989, p.9.

6 Michael Askill. Interview, January 1993.

7 *Ibid.*

8 James Murdoch. *Australia's Contemporary Composers*. Sun Books, Melbourne, 1975, p.104.

9 *Ibid.*

10 *Ibid.*

11 Michael Hannan. *Peter Sculthorpe: His Music and Ideas, 1929-1979*. University of Queensland Press, St Lucia, 1982.

12 Peter Sculthorpe. Interview, January 1992.

13 James Murdoch. *Australia's Contemporary Composers*. Sun Books, Melbourne, 1975, p.154.

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- 14 Fernand Ouellette. *Edgard Varèse*. Editions Seghers, Paris, 1966; English translation: Orrion Press, New York, 1968, pp. 108-109 (quote Craft).
 - 15 Bozidar Kos. Interview, Sydney, January 1992.
 - 16 *Ibid.*
 - 17 *Ibid.*
 - 18 Bozidar Kos. Interview, *op. cit.* The composer identified position 'zero'.
 - 19 Carl Vine. Interview, Sydney, January 1992.
 - 20 *Ibid.*
 - 21 *Ibid.*
 - 22 *Ibid.*
 - 23 Synergy. Interview, January 1993.
 - 24 Michael Hannan. *Anthology of Australian Music on Disk*. Canberra School of Music, Canberra Institute of the Arts, 1989.
 - 25 *Ibid.*
 - 26 Michael Hannan. Interview with Ross Edwards, Sydney Symphony Orchestra's: *Meet the Music*. Teaching kit, 1989, p.12.
 - 27 Carl Vine. *op. cit.*
 - 28 Michael Hannan. *Anthology of Australian Music on Disk*. Canberra School of Music, Canberra Institute of the Arts, 1989.
 - 29 Nigel Westlake. From *Synergy Programme Notes*.
 - 30 Nigel Westlake. Per score instructions *Omphalo Centric Lecture*. Sounds Australian, 1986.
 - 31 Michael Smetanin. Preface to the score *The Speed of Sound*. Sounds Australian, Sydney, 1983.
 - 32 *Ibid.*
 - 33 *Ibid.*
 - 34 Peter Sculthorpe. Interview, Sydney, January 1992.
 - 35 *Ibid.*
 - 36 *Ibid.*
 - 37 Michael Hannan. *Peter Sculthorpe: His Music and Ideas, 1929-1979*. University of Queensland Press, St Lucia, Queensland 1982, p 107.
 - 38 Synergy. Interview, January 1993.

Chapter 6

Summary and Conclusions

Pioneers in the establishment of a repertoire of Australian percussion music were Percy Grainger, John Antill and Peggy Glanville-Hicks. In the 1970s composers such as Don Banks, Keith Humble, Barry Conyngham, Richard Meale, Peter Sculthorpe, Ann Boyd and Felix Werder were featuring percussion in compositions, however, as evident in Table 2 (Register of Australian Percussion Music), it wasn't until the late 1970s (and more so the 1980s) that there was a notable contribution by Australian composers to a repertoire of percussion music.

The growth of this repertoire was simultaneous with the development and activities of Synergy. Moreover, Synergy had a direct and indirect influence on the growth and acceptance of Australian percussion music. The excellent credentials of all members of Synergy support the status of the ensemble as Australia's premier percussion ensemble, however, this status and the influence of the ensemble is supported to an even greater degree by the number of commissions to leading Australian composers. As presented in the body of the text (Chapter 3): to 1993, thirty eight compositions had been commissioned from thirty one different composers where funds totalled \$78,682 (see pp.32-34 including Table 3). The formation of Synergy also inspired the writing of uncommissioned works by recognised composers (see Table 4 p.34) and the formation of other ensembles (see p.35) Further supporting their status is the number of performances by the ensemble (see Appendix II).

Whilst it may be said that Synergy influenced the existence of music for percussion ensembles in Australia it is evident from the body of this dissertation that the greater percentage of titles described as Australian percussion music (see Table 2 p.16) are not solely or even primarily attributed to Synergy. This is obviated when compositions featuring percussion are included. It is important to note, however, that a significant amount of compositions listed in the Register of Australian Percussion Music (Table 2) are not associated with any of the regularly performing percussion ensembles (or ensembles featuring percussion), as illustrated in other areas of this dissertation, for example Table 5. Therefore it may be reasonable to assume that many of these compositions would have received little repeat performance (if performed at all).

The proximity of Australia to Asia may or may not be the reason for the particular influence of Asian music and culture on some Australian composers' music, rather than the influence of other non-Western (European) musics, but an influence has been recognized by several composers of percussion music and percussionists themselves. This influence has been recognized, for example, by Edwards, Glanville-Hicks, Sculthorpe, Cleworth and Askill (pp.62-65), in particular the exploration of a new range of timbres as well as various compositional concepts. The exploration of multi-timbral set-ups has led to an interplay between performer and composer, and whilst this is not a new phenomenon, in writing for this relatively 'new' ensemble: the percussion ensemble, some composers have advanced this concept almost to the point of compositional collaboration. The exploration of varying timbres is a popular technique amongst composers writing for percussion ensembles as demonstrated above by the analysis of a limited number of works from the Synergy repertoire. These analyses have provided a context within which to view Australian percussion music. Some compositions have been shown to be rhythmically complex against a reference pulse (eg. *Quasar* and *Defying Gravity*), others, such as *Reflections*, promote the sound of

free-standing irregular rhythmic cells or gestures. *Omphalo Centric Lecture*, with its use of multiple marimbas, supports a quote from Melbourne percussionist Barry Quinn who notes: "if one thing has changed in the last fifteen years, it's that the marimba has come into its own."¹

In this century in Australia, as around the world, chamber ensembles have featured more and more tuned and untuned percussion instruments. Nationally and internationally acclaimed ensembles such as Flederman, Elision and Synergy as well as Adelaide Percussions, Nova, Duo Contemporain and others have all played their part in furthering appreciation of the percussionist as an integral ensemble member. New groups/ensembles are starting up: Offbeat, comprising student/graduates of the Sydney Conservatorium; Atrax Robustus, formed in Melbourne in 1991 to play a work by one of its members Paul Sarcich (*Mass for Percussion and Choir*) and ensembles featuring Daryl Pratt. In turn these ensembles have prompted and provided outlet for Australian composers to explore the potential of tuned and untuned percussion.

Australian contemporary percussion music, particularly the repertoire, would not have the breadth and depth which it has today without funding supplied by Government through the Performing Arts Board of the Australia Council and State bodies. But, in the music examined here, it is the professionalism, motivation and performance standards of the musicians which link composers with the community. Arguably, no percussion group has instigated more Australian compositions, performed more concerts, made more records or reached more of the community during its long period of existence, than Synergy. The development of Australian percussion music has been shown to be closely linked to the existence and development of the Synergy percussion ensemble.