

MEETINGS AT THE TABLE OF TIME

A Creative Practice Enquiry Into Carnatic Jazz Intercultural Music

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ABSTRACT

Diverse musical, cultural, and aesthetic components converge when musicians from Carnatic and jazz backgrounds collaborate. Improvisation is integral to musical practice in both jazz and Carnatic music. This commonality of process often motivates and guides intercultural collaborations. In the ensuing creative process established guidelines about improvisatory codes, compositional models, instrumental roles, and aesthetics are often challenged and reconstructed. Research about compositional and improvisatory strategies in this area is sparse. This practice-based research aims to advance understandings about Carnatic jazz intercultural music through three creative practice projects and their exegesis.

This study is undertaken from my perspective as a Sydney-based composer and saxophonist. The creative practice projects are: ‘Cosmic Waves’, ‘Mantrasonic’, and ‘Meetings at the Table of Time’. The outcomes are documented in two CDs of studio recordings, one CD of live performances in India, and a portfolio of scores. I played saxophone, composed most of the music, and directed the performances. Collaboration and study with Carnatic mridangam virtuoso Guru Kaaraikkudi Mani and his ensemble Sruthi Laya, and Carnatic vocalist and sitar player Sarangan Sriranganathan, is central to the creative work. Areas investigated include the application of Carnatic rhythmic and melodic principles in an intercultural context, instrumental roles and orchestration, and improvised musical dialogue.

Carnatic jazz intercultural music is created in a dynamic, highly charged field of change. Multiple viewpoints co-exist simultaneously as musicians express connections to their musical, cultural, and personal histories, and responses to new relationships, sounds, and

processes. As individual and group knowledge grows, so do choices about the creative use of this knowledge. This study aims to:

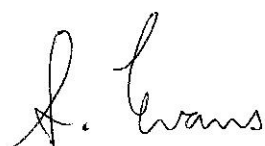
1. Identify, generate, and develop effective approaches to intercultural collaboration between jazz musicians and Carnatic musicians and,
2. Produce artistically strong outcomes in and through such collaborations, outcomes that respect and integrate the aesthetic preferences of all the musicians involved.

STATEMENT OF CANDIDATE

I certify that the work in this thesis entitled "Meetings At the Table of Time: A Creative Practice Enquiry into Carnatic Jazz Intercultural Music" has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information sources and literature used are indicated in the thesis.



Signature

Sandra Janette Evans (MQ41990943)

Date: 17th FEBRUARY, 2014

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Thanks to my Carnatic music teachers: Guru Kaaraikkudi Mani, B.V. Balasai, and Sarangan Sriranganathan; and to Adrian Sherriff for his seminal role in guiding my understanding of Carnatic music and intercultural musical exchange. I am still a novice in Carnatic music, and any mistakes or misunderstandings about Carnatic music in this work are my own, and should not reflect on my teachers. Thanks to Bobby Singh for sharing his knowledge of Hindustani music with me, and for inspiring, guiding, and encouraging me in my engagement with Indian music and musicians.

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This thesis is dedicated to my father Milton, in loving memory.

TERMINOLOGY and ORTHOGRAPHY

There is no standardised English spelling for many words used in South Indian music. This is exemplified by the many spellings currently in use for the word Carnatic, such as Karnatik and Karnatak. Words with Sanskrit origins like raga and tala should perhaps be transliterated to reflect the Sanskrit pronunciation, e.g. raag or raaga. However, most of the musicians in this study use Tamil pronunciations, e.g. ragam. Adding to the confusion, some words have several different meanings, and some musical features are known by several different terms. This is sometimes attributable to different usages in Tamil, Telugu, Kannada or Malayalam, and in Carnatic music and *bharatanatyam* dance. To facilitate clarity, consistency, and readability the following conventions are adopted:

1. Where a word is in general usage in English, verified by its inclusion in the New Oxford Dictionary, it is not italicised. The dictionary spelling is used. Examples are raga and tala.
2. In other cases, the choice of words for technical terms is guided by the usage of the musicians in the creative practice projects.
3. Many Tamil words finish with an ‘-m’ that is not present in pan-Indian variants. In the glossary this is indicated thus: *trikala(m)*.
4. In quotations and summaries of work by other writers the original terminology and spelling is retained.
5. Diacritical marks are not used.
6. English plural forms are used for all words.
7. Musical instrument names are not italicised.
8. Full professional names of musicians who perform in the Creative Component are given when the musician is first introduced. Thereafter, the name most commonly used in my engagement with the musician in creative practice is used.

MUSIC NOTATION

Music notation is used in this exegesis as a practical tool to map general features of music-sound events and is not intended as a complete or detailed representation of the sounds themselves. Most notated examples are accompanied by sound recordings that can be used with, or without, reference to the notation.

Both Western and Carnatic notation systems were used in the creative development processes in these case studies. Most of the examples in this exegesis are in Western staff notation, complemented where appropriate by Carnatic notation. Sometimes Carnatic notation appears without Western staff notation, depending on the context.

The following conventions are used:

1. Consistent with UK spelling in written language, UK rhythmic terminology is used
e.g. ♪ = quaver
2. Chord symbols follow jazz conventions.
3. All musical examples and scores are in concert pitch.
4. In the Carnatic solmisation, the notes of a raga, scale, or mode (Sa, Ri, Ga, Ma, Pa, Dha, Ni) are abbreviated to S R G M P D N.
5. Two variants of Ri, Ga, Ma, Dha, and Ni are used in the scores and text. The notation and approximate equivalence to Western intervals is R1: minor second, R2: major second, G1: minor third, G2: major 3rd, M1: perfect fourth, M2: augmented fourth, D1: minor sixth, D2: major sixth, N1: minor seventh, N2: major seventh. A third variant of Ri, Ga, Dha, and Ni is used in Carnatic raga grammar. Where this is relevant to the music in these case studies, an explanation is given in situ.

6. Register is indicated by dots above and below the letter.

A dot above a letter indicates the *tara sthayi* or higher octave.

A dot below a letter indicates the *mandra sthayi* or lower octave.

The absence of a dot indicates the *madhya sthayi* or middle octave.

7. In Carnatic rhythmic notation no underlining means the basic speed and single underlining means double the basic speed.

8. A dot after a symbol indicates a *karvai*, rest or gap.

9. Mridangam, ghatam, drum kit, and tabla parts are not fully notated. Rhythmic patterns integral to the part are indicated where appropriate.

NOTES ABOUT SOLKATTU NOTATION

Pesch defines *solkattu* in two ways: (2009: 488) ‘(1) syllables that imitate or designate specific drum strokes and (2) non-lexical text syllables used in music and dance; used to teach and notate rhythmic patterns’

Study of the immensely rich and sophisticated art of *solkattu* as it pertains to the mridangam, other Carnatic percussion instruments, and *konakkol* is beyond the scope of this research. The main use of *solkattu* in this study relates to the second aspect described by Pesch of learning and notating rhythmic patterns. There are many different English spellings of *solkattu* syllables currently in use. In my transliteration I seek to achieve a balance between representing Tamil pronunciations and maximising clarity and ease for native English speakers, and speakers of Tamil and other Indian languages reading in English. My choices are guided by the preferred English spelling of my teachers, and my own experience using the *solkattu* system. Dental (tha) and retroflex (ta) consonants are differentiated.

The closest equivalence to a rest in Carnatic music is a *karvai*. Pesch (2009: 435-436) identifies two uses of the term *karvai* in relation to rhythm. It can refer to extending the duration of a note, or to a pause between notes or phrases. Nelson points out that a *karvai* ‘may include articulations, and thus may be better translated as ‘separation’, than as ‘gap’’ (1991: 45-46). Hence it is not exactly equivalent to western understandings of a rest, which would indicate a silence. *Karvais* are articulated in *solkattu* by the elongation of vowel sounds and the addition of suffixes like ‘ng’ or ‘-ngu’. In this study, *solkattu* and Western staff notation are sometimes combined to show relationships between rhythmic ideas in each system. In the staff notation, *karvais* are represented either as rests or sustained notes depending on the musical context. Brackets are placed around the elongated *solkattu* syllables that belong to *karvais*. The reader is asked to bear in mind the multiple ways *karvais* are realised in practice. The term gap is sometimes used for *karvai* in the text, reflecting the vernacular often employed by Carnatic musicians.

GENRE LABELS

The label Carnatic jazz intercultural music is used to describe the music in the creative practice projects in this study. Music that hybridises elements from Indian music with jazz and/or other Western music genres is often called fusion. The label Carnatic jazz intercultural music describes the music in these case studies more precisely than fusion, which could mean Western jazz-rock, or many different hybrids of Indian musics with other musics. Due to its common usage, fusion is sometimes used a genre label in this exegesis. Clarification of its meaning in specific contexts is provided in situ. The word fusion is also used in this study to describe the process of ‘joining two or more things together to form a single entity’ (2005-2009).

Table 1: Overview of Creative Component

PROJECT	MUSICIANS	TRACK TITLE	COMPOSER
CHAPTER 2, CD 1: COSMIC WAVES Studio recording @MQ Studio 1, Sydney Nov 2010 to Feb 2011, Engineer: Denis Crowdy Producer: Tony Gorman	Sandy Evans: Saxophones Sruthi Laya Guru Kaaraikkudi Mani: Mridangam, B.V. Balasai: Flute, U.P. Raju: Mandolin, V. Suresh: Ghatam Australian guests: Alister Spence: Piano (2, 6, 9), Brett Hirst: Bass (3, 4) James Greening: Sousaphone (11), Roger Dean: Computer (5, 8, 10)	1. Ksheera Sagara 2. Big Swell 3. Floating on an Emerald Green Sea 4. Big Swell Reprise 5. Noisy Whale and Oystercatchers 6. Eagle Landing at Cape Leveque 7. Cosmic Waves At West Beach 8. Morning Star 9. Clouds At Dawn 10. Child of The Sea 11. The Agile Wallaby 12. Sea Blossom	Evans/Balasai Evans Evans Evans/Mani Evans/Balasai Evans Evans/Mani Evans/Balasai Evans Raju Evans Balasai
CHAPTER 3, CD 2: SEVEN STORIES OF DREAMS Studio recording @MQ Studio 1 August 2012, Engineer: Denis Crowdy Producer: Tony Gorman	Mantrasonic: Sandy Evans: Saxophones, Sarangan Sriranganathan: Sitar and vocals, Brett Hirst: Bass, Bobby Singh: Tabla	1. One Planet 2. One Breath 3. One Justice 4. One Prayer 5. One Dream 6. Bhava Raaga Thaala 7. Peace 8. One Hope	Evans Evans Evans/Mani Evans Evans Sriranganathan Evans Evans
CHAPTER 4, CD 3: MEETINGS AT THE TABLE OF TIME Live recording in Chennai and Hyderabad, November 2012 Engineer: Guy Smith	AAO Two Oceans Ensemble: Adrian Sherriff: Bass Trombone, Sandy Evans: Saxophones, Scott Tinkler: Trumpet, Adam King: Drums With Sruthi Laya: Guru Kaaraikkudi Mani: Mridangam, B.V. Balasai: Flute, U.P. Raju: Mandolin, V. Suresh: Ghatam	1. Anbe Sivam 2. An Indian In Paris 3. Drums Across the Ganges	Mani/Evans/ Balasai Evans/Mani/ Balasai Evans/Mani

INTRODUCTION

Improvisation is integral to musical practice in both jazz and Carnatic music. This commonality of process often motivates and guides intercultural collaborations. At the same time, diverse musical, cultural, and aesthetic factors converge creating a complex web of similarity and difference in musical thought and practice. Collaborations between jazz and Carnatic musicians date back to at least the 1950s (Krishnan 2006).¹ Since the 1960s collaborations have become more frequent and widespread. John McLaughlin's Shakti and Remember Shakti are among the best-known and most widely discussed projects (Lavezzoli 2006, Fellezs 2004, Farrell 1997, Higgins 2013, Claman 2002, Sherriff 2005, Kalmanovitch 2008, Panikker 2010). Despite the proliferation of collaborations between Carnatic musicians and jazz musicians, this remains a largely exploratory, and even contested, domain. There are no accepted conventions about improvisatory and compositional strategies, and a wide range of views about possible musical goals, outcomes, and aesthetics. The rationale for this research is to advance understandings about Carnatic jazz intercultural music through three creative practice² projects and their exegesis. This study aims to:

1. Identify, generate, and develop effective approaches to intercultural collaboration between jazz musicians and Carnatic musicians and,
2. Produce artistically strong outcomes in and through such collaborations, outcomes that respect and integrate the aesthetic preferences of all the musicians involved.

¹ There is evidence dance bands were performing in Madras 1917 (Fernandes 2011: 38), so it is likely that

² The term 'creative practice' is used according to this definition: 'A process through which an artist makes or interprets a work, or works, of art. It may also include a study of the process of how a work of art is generated' (Government of Canada 2014).

This is practice-based research³ conducted according to Candy's definition whereby 'Practice-based Research is an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice' (2006: 1).

I am a Sydney based saxophonist, improviser, and composer. In 1996 I sat on stage in New Delhi as a member of the Australian Art Orchestra (AAO)⁴ and heard Guru Kaaraikkudi Mani (Mani-Sir) perform a breathtaking *Tani Avartanam* with ghatam player T.V. Vasan. That was to be the first of many times I would experience the energy, imagination, intuition, intellect, virtuosity, tradition, innovation, warmth, and humanity of this renowned mridangam player. The AAO's collaboration with Mani-Sir is ongoing. During our collaborations, he would often express his belief that the Carnatic rhythmic system had much to offer all musicians. My first creative forays 'into the fire'⁵ of Carnatic rhythmic ideas were as a composer. It was to be some years before I could see a way into this rhythmic matrix as an improviser on a melody instrument. An epiphany came during an AAO tour of India in 2007 when I was the fourth member of a formidable wind section comprised of flautist B.V. Balasai, bass trombonist Adrian Sherriff, and trumpet player Scott Tinkler. It was a revelation to hear Balasai bring the complex mathematical calculations of Carnatic music to life melodically in an improvised solo. The improvisations of Adrian and Scott had different, but equally significant effects on my rhythmic and melodic conception. Thanks to their collective example, I became focused on expanding and developing the rhythmic syntax of my improvisatory language.

³ For further discussion of practice-based research in the arts see Nelson (2013), Smith and Dean (2010), and Barrett and Bolt (2007).

⁴ An outline of the AAO's collaborations with Mani-Sir is included in Appendix One (page 208).

⁵ 'Into the Fire' is the name given by Paul Grabowsky to the AAO's initial collaboration with Mani-Sir. It is also the title of the first CD (2000) of the project, and the title given to Adrian Sherriff's arrangement of Mani-Sir's composition 'Vasantha Pravaham'. 'Sacred Cow's Tail' is an example of one of my first compositions in this vein. It is published on the AAO CD *The Chennai Sessions* (2009).

My epiphany wasn't just about rhythms, numbers, and calculations; it was about the expression of feelings and emotions in music. Before the 2007 tour I studied briefly in Sydney with vocalist Sarangan Sriranganathan to learn something about 'Carnatic' inflections to help my melodic phrasing of some of the repertoire for the tour. I became captivated by the sublime beauty and deep feelings that Sarangan, like Balasai, could express in his improvisations, and was drawn into the study of raga. These experiences led me to continue studying Carnatic music with Sarangan and, when circumstances permitted, with Mani-Sir and Balasai.

My interest in developing these areas of my improvisatory practice interwove with my ongoing participation in a number of intercultural improvising ensembles, including the AAO's collaborations with Mani-Sir's ensemble Sruthi Laya, and projects in Sydney with tabla player Bobby Singh. Such experiences led me to frame my practice-based research around the following questions:

- How might rhythmic and melodic principles from Carnatic music inform my improvisatory and compositional practice in this context?
- What compositional and improvisatory strategies inform the development of intercultural music between the musicians in this study, and to what effect?
- What is the relationship between compositional vehicles and improvisatory strategies in this context?
- What is the effect of different instrumental combinations on the sound of the music and ensemble interaction?
- In what ways do cultural and aesthetic factors shape the musical processes and outcomes in these case studies?

These questions are explored through the creative development, composition, rehearsal, performance, and recording of three creative practice projects: ‘Cosmic Waves’, ‘Mantrasonic’, and ‘Meetings at the Table of Time’. They are linked by common themes, key musicians, and collaborators. Each project gives different perspectives on the topic. Chapter 1 is in two parts: literature review and methodology. Literature pertaining to interculturality, Carnatic music, jazz, Indian jazz fusion, improvisation, and musical elements and their analysis, is surveyed. The methodology section outlines the processes involved in the creative practice projects, and the methodological framework I employed in the analysis and discussion of these. The chapter includes a discussion on the relationship between individual musicians and music systems, and the understanding and context of Carnatic, jazz, and Hindustani musics in this study.

Chapters 2, 3, and 4 are case studies that document, analyse, and discuss the creative practice projects. In every project I played tenor and soprano saxophone, composed the majority of the music, and directed the performances. Each project also includes some collaborative compositions.

Chapter 2 is about ‘Cosmic Waves’, a sixty-minute suite written and recorded in 2010 with Sruthi Laya. The work explores improvisatory strategies and compositional models with a Carnatic ensemble as the central performing unit, augmented by jazz saxophone. The musicians in Sruthi Laya are Mani-Sir: mridangam, leader; Balasai: bamboo flute; U.P. Raju: electric mandolin; and V. Suresh: ghatam. Australian musicians appear as guest artists on some tracks.

In Chapter 3 I discuss ‘Mantrasonic’, a Sydney-based intercultural improvising ensemble that incorporates Carnatic, jazz, and Hindustani influences. The musicians are Sarangan Sriranganathan: sitar and voice; Bobby Singh: tabla; and Brett Hirst: acoustic bass. The creative practice discussed in this chapter took place between 2010 and 2012. The musical outcomes are documented through a studio recording, ‘Seven Stories of Dreams’, made in 2012. Chapter 3 includes more detailed discussion about the effect of Carnatic music study on my improvisatory practice, and a comparative analysis of the architectonic structure of *alapana*.

Chapter 4 is about ‘Meetings At The Table of Time’, a suite for the AAO Two Oceans ensemble. Four AAO members, Adrian Sherriff: bass trombone, musical director; Scott Tinkler: trumpet; Adam King: drums; and myself, join Sruthi Laya in this ensemble. The project was performed in South India in November 2012 and is documented through archival recordings of the live performances. The musical focus is largely on the exploration of meeting points between rhythmic ideas and processes in contemporary practice in Carnatic music and jazz. Collaborative composition, particularly between Mani-Sir and me, is an important strategy in this case study. In the final chapter, I discuss my findings and offer ideas for future research.

CHAPTER 1

LITERATURE REVIEW

There exists only a small body of literature concerning Carnatic jazz intercultural music. Dissertations by Kalmanovitch (2008: 125-126), Panikker (2010), and Wren (2009) are focused on this topic.⁶ Kalmanovitch suggests that ‘extending the scope of the investigation to other temporal and cultural spaces’ (2008: 167-168) like Australasia would complement her investigation, a suggestion followed up in this research.

Works by Claman (2002), Higgins (2013), Fellezs (2004), Lavezzoli (2006), Sherriff (2005), Fernandes (2011), Pinckney (1989), Farrell (1997), Reina (2013), and Pradhan (2011)⁷ include investigation of the topic along with, or in relation to, other subjects. Nettl (1996, 1974, 1978, 1998, 1998), Ranade (2008), Kartomi (1981, 1994), Feld (1984), Keil (2005), Wade (1976, 1993), and Monson (1999) have made significant contributions to research in intercultural musical processes relevant to this study.

This review is organised around five themes that contextualise the project: interculturality, relevant histories from jazz and Carnatic music, the history and practice of Indian jazz intercultural music, improvisation, and musical elements and analysis. Literature about Carnatic music, jazz, interculturality, and improvisation is vast. Relevant texts from this corpus are cited, but a detailed review is beyond the scope of this enquiry.

⁶ I have only accessed material in English. There may be literature on Carnatic jazz intercultural music in other languages such as Tamil, Telugu, Kannada or Malayalam. Lists of dissertations on music from the Association of Indian Universities and Madras University did not include any research in this field.

⁷ This publication contains proceedings from a panel discussion on fusion convened by the Indian Musicological Society. The panel consisted of well-known musicians with extensive experience in fusion: Zakir Hussain (tabla), Louis Banks (piano), Ranjit Barot (drums), Aruna Sairam (Carnatic voice), and facilitator Aneesh Pradhan (tabla). President of the Society, sitar player and musicologist Arvind Parikh, also participated.

INTERCULTURALITY

Many contemporary musicians practise within several musical cultures simultaneously: a local culture or 'home' tradition, and a meta-culture potentially encompassing a staggering array of music experienced through the internet, television, films, recordings, and face-to-face encounters. Globalisation, glocalisation, cosmopolitanism, inter-, cross-, intra-, trans- and multi-culturalism are terms describing different aspects of this phenomenon.

Interculturalism seems most appropriate for this study as it is a process that 'acknowledges and enables cultures to have currency, to be exchanged, to circulate, to be modified and evolve' (Powell and Sze 2004: 2).⁸

Musical change in intercultural environments is extensive. It is not a new phenomenon, but the rate and scale of change has increased exponentially in recent decades, largely due to advances in technology. How are musical choices made and evaluated in this process of exchange, circulation, modification, and evolution? Nettl writes that most ethnomusicologists find a causal relationship between a society's preferences in musical style and the 'character of a society's culture' (1996: 3). Mall concurs that any work of art is a 'specific cultural product' and its interpretation is 'relative to the context in which the viewer is situated' (2010: 164). Determining the 'specific culture' from which intercultural music is derived is complex. So too is considering the listener's perspective. Smith and Dean remind us 'that knowledge is itself often unstable, ambiguous and multidimensional,' and 'can be emotionally or affectively charged' (2010: 3). Understanding of some of 'the emotionally and affectively charged' aspects of musical choice and change can perhaps be found in literature about intercultural aesthetics. Both celebratory narratives affirming the

⁸ in contrast to 'multiculturalism which tends to *preserve* a cultural heritage' (Powell and Sze 2004: 2).

universality of human aesthetic response, and anxious narratives confronting tensions surrounding the perception and negotiation of otherness are expressed in the literature.

Mall writes of an intercultural aesthetic where universal responses overlap while showing signs of their cultural specificity (2010: 162). He warns against any one aesthetic orientation taking an absolute position and dismisses ‘total identity (commensurability) and radical difference (incommensurability)’ as fictions. Aesthetic responses are overlapping structures, which make room for ‘cultural embeddedness’ while ‘transcending’ it.

Ideas in intercultural aesthetics often reference Indian and Western philosophy and aesthetic theory. Braembussche et al (2009) view aesthetic judgments as both subjective and universal, and trace their understanding to the ‘Indian notion of *rasa* and Kant’s notion of *sensus communis*’ (2009: 2). Mall’s aesthetic paradigms are also informed by *rasa* theory.⁹ Rowell writes that ‘the literal meaning of *rasa* is “sap, juice or essence”’ (1992: 328). The particular essence in art is ‘emotions’. There are eight *rasas* linked with eight permanent emotions. Abhinavagupta proposed a ninth *rasa*, *shanta*, ‘a state of equilibrium, a unique experience of bliss’ (Mall 2010: 163), the ‘absence of a feeling implying a state of tranquility, rest or peace’ (Sambamoorthy 1963: 166). Berliner describes the ‘highest level’ of jazz performance as follows: ‘In spiritual communion, [players] merge together in the shine of the universal life force—timeless, peaceful, yet energizing and euphoric’ (1994: 498). The similarity between *shanta rasa* and the experience Berliner conveys, points to parallels in aesthetic sensibilities that Indian and jazz musicians aspire to and value.

⁹ *Rasa* theory has its origins in the *Natyasastra*, a seminal Sanskrit treatise on drama attributed to the sage Bharata (200-500 CE) (Higgins 2008: 44). See Rowell (1992: 378) for information on English translations of the text and subsequent commentaries such as the 11th century *Abhinavabhāratī* written by Abhinavagupta.

The maxim that music expresses emotions is widespread throughout musical systems. Determining how the connection between music and emotions occurs, and how it is understood and articulated is complex. One approach is to consider the relationship between syntax and expression. The *rasa*-*raga* theory is often invoked in this discourse, although the literature suggests that the relationship between *rasa* and *raga* is complex. In Claman's view: 'Not all musicians subscribe to the idea of correspondences between emotions and particular *ragas*, and not all *ragas* have particular emotions ascribed to them' (2002: 98). Premalatha writes that while a particular *rasa* may be ascribed to a *raga*, the *raga* itself is only one of many factors that contribute to evoking the *rasa* (2008: 3). Mehta's discussion of *rasa* in Carnatic music concludes that timbre, volume, and tempo are the 'true foundation of musical data and musical aesthetics' (1959: 86).

A cross-cultural study in music perception found that Western listeners without culture-specific knowledge 'were sensitive to intended emotions (*rasas*) in Hindustani ragas' (Balkwill and Thompson 1999: 57). The study found that psychophysical variables relating to tempo, rhythmic complexity, melodic complexity, pitch range, and timbre were predictive in a variety of ways to emotional judgments, aligning with Mehta's observations.¹⁰ The findings also suggest that culture-specific knowledge is not necessarily a pre-requisite for consistency of emotional response to music.

Discourses of universality in aesthetic response are certainly not the whole picture. In the context of theatre, Sze writes that interculturalism is not a 'utopian stage of homogeneity

¹⁰ For empirical studies of music cognition from a cross-cultural perspective see Stevens (2004) and Bowling (2012).

and human unity' (2004: 134). She speaks of negotiating, rather than resolving, the tension between polarities and warns against simplistic understandings of otherness. Sze argues 'that once one considers a culture to be an amassment, the East/West polemic dissolves completely' (2004: 136).

Differences in aesthetic preferences in intercultural music frequently collide.

For example, Bollywood music is often perceived by Western audiences as kitsch (Jackson 2010). Wren (2009: 29) speaks of learning to take off his 'jazz glasses' to study and appreciate Carnatic music. Conversely, Carnatic musicians may have to take off their 'Carnatic glasses' to appreciate jazz. However, the more perspectives a person has, the more confusing choices can become. Sze describes the complexity of interculturality in these terms: 'At each intersection, there are cultures within cultures, worlds within worlds' (2004: 136).

There are many ways these 'worlds within worlds' can intersect, and many ways music can be made around these meeting points. Kartomi describes intercultural musical synthesis as 'an essentially creative process, that is, the transformation of complexes of interacting musical and extramusical ideas' (1981: 232-233). To her, words like 'borrowed, mixed, pastiche, blended, fused, integrated, and osmotic' imply a fixation on studying the way disparate elements are unified, rather than the unique musical product that results (1981: 229). She stresses the importance of the 'adventurous, expansive, open-ended nature of human creativity itself' (1981: 241). Ramnarine views hybridity as an '*expected creative process*' (2010: 103). She foregrounds musicians working with other musicians responding to their 'immediate sonic environment...rather than separate and distinct musical cultures mixing in a context of cultural contact' (2010: 97). Musicians often express similar views.

Saxophonist Rudresh Mahanathappa said, for example: “The concept of the melding of these two cultures being more important than the music itself is disturbing to me” (Brady 2009: 36). Some terms, such as ‘fusion’, have associations with musical styles that can make their use ambiguous. Mahanathappa rejects the ‘fusion tag’ as inappropriate for his music partly because of stylistic connotations with jazz-rock fusion groups like the Yellowjackets (Brady 2009: 36).

World music is a ubiquitous, contested, and often confusing label that many intercultural projects are grouped under. According to Brown: ‘To my knowledge, the origin of the term *world music* dates to the early 1960s at Wesleyan University, when I thought it up in order to distinguish a new Ph.D. program there from *ethnomusicology* programs already in existence’ (1992). The term world music is now widely used in educational contexts. Its currency as a marketing term seems to have started as a construct of record companies and festival presenters in the 1980s. Jordan points out the absurdity and ambiguity of the term: “‘World’ as opposed to what? Non-world? Extraterrestrial music?’ (2010: 1). The term can be viewed as Western-centric, colonial, and even racist. Nevertheless, it is used to ‘describe a very diverse and ever-growing genre of music’ (2010: 2) where intercultural projects between jazz musicians and Indian musicians are sometimes situated.

Feld (1996), Taylor (1997), Born and Hesmondhalgh (2000), and others have drawn important attention to the political, ethical, and economic issues concerning the globalisation of intercultural musical exchange.

Aubert (2007) places the group Shakti in the category of World Mix in the ‘Great Bazaar’ of World Music. He extracts the following ‘catalogue of terms’ from Feld (1996) to

describe the ‘mechanisms involved in the tendency to *mix* world music’.

‘adaptation, appropriation, artistic dialogue, artistic transformation, caricatured picture, celebration, circulation, cooperation, disjunction, global apparatus, hybridism, imitation, inspiration, manipulation, post-colonial devastation, purely primitivist fantasy, recycling, referentiality, reminiscent, social altruism, subrogation, technocrat attitude ...’ (Aubert 2007: 62)

This wide variety of terms suggests the many different types of transformation that can occur in intercultural music, and the multiple perspectives that can arise in evaluating the outcomes. For example, one person’s ‘post-colonial devastation’ might be another’s ‘artistic dialogue’.

My research concurs with literature about the primacy of the creative process in intercultural music making. This places the individual artist centre stage, with creative work arising from the individual’s interactions with other musicians and new sonic environments and processes. Degrees of difference and similarity in aesthetic response are likely to occur in performers and audiences alike, reflecting individual and cultural preferences. Discourse on intercultural musical activity is often based on identifying differences and similarities, otherness and sameness, particularly in the fusion of Indian music and jazz where an East-West dichotomy is commonly the starting point for analysis. The overlapping structures of Mall’s (2010) philosophical orientation, noted previously, suggest an alternative model that may better accommodate the multi-dimensional, ambiguous, unstable components of intercultural music making.

JAZZ AND CARNATIC MUSIC: RELEVANT HISTORIES

My creative practice is situated in an Australian context. Jazz has been played in Australia (Bisset 1987, Johnson 1987) and India (Fernandes 2011, Kalmanovitch 2008, Pinckney 1989, Shope 2008) since the early twentieth century. However, Australian and Indian jazz history and practice are not well represented in jazz literature.

There is a disparate body of work by Australian writers that nevertheless gives an indication of the breadth and depth of the country's richly nuanced jazz history and culture (Clare 1995, Shand 2009, Zolin 2008-2010, Johnson 1987, Whiteoak 1998, Dean 2005). Nicholson (2005) includes Australia in a discussion of significant non-American sites of jazz culture, along with the UK, Nordic Countries, Italy, Holland, Poland, and Brazil. He suggests that 'when non-Americans learn the phonology and syntax of the [sic] jazz, local practices and idiosyncrasies, shaped by their cultural backdrop, can produce different "readings" of the music, so that different "pronunciations" of jazz emerge' (2005: 177).

Australian musicians have expressed a few ideas in the literature about factors that may impact on different pronunciations of jazz in an Australian context. Paul Grabowsky (Melbourne pianist and composer) suggests that due to Australia's isolation from the mainstream of African-American jazz, musicians 'have been forced to look to our own scene to find the inspiration we need' (Nicholson 2005: 188). He invokes the dry and brittle qualities of the landscape, and the roughness and resourcefulness of the people, as characteristics that might be present in an Australian sound. Sydney trumpet player Phil Slater discusses the role that 'the filter of distance' (Slater in Shand 2009: 3) has played in the development of Australian jazz. He suggests that due to Australia's isolation, musicians enjoy the 'freedom to explore and experiment without fear of much punishment'

(2009: 3) so that ‘individual quirks’ can be developed into a unique style or language. It is beyond the scope of this study to verify the validity of these observations, or to determine if they really have an impact on how jazz is played and sounds for any Australian jazz musicians or audiences, and if so, which ones. However, I include these views to indicate that the understanding of jazz in this research may differ from the diverse perspectives circulating in America, Europe, India, or other parts of the world. Australia’s geographic proximity to Asia may be a factor that has encouraged a number of Australian jazz musicians to engage with Asian music traditions, including Carnatic music, although I am unaware of any literature to verify this.

The musical contribution of the Tamil diaspora (from South India and Sri Lanka) in Australia is an important factor in the creative practice projects in this study, and has played an important role in Carnatic jazz intercultural music in Australia. Literature on this topic is sparse. Napier has written about Indian diasporic music in Australia, with particular emphasis on musicians influential in the World Music scene (2010: 144-148). For literature about Indian diasporic music globally, see Ramnarine (2010) and Farrell (2005). Kalmanovitch (2008) and Panikker (2010) have discussed some ways the growth of Indian diasporic communities in America has influenced jazz practice in that country in the last two decades.

Most histories of jazz in India focus on developments in the North where the contribution of Goan musicians is widely acknowledged (Sharpe 2008, Fernandes 2011, Pinckney 1989).¹¹ There is virtually no literature in English about jazz in South India at the time of

¹¹ Anglo-Indian jazz singer Marie Wilson is well known in Australia after moving to Sydney in 1962. She grew up in Calcutta and spent the early years of her career as a jazz musician in India. She speaks of a vibrant

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writing, but there is evidence of a jazz scene in Madras as early as 1917 (Fernandes 2011: 38).¹² During field research in 2006-2007 Higgins observed that: ‘Jazz had virtually no presence in Chennai; there were no jazz musicians living in Chennai, and musicians in Chennai, for the most part, were not familiar with the music of American and European jazz musicians’ (2013: 18).¹³

Both Carnatic music and jazz have extensive and complex histories of hybridisation with other musics. Gioia writes that the syncretic dynamic ‘so essential to the history of jazz, remains powerful even in the present day, when African-American styles of performance blend seamlessly with musics of other cultures, European, Asian, Latin, and, coming full circle, African’ (1997: 8). The first part of this broad statement, that a syncretic dynamic has been central to the historical development of jazz, is largely uncontested. Whether the blending of ‘African-American styles of performance’ with the vast range of other musical cultures mentioned is as seamless as Gioia suggests is open to question.¹⁴

South Indian film music is one of the main sites for the hybridisation of Carnatic music with other musics (Viswanathan and Allen 2004: 112). As well as film music, a genre known as fusion exists in South India. Higgins’ PhD thesis, ‘Confusion in the Karnatik Capital: Fusion¹⁵ in Chennai, India’ (2013), investigates this genre. As the title of Higgins’ thesis suggests, understandings of the term fusion can be confusing and contradictory.

jazz scene in India in the 1950s. Most of the jazz musicians she remembers were Goans, who were very Western-oriented and had excellent training in Western music (Sharpe 2008: 70-78).

¹² Bernie Manuel, a musician in Madras, is said to have ‘introduced the saxophone in a dance band setting for the first time in 1917’ (Fernandes 2011: 38).

¹³ He does note a couple of exceptions like pianist Madhav Chari, trumpeter Frank Dubier, and guitarist R. Prasanna (Higgins 2013: 18).

¹⁴ For example, see pages 32-34 for excerpts from the literature discussing the difficulties encountered by musicians ‘blending’ jazz with Indian classical music.

¹⁵ Higgins capitalises Fusion when he is referring to the genre in South India. His capitalisation is maintained in quotes from his work. At other times lower case spelling is used.

There is no apparent consensus among musicians about what constitutes the genre in South India. See page 42 for discussion of what the term fusion appears to mean for the South Indian musicians in this study. It is possible to differentiate South Indian fusion from fusion performed and recorded in the North of India. According to Higgins: ‘What made Fusion in Chennai unique, was that musicians who performed Fusion were mostly trained in Karnatic music, which gave their Fusion a decidedly South Indian identity’ (2013: 9). Higgins also observes that what Carnatic musicians refer to as ‘Fusion’ in the south of India is not a fusion with jazz (2013: 18). My experience aligns with his observation. According to Higgins: ‘Where a jazz influence is present in South Indian fusion it is likely to be the music of Weather Report, Return to Forever, and Mahavishnu more than Louis Armstrong, Charlie Parker, and John Coltrane’ (2013: 251).

MEETING POINTS AND INNOVATIONS

Nettl (1978) discusses the complexities involved in determining the compatibility of different musics by identifying the degree of ‘significant similarity’. He suggests that this ‘concept of centrality...is particularly relevant to the study of syncretic products’ (1978: 125-126). Significant similarities pertaining to innovations in jazz and Carnatic music, especially in the area of rhythm, prepared the way for contemporary practice in Carnatic jazz intercultural music.

Since the 1950s the use of odd metres, metric modulation, and rhythmic displacement has increased in jazz. These elements have always been important in Carnatic music, but innovations in percussion playing, especially by Palghat Mani Iyer and Palani Subramania Pillai, revolutionized Carnatic rhythmic practice in the twentieth century (Nelson 1991: 108-111, Pesch 2009). These two mridangam players ‘raised the mridangam from its

previous status as a strictly time keeping instrument, to an entirely new level of sophistication both in accompaniment and in solo playing' (Nelson 1991: v).

Some parallels can be seen in changes in jazz drumming in the bebop era when drummers moved from primarily a time keeping role to greater interaction with soloists. One famous example is Kenny Clarke who employed 'off-beat accents...on the snare and bass drum against the steady pulse' resulting in a 'polyrhythmic background that complemented the asymmetrical phrasing of the soloists, an ideal that became standard for modern jazz drumming' (Wilson 2007-2013).

Techniques such as playing triplets in groups of four, creating the illusion of a new tempo, were pioneered by Herbie Hancock, Ron Carter, and Tony Williams when they were Miles Davis's rhythm section in the 1960s. Similar techniques can be found in Carnatic rhythmic practice such as playing *chatusra* patterns in *tisra nadai*. Charles Mingus was another innovator who modified 'conventional blues and popular-song forms by ... shifting tempos or metres' (Kernfield 2007-2013). Metric modulation has continued as a site of innovation in jazz since the 1960s. The somewhat similar practice of *laya rathna* (time shifting) has been prevalent in Carnatic music during the same period.

There are many different rhythmic cycles in the Carnatic system. Samboorthy describes 175 talas and 4 *Chapu* talas (1973: 103).¹⁶ The most common tala in contemporary practice is the 8 beat cycle *Adi* Tala, followed by *Rupaka* (3), *Misra Chapu* (7) and *Khanda Chapu* (5).

¹⁶ Accounts of the number of talas vary, but a common account is of 35 talas, which give rise to five varieties through *gati bheda*, resulting in 175.

Until the 1950s most jazz repertoire was in 4/4. In ‘1957 Max Roach released *Jazz in 3/4 Time*, the first album devoted entirely to what was still an unusual time signature in jazz composition’ (Birtwistle 2010: 366-367). Dave Brubeck’s 1959 recording *Time Out* introduced more ‘unusual’ time signatures to jazz including the famous Paul Desmond composition ‘Take Five’ in 5/4. Brubeck’s drummer Joe Morello was one of the first Western jazz musicians to play odd metres on drum kit. In 1958, the Dave Brubeck quartet toured India (Fernandes 2011, Lavezzoli 2006). Many Indian jazz musicians believe Morello learned the 5/4 ‘Take Five’ groove from the Goan drummer Leslie Godhino during a jam session in Bombay in 1958. This has not been verified by Morello, but Fernandes quotes this statement by Brubeck: ““Our contact with music from other countries influenced the output of the Dave Brubeck Quartet, including our experiments in odd time signatures”” (Fernandes 2011: 140). Time signatures other than 4/4 and 3/4 are now widespread in jazz.¹⁷ See Dean (1992: 9-47) for discussion on the increasing rhythmic complexity in jazz and improvised music since 1960.

During the 1958 tour, a jam session between Morello, Brubeck, and Palani Subramania Pillai was recorded for AIR¹⁸ in Madras (Krishnan 2006). Morello’s meeting with one of the rhythmic innovators in Carnatic music at a time when Carnatic music was virtually unknown in the West was prophetic. As interest in similar rhythmic practices evolved, magnetism between Carnatic music and jazz intensified. Increasing global circulation of music and musicians created opportunities for artists to recognise and act on this confluence.

¹⁷ Some examples include work by Don Ellis (Fenlon 2002), Dave Holland, Steve Coleman (Clayton II 2008), Vijay Iyer, Brad Meldhau, Chris Potter, Avashai Cohen, Roger Frampton, and Scott Tinkler. See Selinsky (2012) for analytical discussion of non-isochronous meter in groove-oriented jazz.

¹⁸ All India Radio.

Developments in melodic, harmonic, and improvisatory practice in jazz also contributed to growing confluences between Carnatic music and jazz. In 1959 Miles Davis released *Kind of Blue* (1959) which established modal playing in jazz. Saxophonist John Coltrane was featured on this recording and continued to explore modal playing until his death in 1967. Lengthy improvisations, drum and melody instrument duets, and unmetred solo improvisations became part of performance practice in jazz. Similar structural elements were already integral to the Carnatic and Hindustani traditions. Coltrane's interest in Indian classical music and philosophies, his association with sitar player Ravi Shankar, and the sound and concepts developed in modal playing, motivated many of his contemporaries, and subsequent generations of jazz musicians, to explore connections with a variety of Indian music traditions. Numerous works discuss Coltrane's relationship to Indian music and the interest it generated among musicians in the West (Reck 1985, Nettl 1998, Lavezzoli 2006, Porter 1998, Kalmanovitch 2008, Farrell 1997, Chari 2001, Berkman 2007).

The saxophonists Yusef Lateef, Charles Lloyd, Dave Liebman, Joe Harriot, Jan Garbarek, and Charlie Munro¹⁹ are among those who explored modal playing, reflecting their interpretation of Indian sounds and philosophies. Some collaborated with Hindustani musicians like Ali Akbar Khan, Zakir Hussain, and Badal Roy. Others, like John Handy, George Brooks, and La Monte Young, undertook more extensive study of Hindustani music.²⁰ Important works in the literature by Western writers about the effect of Indian music on jazz are Pinckney (1989), Kalmnovitch (2008), Farrell (1997, 1988), Claman (2002), and Lavezolli (2006). These works also discuss many of the cultural, social,

¹⁹ Munro is an Australian saxophonist and cellist whose work in this vein is documented on the seminal recording *Eastern Horizons* (Munro 1967).

²⁰ The engagement of several jazz saxophonists with Carnatic music is discussed later in the review.

political, and historical factors that have shaped Western musicians' perception of India and its music.

FUSIONS OF JAZZ AND INDIAN MUSIC: RELEVANT HISTORIES

EARLY HISTORY IN INDIA

In India, fusions of jazz with Hindustani music date back to at least 1946 when Goan trumpet player Frank Fernand was inspired to play jazz in an 'Indian' way after meeting with Mahatma Gandhi (Fernandes 2011: 9). The hybridisation of jazz and Hindustani music was prevalent in the Hindi film industry of the 1950s. India's Goan jazz musicians combined the 'bold modernity' of swing with sitar, sarod, tabla, dholak, massed violins and 'a Hawaiian guitar or two' (2011: 111-123). Music directors dealt with complex problems of orchestration, notation, and combining raga and harmony. This continues in the film industry today where musicians 'have developed their own theories, terminology, and practical methods for dealing with the juxtaposition of musical systems' (Clayton 2009: 74).

INDIAN JAZZ-ROCK AND JAZZ-ROCK WITH INDIAN ELEMENTS

In the 1960s and 1970s Western rock and pop music was incorporated into film and fusion music throughout India. During the same period, aspects of Indian music were adapted into Western pop, rock and jazz-rock (Farrell 1988, Reck 1985, Fellezs 2004, Lavezzoli 2006).²¹ Subsequently there have been many fusions between jazz-rock and both Hindustani and Carnatic music in India, and in the West. Characteristics of this genre

²¹ In pop and rock, the influence was mainly from Hindustani music, but in jazz-rock, a Carnatic music influence was also evident, especially through the work of guitarist John McLaughlin.

include the use of electric instruments,²² rock drum kits, and predominantly straight 8 rock and funk grooves. This style of music is not the primary focus of this study, although it overlaps with aspects of the creative practice discussed. Higgins writes that ‘Fusion’ in Chennai, is ‘related to, but was not the same as Western fusion’ (2013: 19).

SITES FOR COLLABORATION

Since the 1970s, a growing breadth and depth of engagement between Indian musicians from Carnatic, Hindustani, and jazz backgrounds and Western jazz musicians, has led to a wide variety of intercultural projects. Kalmanovitch (2008: 58) discusses the importance of The Jazz Yatra Festival as a site for collaboration and the exchange of ideas. For example, Rudresh Mahanthappa²³ (Greenland 2006) first heard Carnatic saxophonist Kadri Gopalnath play live at Jazz Yatra. This was a turning point in Mahanthappa’s development that led to his collaboration with Golpanath on the CD *Kinsmen* (Mahanthappa 2008). Saxophonist John Handy’s 1980 performance in Ravi Shankar’s suite *Jazzmine* is another example of a significant collaboration at Jazz Yatra (Lavezzoli 2006: 311).

Many important connections have been made through educational forums. McLaughlin’s meeting with L. Shankar at Wesleyan University that led to the formation of Shakti is one famous example (Lavezzoli 2006: 337). An increasing number of musicians from India are studying jazz in the West and performing internationally. Some examples are Prasanna, Amit Heri, Sanjay Divecha, and Adrian d’Souza.²⁴ Intercultural collaborations between

²² For example: electric bass, electric guitar, electric sitar, electric violin, keyboards, and electronic drums.

²³ This was when Mahanthappa performed at Jazz Yatra in 1994 with a student band from Berklee College of Music.

²⁴ Formal jazz education is not widely available in India but contemporary music schools like the Swarnabhoomi Academy of Music established in Chennai in 2010 (Swarnabhoomi Academy of Music 2012) are starting to appear. See Higgins (2013: 268) about this and other schools. Kalmanovitch (2005, 2008) implemented a trial educational exchange program between the Jazz and Contemporary Music Program of

musicians from Indian diasporic communities and jazz musicians are another significant phenomenon.

THE SAXOPHONE IN CARNATIC JAZZ INTERCULTURAL MUSIC

Charlie Mariano, Prasant Radhakrishnan, Rudresh Mahanthappa, and Evan Parker are Western saxophonists whose engagement with Carnatic music is relevant to this study. The last three all have connections to Carnatic saxophonist Kadri Gopalnath. Charlie Mariano was the first prominent jazz saxophonist to study Carnatic music, and had a long association with the Karnataka College of Percussion (Mariano 2000, Cook 1999, Lavezzoli 2006). Mariano recorded improvisations based on Carnatic ragas and introduced the *nagaswaram* in jazz recordings (Mariano 1998, Mariano 1983, Mariano 1990).

Kadri Gopalnath popularised the saxophone in Carnatic music (Pesch 2009: 125, Segell 2005: 284-285). Prasant Radhakrishnan is one of Gopalnath's leading disciples in the US. Radhakrishnan is fluent in jazz and Carnatic music. The eponymous recording by his trio VidyA (2008) integrates Carnatic rhythmic structures, *raga* and *gamaka* with a jazz instrumentation and approach. Radhakrishnan also performs with intercultural groups in India and Europe.²⁵

Rudresh Mahanthappa is a well-known American saxophonist with links to Gopalnath, although his engagement with Carnatic music is different from Radhakrishnan's. Both saxophonists explore confluences between rhythmic cycles in Indian music and contemporary jazz. One example is Mahanthappa's composition 'Ganesha' (2008) which

the New School University, New York, and the Brhaddhvani Research and Training Centre for Musics, Chennai.

²⁵ For example, guest appearances with Noisy Mama led by German drummer Carola Grey (Grey 2011).

comprises 6 bars of 7/4 over a blues progression. Mahanthappa (Schaeffer 2008) uses this improvisatory vehicle to explore a variety of ways to divide up a 42 beat cycle.

The approach of each saxophonist to melody and feel is different. Mahanthappa's improvisations are generally not raga based and employ extensive chromaticism.

Radhakrishnan's improvisations are usually modal, rather than chromatic. Mahanthappa has a contemporary post-bop time feel. Radhakrishnan's time feel is more hybridised, incorporating elements of Carnatic articulation and ornamentation with jazz phrasing. The recordings of Mahanthappa and Radhakrishnan are important landmarks that explore two contrasting ways Carnatic influence can sound in jazz on the saxophone.

Mahanthappa often collaborates with pianist Vijay Iyer who is also renowned for his rhythmic virtuosity. Kalmanovitch (2008) discusses Mahanthappa and Iyer's music and their identity as Indian-American jazz musicians. Panniker's (2010) creative practice research also looks at this theme in his own, and Vijay Iyer's, music.

British free improviser Evan Parker undertook two tours of England with Gopalnath to see 'what happens when a free improviser is given a crash course in Carnatic music' (Parker in Connolly 2006: 4).²⁶ He found equivalences between his own system of 'scale-generation and memorization' where thinking is organized by the 'systematic combination of note group shapes', and Indian systems for 'classifying and memorizing ragas'. Parker found 'metric structures' more challenging but adapted 'additive and subtractive ways of building rhythmic patterns' (2006: 4) that he had learnt from Karl Berger.²⁷

²⁶ The book includes demonstration recordings of the musical examples by Kadri Gopalnath.

²⁷ Karl Berger is a composer, conductor, pianist and vibraphonist, and founder of the Creative Music Foundation.

All four saxophonists have collaborated and studied with Carnatic musicians. This brief review of their work suggests there are many ways a Carnatic influence might be reflected in jazz saxophone playing, even when the influence is from the same Carnatic musician.

IMPROVISATION

The literature on improvisation is vast. Bailey's seminal work (1980) was one of the first to address improvisation across a broad range of musical genres. Berliner's (1994) comprehensive study of how jazz musicians improvise is a landmark text in jazz improvisation.

The question of whether improvisation can be learnt and studied and if so, how, is addressed by Berliner (1994), Hall (1992), Pradhan (2011), and Watson (2012), among others. Berliner writes that an 'initial skill base of musical knowledge' is acquired in childhood as an osmotic process, cultivating skills through activities 'as much social as musical' (1994: 22). Hall speaks of the 'acquisition' of culture as an automatic process which can be 'reinforced, but not taught' (1992: 225). Most improvisers in jazz and Carnatic music develop their skills through formal training with a teacher or guru, and/or in classroom and ensemble situations.

Nachmanovitch (1990) and Hall (1992) discuss improvisation as a form of creative play. Nachmanovitch writes that improvisatory play is a way to manifest 'fresh, interactive ways of relating with people...ideas, images, ourselves' (1990: 43). It has evolutionary value, making us flexible and helping us to reinterpret reality, to rearrange our capacities and

identity ‘so they can be used in unforeseen ways.’ It frees us and deconstructs social hierarchies. ‘We toss together elements that were formerly separate...free ourselves from arbitrary restrictions and expand our field of action’ (1990: 43).

Nettl (1974, 1998) and Berliner (1994) have written about ways improvisers develop vocabulary, grammar, and technical skills to ‘play’ particular musical games. Nettl speaks of building blocks that musicians use to form a template, ‘the improviser’s model’, which provides reference points to guide improvisatory choices (1974: 11-13). Terminology has changed over time. Nettl writes: ‘The term “model” used in the 1960s, and 1970s, has given way to a variety of more or less satisfactory terms, from “point of departure,” what you know or use to improvise “upon” (...PoD...), to the postmodern-sounding “catalytic referent”’ (2005: 35). In the context of this research, model and building blocks appear to be suitable terms, although they may be less suitable for other types of improvised music.

Berliner (1994) writes that once an improviser has a repertoire of building blocks, the implications for their use are infinite. Phrases can be played exactly as they were learned from a teacher or a recording. They can be subtly employed, using inflections from one phrase to embellish other phrases. ‘Salient characteristics’ can be extracted from an idea, like ‘melodic shape’ or ‘rhythmic configuration’, and used as the basis of a new musical phrase (1994: 146).

Formal structures embodying stylistic and emotional codes are another aspect of the improviser’s model. Sambamoorthy writes about improvisatory structures in Carnatic music such as *Raga Alapana*, *Tanam*, *Pallavi*, *Kalpana Swara* and *Niraval* (1998: 6). Examples in jazz are the blues, ballads, rhythm changes, and other 32 bar song forms.

Literature about the relationship between composition and improvisation includes Sarath (2013), Van Hulzen (2002), Ranade (2008), Nettl (1998), Berliner (1994), and Wade (1976). Van Hulzen (2002: 5) proposes a unity between improvisation and composition, different from, but building on theories of a continuum between improvisation and composition developed by Nettl (1998: 13-14), Sloboda (1985) and others. In Van Hulzen's conception, all the musicians performing in a given context contribute to how the music is made, and the composer determines the degree and type of 'organisation, control and guidance' (2002: 5). Sarath argues that improvisation and composition are contrasting processes because they are 'rooted in different models of temporal conception' (2013: 20).

There can be pre-composed or 'fixed' parts of an improvised performance. Ranade writes that improvisation consists of an equilibrium between the constant part of the 'performance-content and its variable elements' (2008: 223). It is a manifestation of the interrelationship between 'the performance-plan and performance as an act.' Wade (1976) uses the terms 'fixity' and 'flexibility' for these elements. In jazz the relative proportions of fixity and flexibility vary. Codes about the interrelationship between composed material and improvisatory strategies also vary. Berliner writes of the 'Creative Interplay between Vehicles and Ideas' (1994: 222). Arrangements often play a key function in the equilibrium between fixity and flexibility. Arrangements can be improvised, or pre-composed and notated, as in big band charts (1994: 289-347). Compositional vehicles play a key role in suggesting improvisatory materials and strategies.

Collective and social aspects of improvisation, such as interaction and communication, are addressed by Monson (1996), Berliner (1994), Hargreaves and MacDonald (2012), Ranade

(2008) and McNeill (1995, 2007). To Hargeaves and MacDonald, improvisation is ‘social, spontaneous, creative and accessible’ (2012). Ranade (2008) explores improvisation in a wide variety of social and cultural contexts in Indian life, using these situations to extract a list of general features of improvisation.

Conversation is often used as a metaphor for improvisation (Monson 1996, McNeil 1995, Berliner 1994). Monson highlights the importance of active listening, paying ‘attention to what is transpiring if they [improvisers] expect to say things that make sense to the other participants’ (1996: 84). Conversation in improvised music often involves turn-taking (1996: 82). In jazz, types of turn-taking have been theorised in relation to practices in African-American culture. Theories from African-American literary criticism, particularly Gates’ ‘The Signifying Monkey’ (1988), have been important in this discourse. In jazz, Berliner writes that direct imitation is not favoured (1994: 349-386) and can be an ironic comment on the musician who played the initial phrase. A greater degree of imitation characterises Carnatic music. The role of the melodic accompanist is to respond to melodic ideas initiated by the soloist, echoing the ends of phrases ‘or sometimes playing sustained notes in the background’ (Viswanathan and Allen 2004: 61-62).

Sherriff’s (2005) comparative analysis of *koraippu* (trading) between two Carnatic classical musicians, and a Carnatic classical musician and a Western musician, identifies different musical characteristics between the classical and the fusion environment.²⁸

Sherriff writes that in scholarship about ‘both jazz and South Indian music, there seems to generally be an emphasis on the contribution of the individual rather than relationships between individuals’ (2005: 76). He suggests that further study of musical ‘procedures’

²⁸ The artists are, in the Carnatic classical context, U. Srinivas: mandolin and A. Kanyakamuri: violin; and in the intercultural context: U. Srinivas and John McLaughlin: guitar.

such as *koraippu* and the trading of fours, could ‘yield fruitful insights...into the ways in which musicians from various genres communicate musically’ (2005: 76).

Listening is the primary means of communication between improvisers, but kinesis and other visual cues are also employed. *Kriya* (Pesch 2009: 204-205), hand gestures for marking the tala cycle, are important in Carnatic music. Their use is often transported to intercultural situations. Many jazz musicians express the groove physically. In both Carnatic music and jazz, signals about dynamics, intensity, rests, emotion, and phrase shape are often communicated through physical gestures. I am not aware of any literature about this process in intercultural improvised music.

Berliner (1994) describes some of the complexities of communication in improvised music. Musicians ‘must take in the immediate inventions around them while reading their own performances toward emerging musical images, retaining for the sake of continuity, the features of a quickly receding trail of sound’ (1994: 349). Hall’s paradigm of ‘high and low context communications’ (1992: 229) can be usefully applied to investigate intercultural communication between improvisers. In a ‘high context (HC) communication most of the information is already known to the recipient’, and very little of it is explicitly transmitted in the music. A ‘low context (LC) communication’ is the opposite, with the mass of information being explicitly expressed. In intercultural situations an HC message might be transmitted and understood by musicians from similar backgrounds, but may not have the same meaning to musicians from a different musical tradition. Hall writes ‘one of the most effective ways of improving performance is to have enough skill to be able to play with the system, to wed the music to your own inherent playfulness’ (1992: 224).

However, there is a gap in the literature about what the system might be in Carnatic jazz intercultural music, and what skills improvisers need to ‘play’ effectively with this system. In part, this study addresses this gap by investigating this issue.

MUSICAL ELEMENTS AND ANALYSIS

Raga is unlike jazz conceptions of melody in many ways and Indian classical music does not use Western harmonic concepts.²⁹ Widely differing viewpoints are expressed in the literature about creative possibilities for the fusion of these diverse conceptions. Some commentators (Sambamoorthy 1998, Chelladurai 1991) believe fusion is impossible. ‘Harmonical and melodical systems of music are constructed on entirely different principles and as such cannot be fused into one without seriously compromising the individuality and dignity of both’ (Sambamoorthy 1998: 324). Others are circumspect but don’t dismiss the value of further exploration. “‘There are a lot of bad fusion projects where somebody just harmonizes a raga the same way they would harmonize ‘Bye Bye Blackbird,’ ...It’s pretty dreadful” (Mahanthappa in Brady 2009). Another view, expressed by Barot, is that a knowledgeable pianist like Banks can colour a raga in innovative, new ways resulting in ‘the most beautiful marriage of the most heart breaking melodies’ (Pradhan 2011).

Ravikiran (2006) used set theory to construct a system of ‘melharmony’ to preserve and enhance a ‘mode’s melodic identity in its harmonization’ (2006: 274). Similarities between raga and serialism in Western classical music have been noted by Mayer (in Shipton) and

²⁹ It can be argued that there is a harmonic element to Indian classical music since a dyad creates harmony and heterophony creates harmonic material. The word ‘classical’ is added deliberately in this sentence to differentiate from Indian film music where harmony is widely used.

Cooper (1977). Garzone (2008), Liebman (1991), and Bergonzi (1998) have developed methods in jazz to help improvisers construct melodic lines based on serial and chromatic techniques which may provide a conceptual bridge between melodic syntax in raga and jazz. Confluences between Hindustani music and Western minimalist music are discussed in texts by Claman (2002), Lavezzoli (2006: 237-266), and Welch (1999).

There are many theories about intonation in Carnatic music in the literature. Pesch (2009: 138) writes that, based on the ‘observation of musical practice’, 22 micro-tonal steps or *srutis* are found within an octave. Pesch also discusses the inseparability of melody from *gamaka* in Carnatic music. He explains that although *gamaka* is often translated as ornamentation, this translation doesn’t infer many of its essential functions (2009: 141-148). Ramanathan writes that *gamaka* is part of the aural ‘shape of “swara”’ (2004: 12). This understanding changes the conception of a note’s position on the tonal continuum from a fixed point to a fluid range. The lexicon of many jazz performers includes phrases that encompass fluidity of pitch. The work of saxophonist Johnny Hodges is a well-known example.³⁰ This is not the same as *gamaka*, but points to areas of convergence. Swift’s study of the violin as a cross-cultural vehicle theorises correspondences between *gamaka* and jazz ornamentation (1989).

Literature comparing Western and Indian systems of intonation is usually framed in reference to Western classical music. There is virtually no literature comparing jazz and Indian conceptions of intonation, although recordings suggest the likelihood of convergences that have not yet been theorised or fully explored in practice. Microtonal intervals have been used in jazz and Indian music, even on the saxophone, which was not

³⁰ Examples of Hodges’ skill executing smooth glissandi can be heard in his performance of the Billy Strayhorn composition ‘Passion Flower’ (Johnny Hodges and His Orchestra 1941).

designed for this purpose. Examples in saxophone playing are, in jazz: Hayden Chisholm (Mac Erlaine 2009), in Carnatic music: Kadri Gopalnath (2000), and in Hindustani music: Oded Tzur (2011). The primary approach by these players has been to modify playing techniques, although Gopalnath has made some changes to the instrument itself (Segell 2005: 284-285). More extensive innovations in instrumental design have been employed on other instruments, such as the trumpet. Examples are Don Ellis's four valve quartertone trumpet, Rajesh Mehta's ORKA-M Phoenix valve/slide trumpet (2011), and Ibrahim Maalouf's four valve microtonal trumpet.

There are overlaps between jazz and Carnatic conceptions of pitch, although each system is constructed on somewhat different principles. Some views suggest beautiful new sounds might result when these different conceptions are syncretised, but literature about the mechanisms and efficacy of this is sparse.

The relevance of analogous innovations in temporal elements in jazz and Carnatic music has already been discussed. Notwithstanding these correspondences, some fundamental conceptual differences exist. See Clayton (2000: 10-42) for a comparative analysis of Indian and Western conceptions of time measurement and organisation. Conceptions and aesthetics of groove, rhythmic expectancy, tension and resolution, and structural design vary between Carnatic music and jazz. Nelson describes tala in Carnatic music as a 'highly charged field that exerts a tremendous and complex force on whatever rhythmic material exists within it' (1991: 6).³¹ Pressing (2002), Goodman (2011), Iyer (2002), and

³¹ Nelson represents tala through a series of circular diagrams. Australian percussionist Greg Sheehan (O'Neill 2013, Hill 2008) also employs visual representations of time fields and the geometry resulting from mathematical calculations within these fields. Sheehan acknowledges some influence of Carnatic music in his conception (O'Neill 2013: 10). Sheehan has been influential in the rhythmic thinking of many Australian improvising musicians, including me (beginning when he was the drummer in my band Women and Children

Keil (2005) have made significant contributions to the literature about rhythmic concepts in jazz, such as the swing feel, syncopation, and the layering of rhythmic patterns.

Carnatic aesthetics are embodied in the architectural design of rhythmic structures like *yatis*, *moras*, *korvais* and *arudis* (Pesch 2009: 204-228, Brown 1965, Nelson 1991, Van Hulzen 2002). Many collaborative works between jazz and Carnatic musicians utilise these structures. There is negligible musical analysis of this strategy in intercultural contexts, or of the way improvisers negotiate differences in rhythmic conception, although Panikker (2010) identifies some of the practical and conceptual difficulties a jazz musician might encounter:

Although jazz is a rhythmic art form, most jazz musicians today rely heavily on harmonic structures to guide their improvisation. By shifting the focus to rhythm, I was forced to find new ways to approach improvisation. Not only were these complicated rhythmic patterns challenging to play and internalize, but the same clichéd “jazz licks” and patterns were often incompatible with this new rhythmic framework (2010: 31).

Reina's (2013: 1) research ‘addresses ways in which the Karnatic rhythmical system can enhance, improve or even radically change the teaching of rhythmical solfege at a higher education level and how this learning can influence the creation and interpretation of complex contemporary classical and jazz music’.³²

First in 1985) and Bobby Singh (who plays with Greg Sheehan and Ben Walsh in the percussion trio Circle of Rhythm).

³² Reina's work is informed by experience developing and teaching in the ‘Contemporary Music through Non-Western Techniques’ program at the Conservatorium van Amsterdam. The material cited here is from the introduction to his PhD thesis on his website. Publication of the complete thesis is forthcoming.

Literature about the use of different instrumental and vocal combinations, and their effect on the concept, sound, and style of Carnatic jazz intercultural ensembles is sparse. Vocal music appears to be less common than instrumental music,³³ although Shankar Mahadevan's appearances with McLaughlin suggest this is changing. Literature by Bhagwati (2013) and Utz (2013) about the voice in intercultural music provides useful insights about some of the possibilities and challenges of this field. *Konakkol* is often heard in Carnatic jazz intercultural music. See Lisa Young for scholarly and creative practice research in this field (1998, 2006).

Answers to Feld's question 'What are the preferred aesthetic orderings?' (1984: 386) are inconclusive in literature about Carnatic jazz intercultural music. Preferences vary for abstract, as opposed to literal, referencing of ideas from jazz and Carnatic music.³⁴ Sometimes the goal of fusion is presumed to be to represent both parent musics equally and the music can be criticized if it doesn't meet this expectation. For example, Banks once described 'Shakti's style as 90% South Indian music and 10% jazz' (Pinckney 1989: 49). Creating a whole out of contrasting aesthetics can be challenging. According to Farrell (1997: 197) Shakti's music is 'one at all times'. Claman (2002: 219) refutes Farrell's evaluation, concluding that Shakti's music is interesting because 'it is fraught with tensions; it succeeds and also fails, remaining an interpretive conundrum'.

Saskia Rao-de Haas asks whether 'trade offs for every benefit' are inevitable when traditions come together (Pradhan 2011), voicing a common concern that the depth of the

³³ Hussain suggests this is because the musicians from the jazz world who initially reached out to India, like McLaughlin, were from an instrumental background (Pradhan 2011). Sairam suggests difficulties with understanding the meaning of language and poetry across cultures may also be a factor.

³⁴ In Western classical music this has been theorised as 'Submerged' and 'Overt' Exoticism (Locke 2009: 6).

source traditions might be compromised in intercultural music. Banks views the current stage of Indian jazz fusion as experimental. ‘There are no written rules...This is where we figure out where to go next’. Hussain concurs ‘There is a whole lot on the plate and we are...sifting through it- a hundred years down the road the do's and don'ts emerge’ (Pradhan 2011).

There is little consensus regarding criteria for evaluating musical outcomes in this field and no established model for musical analysis. Analysis in jazz has tended to focus on investigation of the relationship between melody and harmony, as Potter’s (1990) review found. He argues for a broader analytical approach in jazz suggesting that existing methods be combined with other ‘as yet undiscovered analytic techniques’ to contribute to our understanding of the music (1990: 74). Cooper’s (1996: 127-129) more expansive model,³⁵ under the rubrics of Form, Musical Space, Timbre, Musical Language, and Virtual Feeling, has the potential to be reconfigured for intercultural contexts. Chapman (2007: 120-121) constructed a ‘Syncretic Technical Analysis Framework’ for Western and African syncretic compositions. This model doesn’t incorporate improvisation, but may suggest ways to address issues pertaining to intercultural improvised music. The works of Feld (1984) and Tenzer (2006) afford valuable insight and methodological tools that are discussed in the next section.

This review has identified significant gaps in the literature regarding the understanding of compositional and improvisatory strategies between Carnatic and jazz improvisers. Research about the effect of similarities and differences in musical and aesthetic conceptions on musical processes and outcomes is sparse. The value of rhythmic training

³⁵ Cooper constructed his model for the analysis of his own jazz orchestra compositions (1996: 127-129).

based on elements from the Carnatic system to non-Carnatic musicians is acknowledged in existing research, but little has been written about how this training can be combined with melodic elements. The research in this study will contribute significantly to knowledge in these areas.

METHODOLOGY

This research is undertaken according to the following protocols and guidelines developed by Nelson and Andrews for ‘Practice as Research’³⁶ in the performing arts:

- Practice should be accepted as methodological process of research inquiry and a mode of dissemination of research in its own right.
- The written outcome will contextualize the project and include a retrospective analysis of the process and outcomes, reflecting on chosen research methodologies and production processes and the relation between them’ (2003: 2).

This is a practice-based study comprising a creative component and its exegesis. Table 1 (page xviii) presents an overview of the creative component. The research is designed around the three interrelated aspects of processes, outcomes, and analyses, and is situated within the context of intercultural musical dialogue.

The processes³⁷ involve the exploration of ideas from, and generated in response to, Carnatic and (in Chapter 3) Hindustani music and musicians. Ideas are explored and

³⁶ Terminology is not standardised. I use the term practice-based research (see page 1) following Candy (2006) and equate this with ‘Practice as Research’.

³⁷ The research processes in this study closely relate to Smith and Dean’s ‘model of creative arts and research processes’ (2010: 20) where practice-led research, academic research, and research-led practice are represented in an iterative cyclic web. The participant can enter as a researcher or creative practitioner at any

developed through individual and collaborative practice, experimentation, composition, and improvisation. The outcomes are a series of music-sound events (Tenzer 2006: 6) documented through recordings and scores. New knowledge about improvisatory practice and intercultural musical dialogue is also generated. The analyses investigate the creative processes involved and the resulting music-sound events.

Dialogue, understood as an iterative cycle of listening and response, is integral to the processes, outcomes, and analyses in this study. A simplified summary could be: I listened to Carnatic musicians (lessons and performances) - I responded in individual practice - I listened to myself experiment - I responded with compositions and improvisations - my colleagues listened - and responded with improvisations and (sometimes) compositions - I listened - and responded - and so the cycle goes on. The music was played to an audience live, or to an engineer and producer in the studio, who listened and responded.³⁸ A different kind of cycle of listening and response occurs in this dissertation. I listen to a recording of a music-sound event through the filter of my research questions and respond in words.

Every moment in this cycle of listening and response is complex and multi-layered. As Feld writes, 'Each listening...is a juxtaposition - in fact an entangling - of a dialectical object and a situated interlocutor' (Feld 2005: 84). Feld's model of 'the musical encounter' (2005: 86) outlines the dynamic relationship between the 'dialectics of the sound object'

point and travel in any direction through a range of processes including the research, generation, selection, testing, development, synthesis and application of ideas, theories, and research techniques to produce new creative works, techniques, theories, publications, and critical accounts.

³⁸ The significant effect of responses from the engineer, producer, and audiences, and the effect of recording technology are acknowledged, but are not the primary focus of this study.

and the ‘listener’s interpretive moves’.³⁹ He compiles a list of ‘interpretive moves’ from the ways people talk about music.

They *locate* and *categorize* musical experiences in relation to similar or dissimilar experiences. They *associate* musical experiences with experiences of other types.

They *reflect* on how an experience relates to like or unlike imagery. And they

evaluate the experience by relating it to their particular preferences (Feld 2005: 92).

This combination of locating, categorizing, associating, reflecting, and evaluating informs my enquiry.

Feld also speaks about the fundamental unity of ‘sonic-musical, extramusical and sociomusical’ aspects of music (2005: 148). My analysis encompasses all these areas, but foregrounds the ‘sonic-musical’. A range of analytical methods that encompass ‘lexical and metaphorical discourse’ (Feld 2005: 92) will be used to illuminate the processes and outcomes. This includes technical analysis methods from jazz and world music studies combining ‘notation with listening and description in order to analyze and explain’ (Tenzer 2011: 156). My methodology also uses analytical tools adapted from Viswanathan’s (1977) study of *alapana*, and from other intercultural music projects such as that undertaken by Chapman (2007). The writings of Nelson (1991, 2008), Sambamoorthy (1963, 1973, 1969), and Pesch (2009) inform the discussion of Carnatic musical concepts and processes. At times, the explications of these scholars frame the comparative analysis of analogous concepts in jazz. Berliner’s (1994) thorough scholarship about improvisatory processes in jazz, Keil’s (2005) writing about groove, and Monson’s (1996) analyses of group interaction in improvised music add to the building blocks in my methodological

³⁹ Feld’s model includes another dimension: ‘frames’ relating to ‘expressive ideology, identity, self, world sense, and coherence’ (2005: 86).

toolkit. Dean's (1989) insights into generic improvisatory processes also inform parts of the discussion.

According to Hicks, recordings 'prove that a creative process occurred but can never represent the totality of that process' (2011: 13). Bearing this caveat in mind, studio recordings and recordings of excerpts from live performances constitute the main representation of this study's creative component, and the material for analysis. Although it is not included as part of the thesis, I also kept a sound diary comprising recordings of rehearsals, performances, lessons, and individual exploratory practice.

The trilogy of creative practice projects are discussed in the order they were recorded, and the pieces in each project are discussed in the order they appear on the published recording or performance. The type and depth of analysis varies from track to track. My goal is not to describe all the aspects of the music, but to illuminate particular features of the musical processes and outcomes relevant to the research questions. Some tracks are not discussed in the analysis section. Each chapter concludes with a discussion of the research findings. The analysis in Chapter 3 also includes a comparative analysis of architectonic form in *alapana*.⁴⁰

Scores complement the recordings. The role of notation, and the form it took in the development of the music, varied from piece to piece and from project to project.⁴¹

Musical ideas were communicated aurally, verbally, and in notation, using Western notation with the Western musicians, and *sargam* notation with the Indian musicians.

⁴⁰ The recordings that accompany this analysis are on the supplementary CD.

⁴¹ See Music Notation Notes (pages xv-xvi) for information about the notation systems and conventions in this study.

Sometimes no score existed and I've constructed one to assist with analysis. The scores facilitate the understanding and discussion of some elements of the music, but represent its totality even less than recordings.

Tenzer observes that: 'We are often told of the world's vast and rapid changes but rarely advised how to make sense of them *as musicians*' (2006: 34). To develop 'real musicality' he stresses the need for 'prolonged exposure to deep details which we learn to experience cognitively and feel deeply' (2006: 34). Making sense of change, 'feeling deeply', and 'experiencing cognitively', are processes that cannot always be discussed through technical or even metaphorical musical analysis. Ethnography and autoethnography are included in this exegesis to express some of these embodied aspects. These components are informed by the 'Sensuous Scholarship' of Stoller (1997), the ethnography of Marcus (1998), and the autoethnographic writing of other creative practice researchers (Knight 2011, Trail 2009, Smith 2006, Hicks 2011). The material includes excerpts from my research journal, memories of day-to-day experiences including shopping trips, social occasions and conversations, and personal reflections that illuminate my own 'interpretive moves'.

The analyses are written from my perspective. At times this is supplemented by material from radio and print interviews given by the musicians in the creative practice projects, as well as personal communication. I draw on knowledge and experience from creative development periods, workshops, rehearsals, performances, tours, recordings, and informal discussions with many of the musicians in these projects over a long period of time.

Participation in other intercultural projects with Indian musicians, and a number of jazz and improvising ensembles also informs this research.⁴²

The study of Carnatic music per se is not the focus of this research, but my lessons were an important method of engagement with Carnatic music and musicians. The lessons were generally conducted orally, without notation. I usually recorded my lessons with a Zoom recorder and would often make notes afterwards, sometimes in Western notation, sometimes in *sargam* notation, or sometimes in a mix of words and graphic notation. My teachers were also my colleagues in many of the creative practice projects. I paid them to teach me. Our student-teacher relationship seemed to exist comfortably in a separate, but overlapping space with our relationship as performers. My impression is that my teachers adapted their teaching methods to my particular needs and interests. I was in the interesting position of being a beginner in a new musical practice after thirty years of professional experience in other musical systems.

All the performances discussed in this research were paid professional engagements. This was an ethical necessity that assisted in more clearly delineating the roles of the study's various participants. The composers who collaborated were paid for their contribution as composers. Ownership of the recordings is vested in the groups concerned. Ownership of the collaborative compositions is shared between the composers by mutual agreement.

CONTEXT: INDIVIDUALS AND MUSIC SYSTEMS

Improvised musical dialogue is one of the most life-affirming processes I have experienced. It can take a seemingly infinite number of forms and directions, gathering

⁴² See Appendix One (pages 209-210) for details of my participation in other ensembles.

energy through unexpected twists and turns, and stability at familiar signposts along the way. Once we try to tie it down with words, it begins to argue with them. ‘Jazz’ meets ‘Carnatic’ music: a process that is beautifully integrated into a richly textured and infinitely varied stream of musical creations is somewhat arbitrarily separated in two by constructs imposed by the analytical mind. The labels divide. They struggle to contain the vast activity taking place within their walls. In Chapter 3, defining boundaries becomes even more complex with the inclusion of Hindustani and other influences such as Balkan music. In spite of the difficulties defining terms like jazz, Carnatic, and Hindustani, and the limitations and ambiguities their use may provoke, there is a recurrent need in this exegesis to reference source musical systems.

Jazz, Carnatic, and Hindustani music are diverse, complex, constantly evolving musical systems. Individual players rarely fit neatly into the systems.

Nettl observes:

Intercultural influences are usually interpreted as interactions among or confrontations between (these) musics, which are treated as if they had lives of their own. This provides the researcher with a strong theoretical model, but it does not truly conform to reality, which after all consists of large numbers of individuals each of whom has a unique musical experience and idiolect (Nettl 1978: 367).

In this study I refer to myself as a jazz musician, but my musical practice is informed by engagement with many styles of jazz as well as Bulgarian, Macedonian, Japanese, Balinese, avant-garde, electro-acoustic, Western classical, reggae, punk, rock, folk, Afro-Cuban, Brazilian, Arabic, and Turkish music. Other factors, such as taste, ability, gender, nationality, age, personality, and peer group also impact on how I create music.

Higgins suggests this definition of jazz: ‘an interrelated network of mostly improvisation-based musical practices rooted in, but not exclusive to, 20th Century African American expressive culture’ (2013: 222, note 62). Widely accepted typologies in Indian music are that Carnatic signifies the classical music of South India, and Hindustani that of North India (Wade 1987). In this exegesis I use the words jazz, Carnatic, and Hindustani to refer to the knowledge, experience, and conception of these music systems the individuals in each ensemble bring to that project. I have already given some indication of the breadth of experience that feeds into my ‘jazz’. Higgins’ definition accommodates this diversity, although there are those who resist such a broad definition of jazz.⁴³

Carnatic music’s ‘classical’ status is arguably an early twentieth century construct (Weidman 2006). Mani-Sir and the members of Sruthi Laya perform both classical and fusion concerts. It seems that in this context, fusion is an umbrella term that gives musicians a space to play their own compositions, explore different instrumental combinations, and experiment with harmony in ways that would be unacceptable in a Carnatic classical concert.⁴⁴ In this exegesis I use the word Carnatic to include Mani-Sir’s work with Sruthi Laya, which in the South Indian context is more correctly a fusion group than a classical group. Carnatic could be defined for this study as: an interrelated network of mostly improvisation-based musical practices rooted in, but not exclusive to, 20th century South Indian classical music.

Guru Kaaraikkudi Mani is the most prominent Carnatic musician in this study. His influence as a bandleader, player, composer, and teacher is paramount throughout. His

⁴³ See Ake et al. (2012) and Nicholson (2005) for discussion of this issue.

⁴⁴ In one sense, this is a solution to the issue of balancing tradition with innovation that jazz musicians also confront.

work as a mridangam player is highly regarded and has been studied by Western scholars (Van Hulzen 2002, Nelson 1991). His work with Sruthi Laya has not been widely researched, although it is recognised as being influential (Pesch 2009: 111). An innovative concept that Mani-Sir pioneered in Sruthi Laya was that melody instruments played figures to ‘support and embellish the rhythmic structures highlighted by the percussion instruments,’ an approach opposite to traditional practice in Indian classical music (Sherriff in CD liner notes 2000). This concept is important in much of the music in this study.

My musical interactions and collaborations with Adrian Sherriff, an Australian authority on aspects of Carnatic music, have contributed to the creative work and critical thinking set out in this study. Tenzer writes: ‘The well-established ethnomusicological model of bi- or trimusicality is inadequate to describe us anymore; we are approaching multi- or a virtual panmusicality’ (2006: 34). Adrian truly embodies panmusicality. He has studied ‘European classical, Afro-American jazz, South Indian classical, Japanese shakuhachi, Balinese gamelan and Experimental music traditions. In each of these traditions, Adrian has studied and performed with master musicians of international calibre. Adrian has also studied and performed musics from Sumatra, Latin America, North India and Africa’ (Australian Art Orchestra 2013). The AAO collaboration with Mani-Sir was initiated by Adrian, who is a *shishya* of Mani-Sir’s, through the Academy of Indian Music, run by Ravi M.

Ravichandhira. The collaboration resonated with the artistic goals of the AAO’s founding Artistic Director Paul Grabowsky. Paul and Adrian were AAO co-musical directors of the project for many years, and facilitated its development. The knowledge, expertise, creativity, and innovative thinking of Sarangan and Balasai, both as teachers and collaborators, is another important source in this research.

The focus of this study is intercultural music making between Carnatic and jazz musicians, but Hindustani musicians also feature. It is quite common for Indian jazz intercultural groups to include both Carnatic and Hindustani musicians. Shakti is a notable example. This three-way interaction is not the focus of my research, but rather one of the spaces where it is situated.

The case studies around which this research is based set out a unique insider experience of, and approach to, some of the myriad ways humans create music through intercultural intersections and convergences. I do not claim my experience is representative of a universal pattern, but, over time, it may contribute to a bigger picture where patterns may emerge.

CHAPTER 2: COSMIC WAVES

DIARY ENTRY

14th October 2010, Chennai

A small temple in Rangarajapuram, Chennai, during Navratri Festival. I'm entranced by the power of the Vedic chanting happening as I wait for my friends, mandolin players Raju and Nagamani, to start their kacceri in honour of goddess Saraswati. In a month, Raju will be in Sydney recording my music. Later I visited Wadapalini Temple with Balasai [flautist] and his wife, and accompanied them as they did pujas before they set out on a long awaited pilgrimage to temples in the north of India.

At times our paths seem so similar. We are improvising musicians who have dedicated our lives to our art forms. We share a passion for the spontaneous communication that occurs when rhythm section and frontline support and challenge each other with surprising and ingenious variations on a musical idea. We have all experienced the magical moments of transcendence that a single phrase can conjure in the hands of a great player. This could be John Coltrane playing the opening of 'A Love Supreme' or Lalgudi Jayaraman commencing the pallavi of Thyagaraja's 'Nagumomu'.

At other times our paths seem very different. Some jazz musicians comment that on a superficial listen they find Indian music boring melodically and harmonically. Where are the chord changes, the counterpoint, the chromaticism? Indian musicians, on the other hand, can find jazz chaotic and at the same time bland, lacking the intricate subtlety and beauty of gamaka, or the precise rhythmic calculations of moras.

Our cultures, religion (or lack thereof), language, food, clothes, family structures, climate, and aesthetics are very different. Yet we feel excited about making music together, motivated by the tantalising realisation that there is a new type of beauty emerging as we share our collective knowledge, friendship, and experience.

ABOUT THE PROJECT (CD 1)

This case study documents and analyses the composition, creative development, and recording of 'Cosmic Waves', a suite of music for saxophone and Sruthi Laya. The members of Sruthi Laya are Guru Kaaraikkudi Mani: mridangam, leader; B.V. Balasai: bamboo flute; U.P. Raju: electric mandolin; and V. Suresh: ghatam. Australian musicians Alister Spence: acoustic piano; Brett Hirst: electric bass; Roger Dean: computer manipulation of drones; and James Greening: sousaphone; appear as guests on some tracks.

The music was composed, rehearsed, and recorded in 2010 and early 2011. Creative development took place in Sydney, and on tour⁴⁵ in the Northern Territory, Western Australia, and Chennai. In contrast to the other creative practice projects, the outcome was a CD recording with no live performance component. The recording process had a greater impact in ‘Cosmic Waves’ than in the other case studies. The music was recorded and mixed in Studio 1, Macquarie University, Sydney.⁴⁶ The recording comprises seven ensemble compositions, three guided improvisations for saxophone and flute, and two solo improvisations by Sruthi Laya members.

I generated most of the composed material for the ensemble tracks. The creative development process was cyclical and organic. I presented my ideas to the musicians individually and as a group. Ideas were communicated orally, and in *sargam*⁴⁷ and staff notation. The responses of the other musicians sometimes led to changes in the compositions and arrangements. This process continued during the recording sessions.

The compositional material included information about pitch, temporal, and timbral elements; style; expressive intent; formal structure; and improvisatory codes. Carnatic rhythmic and melodic principles informed the development of many of the compositional and improvisatory ideas. Areas of enquiry included the adaptation of *arudis*, *korvais*, *kannaku*, *koraippu* and *laya rathna*, syncretisation of harmonic techniques from jazz with Carnatic conceptions of raga; improvised dialogue in unmetred playing, rhythm section

⁴⁵ This was during a tour of ‘Five Elements’, an intercultural *bharatanatyam* dance project. See pages 87-88 for details.

⁴⁶ Piano overdubs were recorded at Alister Spence’s house.

⁴⁷ Balasai would usually translate my English version of the *sargam* notation into Telugu. He and Raju are both native Telugu speakers and prefer to read music notation in their first language.

accompaniment, and collective improvisation; and the transportation of types of improvisatory process into new contexts. The compositions explored the use of different relative proportions of material from Carnatic music and jazz.

The expression of an emotion, or mix of emotions, was a guiding principle in each movement of the suite. In most cases, emotional intention was not explicitly discussed during rehearsal and recording. The musicians responded intuitively to feelings suggested by the musical material. The music partly arose from personal experiences relating to the ocean, including the use of the ocean as a metaphor for intercultural musical dialogue.

INSTRUMENTATION and INTERACTION

One of the aims of ‘Cosmic Waves’ was to explore composition, improvisation, group interaction and ensemble sound with a core instrumentation of a Carnatic quartet and jazz saxophone. The other jazz musicians appear primarily in accompanying roles. This contrasts with the orchestration of the other case studies.

A common instrumentation in Carnatic music, and the model used in *Sruthi Laya*, is two melody players (who play primarily in unison), two percussion players, and a drone.⁴⁸ This orchestration suits the linearity, and rhythmic and melodic complexity of Carnatic music. Chordal or bass line instruments are not required as Carnatic music does not use harmony or melodic counterpoint. A standard jazz quartet instrumentation is one melody player and rhythm section of piano or guitar, bass, and drums. Combining Carnatic percussion instruments with a jazz rhythm section requires careful consideration of instrumental roles, timbral combinations, and group interaction. In ‘Cosmic Waves’ I chose not to include

⁴⁸ In contemporary practice this is often an electronic *tambura*, electronic *sruthi box*, or iPhone app.

drum kit, and to limit the use of other jazz rhythm section instruments in order to focus on timbral and interactive possibilities between the saxophone and Sruthi Laya. Acoustic piano, electric bass, or sousaphone was added when harmonic or bass line components were integral to the composition. Soundscapes were created on some tracks using combinations of synthesised drones, electronic *tambura*,⁴⁹ and prepared piano.

I played tenor and soprano saxophones. Balasai played many flutes, depending on the register of the melody, and the timbre appropriate for the composition. He mainly played South Indian flutes or venu, transverse bamboo flutes with 8 holes.⁵⁰

Practical and aesthetic considerations affect the choice of key when combining Indian and Western instruments and players. In Carnatic music the pitch of the fundamental note⁵¹ is chosen to suit the frequency range of the soloist.⁵² This is known as the *sruthi*⁵³ (Chelladurai 1991: 6). A 2 octave range commencing from low Pa⁵⁴ is typical in classical performances, although many players have extended this range. Sruthi Laya usually choose

⁴⁹ Usually a Raagini Digital. This machine is often referred to in the vernacular as a *sruthi* box. It is not the same as the small harmonium drone instrument of that name. See Pesch (2009: 86) for information about the *sruthi* box.

⁵⁰ Balasai normally uses the English word flute when describing his instruments in CD sleeve notes, conversation, and on his website. This seems to be common practice among Carnatic musicians. On the *venu*, the tonic is usually the note produced by holding down two fingers of the left hand (the equivalent of an A fingering on Western keyed flute). Balasai also plays the *bansuri* or Hindustani flute. This is a 6 holed transverse bamboo flute where the tonic is produced by holding down three fingers in the left hand (the equivalent of a G fingering on Western flute). As well as Indian flutes, Balasai has flutes he's collected from other countries, such as a Chinese flute and a Celtic flute. He also plays Western flute, but didn't use that instrument in 'Cosmic Waves'.

⁵¹ Equivalent to the tonic in Western music.

⁵² In Carnatic music many saxophonists follow the *sruthi* chosen by Gopalnath. This is G on the instrument, meaning that an E♭ saxophone (e.g. alto) would play in the concert pitch key of B♭, while a B♭ instrument (e.g. tenor) would play in F. Charlie Mariano suggests using A on the instrument as the tonic to coincide with the fingering of South Indian wind instruments (Mariano 2000: 7). A saxophonist performing with a vocalist would play in the vocalist's key.

⁵³ This is only one of many meanings signified by the word *sruthi*. See Pesch (2009: 491) for more information.

⁵⁴ Pa is equivalent to the 5th degree of the scale in Western conception.

D as their *sruthi* and the instruments they use in this ensemble are built for this pitch.⁵⁵

Hence in ‘Cosmic Waves’ D is the *sruthi*. In Carnatic music the fundamental note stays the same for the entire performance. This strategy is adopted in most of the music in these case studies, both to accommodate Indian instrumental design and performance practice, and to explore the aesthetics of music referencing raga.

MUSICAL ANALYSIS

IMPROVISED DIALOGUE IN UNMETRED PLAYING

Improvised dialogue in unmetred playing is explored in two different forms in ‘Cosmic Waves’. In the first form, referencing *alapana*⁵⁶ in Carnatic music and rubato playing in jazz, there is no fixed pulse although many types of rhythmic organization are employed.⁵⁷ In the second form, melody instruments play rubato over an underlying pulse stated by the rhythm section. There are three flute and saxophone duets of the first type in ‘Cosmic Waves’. ‘Eagle Landing at Cape Leveque’ is an ensemble piece of the second type.

In Carnatic music *alapana* is a melodic exposition preceding a composition that introduces the melodic features, and mood or feeling of the raga (Pesch 2009: 263).⁵⁸ In jazz, unmetred solo improvisations are found in a number of different contexts, such as introductions and cadenzas.⁵⁹ All the unmetred duets in ‘Cosmic Waves’ precede a

⁵⁵ The members of Sruthi Laya have instruments built for *sruthis* other than D that they use in other contexts.

⁵⁶ Also known as *raga alapana*

⁵⁷ See Clayton (2000: 95-106) for issues surrounding the analysis of the complex rhythmic features of *alap* and free rhythmic forms in Western music.

⁵⁸ *Alapana* usually adheres to an architectonic structure. This is discussed in Chapter 3 (pages 105-110). It is a key component of the important *Ragam Tanam Pallavi* section of a Carnatic concert (Pesch 2009: 263).

⁵⁹ Levine includes *cadenza* in the glossary of ‘The Jazz Theory Book’: ‘an improvised rubato ending of indeterminate length, played by the soloist while the rhythm section lays out’ (1995: Glossary). See Clements (2008: 161-163) for discussion of the possible influence of Indian conceptions of *alap* on Coltrane’s unmetred improvisations and compositions.

composition. A drone is used both as a pitch reference and a timbral component of the music-sound event.

The unmetred improvisations in ‘Cosmic Waves’ are an intimate site of enquiry into improvisatory dialogue. Is there a lead player and an accompanist? If so, who leads and who follows? What degree of imitation is employed? How do improvisatory codes and vocabulary from the source musical systems affect the interaction?

A common practice in Carnatic music is for the soloist to lead the *alapana*, accompanied by a supporting artist who echoes the soloist’s phrases.⁶⁰ Cadenzas in jazz are often unaccompanied, although this is not a formal convention.⁶¹ Unaccompanied rubato interactive playing between melody instruments is also found in contemporary jazz and improvising ensembles.⁶² This is perhaps the form closest to the saxophone and flute duets in ‘Cosmic Waves’.

The knowledge each musician brings to the intercultural dialogue about their own and the others’ musical system(s) and playing affects the processes and outcomes. In this series of duets Balasai brought extensive knowledge of raga, including aspects like *samcara* (characteristic phrases), and *gamaka* (ornamentation).⁶³ My approach was primarily

⁶⁰ In Carnatic vocal music the accompanying instrument is usually violin. See L. Shankar (1974) for discourse on the art of violin accompaniment in Carnatic music.

⁶¹ John Coltrane’s cadenza on ‘I Want To Talk About You’ (Coltrane 1964) is a landmark in the development of this format in jazz.

⁶² One of the contexts I have explored this type of playing is with trumpet player Phil Slater in Roger Dean’s group australYSIS. Research in this area of jazz is sparse, although Monson’s investigation of interaction between pianists and soloists is related (1996).

⁶³ These translations of *samcara* and *gamaka* are approximations of subtle and sophisticated concepts and are by no means definitive definitions. Further discussion of these concepts, particularly as they relate to this intercultural context, occurs throughout this study.

informed by experience in jazz, but was expanded by elementary raga knowledge acquired through Carnatic music study.⁶⁴

Familiarity with the other musician's vocabulary, habits, and preferences helps the improviser to predict, understand, and remember musical material. This knowledge partly develops through collective playing experience. Balasai and I had some familiarity with each other's playing before this series of improvisations.

KSHEERA SAGARA

Track 1 CD 1

My concept for this improvisation was to establish a melancholy mood to precede 'Big Swell', and to connect with the melodic material of that composition, both functions similar to those of *alapana*. I didn't give Balasai any verbal instructions before we played. Neither of us were bound by any particular improvisatory codes and were free to make choices about musical material; degrees of 'copying, contrasting, and complementing' (Dean 1989: 43); and simultaneous or alternate playing.

In some ways I lead the duet, making the first statement and guiding the overall shape, length and feeling of the improvisation. Balasai doesn't follow Carnatic conventions about turn-taking. Rather than copying the saxophone phrases, he develops a separate, complementary stream of musical ideas. Towards the end of the duet we imitate each other more, but rarely copy each other exactly. We experiment with the balance of question and answer versus simultaneous playing. We both follow the Carnatic convention of finishing

⁶⁴ See Chapter 3 (pages 100-105) for discussion of my Carnatic music study.

on low Sa (the tonic in Western conception). In a jazz context, I would rarely finish an improvisation on the tonic. I do it here as a cue to Balasai, as an acknowledgement of the etiquette and aesthetics of *alapana*, and as part of my own imaginative and creative process. Balasai recognises my cue to finish when I return to Sa and follows suit, but instead of copying my phrase exactly plays a different concluding phrase.

The upcoming composition, ‘Big Swell’, is not written in a raga, but does reference ragas *Sindhu Bhairavi* and *Natabhairavi*. Connections to these ragas are apparent at times in the note choices, phrase shapes, and *gamaka* of both players.

BIG SWELL

Track 2 CD 1

I constructed a template (see Table 2) to illustrate the use of Carnatic and jazz elements in the compositions in ‘Cosmic Waves’.⁶⁵ The elements are represented spatially. There are many overlaps between the two systems, so tendencies in a particular direction, rather than absolutes, are inferred. The spatial placement of the instrument indicates playing style and the role of the instrument in the composition. Equivalences between the two systems are represented thus: \approx meaning similar to.

⁶⁵ The tables are not used for the improvised duets and solos: tracks 1, 5, 8, 10, and 12. They are designed more to reflect the use of Carnatic and jazz elements in composed material.

Table 2: Carnatic and Jazz Elements in 'Big Swell'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	<div>Flute</div> <div>Mandolin</div> <div>Mridangam</div> <div>Ghatam</div> <div>Sruthi Box</div> <div>Soprano Saxophone</div> <div>Acoustic piano</div> <div>Keyboard string drone</div>
TEMPORAL	<div><i>Adi</i> Tala ≈ 2 bars of 4/4</div> <div><i>Trikala</i> ≈ Half to Normal to Double Time</div>
PITCH	<div>Aeolian Mode plus chromatic notes</div> <div>(Relates to <i>Sindhu Bhairavi</i> and <i>Natabhairavi</i>)</div> <div>Harmony: Chord Changes/Piano riff</div> <div>Small% Counterpoint</div>
IMPROVISATIONAL TYPE	Improvisation over harmonic form

Tracks 2, 3, and 4 constitute a mini-suite in ternary form. The first melody, 'Big Swell', returns as 'Big Swell Reprise' at a faster tempo after a contrasting second section, 'Floating On An Emerald Green Sea', in a different metre (9/8).

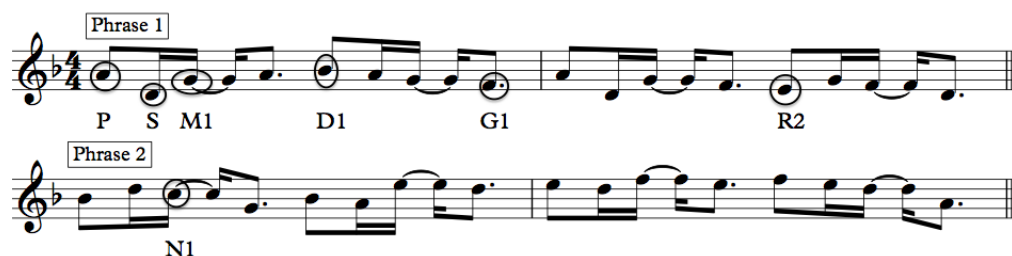
Big Swell conveys a sombre mood. The intensity increases by shifting from a half time percussion groove, to normal, to double time. This parallels the Carnatic concept of *trikala*, 'three degrees of speed' (Pesch 2009: 506) which Nelson describes as 'perhaps the most fundamental of Karnatak music's rhythmic processes' (2008: 16).⁶⁶ The melodic material is from the Aeolian mode, with the gradual addition of chromatic notes. I had been studying the raga *Sindhu Bhairavi* before I composed this melody. The main notes in *Sindhu Bhairavi* are roughly equivalent to the Phrygian mode, but all the pitches corresponding to the chromatic scale can be used. Some pitches like the flattened fifth, can

⁶⁶ *Trikala* is explored in other compositions in this research, particularly 'Anbe Sivam', Chapter 4.

be played occasionally. Others, like the major third, can only be played very rarely, for example, once in an hour-long improvisation.⁶⁷ This idea is not applied strictly in ‘Big Swell’, but influenced my melodic conception.

One objective in ‘Cosmic Waves’ was to create engaging compositional vehicles for both jazz and Carnatic improvisers. I didn’t want to completely abandon harmony, potentially losing a whole dimension of colour and creativity fundamental to much jazz improvisation. When using harmonic structures, I wanted them to relate to conceptions of raga. The exploratory process used to generate the harmonic form for the saxophone improvisation in ‘Big Swell’ illustrates one approach where I endeavoured to use techniques other than diatonic harmonization of a mode or raga. I created a pitch set from the first two phrases of the melody, the circled notes in Figure 1.⁶⁸

Figure 1: ‘Big Swell’ opening phrases (0.24)



⁶⁷ There are many other important features of this raga not described here.

⁶⁸ This pitch set also constitutes the Aeolian mode, which is approximately equivalent to raga *Natabhairavi*.



Ragas in Carnatic music have an *arohanam* (ascending order) and *avarohanam* (descending order). There is also a class of *vakra* ragas, where pitches appear in a zigzag pattern (Bhagyalekshmi 1990: 51-52).⁶⁹ Partly in response to this concept, I represented the pitches in the order they appear in the melody. I hoped this would discourage any conditioned tendency to think in terms of scale harmonisation, and encourage the conceptualisation of harmony from intervallic shapes related to pitch order. The pitch order is shown in Figure 2.

Figure 2: Big Swell pitch order



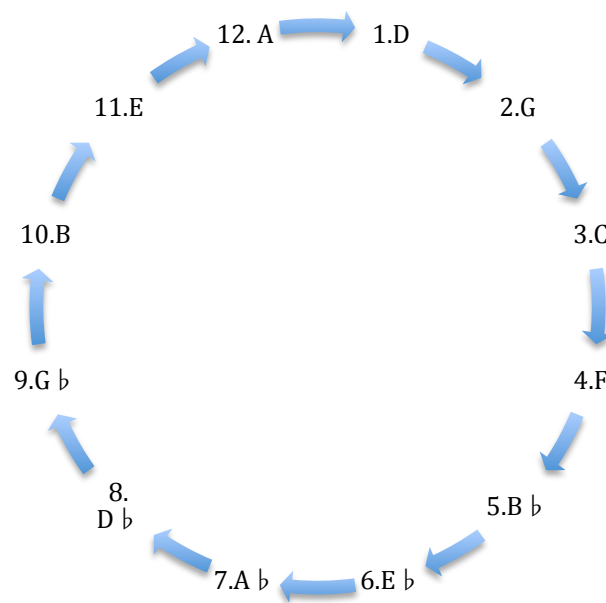
I drew from jazz practice to develop harmonic materials from the seven note pitch set using the Circle of Fifths.⁷⁰ The circle of fifths can be used to analyse degrees of dissonance and consonance.⁷¹ A given pitch has the most dissonant relationship to the pitch directly opposite it in the circle, for example D to A \flat . Figure 3 shows the Circle of Fifths and the numbers I assigned to each root pitch.

⁶⁹ John Mayer discusses the correlation of aspects of raga theory with Western serial music. ‘In serialism you are dealing with an atonal sequence, and in ragas, the Indian scale system, you are dealing with a tonal sequence, but one which goes up one way and down another, what’s called the aroha-avaroha’ (in Shipton).

⁷⁰ See Mark Levine for an explanation of the concept in relation to 11-V-1 harmony (1989: 18-19) and tritone substitutions (1989: 37-40).

⁷¹ This principle is fundamental to the ‘Circle of Close To Distant Relationships’ (Russell 1959: 43) in the ‘Lydian Chromatic Concept of Tonal Organization’.

Figure 3: The Circle of Fifths




To generate harmonic material I transposed the 'Big Swell' pitch set around the Circle of Fifths (Figure 4).


Figure 4: 'Big Swell' melodic material transposed around the Circle of Fifths

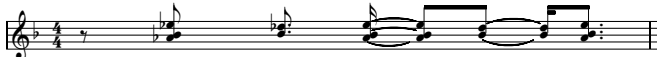



I composed a piano riff and voiced it using pitch sets 1, 2, 7 and 8. The final form is shown in Figure 5.


Figure 5: 'Big Swell' piano riff

SET 1: 4 BARS 

SET 2: 4 BARS 

SET 7: 2 BARS 

SET 8: 2 BARS 

SET 1(variation):
4 BARS 

In the scale of close to distant relationships, the harmonies move from close (1 to 2), to distant (7 and 8), and back to close (1). These relationships can easily be heard against the repeated crotchets on the tonic (D) in the left hand. A faster harmonic rhythm in sets 7 and 8 reinforces the tension of the more dissonant relationships.

FLOATING ON AN EMERALD GREEN SEA

Track 3 CD 1⁷²

Table 3: Carnatic and Jazz Elements in 'Floating on an Emerald Green Sea'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	<p>Flute</p> <p>Tenor Saxophone</p> <p>Mandolin</p> <p>Electric Bass</p> <p>Mridangam</p> <p>Ghatam</p>
TEMPORAL	<p>9/8 rhythm</p> <p>Small % <i>Kannaku</i> in backing melodies</p>
PITCH	<p><i>Natabhairavi</i> ≈ Aeolian Mode</p> <p>Harmony: Contrapuntal bass line</p> <p>Counterpoint in mandolin</p> <p>Small% Harmonisation fl. and sax.</p>
IMPROVISATIONAL TYPE	Improvisation over Bass riff

Table 3 illustrates the use of Carnatic and jazz elements in 'Floating on An Emerald Green Sea'.

⁷² "Floating On An Emerald Green Sea" was subsequently arranged for Lloyd Swanton's ensemble The Catholics. It is recorded on the group's CD *Yonder* (The Catholics 2013).

BIG SWELL REPRISE

Track 4 CD 1

The use of Carnatic and jazz elements in 'Big Swell Reprise' is shown in Table 4.

Table 4: Carnatic and Jazz Elements in 'Big Swell Reprise'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	<div>Flute</div> <div>Mandolin</div> <div>Mridangam</div> <div>Ghatam</div> <div>Soprano Saxophone</div> <div>Electric Bass</div>
TEMPORAL	<div><i>Adi</i> Talam ≈ 2 Bars of 4/4</div> <div><i>Arudi</i></div> <div><i>Kannaku</i></div> <div><i>Korvai</i></div>
PITCH	<div>Aeolian Mode plus chromatic notes</div> <div>(Relates to <i>Sindhu Bhairavi</i> and <i>Natabhairavi</i>)</div> <div>Reprise of <i>Pallavi</i> at faster speed</div> <div>Harmony: Counterpoint with bass</div> <div>Harmonisation of fl. and sax.</div>
IMPROVISATIONAL TYPE	<i>Kalpana Swara</i> ≈ Modal improvisation with bass accomp.

'Big Swell Reprise' begins with an improvised flute solo accompanied by mridangam, ghatam, and bass. After the flute solo there is a recapitulation of the 'Big Swell' theme. In Carnatic music, rhythmic cadences guided by formal conventions about calculation and architecture are played at the end of an improvisation, almost always as a three times repeating phrase, leading to a restatement of the melody. A short rhythmic cadence is often called an *arudi*.⁷³ A *korvai* is a longer rhythmic structure, usually in two sections:

purvanga (first part), and *uttaranga* (second part). Cadential rhythmic patterns in jazz are

⁷³ Terminology is not standardised. Sometimes a short phrase of this type might be called a *tirmanam*, or even a *mora*, although a *mora* is usually a longer passage. In this exegesis *arudi* is used for short rhythmic cadences. In my experience, this is Mani-Sir's vernacular.

not as formalised, although many conventions exist, such as phrasing around structural markers like the first beat of a harmonic form. For the reprise of 'Big Swell', I set the first half of the melody to a *korvai* composed by Mani-Sir.⁷⁴ *Korvais* are usually played in rhythmic and melodic unison. In this case, I experimented with counterpoint and harmonisation. As shown in Figure 6, mandolin and bass play the first half of the melody; flute and saxophone play the second half. The opening phrase is counterpointed by a harmonised flute and saxophone part.

Figure 6: 'Big Swell Reprise' Korvai, first phrase (1.45)

Fl./Sax.

Mand./
Bass 8vb

Mrd./Gtm.

tha thi ki ta dhom tha tha(a)(ngu) tha thi ki ta dhom tha tha

(a)(ngu) tha tha(a)(ngu) tha thi ki ta dhom tha tha(a)(ngu)

tha tha(a)(ngu) tha(a)(ku) tha(a)(ngu) tha dhi ki na dhom tha dhi ki na dhom tha dhi ki na dhom

⁷⁴ This *korvai* was not composed for this composition. Mani-Sir taught it to me in 2009.

One area where Carnatic percussionists excel has been described as ‘rhythmical harmony’.

When a mridangam player accompanies a musician [sic] (vocalist or instrumentalist) in India, he does not merely beat the *sarva laghu*, but provides a cross-rhythmical accompaniment based on the style, movement and rhythmical construction of the pieces rendered. This ‘*rhythmical harmony*’ provided by the mridangam player contributes to the excellence of a concert of Indian music (Sambamoorthy 2005: 18).⁷⁵

One of the most delightful moments in rehearsal with Sruthi Laya is sitting in silence while Mani-Sir conceives ways for he and Suresh to implement ‘rhythmical harmony’. The percussion part in the last six bars of ‘Big Swell Reprise’ (Figure 7) is an example of the results.

Figure 7: ‘Big Swell Reprise’ closing percussion Arudi (2.20)



The *arudi* has a reducing shape known as *gopucca yati*.⁷⁶ The *purvanga* is 8 8 7 7 6 6. The *uttaranga* (circled in Figure 7) has the same rhythm as the final phrase of the melody. This only becomes apparent when the percussion and melody parts align at the end of the composition. The drum part counterpoints the melodic phrase, anticipates and punctuates

⁷⁵ Van Hulzen also cites this passage when discussing mridangam accompaniment (2002: 23).

⁷⁶ See Nelson (2008: 54) and Pesch (2009: 222-225) for an explanation of *yati* shapes, and the various meanings of the word *yati*.

the ending, and creates a pleasing architecture. The relationship of the drum part to the melody is not regular. One can hear a logic in the drum part, but its mechanism is concealed from all but the most perceptive listeners until the final phrase.

NOISY WHALE AND OYSTERCATCHER

Track 5 CD 1

Like ‘Ksheera Sagara’, this track explores dialogue in unmetred flute and saxophone improvisation, although there are many contrasting features. The *sruthi* is replaced by an organ recording, part of a series of modified drones created by Roger Dean for this project. The drones were a response to parameters derived from a study of architectonic structure of *alapana* in Carnatic music by T. Viswanathan (1998).⁷⁷ Other drones with more subtle modifications are used on tracks 8 and 10.

The aesthetic and instrumental techniques in this improvisation reference Western free improvised music rather than Carnatic music. The focus is on textural improvisation instead of melodic development in a mode or raga. Trills, glissandi, multiphonics, varied articulations, vibrato, and other timbral variations are the main musical elements.

As in ‘Ksheera Sagara’ I start the improvisation and Balasai responds, but the pattern of copying, complementing, and contrasting is quite different. Balasai always begins his phrase on the final pitch of my phrase (except during simultaneous passages) and uses a high degree of gestural imitation, unlike his approach in ‘Ksheera Sagara’. Perhaps the familiar sound world and feeling of ‘Ksheera Sagara’ made him more adventurous to

⁷⁷ This is discussed in Chapter 3 (pages 105-110).

depart from Carnatic conventions, than in this context where he had fewer reference points. The syncretisation of glissandi I had been developing to play Carnatic music is apparent in my approach. The piece functions somewhat like an *alapana* by creating a mood for the composition that follows.

EAGLE LANDING AT CAPE LEVEQUE

Track 6 CD 1

Table 6 shows the use of Carnatic and jazz elements in ‘Eagle Landing at Cape Leveque’.

Table 5: Carnatic and Jazz Elements in ‘Eagle Landing at Cape Leveque’

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	<div>Flute</div> <div>Tenor saxophone</div> <div>Mandolin</div> <div>Acoustic piano/prepared piano</div> <div>Mridangam</div> <div>Ghatam</div> <div>Keyboard drone</div>
TEMPORAL	<div><i>Tisra nadai</i> ≈ Triplet feel</div> <div><i>Alapana</i> style ≈ Rubato or free</div>
PITCH	<div><i>Samcara</i> ≈ Melodic motifs</div> <div>Harmony: Chromatic</div>
IMPROVISATIONAL TYPE	Guided free Improvisation

The compositional material for this piece is a series of melodic motifs, and instructions for collective improvisation to create a soundscape.⁷⁸ The idea references Ornette Coleman’s composition ‘Lonely Woman’ (Coleman 1959), where a rubato melody is played over a bass ostinato and a fast ride cymbal pattern. In ‘Eagle Landing At Cape Leveque’ the

⁷⁸ Collective improvisation to create soundscapes is not normally associated with Carnatic classical music, but is sometimes found in other South Indian contexts, such as film and dance music. In my experience, its purely musical use is more widespread in jazz.

ghatam maintains a fast *tisram* (triplet) pulse to generate momentum, similar to the ride cymbal in the prototype ‘Lonely Woman’. I asked the percussionists to respond to images such as birds flapping their wings, hovering in mid air, and landing smoothly on the surface of the water. I suggested they play long crescendos and decrescendos, sometimes simultaneous, sometimes overlapping. I hoped to generate accelerandos and decelerandos against the *tisram* pulse as well, but I wasn’t able to communicate this idea effectively. Acoustic piano and a keyboard drone add to the soundscape.

‘Eagle Landing at Cape Leveque’ is through composed. The saxophone plays a series of melodic motifs. Each motif introduces a pitch set and melodic contour that all the melody instrument players develop after the saxophone phrase. My intention was to use the motifs in ‘Eagle Landing at Cape Leveque’ as improvisatory material in a similar way to *samcara*, or characteristic phrases, of raga. The process was familiar to the Carnatic musicians, but the context and material were new.

Alister improvised the piano and prepared piano tracks several months after the initial recording. He played live while listening to the material Sruthi Laya and I had recorded. He played three different improvisations, one emphasising low Ds, one playing prepared piano, and one more harmonically based. I suggested he use a harmonic palette that was not necessarily restricted to a particular mode.

The guided collective improvisation in ‘Eagle Landing at Cape Leveque’ was quite exploratory. The resulting textures, architecture, mood, and melodic and rhythmic development suggest the strategies used in this piece would be worth investigating further.

COSMIC WAVES AT WEST BEACH

Track 7 CD 1

The use of Carnatic and jazz elements in ‘Cosmic Waves at West Beach’ is illustrated in Table 6.

Table 6: Carnatic and Jazz Elements in 'Cosmic Waves at West Beach'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	Flute Tenor Saxophone Mandolin Mridangam Ghatam Sruthi Box
TEMPORAL	<i>Adi Talam</i> ≈ 4 Bars of 4/4 <i>Arudi</i> <i>Tani Avartanam</i> <i>Koraippu</i> ≈ Trading
PITCH	Ragas: <i>Varamu</i> <i>Sunadavinodini</i> <i>Ragamalika</i> <i>Graha Bedham</i> ≈ Sideslipping Harmony: Small% Counterpoint
IMPROVISATIONAL TYPE	<i>Kalpana Swara</i> ≈ Modal improvisation

One key to a strong musical result in intercultural collaboration is to create musical spaces in order to showcase the expertise from each system. These spaces need to be integrated into the musical whole so that the music isn’t just a ‘show and tell’ from different musical systems. This composition was designed to feature the rhythmic expertise of the Carnatic musicians. It was also a vehicle for the exploration of some Carnatic elements in my own improvisatory strategies.

MELODIC APPROACH AND PROCESS: THE PENTATONIC PLATFORM

One of the most wonderful, but creatively challenging, elements of Indian music for a newcomer from a jazz background is the restriction on note choice. In contemporary jazz it is not uncommon to play all twelve notes of the chromatic scale within the first few phrases of an improvisation. The thought that one could improvise for an hour on one pentatonic scale (as skilled Carnatic musicians can) and not be boring, is almost inconceivable. The multiplicity of pentatonic ragas⁷⁹ in Carnatic music is compelling. The most common pentatonic scales in jazz are the major pentatonic, which is related to the Carnatic raga *Mohanam*,⁸⁰ (Figure 8) and the minor pentatonic, related to the raga *Udayaravichandrika*⁸¹ (Figure 9).

Figure 8: Raga Mohanam/Major Pentatonic

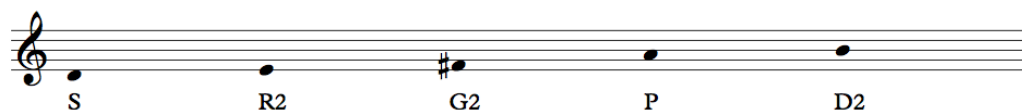
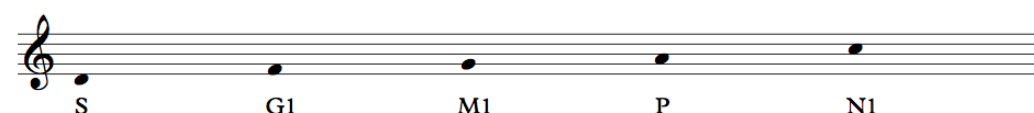


Figure 9: Raga Udayaravichandrika/Minor Pentatonic



The minor pentatonic is a mode of the major pentatonic (from the fifth note).

Major pentatonic: D E F# A B

⁷⁹ Pentatonic ragas are known as *Audava* ragas (meaning they contain only 5 notes). It is likely that well over 72 *Audava* ragas exist, because each of the 72 *Melakarta* ragas yields at least one, and potentially many more *Audava* ragas. It is beyond the scope of this research to verify how many *Audava* ragas are currently used in Carnatic music practice. Pesch writes: 'It is a remarkable fact that several pentatonic ragas...notably Abhogi, Hamsadhvani, Hindolam, Madhyamavati, and Mohanam, are loved by musicians and audiences, as they yield the most variegated melodies' (2009: 186).

⁸⁰ The equivalent raga to *Mohanam* in the Hindustani system is *Bhopali* or *Bhoop*.

⁸¹ In the Carnatic system *Udayaravichandrika* is also known as *Shuddha Dhanyasi*.

Minor pentatonic: B D E F# A

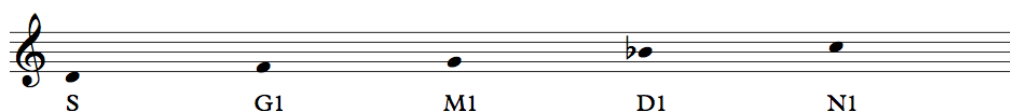
Shifting the tonic to another note in a raga, thereby creating a new raga, is known in Carnatic music as *graha bedham* (Bhagyalekshmi 1990: 42), meaning position change.

Major and minor pentatonic scales are often used in jazz. Coltrane, and many of his contemporaries, developed their use in modal composition and improvisation. They also used the technique of sideslipping, where a pentatonic scale is transposed (often by a semitone), and superimposed over the original tonality to create tension. Many scales suggested by Carnatic pentatonic ragas have not been used extensively in jazz. Conversely, the jazz concept of quickly juxtaposing transposed melodic motifs over one tonic, is not common in Carnatic music. Sideslipping, which has some similarities to *graha bedham*, could be applied to Carnatic pentatonic scales in an intercultural context.

MELODY WITHOUT HARMONY

In some pentatonic ragas the fifth degree (Pa) is omitted entirely. My first experience of playing a raga with no fifth was in ‘Saamaja Varagamanaa’ in raga *Hindolam*.⁸² While learning this raga I tended to hear a fifth in my imagination. Even if no chords were being stated, melody had a harmonic implication in my aural imaginary. Confronting the absence of harmonic function in Carnatic music had profound implications for my melodic conception, as did gaining some insight into the crucial role *gamaka* and rhythmic cadence

⁸²‘Saamaja Varagamanaa’ is a famous composition by the Carnatic composer Thyagaraja. Raga Hindolam:



play in Carnatic music. Although these concepts have some parallels in jazz, their relative importance, and aesthetic, structural, and processual qualities are different.⁸³

‘Cosmic Waves at West Beach’ is based on *Varamu* (Figure 10) and *Sunadavinodini* (Figure 11), two pentatonic ragas without a fifth.

Figure 10: Raga Varamu

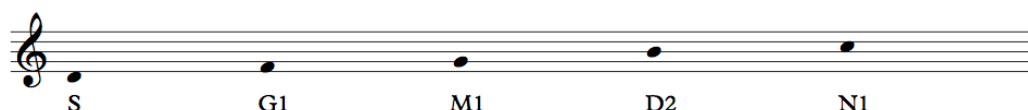
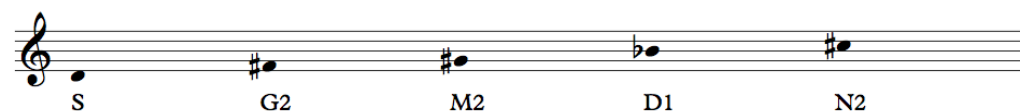


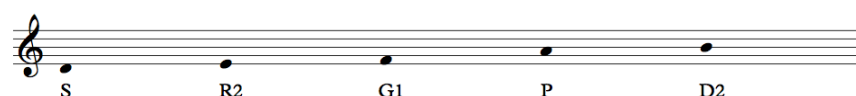
Figure 11: Raga Sunadavinodini⁸⁴



Ragamalika (garland of ragas) is a Carnatic melodic concept where sections of a composition are set to different ragas (Sambamoorthy 1973: 328). This is the closest concept in Carnatic music to the jazz practice of playing chord changes. In ‘Cosmic Waves at West Beach’ I used *Varamu* and *Sunadavinodini* to create a *ragamalika* in a relatively Carnatic way.⁸⁵ *Varamu* is the raga for the first section of the composition and the saxophone solo; *Sunadavinodini* for the second section and the mandolin solo. Each note in *Sunadavinodini* (apart from the tonic) is a semitone different from *Varamu* so the sections have considerable melodic contrast.

⁸³ See Chapter 3 (pages 100-105) for further discussion of *gamaka*, ornamentation in jazz, and my engagement with these areas on saxophone through Carnatic music study.

⁸⁴ *Sunadavinodini* is another raga derived by *Graha Bedham*. It is the third degree of *Sivaranjani*.



⁸⁵ Towards the end of the composition there are faster changes between the ragas. This is less typical of Carnatic music.

Freedom of expression, and a spontaneous and imaginative flow of ideas characterise the best improvised performances in both jazz and Carnatic music. I understand some aspects of raga, *gamaka*, and Carnatic rhythmic calculations, but am inexperienced in these practices. Could I express myself freely with a hybrid language still in development? The improvised section in ‘Cosmic Waves At West Beach’ was a test of this. There were no chord changes and no bass line - only five notes and a fast Carnatic groove.

Those five notes can get tiresome if a soloist just runs up and down them. What makes them interesting? In raga, interest is created partly by giving emphasis to important pitches (known as *vadi* notes), exploring those notes from above and below, and bringing the melodic journey to life with *gamaka*.⁸⁶ Solos carefully explore register, often beginning in a low register and moving to a higher register. Carnatic musicians sometimes use train analogies to describe melodic development. Each note in the raga is like a station that phrases revolve around for a time, speeding up, then slowing down as they approach the platform. The tonic (Sa) is like Central station and is afforded a big climax. Mathematical patterns of decreasing and increasing numbers assist with this architecture. As a starting point, I practised these concepts on *Varamu*, but found I wanted to incorporate chromatic jazz language into the solo as well.

To establish a clear relationship between playing ‘inside’ the raga and the chromatic approach, I devised a system for generating pitch material related to *Varamu*. I transposed the raga through a D diminished seventh chord, as shown in Figure 12.

⁸⁶ At faster tempos *gamaka* is usually less intricate. I didn’t use *gamaka* in this solo.

Figure 12: Transpositions of Varamu



I created four new modes by starting each pitch set on D, or where D is absent (as in set 3 in Figure 13), the next available pitch.

Figure 13: New modes from transposition of Varamu



This idea has many precedents in jazz and relates to the Carnatic *graha bedham* concept. In theory, using this material would facilitate a smooth transition between melodic ideas, and provide a comprehensible link for musicians and listeners from both traditions. In practice, it was difficult to articulate at the recording session, and I moved straight from *Varamu* to a more random chromatic area. This solo was quite interesting, but lacked the conceptual focus I was hoping for. I re-recorded the solo, staying primarily in *Varamu*. I utilised the transposed pitch sets quite strictly toward the end of the solo (2.22). The results were more satisfying to me, indicating the value of a disciplined approach to the execution of conceptual ideas bridging the two systems.

RHYTHMIC MECHANISMS

I applied an *arudi* to part of the melody in ‘Cosmic Waves At West Beach’. The structure of the *arudi* is (223) [3] (223) [3] (223) *samam* (first beat of the cycle). This representation of the *arudi* follows Nelson’s (2008: 23) system, where parentheses indicate statements in the *arudi* and brackets indicate *karvais* or gaps. The phrase, shown in Figure 14, starts after five *matrai*, or quavers.

Figure 14: 'Cosmic Waves at West Beach', Arudi in opening melody (0.56)



The rhythmic placement of the phrase has a disjunct relationship to the tala cycle. This idea is expanded at the end of the composition. The original *arudi* becomes a statement in a compound *mora* with the following structure:

((223) [3] (223) [3] (223)) [3 +4] (223) [3] (223) [3] (223)) [3 +4] (223) [3] (223) [3]
(223)) resolution

The melody is shown in Figure 15.

Figure 15: 'Cosmic Waves at West Beach', Arudi in closing melody (9.51)

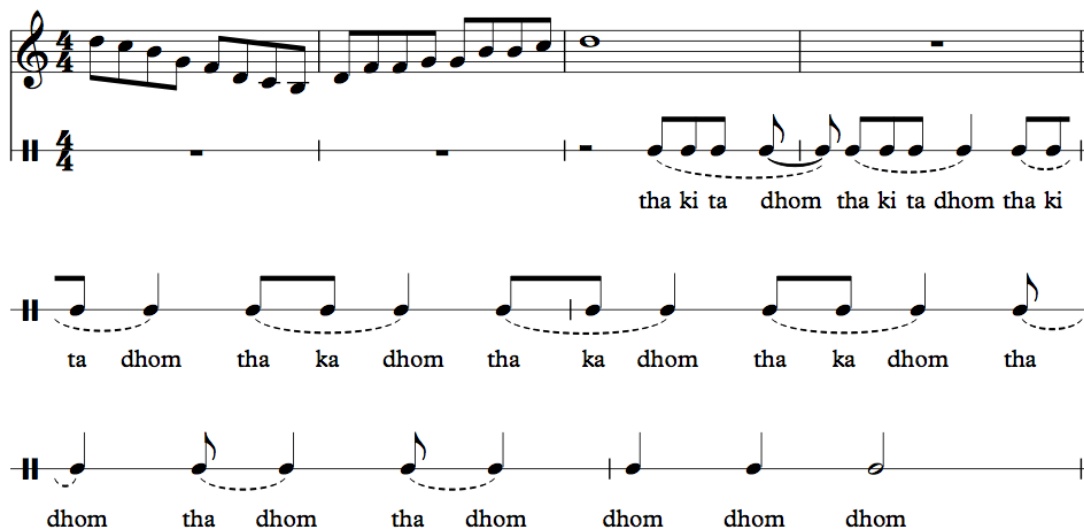
The melody alternates between *Varamu* and *Sunadavinodini*. This is a development of the idea used in the *koraippu* that precedes the final melody. In a *koraippu* (meaning to reduce), musicians trade phrases with each other in shorter and shorter lengths of time.

Trading, often between a soloist and the drummer is also a common strategy among jazz

musicians, sometimes known as the chase.⁸⁷ The confluences between these improvisatory structures make them a fruitful platform for dialogue. In the *koraippu* in this composition, the exchanges alternate between *Varamu* and *Sunadavinodini*. Fast changes between ragas are not typical of Carnatic music. The atypical use of the *ragamalika* concept in the *koraippu* and closing melody nudges the boundaries of the relatively Carnatic aesthetic of this composition.

I invited Mani-Sir to compose *konakkol* to answer the melodic phrases in ‘Cosmic Waves At West Beach’. The following analysis of his composition illustrates ways that Mani-Sir uses Carnatic rhythmic principles in this collaborative, intercultural context. The *konakkol* that answers the first *Varamu* phrase is shown in Figure 16.

Figure 16: Konakkol for Varamu part 1 (0.14)



⁸⁷ See Sherriff for further discussion and comparative analysis (2005).

This rhythmic pattern has a reducing shape, or *gopucca yati* (Nelson 2008: 54), as depicted in Figure 17.

Figure 17: Konakkol for Varamu part 1, Gopucca Yati (0.17)

tha ki ta dhom .

tha ki ta dhom .

tha ki ta dhom .

tha ka dhom .

tha ka dhom .

tha ka dhom.

tha dhom .

tha dhom .

tha dhom .

dhom .

dhom .

dhom .

The *konakkol* that answers the second phrase (Figure 18) contrasts with the first, following the shape of *sama yati*, meaning all three phrases are the same.

Figure 18: Konakkol for Varamu part 2 (0.15)



The *sama yati* shape is shown in Figure 19.

Figure 19: Konakkol for Varamu part 2, Sama Yati (0.25)

tha ka thi ku tha thi ki ta dhom tha tha . (ga).

tha ka thi ku tha thi ki ta dhom tha tha . (ga).

tha ka thi ku tha thi ki ta dhom tha tha . (ga).

Mani-Sir builds intensity on the repeat of the *Varamu* section by articulating the original phrase shapes with double time ornamentation (Figure 20).

Figure 20: Konakkol for Varamu A section repeat (0.33)



This section is a *gopucca yati*, as shown in Figure 21.

Figure 21: Konakkol for Varamu A section repeat, Gopucca Yati (0.33)

tha ri ki ta tha ka dhom .

tha ri ki ta tha ka dhom .

tha ri ki ta tha ka dhom .

tha ri ki ta dhom .

tha ri ki ta dhom .

tha ri ki ta dhom .

tha ka dhom .

tha ka dhom .

tha ka dhom .

dhom .

dhom .

dhom .

Figure 22 shows the *konakkol* answering the second phrase on the repeat of the *Varamu* section.

Figure 22: Konakkol for Varamu B section repeat (0.42)

ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha

(ga) ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha (ga)

ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha (ga)

This is also a *sama yati*, as shown in Figure 23.

Figure 23: Konakkol for Varamu, B section repeat, Sama Yati (0.42)

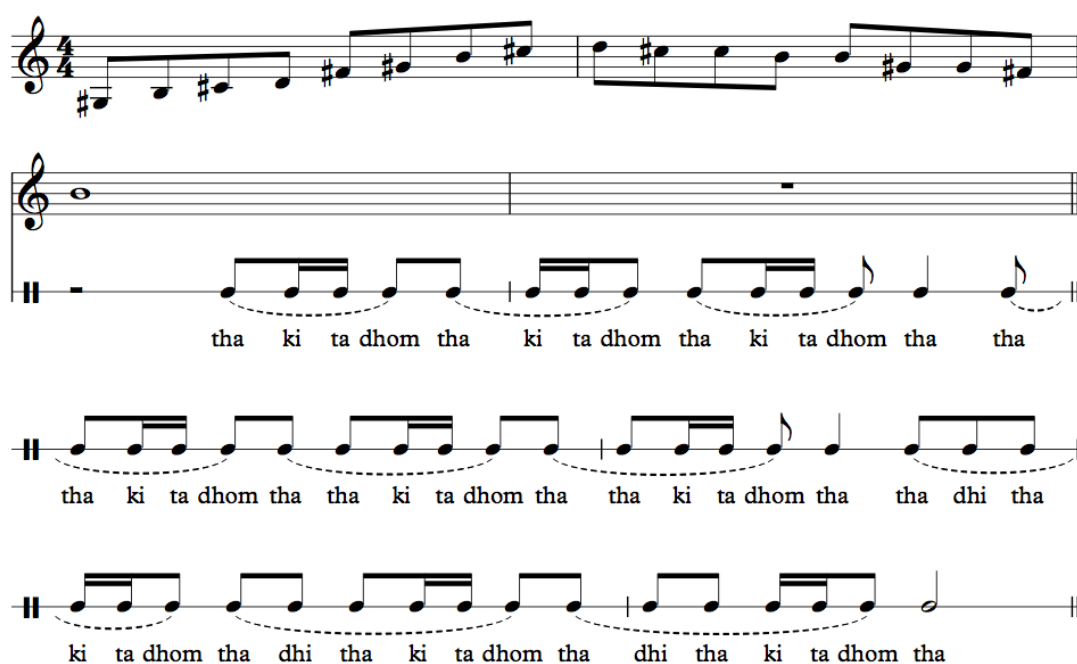
ki ta tha ka tha . ki ta tha ka tha ri ki ta dhom tha tha . (ga) .

ki ta tha ka tha . ki ta tha ka tha ri ki ta dhom tha tha . (ga) .

ki ta tha ka tha . ki ta tha ka tha ri ki ta dhom tha tha . (ga) .

The melodic contour in the *Sunadavinodini* (SV) is an inversion of the opening *Varamu* (V) melody. The *konakkol* comments on this rhythmically. The rhythmic shape of the V *konakkol* reduced from larger to smaller phrases; the shape of the SV *konakkol* expands from smaller to larger phrases (Figure 24).

Figure 24: Konakkol for Sunadavinodini section (2.57)



This is an example of *srotovaha* (river mouth) *yati* (Figure 25).

Figure 25: Konakkol for Sunadavinodini section, *Strotovaha Yati* (3.00)

tha ki ta dhom

tha ki ta dhom

tha ki ta dhom

tha .

tha tha ki ta dhom

tha tha ki ta dhom

tha tha ki ta dhom

tha .

tha dhi tha ki ta dhom

tha dhi tha ki ta dhom

tha dhi tha ki ta dhom

tha .

The *konakkol* in ‘Cosmic Waves At West Beach’ exemplifies many qualities of Carnatic rhythmic architecture and aesthetics. Each section is a three times repeating phrase that leads into the melody in a natural way. There is a balance between symmetry and asymmetry in the rhythmic architecture, both within the *yatis*, and in their relation to the melody. Double speed embellishments of the patterns in repeated sections create contrast and intensity. The different rhythmic placement of the start of the phrases in the V and SV sections creates a subtle shift in the perception of time. The *konakkol* can be analysed according to its mathematical proportions, but is not performed as a dry intellectual exercise. The expressive use of a wide range of syllables, dynamics, timbres, accents, pitches, and inflections is evident.⁸⁸

INTERLUDE

In the interlude between the *Varamu* and *Sunadavinodini* sections I composed a series of three times repeating rhythmic phrases that reduce by metrical subdivisions, from quavers to crotchet triplets to minim triplets to minims, then accelerate in reverse. This creates a feeling of slowing down, then speeding up.

During the evolution of this interlude it became clear that Sruthi Laya and I differed in our preferences for obscuring and/or abstracting ideas. I often favour a degree of ambiguity in musical aesthetics. My original intention in this passage was to orchestrate the start of each phrase with a chord, but no other melodic accompaniment. I hoped this would create a more ambiguous effect than an overt melodic statement of the rhythmic pattern. Clarity is important in Carnatic aesthetics, although illusions created through skillful manipulation of

⁸⁸ See Young for discussion of this aspect of *konakkol* (1998: 25).

rhythmic parameters are highly valued. In this case, the percussion players felt the passage needed a melodic outline to support the rhythmic integrity of the phrase. Balasai composed the flute line for this purpose. I composed the tenor saxophone line in *Varamu* using a combination of contrary and parallel motion. Figure 26 shows both parts.

Figure 26: 'Cosmic Waves at West Beach' interlude (2.40)

The musical score for 'Cosmic Waves at West Beach' interlude (2.40) is presented in three systems. The first system consists of two staves: Flute (treble clef) and Tenor saxophone (bass clef). The second and third systems each consist of two staves in treble clef. The music is written in 4/4 time and features numerous triplet markings (indicated by a '3' over a bracket) and dashed lines indicating phrasing or breath marks. The percussion part, labeled 'Percussion', begins in the third system with a series of eighth-note triplets.

MORNING STAR

Track 8 CD 1

'Morning Star' is an unmetred improvised duet for saxophone and flute that sets the mood for the upcoming composition 'Clouds At Dawn'. I asked Balasai to play *Kalyani* raga in this duet, but didn't give any other instructions. The opening melody of 'Clouds At Dawn'

is based on the Lydian mode and corresponds with the pitches and feeling of *Kalyani* raga. Like the other improvised duets in ‘Cosmic Waves’ our dialogue explores degrees of copying, complementing, and contrasting. We also experiment with simultaneous and alternate playing. The convention of the saxophone playing the opening statement continues in this duet. One contrast with the other duets is that each player takes a longer solo before the other player responds, resulting in a different overall structure.

There is no obvious imitation by either player in the opening exchanges, although my phrases often begin on Balasai’s last pitch. As the improvisation unfolds I sometimes echo the flute phrases, copying the melodic contour while altering a few of the pitches, and referencing *gamaka* in my phrasing. Towards the end of the improvisation I shadow Balasai’s phrases, almost playing the role of a Carnatic accompanying instrument. Balasai doesn’t imitate me at any point. This might be because he is playing *Kalyani* raga and I am not. The raga grammar and vocabulary arguably exert a stronger influence on his melodic conception than anything I would play. There are a few periods of simultaneous playing, usually initiated by me. Sometimes I accompany Balasai with long soft notes, rather than interacting as an equal lead player.

Overall the flute phrasing embodies *Kalyani* raga while the saxophone phrasing references a more jazz-derived interpretation of the Lydian mode. The similarity in note choice unifies the improvisation, while differences in interpretation create contrast.

CLOUDS AT DAWN

Track 9 CD 1

Table 7 shows the use of elements from Carnatic music and jazz in 'Clouds At Dawn'.

Table 7: Carnatic and Jazz Elements in 'Clouds At Dawn'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	<div>Flute Soprano Saxophone</div> <div>Mridangam Acoustic Piano</div> <div>Ghatam</div> <div>Keyboard string drone Keyboard chordal part</div>
TEMPORAL	<div><i>Adi Talam</i> ≈ 2 Bars 4/4</div> <div><i>Laya rathna</i> ≈ Metric Modulation</div> <div><i>Koraippu</i> ≈ Trading</div>
PITCH	<div><i>Ragamalika</i> ≈ Modal Jazz</div> <div>Ragas: <i>Kalyani</i> ≈ Lydian Mode</div> <div><i>Karaharapriya</i> ≈ Dorian Mode</div> <div><i>Harikhamboji</i> ≈ Mixolydian Mode</div> <div><i>Todi</i> ≈ Phrygian Mode</div> <div>Wide intervallic leaps</div> <div>Harmony: Chord Changes/Piano riff</div>
IMPROVISATIONAL TYPE	Improvisation over harmonic form

Metric modulation, which is similar to the Carnatic concept of *laya rathna*, is explored extensively in this composition. Four of the five *nada*s common in Carnatic music are used in the composition: *chatusram* (1: 4), *tisram* (1: 3 or 6), *khandam* (1:5) and *misram* (1: 7).⁸⁹ During the 29 bar melody the rhythmic subdivisions modulate from 3 to 4 to 5 to 6 to 7. The amount of time on each subdivision reduces until the 7 is reached.

⁸⁹ Another way to represent these subdivisions is:

3: Crotchet triplets: *tisram* tha ki ta

4: Quavers: *chatusram* tha ka dhi mi

5: Quintuplets: *khandam* tha dhi ki na dhom

6: Quaver Triplets: *tisram* tha ki ta tha ki ta

7: Septuplets: *misram* tha ka dhi na tha ki ta

Sankeernam (1:9) is not used in the composition, but is played in the mridangam and ghatam improvisation.

8 bars: *Tisram*: Crotchet triplets

4 bars: *Chatusram*: Quavers

3 bars: *Khandam*: Quintuplets

2 bars: Fast *Tisram*: Quaver triplets

10 bars: *Misram*: Septuplets

2 bars: Rest

The rhythmic modulations are counterpointed by a harmonic sequence. Hence, the Carnatic musicians employ their mastery of a familiar rhythmic concept in a new context. The harmony is outlined by acoustic piano and keyboard. The sustained keyboard pad (a mix of flute, string, and breathy vocal sounds) serves a similar function to a *Sruthi* box, but contains harmonic information as well as stating the tonic. The piano part combines metric modulations with the harmonic material, bridging the percussion, melody, and keyboard parts.

In ‘Clouds At Dawn’ the *ragamalika* concept is drawn closer to jazz practice. The improvised sections are based on a 26 bar harmonic form, using four modes, each with a raga equivalent.

D Lydian: *Kalyani*

D Dorian: *Karaharapriya*

D Mixolydian: *Harikhamboji*

D Phrygian: *Todi*

This idea is explored in ‘Moras’ (1998), a collaborative work for the AAO composed by Mani-Sir and John Rodgers.

There are several important differences between the organisation of pitch material in ‘Clouds At Dawn’ and Carnatic *ragamalika*; the changes between ragas occur more quickly, follow a fixed cyclical rhythm, and have accompanying chords. Balasai easily related to the 26 bar form as a development of *ragamalika*. Interestingly, he didn’t want to hear the chords in his headphones while recording his improvisation, whereas it was important for me to hear the chords. We each related to the same material from different perspectives. The flute solo is in *tisra nadai* and the saxophone solo is in *khanda nadai*. The percussion solo lasts for two choruses of the 26 bar harmonic form. The percussionists trade four bar phrases, with mridangam leading. Each exchange uses a different *nadai*, from 4 to 9. Mridangam and ghatam play four bars of unison in double speed *khanda nadai* (10) to conclude. This sets up the *khanda nadai* for the saxophone solo.

CHILD OF THE SEA and SEA BLOSSOM

Tracks 10 and 12 CD 1

‘Cosmic Waves’ includes two solo improvisations by Sruthi Laya members: ‘Child of the Sea’ (mandolin) and ‘Sea Blossom’ (flute). These are included in the comparative analysis of architectonic structure in *alapana* in Chapter 3 (pages 105-110).

THE AGILE WALLABY

Track 11 CD 1

The use of Carnatic and jazz elements in ‘The Agile Wallaby’ is shown in Table 8.

Table 8: Carnatic and Jazz Elements in 'The Agile Wallaby'

ELEMENTS	CARNATIC → → → JAZZ
TIMBRAL	Flute Tenor saxophone Mandolin Sousaphone Mridangam Sruthi Box Ghatam
TEMPORAL	<i>Tisra Nadai</i> ≈ Swing <i>Chatusram</i> to slow <i>Tisram</i> to fast <i>Tisram</i>
PITCH	12 Blues Form
IMPROVISATIONAL TYPE	References blues

The blues has served as a bridge for a number of Indian and Western musicians, including Vishwa Mohan Bhatt and Ry Cooder (1993). McNeil (1995: 93) comments that Indian musicians can relate to the feeling of the blues, finding correspondences to the concept of *rasa*. The blues scale can be thought of in a similar way to raga: a series of pitches with a specific feeling, grammar, and a lexicon of characteristic phrases developed and learned through a canon of compositions. This congruity dissolves once chord changes and harmonic form are introduced. In my experience, Carnatic musicians easily adapt to improvising over chord changes as long as the tonic remains fixed. Balasai’s solo on ‘Clouds At Dawn’ is an example of this. Once modulation is introduced, Carnatic

musicians have few reference points for negotiating the musical signposts. In a blues, they can improvise fluently by using one raga over the entire form. Outlining harmonic changes with jazz techniques, like constructing melodies around guide tones, is not part of their improviser's model. In the pre-composed material in the Agile Wallaby (Figure 27), I hoped to suggest a range of improvisatory material by combining jazz blues language with a Carnatic rhythmic device.

Figure 27: 'The Agile Wallaby' melody (0.14)



CONTEMPORARY JAZZ BLUES FEATURES IN THE MELODY

1. Three four bar phrases
2. Call and response in the first four bars
3. Call and response in the second four bars
4. Emphasis of 'blues' notes in the melody: $\flat 3^{\text{rd}}$, $\flat 5^{\text{th}}$, $\flat 7^{\text{th}}$, 13th
5. Elements of bebop language in bars 5 and 6: semitone approach notes (C# and Eb) to a chord tone
6. Implied harmonic movement to chord 1V (G7) in Bar 5, chord V in Bar 9 and resolution back to chord 1 in Bar 12

CARNATIC FEATURE IN THE MELODY

1. *Chatusram* to fast *tisram* to slow *tisram* in the last four bars.

A phrase played three times takes the same time as the phrase played once at the original speed, once in a slow triplet subdivision, and once in a fast triplet subdivision. I applied this rhythmic formula, which is used in Carnatic rhythmic practice, to a blues scale phrase in Bars 9 to 11. The rhythm moves from semiquavers to quaver triplets to semiquaver triplets. This device served as a syntactic link to Carnatic rhythmic practice, and produced a musical effect somewhat like a wallaby jumping, giving the piece a playful, quirky character.

After the piece was recorded, I felt it needed a bass instrument. James Greening, who plays on the track, suggested that the timbre of the sousaphone might complement the left hand bass sound of the mridangam that drives the groove for much of the piece.⁹⁰ The sousaphone also references New Orleans blues. The effectiveness of this relatively unusual instrumental combination suggests the value of experimenting with different orchestrations in Carnatic jazz intercultural music.

GROUP INTERACTION in ‘THE AGILE WALLABY’

The composition follows a 12 Bar Blues structure, but this form is not used for the improvisations. The musicians responded to the playful humour of this piece in a number of ways. The opening low, melodic mridangam phrases set the tone. During the saxophone solo, Suresh creates a fast, buoyant rhythmic flow, as well as interacting with the saxophone phrasing. The nature of the interaction is similar to some approaches to ensemble playing in jazz drumming, although naturally the sound and feel of the ghatam

⁹⁰ J. Greening, personal communication, 23rd December, 2010.

phrases is quite different. The mandolin solo has a contrasting sound and feel, driven by the mridangam. I accompany Raju's solo, sometimes echoing his phrases. Balasai joins me in this role until he becomes the main soloist. As in some of the previous pieces, I use more imitation than the Carnatic musicians. Towards the end of the improvised section mandolin, flute, and saxophone solo simultaneously. Simultaneous melodic improvisation by a number of players is one of the characteristics of early jazz, and is found in contemporary jazz practice. To my knowledge it is not so common in Carnatic music, but seems to be worthy of further investigation in intercultural contexts.

THE OCEAN AS A METAPHOR FOR INTERCULTURAL EXCHANGE

Confluences between contemporary Australian feeling for the ocean and the Hindu *Panchabhuta* (Five Elements)⁹¹ were a unifying extramusical thread in 'Cosmic Waves'. Blacking writes 'Music cannot express anything extramusical unless the experience to which it refers already exists in the mind of the listener' [or player] (1995: 35). Shared experiences between the musicians in 'Cosmic Waves' were integral to my conception of the music and the communication of ideas and feelings.

In August/September 2010, Mani-Sir, Balasai, Alister and me shared the experience of a remarkable tour of the Northern Territory and Western Australia. We were members of 'Five Elements', an intercultural dance and music project developed by project leaders *bharatanatyam* dancer Rajeswari Sainath and composer Adrian Sherriff.⁹²

⁹¹ The five elements are ether, air, fire, water, and earth.

⁹² See Webb for an interview with Adrian partly about this project (2010: 51-52). Australian indigenous musician Amos Roach was an important member of the project. His presence opened the door to exploration of correspondences between Australian indigenous culture and Carnatic culture, particularly in artistic expression of the five elements.

I live in Curl Curl, a beach suburb of Sydney. Perhaps because of this, the ocean has been a recurring theme in my creative practice.⁹³ In 2009, I studied at Mani-Sir's *gurukulam* near the beach in Panayur, Chennai. Every day I walked along the beach near the *gurukulam*, practising *solkattu*. The ocean reminded me of my home in Sydney and the sea breeze invigorated me the way it does in Curl Curl. In my creative practice, the ocean became a metaphor for the flow of ideas between jazz and Carnatic music.

The ocean as a metaphor for intercultural exchange took on new dimensions during the 'Five Elements' tour. The Australian landscape and ocean permeated our travels and performances, as we visited remote aboriginal communities and camped at Cape Leveque on the Dampier Peninsula. At West Beach⁹⁴ I looked across the Indian Ocean towards India and the vastness of the horizon somehow suggested the infinite nature of possibilities for the exchange of ideas between our two cultures. Balasai and I collaborated on many ideas for 'Cosmic Waves' against this backdrop.

Some of the connections to experiences on this trip were more light-hearted. I drove the Indian artists in a four-wheel drive vehicle through some quite rough and remote country. I was cautious when driving at dusk for fear of hitting animals. This piqued the curiosity of the Indians who were keen to see some of Australia's unique fauna. However, we didn't see a single kangaroo or wallaby on the entire trip. The species of wallaby found around Cape Leveque, where we were camping, is the Agile Wallaby, hence the composition of the same name.

⁹³ Previous examples include 'The Music for the Southern Seas', and 'Blue Shift' with the ensemble Clarion Fracture Zone.

⁹⁴ West Beach is at Cape Leveque, Western Australia.

DISCUSSION

‘Cosmic Waves’ was about creating musical platforms to explore the metaphorical ocean between Sydney and Chennai, and inviting musicians to explore these surfaces. As my understanding of Carnatic music grew, so did my ability to construct musical platforms appropriate to this context. I have adapted Chapman’s ‘Cultural Location Framework’ (2007: 88) to investigate the use of elements from Carnatic music in the compositions in ‘Cosmic Waves’.

Chapman’s Cultural Location Framework was devised to determine the potential sensitivity of cultural meanings for the composer in the use of cross-cultural material. I have adapted his terminology for my purposes as follows: I have not included the category ‘sampling’, which he defines as the ‘Direct incorporation of a sound, or recording without alteration’ (Chapman 2007: 88). ‘Cosmic Waves’ is a recording project with Carnatic players and their instruments therefore ‘direct incorporation of a sound’ is inherent in all the material. I have changed ‘Abstract appropriation’ to Abstract adaptation. Since this is a collaborative project with Carnatic musicians as partners in the creative process and outcomes, the word adaptation is arguably applicable.

Four of the five categories in my framework are nearly identical to those set out by Chapman.

‘Imitation: The quotation of riffs and rhythms or other musical devices into a new setting;

Assimilation: Use of a musical element, structure or relationship, which has been translated into the new context;

Syncretism: The creation of something new out of at least two other sources and that bears the references to those sources;

Abstract Appropriation: [Adaptation] Use of ideas from another culture’s music in a conceptual way such that they are largely only revealed in analysis’ (Chapman 2007: 88)

For the ‘Cosmic Waves’ case study I added a new category:

Coalescence: The use of ideas that have significant similarities in the other culture’s music and the composer’s culture.

Table 9 shows how the compositional material in the ensemble tracks in ‘Cosmic Waves’ relates to the five processes of imitation, assimilation, syncretism, abstract adaptation, and coalescence.

Table 9: Compositional processes in 'Cosmic Waves'

	Imitation	Assimilation	Coalescence	Syncretism	Abstract Adaptation
Big Swell		Keyboard drone	- <i>Trikala</i> with single, double, and triple time. - <i>Adi</i> Tala with 4/4. - <i>Natabhairavi</i> with Aeolian mode.		Pitch cells from raga to create harmonic ideas.
Floating on An Emerald Green Sea		<i>Kanakku</i> in interlude	Bass with drone function.		
Big Swell Reprise			-Bass with drone function. - <i>Adi</i> Tala with 4/4. - <i>Natabhairavi</i> with Aeolian mode.	<i>Korvai</i> ⁹⁵ with composed melody and counterpoint	
Eagle Landing at Cape Leveque			Fast swing feel with fast <i>tisram</i> .	Drone with piano and keyboard soundscape	Improvisatory type following principles from raga grammar.
Cosmic Waves at West Beach	Sruthi Box Drone	<i>Kanakku/Arudi</i> .	- <i>Adi Tala</i> with 2 bars of 4/4. - <i>Audava</i> ragas with Pentatonic scales. - <i>Ragamalika</i> with chord changes.	<i>Koraippu</i> with change of scale.	
Clouds At Dawn		Keyboard drone	- <i>Laya Rathna</i> with metric modulation. -Raga and modal equivalents.	<i>Ragamalika</i> with harmonic form and <i>laya rathna</i> .	
The Agile Wallaby	Sruthi Box Drone		Swing feel with <i>tisram</i> .	3-speed phrase with point of tension in Bars 9, 10 and 11 in blues form.	

⁹⁵ Composed by Mani-Sir.

Coalescence is the dominant category in this analysis, suggesting that the compositional structures in ‘Cosmic Waves’ are predominantly platforms to explore similar processes and ideas from different perspectives. Similarities in rhythmic and melodic materials help musicians to understand each other’s language, and the organising principles behind it. On a fundamental level this helps musicians to co-ordinate with each other. For example, in ‘Cosmic Waves at West Beach’ I organised my rhythmic thinking in groups of four 4/4 bar phrases and co-ordinated with Sruthi Laya’s *Adi* Tala cycle relatively easily. Similarities between the pitches in *Natabhairavi* and the Aeolian mode facilitated the co-ordination of pitch material in ‘Big Swell Reprise’. Once a strong foundation for ensemble understanding is established, each musician can contribute from his or her unique perspective.

Syncretism is the next most prominent category. In two of the five examples, syncretisation applies to ideas that last the full length of the composition. *Ragamalika*, harmonic form, and *laya rathna* are syncretised in ‘Clouds At Dawn’. In ‘Eagle Landing at Cape Leveque’ the concept of a drone is syncretised with the textural soundscape created by piano and keyboard. In this case the syncretism is enacted by the improviser rather than being explicitly present in the composed material. The other three examples apply to sections of compositions. The rhythmic idea in ‘The Agile Wallaby’, and the setting of the *korvai* at the end of ‘Big Swell Reprise’, combine a Carnatic rhythmic idea with a non-Carnatic melodic component. In ‘Big Swell Reprise’ an extra non-Carnatic element, a harmonised countermelody, is also added. In the *koraippu* in ‘Cosmic Waves At West Beach’ syncretism is encoded in the structure composed for the improvisers. The timing of the *koraippu* follows the Carnatic model but is syncretised with fast, alternating scale

changes more characteristic of jazz.

There are four examples of assimilation, two involving the use of Carnatic rhythmic calculations in compositional ideas, and two concerning the orchestration of the drone. Both examples of abstract adaptation relate to process, one to generate harmonic material, the other to guide improvisatory strategies. I didn't compose anything in the imitation category other than to specify the use of the *sruthi* box.

There is no general rule about the best way to use material from the source musical systems; nor is there a conclusion about what relative proportions of material from each system should be included for an effective musical result. Of course pieces with more Carnatic elements are culturally and sonically closer to Carnatic music. If a musician or listener from a jazz background is looking for a new sound and experience, this may be desirable, or it may make the music less accessible and comprehensible to them. A Carnatic musician or listener might identify with the music, and understand it better, if it is closer to familiar sounds and processes. On the other hand, they may wish to be taken further outside familiar sound worlds in an intercultural musical experience. They might enjoy the subtle changes that an unfamiliar voice brings to a familiar context, or they might find that voice jarring.

The success of the music depends largely on how the improvisers engage with the compositional material. In 'Cosmic Waves' this happens in a range of different ways. Coalescence is found in some elements of all the compositions. This enables improvisers to draw on their existing skills and knowledge to whatever extent they choose, although in

some cases unfamiliar restrictions are also imposed. In these cases, the rules of the improvisatory game are changed, relative to the soloists' source culture. Two contrasting examples are Balasai's solo in 'Clouds At Dawn', and Suresh's improvised performance on 'Eagle Landing at Cape Leveque'. In 'Clouds At Dawn', the prescribed harmonic form encourages Balasai to syncretise raga knowledge, *ragamalika*, and his highly developed sense of lengths of time, with a (relatively) new skill of improvising over chord changes.

In 'Eagle Landing at Cape Leveque' rules are taken away rather than added. Suresh is asked to play a fast pulse on ghatam without reference to tala. This may not sound like much of a leap to a Western musician, but for someone like Suresh who has spent a lifetime at the highest level of Carnatic percussion performance, this requires a huge shift in conceptual thinking. Existing skills, like playing fast tempos and employing timbral changes, are adapted to new musical ends. In 'Eagle Landing at Cape Leveque' this extended to all the members of Sruthi Laya, as they engaged in collective improvisation to create soundscapes not typical of Carnatic music. In these examples the compositional frameworks encourage and challenge improvisers to modify and expand existing knowledge.

In some cases the compositional frameworks create a new sonic environment where improvisers use their existing knowledge without substantial modification. In the saxophone solo of 'Big Swell', Mani-Sir and Suresh apply their knowledge of playing *trikala* to a harmonic form. Conversely, I use an existing skill of improvising over a harmonic form in a new sonic environment where Carnatic percussion instruments join with piano to form a rhythm section. In both cases existing practices are transported to new contexts. Not all compositional features necessarily affect improvisatory strategies. Some

features, such as *kanakku* in the melody of ‘Cosmic Waves At West Beach’, give the improviser optional material to use in their solos. In this performance, neither Raju nor I drew from this idea in our improvisations. Sometimes my use of compositional elements referencing Carnatic music raised issues about aesthetic preferences. In the interlude in ‘Cosmic Waves At West Beach’ differing aesthetic expectations about the relationship between melody and rhythm were expressed. A compromise was reached through discussion, experimentation, and collaborative composition.

The orchestration in ‘Cosmic Waves’ explored different timbral combinations, and their effect on group interaction. The sound of the timbral combinations constantly changes through a variety of compositional and performative factors, as well as the acoustic space. In ‘Cosmic Waves’ this is largely the result of the creative input of the producer and engineer in the recoding and mixing process.⁹⁶ The sounds themselves are difficult to describe verbally and are perhaps best appreciated by listening. As with other elements of the music, the ensemble sound in ‘Cosmic Waves’ is located in relation to ensemble models in each of the source cultures, and to other intercultural projects between these cultures. I deliberately tried to avoid a jazz-rock fusion aesthetic in this project. It could perhaps be said I was moving in the opposite direction to many Carnatic musicians when they approach fusion.⁹⁷

Developments in my improvisatory practice in response to Carnatic music overlap and interweave with the compositional ideas in ‘Cosmic Waves’. Many ideas reference

⁹⁶ The study of the significant effect of the studio process in improvised intercultural projects like ‘Cosmic Waves’ is beyond the scope of this project, but would be a worthwhile area for future research.

⁹⁷ Higgins writes: ‘Overall, the nebulous category of Western music for Fusion in Chennai mostly referenced the influence of jazz/rock fusion’ (Higgins 2013: 18).

Carnatic rhythmic aesthetics and syntax. Consideration of the relationship between rhythm and melody was integral to the improvisatory and compositional use of these ideas. An extra challenge for me, as a musician enculturated in jazz practice, was to conceive the sound, contour, and function of melody without implied harmonic relationships.

Controlling the tessitura of pitch sets, creating variation using *graha bedham*, and organising melodic material with additive rhythms were effective strategies for creating and sustaining interest in solos with a more restricted number of pitches than I would usually employ. Using new concepts coherently in improvised solos required disciplined practice, and a singular commitment to implementing the ideas during rehearsal and performance.

The flute and saxophone duets are a distinctive feature of ‘Cosmic Waves’. The duets move into liminal⁹⁸ spaces where we search for musical means to create beauty and meaning together in a constantly evolving musical narrative. On one level, our improvisatory process is about when, and to what degree, to apply codes from our source musical systems. On another level, the dialogue transcends intercultural processes, finding its own logic through creative responses to the sounds and feelings of the spontaneous musical exchange.

I started this analysis expecting that the Carnatic musicians would employ imitation more than me in improvised dialogue. I used this strategy more than they did. Balasai only used it consistently when the sound world was unfamiliar. Perhaps to some extent I assumed the role of a Carnatic music student imitating the teacher. Balasai perhaps capitalised on the freedom afforded by this intercultural context. The hierarchy of soloist and accompanist is

⁹⁸ The term ‘liminal’, in the context of these duets, denotes a transitional space, a threshold, where musical boundaries are traversed and new ideas may be generated.

quite strict in Carnatic music. At times this seems to be transported to the intercultural context, for example in the relationship between mridangam and ghatam in a *tani avartanam*.⁹⁹ At other times, hierarchies seem to be either irrelevant, or quite complex. In Sruthi Laya, Balasai usually leads the melody section, but the relationship between he and Raju is different from the relationship between a Carnatic vocalist and a violinist. They are more like two equal front line players in a jazz ensemble than a soloist and accompanist. Whatever complexities might have informed our improvisatory strategies, intuitive responses to what we heard and felt primarily determined how we copied, complemented, or contrasted each other in improvised dialogue.

In Indian thought, articulate sound, whether in speech or music, originates in the desire of the self for expression. It is this desire which causes the breath to unite with the fire in the human body and rise up as sound (Ramanathan 1993: 40).¹⁰⁰

My desire for self-expression that led to making ‘Cosmic Waves’ arose from a feeling that there may be convergences between the way breath and fire unite to ‘rise up as sound’ for all the musicians in the project. As I listen to ‘Cosmic Waves’ in retrospect, and reflect on my diary entry from Chennai,¹⁰¹ I can hear many ways in which musical, cultural, and aesthetic differences and similarities stimulated that desire, through curiosity about what sounds our collective voices might produce. I remain curious and excited about future possibilities.

⁹⁹ This occurred in ‘Cosmic Waves At West Beach’, and has been standard practice in every *tani avartanam* Sruthi Laya have played with the AAO. Further research would be needed to verify whether this is the case generally in Carnatic jazz collaborations, or if it is more specific to Sruthi Laya.

¹⁰⁰ Commentary on the Natyasastra cited in Pesch (2009: 134).

¹⁰¹ Quoted at the start of this chapter.

CHAPTER 3: MANTRATONIC

DIARY ENTRY

4th June 2011, Sydney

Last night I did a concert at Camelot¹⁰² with Sarangan, Bobby, and Brett. I'm trying to get to the magical core of the interaction that takes place between Indian musicians. Bobby and Sarangan were demonstrating this in a very beautiful way last night. I'm sure it's possible for me to be part of that dialogue. However, it's hard to jump onto the vocabulary fast enough or to lead the dialogue. Bobby and Sarangan recognise cues from each other immediately and can play with formulas spontaneously. This is similar to the type of interaction that takes place in a jazz ensemble. However, because it's based around a specific type of rhythmic resolution and the way that is articulated in melodic phrases, it's not easy to do off the top of your head without a lot of practice. Being on stage with Bobby and Sarangan is a great lesson in how this type of communication works and why it is so exciting.

ABOUT THE PROJECT (CD 2)

This chapter is about creative practice with the ensemble Mantratonic, and the development of my improvisatory language and process in response to the study of Carnatic music. The musicians in Mantratonic are Sarangan Sriranganathan: sitar and voice; Bobby Singh: tabla; Brett Hirst: acoustic bass; and Sandy Evans: saxophones. The project developed through rehearsals, performances, tours, and recordings in a variety of different instrumental combinations. Some of the musical outcomes are documented on the recording 'Seven Stories of Dreams'.¹⁰³

All the musicians in Mantratonic have diverse musical and cultural backgrounds and interests, and have lived in Sydney for some years. Sarangan is a Carnatic vocalist who is also trained in sitar and Hindustani music. He is a keyboard player with some knowledge of Western harmony and notation systems. His own creative practice is focused on Bollywood style fusion music. He is a Sri Lankan Tamil. Bobby is a classically trained

¹⁰² World music venue in Marrickville, Sydney.

¹⁰³ The outcomes included many live performances and other recordings (see Appendix One, page 209).

Hindustani tabla player who also has extensive knowledge of the Sikh Raagi tradition. He was born in England to Indian parents and lived in India for much of his life. He is well known for intercultural collaborations with flamenco, blues, Balkan, Turkish, drum'n'bass, electronica, and jazz musicians. Brett is a jazz bass player from New Zealand. He plays acoustic and electric bass. In his musical practice he also engages with pop, rock, Latin, free improvised, and Western classical music. The musical outcomes in Mantrasonic reflect the interaction between these unique individuals as much as the aesthetic and technical components of the musical systems that inform the work. Other projects involving drummer Toby Hall and various members of Mantrasonic were significant in the development of this music.¹⁰⁴

The musical analysis in this Chapter is in two parts:

1. Comparative analysis of architectonic structure in seven *alapanas* from Mantrasonic and 'Cosmic Waves'.

2. Analysis of 'Seven Stories of Dreams'.

Areas investigated include the adaptation of Carnatic rhythmic and melodic principles in composition and improvisation; improvisatory interaction with compositional models; group interaction and the development of a collective ensemble voice; the relationship between Carnatic voice and saxophone; the role of the bass in this ensemble; and the influence of divergent musical and cultural knowledge. The band name Mantrasonic signifies something about improvisatory strategies adapted from Carnatic music that are explored in the music. Most of the music remains in one key, hence the word tonic.¹⁰⁵

¹⁰⁴ See Appendix One, page 209-210 for more information.

¹⁰⁵ As with 'Cosmic Waves', D is the *sruthi* for most of the music in this case study. 'One Hope' is in B♭ to suit Sarangan's vocal range.

Mantra refers to the use of a recurring melodic motif to give structure and meaning to an extended improvisation.

CARNATIC MUSIC STUDY on the SAXOPHONE

I studied Carnatic music with Sarangan Sriranganthan from 2007 to 2012,¹⁰⁶ and in short intensive blocks with Mani-Sir and Balasai.¹⁰⁷ Studying Carnatic music led me to an exploratory space between established sound worlds of Carnatic music and jazz. The journey to, and within, this space raised questions about my identity as a saxophonist.

I once asked a young saxophone student who moved to Australia from India what he wanted from his lessons. "I don't want to sound Indian" he replied. Saxophonist Rudresh Mahanthappa's brother gave him a recording by Kadri Gopalnath as a joke, expecting that his brother wouldn't like the saxophonist's playing (Mahanthappa in Gross 2009).

Mahanthappa's reaction was quite different and he went on to collaborate with Gopalnath (Mahanthappa 2008). These examples highlight different aesthetic preferences in saxophone playing. The preferred sounds and styles embody information about the player and the culture they identify with, or perhaps are reacting against.

Aural concept, timbre, articulation, vibrato, inflection, physiological make-up, reed and mouthpiece setup, and the instrument itself, all contribute to the development of one's own sound on the saxophone. In my study of Carnatic music these components were filtered and transformed through the prism of *gamaka*. The realisation of *gamaka*, fundamental to the feeling and sound of Carnatic music, is the biggest challenge I faced as a student of

¹⁰⁶ Private lessons, on average once a fortnight, in Sydney.

¹⁰⁷ In Chennai.

Carnatic music. *Gamakas* are defined and catalogued in the theoretical literature, but in my experience they are not named and neatly organised into recognisable categories in the learning process.¹⁰⁸ They are communicated as an inseparable part of a musical phrase sung or played by the teacher.

At my lessons, I struggled to clearly and accurately perceive, remember, and reproduce the exquisite sounds my teachers made. The subtlety of phrasing at high speed made it hard to grasp the rhythm, melodic contour, and subtle accents embodied in *gamaka*. I was often reminded of this passage from the novel ‘The Third Policeman’:

Everything is composed of small particles of itself and they are flying around in concentric circles and arcs and segments and innumerable other geometrical figures too numerous to mention collectively, never standing still or resting but spinning away and darting hither and thither and back again, all the time on the go (O'Brien 1996: 84).

My teachers would not necessarily repeat *gamakas* the same way each time, often simplifying or complicating the idea. Sometimes I would ask them to slow the phrase down, only to find the *gamaka* would become more complex in response to the slower tempo.

Perceiving *gamaka* in a phrase accurately was the first step. An extra difficulty emerged in translating the idea from voice or flute to saxophone. During my travels in India, I received many gifts of clothes from generous Indian friends. Typically, the clothes looked wonderful on Indian women but did not suit me. I often felt this way with *gamaka*. My discomfort was particularly pronounced in reaction to the sound of *gamaka* on the

¹⁰⁸ Bhagyalekshmi describes two systems for the taxonomy of *gamaka*, one of fifteen types outlined in Sangita Ratnakara, and another of ten types grouped as Dasavidha *gamakas* (1990: 30-32).

saxophone in Carnatic music. Years of acculturation to Western saxophone playing made it hard for me to want to sound ‘Indian’ in the Carnatic saxophone tradition, even if I could achieve such a goal.

A turning point came after a shopping trip for clothes with a friend in Chennai. Off we went to Pothys in T. Nagar.¹⁰⁹ I was overjoyed to see floors of beautiful cloth, yet unable to find a single garment I would actually wear. Eventually I bought two *kameez* tops,¹¹⁰ took them back to my hotel room and tried them on, only to find to my dismay that I would be filling up my cupboards with more unwearable items. Then it struck me that if I cut the bottom half off the garments they might suit me. I took them across the road to the dressmaker for alterations. Next day I picked them up and felt quite comfortable wearing the modified versions. I had a lesson later that day and, to my surprise, I found *gamakas*, like my Indian clothing, were starting to become more my own. A combination of personal experience, adaptation, and understanding of the cultural and social context contributed to this in music, as in fashion.

The lineage of a particular instrument, and the *bani* (lineage) of the teacher, affects the way *gamakas* are played.¹¹¹ The saxophone is a relatively new instrument in Carnatic music, without many *banis*. Weidman chronicles a number of revolutions in the violin’s Carnatic history (2006). This may occur in Carnatic saxophone playing over time. Study of Carnatic saxophone recordings assisted my development with *gamaka*.¹¹² Like Gopalnath and his

¹⁰⁹ Pothys is a silk and clothing boutique in T. Nagar (Theagaraya Nagar), one of the principal shopping districts of Chennai.

¹¹⁰ A *kameez* is a long tunic worn by many Indian women, usually with pants as part of a *Salwar Kameez* suit.

¹¹¹ Bhagyalekshmi points out that specific types of *gamaka* are suited to particular instruments or voice, but not to others (1990: 32).

¹¹² I copied Gopalnath’s phrasing on his recording of classical repertoire accompanying the instructional book ‘Indian Melodies for Alto Saxophone’ (Connolly 2006). I transcribed his performance of the famous

students, I found that many *gamakas* could be articulated by playing mordents and grace notes with standard saxophone fingerings. This can be technically and conceptually challenging, and requires fast, smooth finger technique. Sarangan often asked me to make my phrasing more ‘Indiany’. Often this could be achieved by adding more grace notes. Sometimes, even though the technical details of the *gamaka* were correct, the feel of the phrase would not be right. Subtle changes in timing, articulation, timbre, and the dynamics of notes within the *gamaka*, all assisted with the interpretation, as did a general intention to phrase in a rounded way.

In Carnatic music, ‘all players of melody instruments are expected to achieve a ‘vocal’ type of expression’ (Pesch 2009: 76). Imitation of vocal music was common among instrumentalists in early jazz and the swing era.¹¹³ Expressive devices like lip slurs, vibrato, fall offs, varied articulation, growls, glissandi, grace notes, mordents, and fast runs are common in jazz. Swift’s comparative analysis of *gamakas* and expressive devices in jazz illustrates many correlations between the two genres (1989: 172-186). As well as expressive devices and ornamentation, I sought to emulate the smooth, seamless connection between notes characteristic of Carnatic vocal style.

Glissandi, or glides are a central feature of Carnatic melodic conception. They are relatively easy to sing, or to play on the violin or veena, but difficult to execute on the saxophone. The first western woodwind instrument to gain popularity in South India was

song ‘Mettu Podu’ from the Tamil movie *Duet*, and performed it with Sarangan at a fusion concert. A conference paper for The Chembur Fine Arts Society, where he discussed modifications to his saxophone to help him play Carnatic music, was instructive (Gopalnath 2000), as was an instructional DVD released by one of his students (Jarnardhan 2009).

¹¹³ Notable examples in saxophone playing are Johnny Hodges, Sidney Bechet, Ben Webster, and Coleman Hawkins.

the clarinet (or clarionet as it is often spelt in India).¹¹⁴ Unlike the saxophone, the clarinet has mainly open holes, making it easier for the player to bend notes by a combination of sliding their fingers across the holes and changing vocal tract resonances (Chen 2009).

On the saxophone, changes in embouchure, tongue position, and fingering techniques can all create pitch shifts. Changing the tongue position from ‘ee’ to ‘aw’ creates a more consistent timbre and greater variation in pitch than embouchure change. Alternate fingerings, combined with change in tongue position help to stabilise the pitch and improve timbral consistency. One example is closing the bottom B♭ key while bending from A to G in the low register. Maintaining good breath support also improves the timbre. Sometimes using an alternate fingering, such as the Side D key in the middle register, for the starting pitch makes bending down easier.¹¹⁵ Depressing the keys gradually, in combination with the aforementioned techniques, adds to the smoothness of the bend.

Oded Tzur has developed a system called AMPIS: A Middle Path In Saxophone, to achieve the pitch fluidity required for Hindustani music on the saxophone (Tzur 2011). One strategy he recommends is playing at a low volume to minimise timbral differences created due to gaps in impedance between normal notes and slides (2011: 22).

I found the speed and accuracy of pitch bending required in Carnatic music difficult on saxophone. Glissandi seem to be used less frequently and over a more restricted intervallic range in Carnatic saxophone style than in vocal, violin or flute styles, possibly for this reason. There is most likely scope for development in this area through further innovations

¹¹⁴ A.K.C. Natarajan is the best-known clarinet player in South India (Subramaniam 2006).

¹¹⁵ However, compensation has to be made for the flatness of the starting pitch.

in instrumental design of the type Gopalnath has employed, or playing techniques, or a combination of both.

Swift talks of ‘a cross-cultural realization of the violin’s own expressive nature’, something deeper than ‘cutting specific ornaments from a Carnatic context and pasting them into a Western one’ (Swift 1989: 213). My goal became to draw from the beauty of both genres in an integrated way that would express the saxophone’s own expressive nature and my personality. Engaging with *gamaka* was like entering a micro-level of Carnatic music. Developing an understanding of architectonic structure in *alapana* was a new process on a macro-level.

MUSICAL ANALYSIS: PART 1

COMPARATIVE ANALYSIS OF ARCHITECTONIC STRUCTURE IN ALAPANA

Tracks 1-7 Supplementary CD

In Chapter 2, improvised dialogue between two or more musicians was explored in reference to *alapana*. This is a comparative analysis of the architectonic structure of seven *alapanas* recorded during my research with Carnatic archetypes identified by Viswanathan (1977). In Carnatic music, *alapanas* adhere to implicit codes about architectonic structure, as well as the feeling and grammar of the raga. The tessitura, density, and dynamics of the unfolding narrative are important. Typical features include moving from low to high, soft to loud, slow to fast, and contrasting runs with sustained notes.

Viswanathan's landmark study identifies four phases in the formal structure of the *alapanas* of 6 leading Carnatic vocalists:¹¹⁶

Section 1: Approach to tara sa

Section 2: Development of higher octave

Section 3: Fast passages in any range

Section 4: Approach to and including conclusion (1977: 57).

Viswanathan writes there are no standard rules about the relative lengths of each section, and he questions whether musicians think in terms of this form when improvising. Yet the thirty *alapanas* he studied all followed this format. There were differences in the relative proportions of the sections, and sometimes the order, but definite tendencies emerged. On average, the first section took the longest (50% of total time); section 3 was the shortest (10%); and the other sections were roughly equal.

¹¹⁶ The vocalists were T. Brinda, Ramnad V. Krishnan, K. V. Narayanaswamy, T. M. Thyagarajan, and M. L. Vasantha Kumari.





I compared the structure of the *alapanas* listed in Table 10 (all recorded in intercultural contexts) to the Carnatic model.¹¹⁷

Table 10: Alapana tracks for comparative analysis

Track No.	Instrument/ Player	Raga/ Mode	Composition it precedes
1.	Sarangan: Sitar	<i>Sindhu Bhairavi</i>	Bhava Raaga Thaala
2.	Sarangan: Voice	<i>Hindolam</i>	One Dream
3.	Sandy: Soprano saxophone	<i>Sindhu Bhairavi</i>	Bhava Raaga Thaala
4.	Balasai: Flute	<i>Sindhu Bhairavi</i>	(Big Swell) ¹¹⁸
5.	Raju: Mandolin	<i>Suddha Dhanyasi</i>	The Agile Wallaby
6.	Brett: Bass	Phrygian mode	Bhava Raaga Thaala
7.	Sandy: Tenor saxophone with bass, drums, and tabla ¹¹⁹	N/A	One Dream

Viswanathan designed the legend shown in Table 11 to illustrate his results.

Table 11: Viswanathan's legend for Alapana analysis

Section 1:		(Approach to tāra śa)
Section 2:		(Development of higher octave)
Section 3:		(Fast passages in any range)
Section 4:		(Approach to and including conclusion)

(Viswanathan 1977: 57)

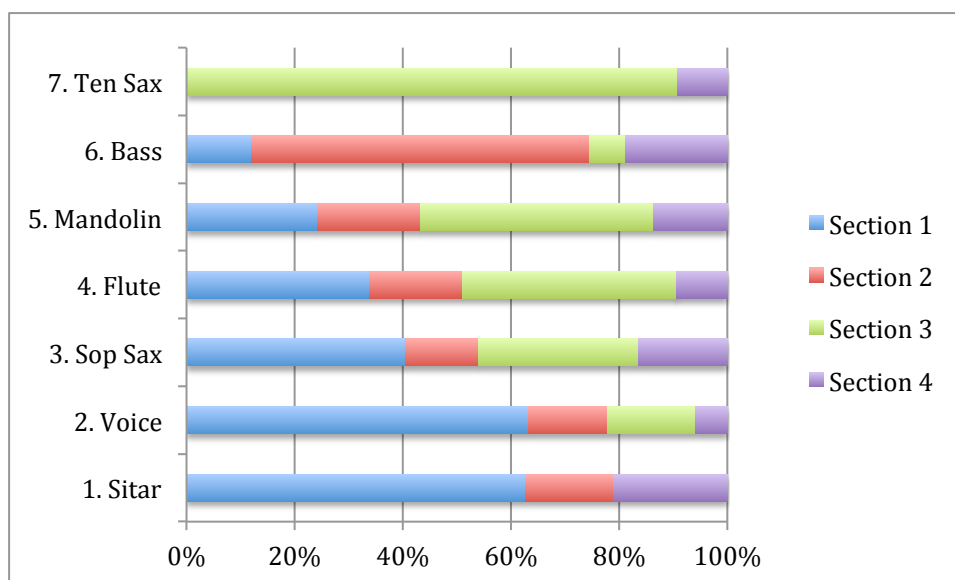
¹¹⁷ I asked Roger Dean to explore possibilities for reflecting the *alapana* proportions identified by Viswanathan for timbral manipulation in computer-generated drone accompaniments. Roger prepared ten drones in D using a variety of different aesthetic approaches. Three of the drones he created are used in *Cosmic Waves*. They can be heard on tracks 5, 8, and 10 on CD 1.

¹¹⁸ The flute *alapana* doesn't lead into another piece on the *Cosmic Waves* CD, but was originally recorded to lead in to 'Big Swell'.

¹¹⁹ The additional musicians on Track 7 are Brett Hirst: bass; Toby hall: drums; Bobby Singh: tabla.

I adapted Viswanathan’s legend for my analysis. Table 12 illustrates the results of my comparative analysis.

Table 12: Comparative analysis of Alapana results in my study



Five of the *alapanas* in my analysis align with Viswanathan’s archetype.¹²⁰ These are the four *alapanas* performed by Carnatic musicians and the soprano saxophone *alapana*. Sarangan’s *alapanas* most closely follow the Carnatic model. It is perhaps not surprising that an *alapana* performed by a Carnatic vocalist would concur with principles identified in a study of other Carnatic vocalists. More surprising is the similarity between the form of the sitar and vocal *alapanas*. The vocal *alapana* was live; the sitar *alapana* was a studio recording.¹²¹ They were for different songs, obviously on different instruments, and recorded several months apart. Yet, the relative time spent by Sarangan in the first section of these two *alapanas* was almost identical. This may be a coincidence, but it suggests that an inaudible, internal model plays a powerful part in shaping Carnatic architectural

¹²⁰ See Appendix Two (pages 211-212) for the timing of the start and end points in my analysis of each *alapana*.

¹²¹ See Appendix Three (page 213) for details of recording dates and locations.

conception, as well as musical detail, and that this model is likely to be transported to an intercultural context.

One of Viswanathan's goals was to contribute to pedagogical material for Carnatic music.

Systematic training in the form of improvisation known as raga alapana is traditionally inconceivable...Raga Alapana as a technique has never been taught directly; a young musician is expected to absorb it through constant listening over a number of years (Viswanathan 1977: 15).

He cites a variety of reasons that necessitate a change in pedagogical methods such as the decrease of the *gurukulam* system, the growth of institutionalised teaching to larger groups, and increased interest in Carnatic music by Western students who aren't enculturated in Carnatic music.¹²²

Sarangan taught me about the formal structure of *alapana* in individual lessons. This process happened gradually over an extended period. The alignment of the soprano saxophone *alapana* with the Carnatic model would be unlikely to have occurred without Sarangan's instruction, or my decision (conscious or unconscious) to use this model. In the tenor saxophone *alapana* I did not follow Carnatic guidelines.¹²³ The difference in formal structure is immediately apparent. Almost the whole solo contains activity typical of Section 3. The only feature congruent with the Carnatic model is Section 4, although a gradual decrease of activity and intensity to finish in a low tessitura to indicate a conclusion is, of course, not exclusively a Carnatic strategy.

¹²² The move in jazz education from a mentorship system, where skills were learned on the bandstand and by hanging out with accomplished musicians, to institutionalised learning, has some parallels with the changing nature of Carnatic music education.

¹²³ The word *alapana* is applied more broadly here, as in Mahanthappa's conception: 'The modern hybrid 21st century alapana...isn't so much about introducing the raga as expressing what the composition means to you' (Schaeffer 2008).

The bass *alapana* does have some Carnatic features, perhaps the result of a ‘Carnatic by proxy’ influence, as Brett absorbed material and strategies I learnt from Sarangan.¹²⁴ Brett starts by exploring the fifth degree of the Phrygian mode, moving to the high tonic, and even quoting some characteristic phrases from *Sindhu Bhairavi*. He uses additive melodic contours reminiscent of Carnatic phrasing. In the second half of his solo, his rhythmic development is somewhat similar to the *tanam* sections heard in Raju and Balasai’s *alapanas*. Brett’s improvisation is informed by his knowledge of the improvisations of other bass players, the composition, the mode, and elements he had heard in my and Sarangan’s solo(s). The main differences between the bass and tenor saxophone improvisations and the Carnatic model, aside from raga grammar, are the approach to tessitura, the degree and distribution of density, and less time spent developing each idea.

MUSICAL ANALYSIS: PART 2

SEVEN STORIES OF DREAMS

ONE PLANET

Track 1 CD 2

In the open spaces of unmetred improvisation musicians may choose whether or not to structure their solos according to existing models. Different considerations arise when improvising within compositional vehicles. Speaking of the ‘Creative Interplay between Vehicles and Ideas’ in jazz, Berliner writes:

¹²⁴ The communication of musical ideas and material by an intermediary who does not have that system as their primary musical language, is common in my experience. This phenomenon is worthy of further investigation.

Just as the value of the ideas in the artist's storehouse lies both in their intrinsic interest and in the ongoing models they provide for invention, so, too, the value of pieces' distinct musical environments lies in the continuing stimulation they provide. Improvisers commonly find the impetus for musical discovery in the creative interplay between the two (1994: 222).

Musical features in the 'distinct musical environment' of 'One Planet' are a fast 7/8 rhythm occasionally disrupted by alternate rhythmic groupings, a four note modal melody, chromatic melodic development, implied harmonic movement, and a call and response section. These features are part of the impetus for the 'musical discoveries' of the improvisers.

The composition is based on a Bulgarian dance rhythm, the *rutchenitsa*. The rhythm is a fast 7 with a 2+2+3 grouping. I first encountered asymmetric¹²⁵ metres playing Bulgarian and Macedonian music with Mara! and subsequently Kim Sanders. Prior to Mantratonik, Bobby and I had played together primarily with Kim Sanders.¹²⁶ Kim's repertoire was largely East European and Turkish derived. In a typically post-modern scenario, a jazz musician and a Hindustani musician connected via musical genres not central to either of our training, interpreted through the lens of contemporary Australia.

While analogous fast 7 beat rhythms are found in Bulgarian, Carnatic, and jazz contexts,¹²⁷ it is likely that conceptions of the rhythm vary. Bulgarian understandings are based on *horo* or dance.

¹²⁵ *Aksak* in Bulgarian.

¹²⁶ This is documented on the CD 'Bent Grooves' (Sanders).

¹²⁷ I also discovered a correspondence to the Afghani *theka*, *Mughuli*, when I played this composition with Afghani tabla player Yamar Sarshar in Chris Fields' ensemble Atma Blu.

Bulgarian villagers distinguish and label generically a constellation of rhythmic features that unify a subset of their dance tunes and songs. In this process they give no particular emphasis to meter alone, nor do they count the number of beats in a measure (Rice 1980: 63).

It seems that Bulgarians would not count 7 beats in a *rutchenitsa*, but would feel short and long groupings that embody the dance steps. Bobby told me he adapted this feel to the tabla by listening to and copying East European and Middle Eastern percussionists, particularly *darabukka* players.¹²⁸

The Carnatic conception of an equivalent rhythm could be thought of as *Misra Chapu Tala*. The first *solkattu* I was taught for *Misra Chapu Tala* was:
tha dhin tha dhin .

This is similar to the 2 + 2 + 3 grouping of the *rutchenitsa*.¹²⁹

The form of ‘One Planet’ is AABCA. The A section (Figure 28) is played in unison by sitar and saxophone and uses four pitches: D F F# C or S R3 G2 N1.¹³⁰

¹²⁸ B. Singh, personal communication, 25th March, 2013

¹²⁹ In the ensemble Mara!, the syllables da da da _ya are often used to signify the *rutchenitsa* rhythm in rehearsals and count-ins. A 3+2+2 grouping is also used in Bulgarian and Carnatic systems, but this discussion is limited to the 2+2+3 grouping ‘One Planet’ is based on.

¹³⁰ R3 signifies the equivalent of the minor 3rd in this example. Raga classification and nomenclature in Carnatic music is a vast field. See Pesch (2009: 174-176) for more information about Carnatic raga classification systems and nomenclature. Contemporary practice is influenced by the *Melakarta* system where importance is given to the inclusion of all 7 *swaras*, or scale degrees, in each parent raga. In ‘One Planet’, the pitch F could be spelt either R3 or G1. R3 better reflects Carnatic raga grammar and is Sarangan’s preferred choice. There are also complexities pertaining to scale degree spelling in jazz. In ‘One Planet’, F might be considered a #9 rather than a b3, although the theoretical reasons for this are harmonic rather than scalar. Discussing enharmonic spelling in jazz harmony, Levine (1989: 71) writes: ‘Chords don’t usually have both a major and minor third’. Hence, there are correlations between nomenclature for this interval in ‘One Planet’ according to jazz and Carnatic conventions, although the theoretical reasons are different.

Figure 28: 'One Planet' A melody (0.04)



The B Section has three 2 bar melodic phrases played in unison by bass and saxophone, answered by sitar. At the end of the B section, the 2+2+3 grouping is disrupted. Mani-Sir's influence is evident at this point in a submerged way. He taught me a permutation of 7 where 2 *aksharams* are grouped as 5 4 5. As shown in Figure 29, I regrouped Mani-Sir's pattern as 5 5 4.

Figure 29: 5 5 4 pattern (0.31)



These accents are articulated on the note A, which serves a dominant harmonic function preparing for the next section. The rhythm of the C melody is the same as the A melody, but the melodic motifs are transposed up chromatically in asymmetrical blocks (see Figure 30).

Figure 30: 'One Planet' C melody (0.34)



The root movement begins on B \flat , one semitone higher than Chord V, to create a logical harmonic flow. The key centres move up in semitones from B \flat to D, then up a tone to E. The irregular groupings of the transposition are a deliberate statement of difference from Carnatic aesthetics where patterns of symmetry and asymmetry generally follow precise mathematical calculations. The chromaticism of the C section ruptures any reference to raga created by the A melody. A variety of improvisatory approaches could be inferred from the compositional material.

This composition was written for sitar. My experience with Indian musicians had taught me that the instrument,¹³¹ the raga, and the player are closely interconnected. Without knowing the raga of a composition, it is virtually impossible for the musician to play. An experience I had with a gottuvadyam player in a fusion ensemble clearly demonstrated this. A free-improvised duet was taking place between a Western trumpet player and guitarist. The improvisation was based on textural exploration. I thought the texture of the gottuvadyam would add to the improvisation beautifully and encouraged the gottuvadyam player to participate. At the end of the concert, the gottuvadyam player apologised to me profusely for not joining in, saying, “I’m terribly sorry, but I didn’t know the raga”.

Sarangan always asks what the raga is before we play a new composition. If I’m not sure, he will choose the raga he thinks most closely fits the *swaras* and grammar of the composition. In One Planet he chose *Thillank*. Initially I intended to play the C section unaccompanied. I anticipated that the deviation from raga would make intonation, finger technique, and aural imagining of the sound too foreign for the sitar. However, when

¹³¹ Many Indian string instruments have a large number of strings that have to be tuned to the raga. This is time consuming and needs to be done in relative silence before the piece can be played. Sarangan’s sitar, for example, has twenty strings.

Sarangan heard the phrase he was keen to contribute to that section of the music. My judgment about the unsuitability of the exact phrase was correct, but Sarangan composed an accompanying part that moved chromatically from the B \flat (Dha1), up to the finishing pitch of E (Ri2). Figure 31 shows the C melody and the sitar accompaniment.

Figure 31: 'One Planet' C melody and sitar part (0.34)



The sitar part reconfigures the perception of the key centres in the melody. It begins and ends in unison with the melody, moving through more dissonant relationships on the ascent. The regularity of the ascending semitone pattern gives the passage unity, while its relationship to the melody reinforces the disjunct aesthetic of the section. The timbral difference between sitar and saxophone, and the difference in register, helps to differentiate the two parts.

The sitar solo begins by exploring Ma1 (4th) and Ga2 (major 3rd). Melodic development using diminution leads to the introduction of Ri3 (#9) towards the end of this passage (1.08). The opening of the saxophone solo (2.20) comments on the opening of the sitar solo with sustained notes exploring the major 3rd, 4th and 5th; then the #9, 4th and 5th. This similarity in approach between the two solos doesn't continue. Sarangan develops his solo

using repeated notes accentuating the groove. He uses Ma1 as a pedal tone (1.39)

exploring increasingly wider intervals to Ni1 (♭7) and Ri2 (♯9).

In this passage it is almost like he is hitting a ball to a slightly different spot on a wall each time. The ball returns to the pedal tone at the centre of his racquet creating a cyclic melodic narrative. My melodic conception is more linear, soon unfolding into quaver lines (2.45). At 3.07 a melodic idea referencing the Giant Steps chord progression¹³² develops into a chromatic phrase. The rest of the solo alternates phrases from the raga with chromatic phrases, sometimes contrasted with fast textural flourishes.

A *koraippu* between Sarangan and I completes the improvised section.

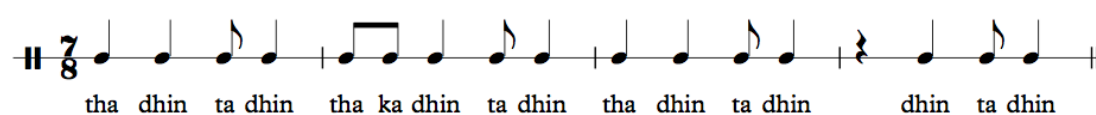
One of my goals in undertaking Carnatic rhythmic training was to improvise more freely, but with control, in asymmetric metres in folk-jazz fusion contexts. The usefulness of Carnatic *solkattu* practice for all musicians, and particularly improvising musicians, is evidenced by the number of instructional books now available on this subject (Nelson 2008, Isler 2005, Guilfoyle 2000), and the increasing appearance of *solkattu* as a subject in tertiary music courses in the West.¹³³

The Carnatic system teaches the musician to become confident with accurately articulating the primary subdivisions while keeping tala with hand gestures. Syllables are varied to outline longer phrase shapes, such as the example in Figure 32 for a 4 bar phrase.

¹³² A chord progression moving in major 3rds conceived by saxophonist John Coltrane in his composition *Giant Steps* (Coltrane 1960). It has been become a standard harmonic building block for jazz musicians. See Levine (1989: 243-246) for more information.

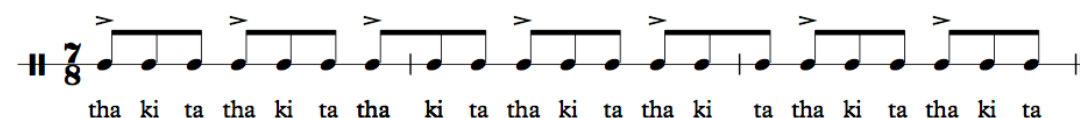
¹³³ Carnatic musicians learn *solkattu* as an integrated part of their musical training, rather than as a separate skill. My experience learning *solkattu* on its own from a mridangam teacher is atypical, but seems to be more common among Western musicians. See Nelson for further discussion (2008: 4).

Figure 32: Solkattu example for 4 bars of 7/8



Continuous groupings of 2, 3, 4, 5, 6, 7, 8 and 9 are practised. Figure 33 illustrates this exercise in groups of 3 in 7/8.

Figure 33: Solkattu example for 7/8 grouped in 3s



With repeated practice, the musician develops intuitive command of the articulation of mathematical formulas and principles. In this case, the principle is that

(a) x (b) = (b) x (a). 7 groups of 3 quavers have the same duration as 3 bars of 7/8.¹³⁴

These ideas relate to the short *koraippu* that completes the improvised section (5.40). This *koraippu* (Figure 34), composed by Sarangan, consists of 4 x 5, 4 x 4, 4 x 3, 4 x 2.

Figure 34: 'One Planet' Arudi (5.39)

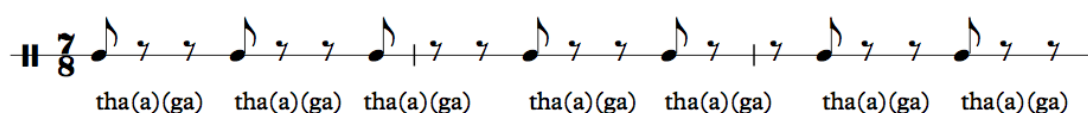


Another important strategy to practise is adding *karvais* or gaps.¹³⁵ Figure 35 shows one example using groupings of 3 in 7/8.

¹³⁴ i.e. 3 x 7 = 7 x 3

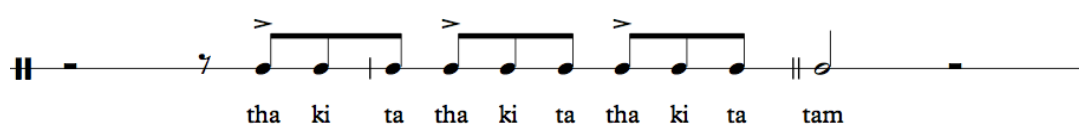
¹³⁵ In this example the 'tha' sound is elongated to articulate the *karvai*. See the notes about music notation (pages xvi-xvii) for more explanation of *karvais*.

Figure 35: Solkattu for 7/8 groupings of 3 with gaps



The musician practises *arudis* in 7, learning where to start the calculations to resolve to *samam*. *Arudis* that the musician learnt in 4¹³⁶ can be adapted to 7. Figure 36 shows a 3 3 3 *arudi* in 7.

Figure 36: 3 3 3 Arudi in 7/8



Variations on this are practised by applying formulas such as: 3 3 3 = 3-1, 3, 3+1 = 2 3 4 (Figure 37).

Figure 37: 2 3 4 Arudi in 7/8



Practising these and similar exercises improved my embodied sense of time and groove, feeling for phrase lengths, confidence with the articulation of accents in any part of the bar, and ability to target resolution points.

¹³⁶ For example, 3 3 3, 4 4 4, 5 5 5, 6 6 6, 7 7 7, 8 8 8 and 9 9 9

ONE BREATH

Track 2 CD 2

One Breath introduces the dialogue between the voice and saxophone that unfolds throughout the recording. The saxophone plays a simple melody in the low register answered by improvised vocal passages. A gentle and somewhat melancholy mood is established. The rhythm is based on the Hindustani tala *Dadra*.

Tabla *bols* for *Dadra* are:

dha dhin dha dha tin na

1 2 3 4 5 6

Bobby told me that his conception of this *theka* and his contribution to the arrangement of ‘One Breath’ and ‘One Prayer’ was informed by his experience with, and knowledge of, Sikh Raagi music.¹³⁷ The Australian intercultural ensemble Dha, which Bobby led with his brother Suki, was informed by this lineage. The composition and phrasing of the melody explore confluences between *Dadra* and jazz conceptions of 6/8 and 3/4. This is explored further in ‘One Prayer’ (track 4).

ONE JUSTICE

Track 3 CD 2

The timbre and feeling of the saxophone and voice in this composition have a more robust quality than in ‘One Breath’. The melody is based on a *korvai* in *Adi* Tala composed by Mani-Sir. The *korvai* has the standard form of *purvanga* (A) followed by *uttaranga* (B) repeated three times (Pesch 2009: 508-509).

¹³⁷ B. Singh, personal communication, 27th June, 2013.

A feature of the *purvanga* in this *korvai* is a phrase played first in *madhayma kala* then repeated in *vilambita kala*.¹³⁸

Fast 9: tha ka ti ku tha di ki na dhom

Slow 9: tha . ka . ti . ku . tha . di . ki . na . dhom .

The structure of the complete *korvai* can be understood in relation to the middle AB section (A2 B2).

A2: Fast 7 Slow 7

Fast 7 Slow 7

Fast 7 Slow 7

B2 : Fast 7 (1)¹³⁹

Fast 7 (1)

Fast 7

Every repeat of AB uses a different permutation, creating this form:

A1 B1

A2 B2

A3 B3

Where A2 = x and B2 = y, the formula for the calculation of the *korvai* structure is:

$$x+2 \ y-2 = x \ y = x-2 \ y+2$$

In A1, 2 is added to the 7 phrase making 9; in B1, 2 is subtracted from the 7 phrase making 5; in A3, 2 is subtracted from the 7 phrase making 5; and in B3 2 is added to the 7 phrase making 9.

¹³⁸ As a Western musician, I understood this to mean repeat the phrase in half time. Another conception is to add a gap after each note on the repeat of the phrase.

¹³⁹ (1) means a gap of 1.

I used the *swaras* of the raga as a mode, and responded to the beauty of that sound. I usually employed step-wise movement in keeping with Carnatic aesthetics, hoping to make the composition comfortable for Sarangan to sing. I endeavoured to make the rhythmic groupings clear through the geometry of the melodic shapes.

‘*Sarva laghu*, time flow and *kanakku*, calculation’ are two modes of rhythmic thinking employed in Carnatic music (Viswanathan and Allen 2004: 68). Mani-Sir’s vernacular for these concepts is ‘straight line’ and ‘permutation, combination’. *Sarva laghu* is similar to keeping a groove in jazz. *Kannaku* doesn’t have a parallel in jazz practice, although some rhythm sections and soloists do employ calculations as one of their improvisatory building blocks.

The saxophone solo in ‘One Justice’ reflects my interest in incorporating *kanakku* into my improvisatory practice. It’s one thing to learn a phrase and implement it in a solo to conclude a section, as at the end of ‘One Planet’. It’s a different thing to spontaneously use mathematical calculations to resolve onto a fixed point while improvising a narrative melodic journey.¹⁴⁰ As Wren observes: ‘improvisations can be seen to be the true test of the syncretisation of musical influences, because they require demonstration in real time’ (2009: 13).

The process of acquiring rhythmic vocabulary in Carnatic music is similar to the process whereby jazz musicians acquire a repertoire of harmonic ideas. Berliner (1994: 92-93) describes the jazz improviser’s journey to reach a point of confidence and familiarity with

¹⁴⁰ This discussion focuses on phrases that resolve to beat one, but accomplished Carnatic musicians can employ *kanakku* to resolve to any rhythmic point. Convention requires that the resolution is to the *eduppu*, or start point of the melody, which could be at any point in the tala.

a road map of musical form where one can move confidently and creatively. The improviser has to become familiar with a body of language to draw from spontaneously.

In Chuck Israel's experience, an “essential ingredient in learning to be a musician is the ability to recognise a parallel case when you're confronted with one. If things remind you of other pieces when you approach a new piece,” he states, “you generally catalogue them very quickly so that you can draw upon your accumulated knowledge” (Berliner 1994: 78).

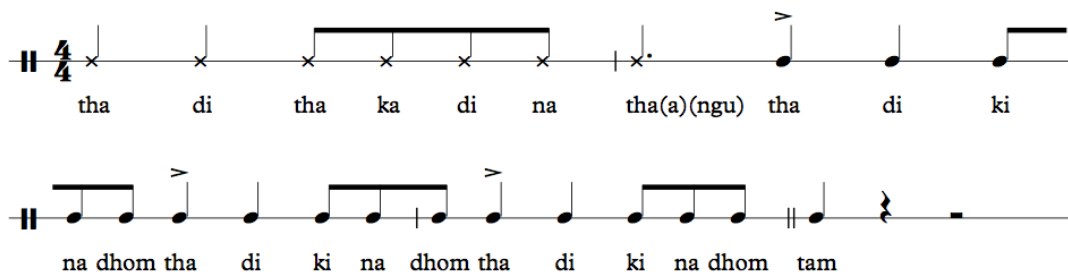
There is a repertoire of rhythmic patterns that recur in Carnatic music. Once the organisational principles behind them are understood, the improviser can draw from this catalogue of ideas more easily and can recognise ‘parallel cases’ during improvised performance. Achieving enough familiarity with rhythmic patterns to improvise with them intuitively requires extensive practice.

Berliner’s observation that ‘the improviser's knowledge includes not only differing ways of rendering pieces but differing ways of thinking about and conceptualising them’ (1994: 92-93) is also relevant. The rhythmic patterns have to be understood and internalised, and melodic concepts need to be developed for their realisation. The melodic shapes need to make the rhythmic patterns comprehensible. Carnatic musicians typically phrase the patterns in step-wise movements guided by raga grammar. Often these patterns are quite repetitive. This can be a good starting point for a jazz soloist, but other intervallic structures can be applied for different effect.

One has to be confident with the rhythmic placement of the start and end points of phrases. Jazz musicians also focus on this, although with perhaps somewhat different goals, such as mastering syncopation, achieving rhythmic variety, and as a tool to break habitual thought

patterns. Confidently leading into the starting point of an *arudi* with an improvised phrase in the middle of a solo can be challenging. Carnatic musicians have techniques to help with this. Nelson comments that one of *solkattu*'s most important attributes is 'its *inherent musicality*' where counting is based on phrases rather than numbers (2008: 4-5). In the example in Figure 40, a *solkattu* phrase outlines the lead-in time from the beginning of the *avartanam* to the start point for 3 groups of 7 in *Adi* Tala. In the examples in 'One Justice', one cycle of *Adi* tala takes the same amount of time as 4 bars of 4/4. The start of the *avartanam* coincides with the double barline.

Figure 40: 7 7 7 Arudi in 4/4 with lead-in



Using the *solkattu* phrase as a guide, the lead-in can easily be translated into pitches, rests, sustained notes, or combinations of all three.

Carnatic musicians also have inherently musical strategies for sounding the target point at the conclusion of the *arudi*. Often a phrase from the composition will be stated or implied when the *arudi* resolves (Reck 1983: 481). In a jazz or intercultural context this convention is not prescribed. However, I was more successful when I pre-planned a resolution melody derived from the composition, or complementary to it. In One Justice, I composed the phrase shown in Figure 41 for this purpose.

Figure 41: 'One Justice' saxophone solo hook line (1.18)



The phrase is notated as 4 bars of 4/4 resolving to beat 1 of the 5th bar, corresponding to 1 *avartanam* of *Adi* Tala.¹⁴¹ One of my goals in this solo was to articulate tala through my melodic and rhythmic phrasing, partly through referencing the resolution melody. The solo begins and ends with a complete statement of the melody. In Carnatic music, once the convention of returning to a specific phrase is established, the soloist might only play the opening of the phrase, or even the first note to indicate the resolution. I adopted this strategy. The melody is played twice in the early part of the solo. The third time half the melody is played. After that, often only the starting pitch, A, is used to indicate the start of the *avartanam*. The solo lasts 23 cycles of *Adi* tala. In that time A is the starting pitch for 14 of the 23 cycles. Calculations are sometimes used to lead to the melody. Figure 42 is an example of an *arudi* of 5 5 5 with a descending scalar melody.

Figure 42: 'One Justice' 5 5 5 Arudi, saxophone solo (1.36)



As shown in Figure 43, this idea is developed further by extending the 5 5 5 pattern to a 10 10 10 pattern starting a fourth higher.

Figure 43: 'One Justice' 10 10 10 Arudi, saxophone solo (1.44)



¹⁴¹ Bobby played a version of *Adha* tala in the improvised sections. This is the closest Hindustani equivalent to *Adi* tala.

Another *arudi* uses a 3 3 3 3 4 grouping (Figure 44).

Figure 44: 'One Justice' 3 3 3 3 4 grouping, saxophone solo (1.57)



When I experimented with *kanakku* in live performance, I was easily thrown if one of the players added elements I wasn't expecting. Pressing calls these 'introduced novelties', and provides measurements for the improviser's reaction time to these events:

unexpected sensory changes requiring significant voluntary compensations require a minimum time of about 400-500 ms (Welford 1976). This is therefore the time scale over which improvising players in ensembles can react to each others' introduced novelties (about twice a second) (Pressing 1987).

My ability to make voluntary compensations was reduced due to the amount of concentration required to implement new improvisatory processes. As might be hoped, this does seem to improve with practice.

Carnatic musicians sometimes build tension by avoiding a particular *swara*. Tension is released when the *swara* is finally revealed. I explored this strategy, particularly by avoiding the fifth degree of the mode (A) until the ends of phrases (Figure 45).

Figure 45: 'One Justice' build in intensity, saxophone solo (2.23)



In this passage, tension is also created using tessitura, timbre, dynamics, note choice, and rhythmic placement. The melody covers a wide pitch range. The lowest note on the instrument (G# circled in Figure 45) is sustained at the start of a cycle. The rough timbre, loud dynamic, low tessitura, dissonant augmented fourth relationship, and rhythmic placement at the start of a cycle all contribute to the intensity.

The track has saxophone, bass, and vocal solos. Each musician responds differently to the melodic and rhythmic material of the composition. The bass solo uses jazz elements such as a swing feel, chromatic passing notes, syncopation, and a mixture of scalar and wider intervals. Timbral variation is another important feature of the solo, including varied attacks, glissandi, grace notes, and percussive effects. The 4 bar cycle is strongly articulated by playing the tonic (D) on beat 1. In the saxophone solo the fifth (A) was targeted on beat 1 of the cycle. The targeting strategy is used in 12 out of 14 cycles in the bass solo, compared with 14 out of 23 in the saxophone solo.

A different approach to the rhythmic and melodic phrasing of the tala cycle is evident in the vocal solo. There are 15 cycles of improvisation before the pre-composed cue phrase that leads back into the melody. None of the phrases begin or end on beat 1. The first and last notes of phrases are always Pa: A, Ga: F, or Sa: D, with a slight preference for A as the starting note and D as the finishing note.

Beginning of phrases: A, A, F, F, A, D, D

Ends of phrases: A, D, F, A, D, D, D

In contrast with the saxophone and bass solos, there is no obvious pattern about which pitch is played at the start of a cycle. The phrases usually avoid rhythmic and melodic resolution on beat 1 until the end of the solo. Sarangan's phrasing in relation to the tala cycle demonstrates a type of architectural sophistication that is also valued among jazz improvisers. Mature jazz artists can 'obscure the formal elements that guide their inventions in much the same way as the architect, in designing an impressive structure, obscures its underpinnings' (Berliner 1994: 246). Chuck Israels observes: "It's often beautiful to start a phrase just before the end of one chorus and carry it over into the beginning of the next. Because that's such an obvious demarcation in the form, you want to dovetail that joint together" (Berliner 1994: 246).

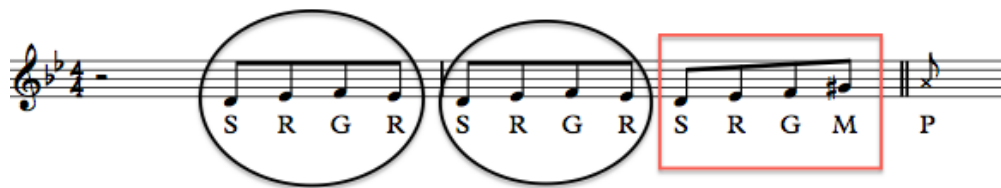
Sarangan's solo has the feeling of *sarva laghu*, but within that time flow there are many permutations of rhythmic and melodic shapes. Meyer's ideas about the emotional effect deviations from expected progressions relate to the melodic development in Sarangan's solo:

The customary or expected progression of sounds can be considered as a norm...and alteration in the expected progression can be considered as a

deviation. Hence deviations can be regarded as emotional or affective stimuli (Meyer 1956: 32).

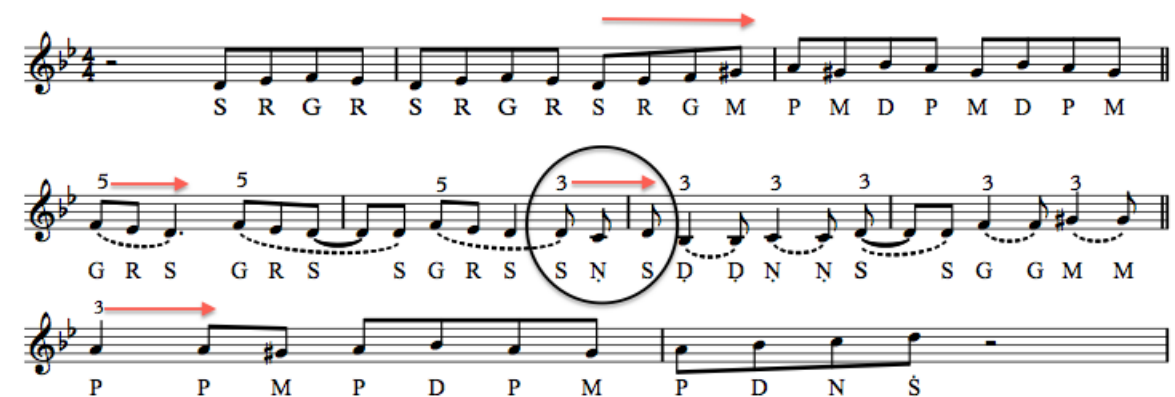
Sarangan often sets up an expected progression of sounds by repeating a phrase, then altering it on the third time. In the example in Figure 46, he sings S R G R twice then changes the pattern to S R G M.

Figure 46: 'One Justice' melodic development, vocal solo (5.08)



The alteration creates interest and smoothly links the first melodic shape to the next part of the melody. Figure 47 shows the complete phrase.

Figure 47: One Justice phrase links, vocal solo (5.08)



In Figure 47, arrows indicate melodic cells that link phrase shapes together. These cells often have a rhythmic as well as melodic function. Spontaneous mathematical permutations are integral to Sarangan's melodic conception, such as the groups of 5s and 3s in this example. Sometimes the last note of a grouping becomes the first note of the next grouping. The circled phrase in Figure 47 is the end of a grouping of 5, but also sets up the grouping of 3s that follows. Sarangan finds himself at a certain point in the tala cycle and

develops a melodic line using a familiar rhythmic principle from that spot. He aims for the start of the *avartanam*, landing the grouping of 3s on *samam* (beat 1), but carries the phrase over into the new cycle, ‘dovetailing’ the joint together in much the same way that Israels describes (Berliner 1994: 246). Sarangan’s phrases link together several ideas that show different types of movement around the tala cycle, improvising the balance between expected sounds and deviations that take the solo in new directions.

The bass solo also uses groupings of 3s (Figure 48).

Figure 48: 'One Justice' 3 note grouping, bass solo (3.52)



There is a subtle difference in the effect of the strategy in each solo. This can possibly be explained in relation to different conceptions in the musicians’ respective source traditions. The passage in the bass solo relates to a polymetric device common in jazz, described by Goodman as ‘the superimposition of figures cycling in the time signature of 3/4 over the regular, fundamental time signature of 4/4’ (Goodman 2011: 38). In the jazz conception, the priority is to create the feeling of the juxtaposition of the two time signatures, whereas in the Carnatic conception, the emphasis is on articulating the calculation, or *kanakku*, and its consequent resolution.¹⁴²

In Carnatic or Hindustani music there would be no bass accompaniment. In Mantrasonic, Brett spontaneously creates and articulates a role that has no clear precedents or accepted codes. When Sarangan improvises he almost always follows melodic constructs derived

¹⁴² Further research could be done to verify this theory about differences in rhythmic conception and their effect on the sound of melodic phrases.

from raga, where the effect of the melody note with the fundamental frequency (Sa/the tonic) is of primary importance. This fragile ecology can easily be disturbed if the resonance of the fundamental pitch is destabilised by emphasising different bass notes, even for relatively short periods. To a jazz soloist, changes in the fundamental pitch might be a welcome counterpoint. To a Carnatic performer, such changes might be strange and unsettling. One solution is for the bass to tacet during raga based sections.¹⁴³ Another solution is for the bass to play the tonic, and occasionally the fifth, fourth, or seventh in keeping with the raga so there is not a potential clash of intervals. This strategy is used in ‘One Justice’ where the bass plays a simple ostinato, shown in Figure 49, that establishes the groove and tonality in conjunction with the tabla.

Figure 49: ‘One Justice’ bass riff



Ranade proposes that the ‘desire to be subtle’ is one of the general features of improvisation (2008: 222).¹⁴⁴ This is apparent in rhythm section accompaniment, for example in the many subtle ways Brett varies the bass riff (Figure 50).

Figure 50: ‘One Justice’ bass riff variations



Variations often occur in the fourth bar of a cycle to help outline the rhythmic cycle. They are often a response to an idea played by one of the other musicians. One example, shown

¹⁴³ An example is in ‘Bhava Raaga Thaala’ (Track 6, CD 2) where the bass doesn’t play during the sitar solo.

¹⁴⁴ Although this feature is not widely expressed in other literature about improvisation, I think it has considerable relevance.

in Figure 51, is in response to the increase in tension during the saxophone solo. The density of the bass part increases, culminating in a contrapuntal phrase that leads into the next cycle.

Figure 51: 'One Justice' bass and saxophone, improvised counterpoint (2.30)



The groove Brett and Bobby create constantly reflects changes in each other's phrasing and intensity, as well as that of the soloist. Speaking of violin accompaniment in Carnatic music, L Shankar wrote:

An accompanist can be an extraordinary impetus in creating an ensemble effect...Once given the quality, colour and texture of the fabric that the soloist weaves, the accompanist helps to stitch and hem the garment (1974: 31).

In 'One Justice', constant interplay between tabla and bass, such as spontaneous changes of feel from straight quavers to triplet quavers, is the foundation of the ensemble effect. Through the impetus they create with the fast groove, and their responses to the different musical qualities, colours, and textures of the soloist, they 'sew' the piece together.

ONE PRAYER

Track 4 CD 2

'One Prayer' reprises the melody from 'One Breath',¹⁴⁵ further exploring confluences between *Dadra* and jazz conceptions of 6/8 and 3/4. The instrumentation is soprano

¹⁴⁵ The melody of 'One Breath' is referred to as the A melody in 'One Prayer'. There is an unplanned correspondence between the order of pieces on 'Cosmic Waves' and 'Seven Stories of Dreams'. On both

saxophone, bass, and tabla. A gradual build in intensity occurs over the course of the piece. The opening rubato saxophone melody is played unaccompanied, followed by a tabla and saxophone duet version over the groove. A bass solo, referencing the A melody, accompanied by tabla follows. After the bass solo the complete AABBC form is introduced. A change of scale is used for the B and C sections. The bass note changes to the fifth in the B section helping to outline the harmonic form. The saxophone improvises over the harmonic form of the song before restating the melody. The climax of the song is a double speed tabla solo over 4 repeats of the A melody.

ONE DREAM

Track 5 CD 2

The form of ‘One Dream’ is a vocal *alapana*, a 4 bar A melody, an extended vocal solo accompanied by tabla, a saxophone solo accompanied by a bass riff and tabla, an AABA melody, and a C section in a faster tempo with a tabla solo over a composed melody. One way to understand this piece could be under the heading of ‘engendered feeling’. Keil (2005: 54) conceived this heading to discuss aspects of processual music he felt were not addressed by Meyer (1956), particularly groove, or ‘vital drive’ (2005: 60).

The vital drive of ‘One Dream’ grows out of two ideas about groove: the Hindustani 7 count tala *Rupak*, and swing phrasing in jazz.¹⁴⁶ In this composition, Bobby plays the *Rupak theka* with a triplet feel, referencing swing phrasing.¹⁴⁷ *Rupak* would usually be played with a more even feel. Bobby said the way he plays the feel in ‘One Dream’ was an

recordings, track 4 reprises melodic material introduced on Track 2. This link has no obvious significance, although it does show a compositional preference to explore similar melodic material in different ways.

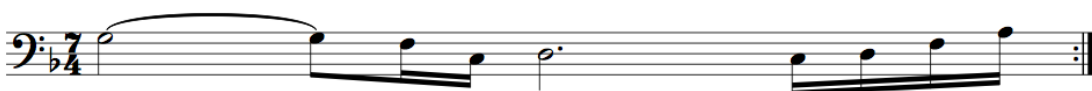
¹⁴⁶ See Keil (2005: 59-76) for discussion of swing in jazz and vital drive.

¹⁴⁷ Pradhan describes *theke* as ‘a universally accepted sequence of strokes that demarcate the framework of the *taal*’ (2011: 3).

intuitive response to listening to the phrasing of the melody. He locates this interpretative process in relation to *chal* in tabla performance practice.¹⁴⁸ In ‘One Dream’ the ‘swing’ feel of the *theka* creates continuity, connecting the ‘Indian’ space¹⁴⁹ of the vocal solo to the jazz space of the saxophone solo. It also supports and complements the phrasing of the melodic lines in the saxophone solo.

There are two pre-composed bass lines used to accompany solos in this composition. It is common practice in jazz to use a repeated bass riff to accompany an improvised solo. A similar idea exists in tabla practice where a repeated melodic pattern, called a *lehra* or *nagma*, is used as the basis for accompaniment (Ranade 2006: 58). An important feature of Hindustani talas is the placement of the *khali*, or empty beat, where there is no bass stroke. In *Rupak*, unlike most talas, *khali* is at the beginning of the tala cycle on *sam*.¹⁵⁰ The bass strokes fall on beats 4 and 6. The bass riff that accompanies the saxophone solo (Figure 52) complements this phrasing by avoiding the tonic on beat 1 or *khali*, and stating it on beat 4 to complement the first bass stroke in the *Rupak theka*.

Figure 52: 'One Dream' bass riff (8.31)



¹⁴⁸ B. Singh, personal communication, 27th June, 2013.

It is not easy to find references to *chal* in literature in English, but Pradhan describes the interpretative aspect of performance practice in tabla playing as follows: ‘Each tabla player embellishes the *theka* in different ways, responding to the music that he or she may be accompanying’ (Pradhan 2011: 4). I surmise that it may have correspondences to Keil’s ‘engendered feeling’.

¹⁴⁹ As with all the work in Mantrasonic, the ‘Indian’ space is, among other things, one of intercultural dialogue between Hindustani and Carnatic music. Study of the complex interactions in this space is beyond the scope of this project.

¹⁵⁰ Tabla *bols* for *Rupak* are:

0 1 2
tin tin na dhin na dhin na

In this notation 0 signifies *khali*, and 1 and 2 signify *tali* where the bass strokes fall. *Khali* would be indicated with a wave and *tali* with a clap.

The tabla solo is accompanied by the bass and saxophone melody shown in Figure 53. This melody is longer and more complicated than a *lehra* would normally be in Hindustani music, but maintains the 3 + 4 grouping of the 7 count cycle.

Figure 53: 'One Dream' Lehra for tabla solo (12.23)



Sarangan's voice has a profound effect on the sound and feeling of 'One Dream'. Keil's conception of engendered feeling relates primarily to groove, but the heading could encompass aspects of music like the relationship between breath, melody, and the human and instrumental voice heard in 'One Dream'.¹⁵¹

BHAVA RAAGA THAALA

Track 6 CD 2

'Bhava Raaga Thaala' is a *tillana* in raga *Sindhu Bhairavi* composed by Sarangan's mother Arunthathy Sriranganathan, a renowned singer and veena player in Sri Lanka. Pesch (2009: 283) summarises the key features of *tillana* as a semi-classical form related to the dance form of the same name, performed towards the end of a Carnatic concert, with a similar structure to *kriti* and a correspondence to the Hindustani form *tarana*. In vocal versions of *tillana*, solmisation syllables are used more than lyrics. 'These include

¹⁵¹This is discussed further on pages 138-141.

common sounds as well as others that are rarely heard in another context (e.g. ta, nom, ta, ra, dir-dir, tillana)’ (Pesch 2009: 283).

Learning compositions is integral to the study of raga in Carnatic music. Sarangan and Balasai taught me a number of *tillanas*, *varnams*, and *kritis*. In the process I gained a small insight into the inseparability of raga and *gamaka*. As well as having techniques for different types of *gamaka*, the Carnatic musician has to understand the grammar of the raga in order to know which *swaras* should be ornamented, how often, and in what melodic context.¹⁵² Some knowledge I learned about *Sindhu Bhairavi* is used in a syncretic way in the saxophone *alapana* in ‘Bhava Raaga Thaala’. In contrast, the saxophone solo over the groove in the middle of the composition is more modal in conception.

The intercultural threads in this performance are complex. It is a contemporary Sri Lankan composition in a Carnatic style performed by a Hindustani tabla player. The sitar is played in a style referencing Carnatic and Hindustani music; the saxophone in a style referencing Carnatic music and jazz; the bass is played in a jazz style that incorporates influences from all the previous elements.

¹⁵² There is an extensive body of literature on this subject (Reck 1983: 429-439, Viswanathan and Allen 2004, Viswanathan 1977, Vedavalli 2006, Sambamoorthy 1973, Pesch 2009, Bhagyalekshmi 1990).

PEACE

Track 7 CD 2

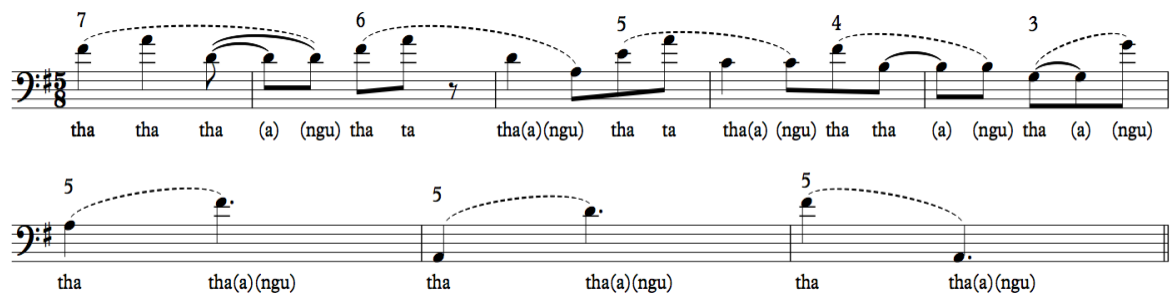
This composition is based on a reductive rhythmic pattern of Mani-Sir's. The pattern, which lasts for 8 cycles of 5 is:

7 6 5 4 3

5 5 5

A bass line I composed using this rhythm, is the backbone of the piece. Figure 54 shows the bass line, its relationship to the rhythmic pattern, and the *solkattu* for the rhythm.

Figure 54: 'Peace' bass line (1.40)



The piece begins with an improvised duet between bass and sitar. When the groove comes in, the focus is on maintaining the relationship of the bass line with the 5/8 metre articulated on tabla, and on creating a peaceful mood.

ONE HOPE

Track 8 CD 2

This is a fast, joyous piece with a bright sounding melody in raga *Shankarabharanam*.¹⁵³

The melodic contour is not typical of Carnatic music, as it contains larger intervallic leaps than a Carnatic vocalist would normally sing. There is some precedent for this in

¹⁵³ *Shankarabharanam* is the equivalent of the Western major scale.

compositions like ‘Raghuvamsa Sudha’¹⁵⁴ in raga *Kathanakuthoohalam*.¹⁵⁵ The three notes at the end of the *arohanam* in raga *Kathanakuthoohalam* ascend up a major triad from the Ga2 (equivalent to 3rd scale degree). In ‘One Hope’, the last three notes of the melody ascend in fourths from R2 (2nd degree of the mode), referencing the shape of the Carnatic raga, but stretching the sound in a slightly new direction. This is illustrated in Figure 55.

Figure 55: ‘One Hope’ last phrase of melody (0.15)



The improvisatory forms for the vocal and saxophone solos are different. The vocal solo is over a 4 bar chord progression, while the saxophone solo follows the harmonic form of the melody.

DISCUSSION

My growing interest in Carnatic music brought the musicians in Mantrasonic together. In Mantrasonic, Carnatic music is most deeply expressed through Sarangan’s voice, and it is perhaps through his voice that some of the essential qualities of the music can be apprehended. In the analysis of ‘One Dream’ I suggested that another dimension of ‘engendered feeling’ (Keil 2005: 54) might be the connection between breath, melody, and human and instrumental musical voices. In ‘Cosmic Waves’, Balasai ‘engenders feeling’ when he breathes life into his sound. In Mantrasonic, Sarangan’s voice embodies this profound creative expression. In both cases, as Cuthbertson-Lane writes: ‘The link

¹⁵⁴ Composition by Patnam Subramania Iyer.

¹⁵⁵ The *arohanam* of raga *Kathanakuthoohalam* is S R2 M D2 N2 G2 P S. This raga may have been conceived to reflect a Western influence. Bhagyalekshmi writes: ‘The phrase rmD; mDN gives a Western tinge for the raga’ (1990: 211).

between the breath and the mind is fundamental and is encapsulated in the word ‘inspiration’ (2009: 95). Inspiration describes different aspects of the creative cycle of breath and musical sound. The inspiration of breath provides the life force, and for singers and wind instrumentalists, the physical means, to create ‘sculpture with the air’ (Zappa in Schneckloth 1978: 45), which then inspires others. In *Mantrasonic*, the inspiration I take from Sarangan’s ‘air sculpture’ engenders feelings in me that I sculpt into my saxophone sound.

To some people this area has metaphysical and/or spiritual resonance. Others distance themselves from that association.

I don’t care about souls; that’s the Maharishi’s department. See I take a real cold view about that stuff. I think that music works because of psycho-acoustical things—like the way in which a line will interact with the harmonic structure that’s backing it up (Zappa in Schneckloth 1978: 17).

Discussing ‘psycho-acoustical things’ such as the interaction between a melody and a harmonic structure, or a melody and a Carnatic rhythmic structure, is somewhat easier than discussing interactions between the sound of Sarangan’s voice and a melody. Scientific analysis of the psycho-acoustical features of Sarangan’s vocal performance is beyond the scope of this study,¹⁵⁶ although such a study may identify pertinent acoustical features and their effect, and perhaps offer insights for creative practitioners. Sarangan does not speak about the deep expressive aspects of his singing; he communicates by doing, both as a teacher and performer. In this way, he also communicates one of the greatest wisdoms of Carnatic musical practice: its utterly embodied nature.

¹⁵⁶ Studies of this nature have been conducted in other voice traditions, for example Rapoport’s study to identify and decipher ‘the emotional expression codes in vocal tones’ of opera and *lied* singers (Rapoport).

Aspects of Carnatic voice culture, like poetic imagery,¹⁵⁷ *nada yoga*,¹⁵⁸ *pranayama*, *rasa*, and *bhava*, no doubt contribute to the particular beauty that inspires me in Sarangan's singing. As Karpf writes: 'I speak with my voice but my culture speaks through me' (2006: 182). There are cultural marks in Sarangan's voice that may have a particular meaning for Carnatic listeners. As well as musical vocabulary these include the tone of his voice, the pacing of phrases, his sense of space and silence, and his pronunciation of *sargam* syllables and other vocables. In this recording Sarangan does not use lyrics, so literal meanings are not present through text.

The opening of Karpf's statement: 'I speak with my voice' draws attention to the individual's own voice. Sarangan's voice has a uniquely expressive quality. The saxophone is often thought of as an instrument particularly suited to the expression of a unique individual voice.

It [the saxophone] encourages personal expression: because of its revolutionary acoustical design, everyone who puts a saxophone to his lips produces a unique sound - "the one thing," Coleman Hawkins once said, "that nobody can take away from you" (Segell 2005: 32).

Many things link the saxophone to Sarangan's voice in my creative practice in Mantrasonic, including the centrality of breath in sound production, the expressive vocal quality inherent in the saxophone itself,¹⁵⁹ and the potential uniqueness of that voice.

¹⁵⁷ The seven notes are said to correspond to seven animals. Exactly which animals these are differs from Sanskrit to Tamil. Pesch suggests this shows how a 'traditional metaphorical' idea can accommodate cultural and individual differences (Pesch 2009: 44).

¹⁵⁸ 'Tyagaraja is referred to as a *nada yogi*, a mystic whose quest for self-realisation took the shape of sanctified music' (2009: 52). Pesch outlines some ways this translates into the anatomy of voice placement in relation to the chakras. 'The *muladhara cakra* at the base of the spine is thought of as the source of primordial sound...all notes must be rooted in the *muladhara* (diacriticals) besides being modulated for the purpose of expressing various aspects of human sentiments and emotions (*bhava*)' (2009: 51). He also draws correspondences with Western systems of voice training (2009: 42-54).

¹⁵⁹ The most important model for me in this regard is the expressive voice of John Coltrane.

Discussing the violin's relationship to the voice in Carnatic music, Weidman writes: 'it is precisely the capacity of the instrument to be heard as the voice, to sound almost human while remaining nonhuman and to sound Indian while remaining foreign, which makes it powerful' (2006: 57). The saxophone is known for its ability to sound almost human, but the way its relationship to the voice is explored in Mantrasonic is very different from the Carnatic voice/violin pairing. In the Carnatic model the violin is the voice's attendant companion, shadowing its every move. The voice is the leader in a strict set of behavioural codes, although as Weidman points out the violin has a powerful role in shaping the sound and identity of the voice.

In Mantrasonic, strict codes about voice as the lead, and saxophone as the shadow are not present. The saxophone leads in 'One Breath', stating the melody and inviting the voice to respond. In 'One Justice' they unite in a statement of the melody and are both featured equally. In 'One Dream' the voice is the featured instrument, although the saxophone leads the melody statements. 'One Hope' is the closest to Carnatic codes of practice. The saxophone supports the voice in the melody statement and the voice takes the first solo. However, this is not done in reference to the Carnatic model. The hierarchical relationship between voice and instrument that typifies Carnatic music is not enacted in Mantrasonic. If anything, the voice acts as another instrument in Mantrasonic, in some sense 'revoicing' the saxophone. Weidman's statement could perhaps be reconfigured for Mantrasonic: it is precisely the capacity for the voice to be heard as an instrument while remaining human, and to sound foreign (Indian) while remaining familiar, which makes it powerful.

The relationship between compositional models and implicit improvisatory material evident in ‘Cosmic Waves’ is also important in ‘Mantrasonic’. In ‘One Planet’, the groove, formal structure of question and answer, and contrasting consonant and dissonant melodic material all act as springboards for improvisation. Comparative analysis of the architectonic structure of *alapana* showed that improvisatory codes implicit in inaudible models are likely to be transported to an intercultural context, even if the composer doesn’t specify their use.

Monson’s observation regarding the divergent cultural knowledge that co-exists in particular individuals is very apparent in Mantrasonic. ‘The ways in which individuals choose to take action with this knowledge are highly variable and change from context to context’ (Monson 1996: 131). In Mantrasonic, factors like individual aesthetic preference, the suitability of the concepts and ideas to the musical context, and the skill of the player all affect the way the musicians play and listen. “Is it jazz, or is it Indian and wrong?” Sarangan sometimes asks.¹⁶⁰ For example, if I use the right notes for a particular raga, but with an intervallic shape foreign to the raga grammar, the phrase would be wrong by Carnatic standards, a mistake, unacceptable and aesthetically unpleasant. However, if Sarangan listens to the phrase with the expectation that he is listening to jazz, he is able to enjoy the sound of the music, setting aside one body of cultural knowledge and acting with another.

This phenomenon relates to an idea in *rasa* theory: ‘Persons who eat prepared food mixed with different condiments and sauces, etc., if they are sensitive, enjoy different tastes and then feel pleasure (or satisfaction)’ (Natyasastra translated by Rangacharya 1996: 87). In

¹⁶⁰ S. Sriranganathan, personal communication, between June 2011 and January 2014 (including 23rd June, 2010, 3rd June, 2011, and 12th January, 2014).

an intercultural context, the listener has to develop the sensitivity to detect new tastes in unfamiliar music. A Western listener may not have the sensitivity to the intricate beauty of *gamaka* that a Carnatic listener would. A Carnatic listener may not have the sensitivity to a subtle harmonic substitution that a jazz listener would. As well as that, new materials are mixed in intercultural music so arguably new tastes, or *sthayi bhavas*, will emerge. The listener has to be sensitive to the new taste to enjoy it. They may detect familiar flavours in the mix, but will most likely need to adjust their expectations about the taste sensation. Of course, they may not like the new taste, or need time to become accustomed to it. Subtle adjustments to the proportions of the various ingredients by the musicians can also make a difference to the pleasantness of the taste.

Playful dialogue between melody and rhythm instruments features in jazz, Carnatic, and Hindustani music, but conventions about the dialogue can be different from system to system, and from player to player. In Mantrasonic these differences have been negotiated consciously by learning and implementing new processes, and intuitively by listening and responding spontaneously. Extensive practice, and even ingenuity, may be needed to develop new skills, as my engagement with Carnatic concepts like *kannaku* and *koraippu* revealed. Studying *gamaka* on saxophone showed that this process can challenge an individual's sense of musical identity, as the expressive voice of the player, and their relationship to their instrument evolves.

The subtle and sophisticated interaction between bass and tabla is a more intuitive response to the intercultural context. Brett and Bobby respond to the musical narrative of each soloist, recognising and supporting stylistic and expressive differences, while generating the groove, and reacting to changes in each other's playing. Group interaction in

improvised music is often theorised as conversation. At times in Mantratonik this analogy is appropriate, for example in the *koraippu* section in 'One Planet'. However, communication is usually more synchronous. It is less about turn-taking and more about collectively generating the energy flow of the music, while expressing one's own ideas and responding to the constantly changing sonic environment. Through this process a collective voice emerges which expresses both the connection of the players to their cultural and musical histories, and creative responses to new relationships, sounds, and processes.

CHAPTER 4: MEETINGS AT THE TABLE OF TIME

EXCERPT FROM AAO NEWSLETTER

December, 2012

Auspicious days abound in Chennai, so it is probably no surprise that my trip to India in November 2012 was bookended by auspicious days: Divali at the start, and the full moon celebration, Karthigai Deepam that marks the end of the Divali month... Performing with a senior artist of his [Guru Kaaraikkudi Mani's] stature in South India is a rare privilege. He ceaselessly inspires those around him with his brilliance and dedication. He continues to extend his trust to us, willing to take risks to further the artform we are collectively pursuing. All the tours we have done with him have been special. This auspicious tour was called Two Oceans, but it felt like we were one band, united by our love of music (Evans 2012).

ABOUT THE PROJECT (CD 3)

This chapter concerns the composition, creative development, and performance of 'Meetings at the Table of Time' with the Two Oceans ensemble. This is an octet comprised of members of the Australian Art Orchestra (AAO) and Sruthi Laya. The AAO musicians are Adrian Sherriff: bass trombone, synthesiser, musical director; myself: saxophones; Scott Tinkler: trumpet; and Adam King: drums. The personnel of Sruthi Laya is the same as on 'Cosmic Waves': Guru Kaaraikkudi Mani: mridangam, musical director; B.V. Balasai: bamboo flute; U.P. Raju: electric mandolin; and V. Suresh: ghatam.

The music was composed between March and November 2012 and performed in Coimbatore, Chennai, and Hyderabad for the Hindu Friday Review November Fest 2012.¹⁶¹ I was the principal composer for two of the three compositions: 'An Indian In Paris' and 'Drums Across the Ganges'. The other piece, 'Anbe Sivam', is a composition by

¹⁶¹ 'Meetings at the Table of Time' was performed again at Encounters India, presented by the Queensland Conservatorium, Griffith University in Brisbane, May 2013. This chapter focuses on the Indian performances.

Mani-Sir and Balasai that I reinterpreted for the collaboration. Many of the ideas in ‘Meetings at the Table of Time’ were generated during a creative development period in India in March 2012 between Mani-Sir, Adrian, and me. Archival recordings (CD3) document the live performances. The technical quality of the live recordings is uneven and does not always give an accurate representation of instrumental balance or timbre. Nevertheless, the recordings are a useful adjunct to the scores for the analysis and discussion of this project.

One of the objectives guiding my creative process in ‘Meetings at the Table of Time’ was to integrate ideas and aesthetics from jazz and Carnatic music into a unified whole with depth and integrity, while encouraging freedom of expression. Rhythmic principles that are sources of innovation in contemporary practice in both Carnatic music and jazz were explored as one of the main platforms for collaboration.

There are some important differences between this case study and those already discussed. It was situated in a different social, cultural, and geographical context, having been developed in South India to be premiered in South India. The compositional process was more collaborative. There were an equal number of Western and Indian musicians, and the rhythm section included drum kit as well as mridangam and ghatam. The outcomes were live performances, not studio recordings.

This work is part of the most recent chapter in the AAO’s collaboration with Sruthi Laya.¹⁶² The original orchestration for ‘Meetings at the Table of Time’ was an eleven piece

¹⁶² ‘Meetings at the Table of Time’ was the opening work in the concerts on this tour. Other pieces performed were ‘13th Matrix’ (Sherriff/Monk/Mani), ‘Jagadananda’ (Thyagaraja arr Sherriff), ‘Vande Matharam’ (Chaterjee), and ‘Into The Fire’ (Mani arr Sherriff).

ensemble: two saxophones, trumpet, bass trombone, keyboard, bass, drums, and Sruthi Laya.¹⁶³ International intercultural collaborations are expensive and the AAO could only afford to send four musicians (saxophone, trumpet, bass trombone, and drums) to India for this tour. It was challenging to rearrange the music for an ensemble without bass and piano, but there were also some unexpected positive outcomes, discussed later in the chapter.

THE CREATIVE DEVELOPMENT PROCESS

In March 2012, Adrian and I performed my composition ‘Sacred Cow’s Tail’ with Sruthi Laya in Delhi for the 20th anniversary celebrations of the Australia-India Council. While we were in Delhi, Mani-Sir, Adrian, and I participated in an interview for ABC Radio National (Shirrefs 17th March, 2012) where some issues pertinent to the collaboration were discussed.

In this interview, Mani-Sir describes Carnatic music as ‘very disciplined, a big ground with a big fence. Within the fence you can travel’. This metaphor communicates some features important in his conception of Carnatic music: discipline, the vast scope of the field, freedom within the system; and boundaries that guard the knowledge, define its limits, and mark the ‘ground’ for insiders and outsiders. He goes on to say: ‘But when you touch the fence at least two or three birds come’. These metaphorical birds might be musicians from other musical systems. One inference from this metaphor is that the agency for intercultural engagement is the musician inside the musical system exploring the perimeters. The act of exploring boundaries attracts musicians from other territories. This

¹⁶³ This was the instrumentation used in the recording *The Chennai Sessions* (Australian Art Orchestra with Guru Kaaraikkudi Mani 2009).

metaphor could be extended to the different perspectives involved in intercultural musical engagement. Perhaps to participate in an intercultural project the bird (musician) flies out of the field into new ground. Alternatively perhaps the fence is moved, or even disappears leaving a threshold. Each interpretation is relevant, depending on the perspective of the musician, the nature of the engagement, the intensity of the challenge to the boundaries, and the receptivity to change of the musical system.

Mani-Sir emphasises the importance of being a ‘learned musician’ in order to undertake collaborations. You can come ‘from any part of the world’ as long as your own grounding is solid. The shared commitment to a disciplined and virtuosic approach to music is perhaps one of the most important qualities in the longevity of the AAO’s collaboration with Sruthi Laya.¹⁶⁴ Mani-Sir says he always plays for himself: ‘For my concern, I am not playing for the audience...I never play for whether the people are liking or not. I don’t care...so I will play for my soul, for my enjoyment, so automatically the people will enjoy it’. In my experience, individual engagement is also a key factor in effective musical communication in intercultural contexts. How deeply musicians connect with their ‘own souls’, and with each other, may be a more important factor in the audience’s appreciation of the music than specifics of musical style. This aspect of communication in improvised music appears to transcend cultural differences, although further research would be needed to verify this.

The interviewer, Michael Shirrefs, asks about challenge and generosity as factors in cross-cultural collaboration. Adrian answers: ‘For me music is about, almost as much as

¹⁶⁴ Higgins identifies a parallel he perceived between the way Carnatic musicians and jazz musicians value advanced training and virtuosity (2013: 93-95).

anything else, relationships'. He speaks about the relationship between musicians, between musicians and the audience, and between music and culture. He discusses the special experience in cross-cultural collaborations as 'you brush against another view of the world', whereby your own ideas about the world may be challenged. This is a chance to understand more about yourself, and 'what your tacit assumptions about the world are'. Adrian's comments cause me to reflect on ways this challenge to one's world-view might potentially undermine one's ability to 'play for oneself', as tacit assumptions are questioned. This seems to be part of the process of intercultural collaboration, but the extent of its effect varies for each individual, and is subject to change over time.

Michael asks what Mani-Sir had to change about his music to collaborate with the AAO. Mani-Sir says he hasn't learnt other musics, but listens to other musics to see how they might suit collaboration with Carnatic music. He only composes for his own group. Sometimes another musician may feel that one of his compositions would suit collaboration with jazz. Mani-Sir cites Adrian's arrangement of 'Into The Fire' (Mani 1996) as an example. Listening, and the intuitive responses of musicians appear to be the central factors in choosing and developing collaborative material.

Adrian speaks about the importance of embodied learning in Carnatic music, in contrast to the emphasis on notation and literacy in Western music education. Engagement with this aspect of Carnatic music practice has transformed my creative process as a composer, player, and teacher. Words and notation count for nothing in Carnatic music in my experience. If you can't sing it or play it, then you don't know the music. This is also true in jazz, but the model is not as clear. There tends to be more talk and explanation. I aspired to an embodied model of musicianship in the composition, rehearsal, and performance of

‘Meetings at the Table of Time’. After these enlightening discussions Adrian and I travelled to Chennai to study with Mani-Sir, and to collaborate on material for the upcoming November Fest tour.

THE TABLE OF TIME

During a study trip to India in 2009, Mani-Sir taught me his *solkattu* system for practising the transition from *chatusra nadai* to the other *nadais* used in Carnatic music.¹⁶⁵ Virtually every jazz drummer I spoke to about this system on my return to Australia remarked they used a similar practice technique, usually citing ‘The Table of Time’ from Joe Morello’s ‘Master Studies’ as the source of the material (1983: 42-44).¹⁶⁶ Most of them said they rarely used the idea in performance, considering it more a technical exercise, but were keen to apply it creatively.

I arrived in Chennai in March 2012 hoping to continue exploring rhythmic confluences between jazz and Carnatic music in composition. Although I had worked with Mani-Sir on previous projects, this was the first time we collaborated on composition from the outset. Mani-Sir was curious about the history of metres in 5, 7, and 9 in jazz. We discussed the Paul Desmond/Dave Brubeck compositions. He stressed that rhythmic ideas that seemed new in jazz in the 1950s had been part of Carnatic music for a long time. With due respect for the extensive musical history, we commenced a new series of meetings at the table of time.

¹⁶⁵ The concept is similar to metric modulation in Western conception. ‘Clouds At Dawn’ on *Cosmic Waves* (Track 9, CD1) uses this concept.

¹⁶⁶ Joe Morello was the drummer in Dave Brubeck’s quartet during the 1958 tour of India.

MUSICAL ANALYSIS

ANBE SIVAM

Track 1 CD3

I suggested we explore metric modulation as the basis for a composition. In response, Mani-Sir taught me a composition in *Misra Chapu* Tala (7) in *vilambita kala*, *madhyama kala*, *tisram*, and *durita kala*.¹⁶⁷ These rhythmic levels are described as four speeds. The first speed is slow; the second speed is medium, or double time; the third speed is triple time, or quaver triplets; and the fourth speed is fast, or quadruple time. Carnatic musicians often use the word ‘speed’ when speaking in English about this concept.¹⁶⁸ In this context, different speeds do not mean an increase in the tempo of the tala cycle. The following *solkattu* is adapted to each speed.

tha . dhin . tha dhin .

tha ka dhin . tha dhin .

dhin . dhin . tha dhin .

tha ka dhin . tha dhin .

The composition concludes by moving through the speeds in reverse order.

I composed a melody (Figure 56) for this rhythm using a mode created from the pitches of raga *Shanmukhapriya*.¹⁶⁹

Figure 56: 'Anbe Sivam' melody 1, first speed (5.12)



I adapted the melody to the different speeds of the composition (Figures 57 to 59).

¹⁶⁷ This is based on the concept of *trikala*, or three speeds that was discussed briefly in Chapter 2 (page 53).

¹⁶⁸ For example by the musicians in this study, and by Pesch (2009), Nelson (2008, 1991), and Van Hulzen (2002).

¹⁶⁹ *Swaras* for Raga *Shanmukhapriya*: S R2 G1 M2 P D1 N1.

Figure 57: 'Anbe Sivam' melody 1, second speed (6.47)



Figure 58: 'Anbe Sivam' melody 1, third speed ¹⁷⁰

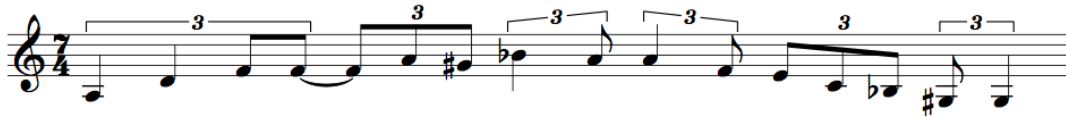


Figure 59: 'Anbe Sivam' melody 1, fourth speed (15.01)



A few days later I discovered this was the rhythmic framework of 'Anbe Sivam', a piece Mani-Sir had composed for *bharatanatyam* dancer Rajeswari Sainath, with Tamil poetry by Su Ravi and melodic material by Balasai.¹⁷¹ Determining my role as composer/arranger in the Two Oceans version of this work was convoluted.

Meanwhile, my experience with Indian fashion continued to parallel my musical journey. Another Indian friend, who had regularly given me clothes, conceived an elaborate plan to make their gifts as meaningful and useful to me as possible. My friend took me shopping in Chennai to buy Indian cloth that I liked, then to the dressmaker who lived under their house to be measured. On my friend's next visit to Australia they collected some of my favourite clothes to give to the Indian dressmaker to create patterns for the cloth we had bought together. The Indian dressmaker used his own techniques to make garments from these patterns, adding style elements and accessories to my originals. My friend gave me

¹⁷⁰ A different melody is used in the third speed of the final composition.

¹⁷¹ Another example of Mani-Sir's use of poetry in place of *konakko* is on 'Laya Kavithai' from the CD *Amrutham* (Mani).

the finished clothes on their next trip to Australia and I was delighted with the results. The clothes were made in India by an Indian, using Indian materials and techniques, to suit my pattern, taste, and individual and cultural preferences. I was touched by the trouble my friend took to make this cultural exchange meaningful, a lesson in itself for intercultural music making. It illustrates how materials and prototypes from both cultures can be combined to achieve an outcome that is meaningful and appropriate for all concerned.

A similar process occurred in the development of ‘Anbe Sivam’. Composing melodies for ‘Anbe Sivam’ was somewhat like choosing cloth for Mani-Sir’s rhythmic patterns. I was given free rein to use any, or all, of the existing structural, rhythmic, melodic, and textual material. For some time it wasn’t clear whether I was composing a new piece, arranging an existing one, or something in the middle.

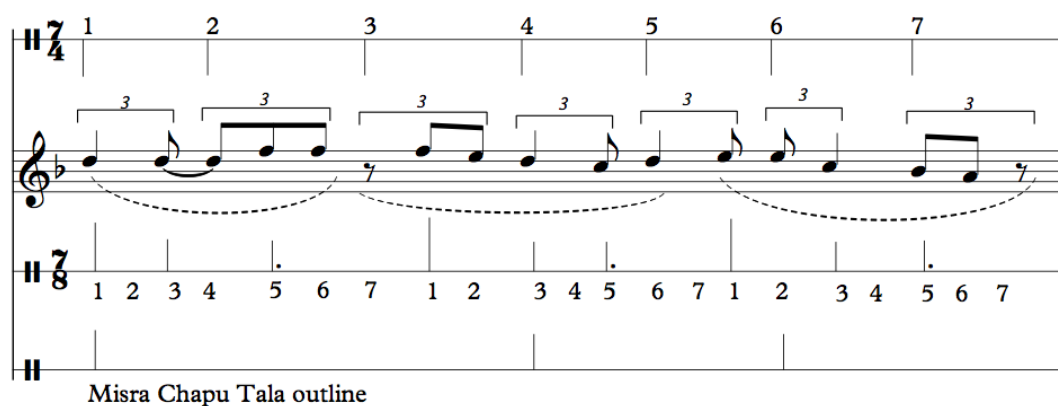
In the final arrangement, the melody based on *Shanmukapriya* is used in the first, second and fourth speeds. I composed a different melody, in the Aeolian mode, for the third speed to explore polyrhythmic possibilities. Pressing writes: ‘Polyrhythms...set up tension by introducing two (or possibly more) pulse streams of significant perceptual viability’ (2002: 302). This creates what Pressing calls ‘perceptual multiplicity’. Rhythmic conceptions in this area in jazz are different to those in Carnatic music, although there are some similarities.¹⁷² In jazz, polyrhythmic feeling is generated in a number of ways, such as orchestrating different pulse streams in musical sound, and/or embedding the pulse streams in the melodic structure. The performer’s interpretation also affects the audibility of the multiple pulse streams. In Carnatic music, the perceptual multiplicity inherent in the tala/phrase relationship would probably not be sounded polyphonically. Nelson describes

¹⁷² Pressing’s article (2002: 300-303) is about ‘Black Atlantic’ music, which includes jazz. He does not discuss Carnatic music in this article.

the effect of this for the uninitiated listener who may be ‘struck by the apparent independence of the material played by the drummer and the hand gestures employed by the person reckoning the...tala’ (1991: 2).

In the third speed of ‘Anbe Sivam’ I looked for ways to interpret the Carnatic material reflecting jazz conceptions of polyrhythm. Perceptual multiplicity is implicit in the melody I composed. Figure 60 illustrates the relationship of the melody to the different pulse streams informing this passage.

Figure 60: ‘Anbe Sivam’ Perceptual multiplicity in the third speed melody (7.15)



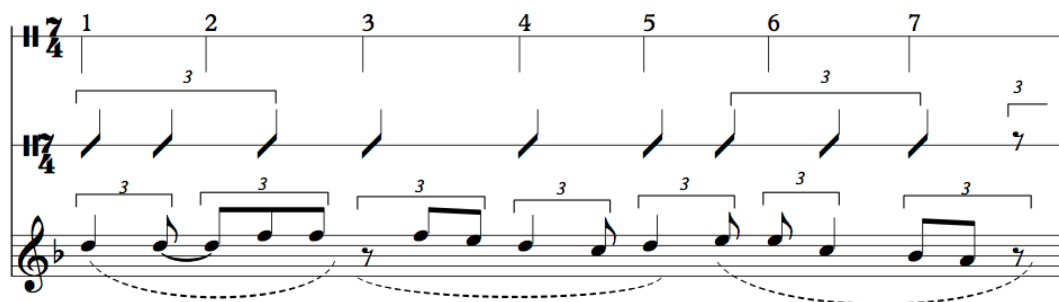
The melody has a triplet feeling against the crotchet beats of the 7/4 metre. It can be interpreted as even quavers in a 7/8 metre.¹⁷³ The melody also relates to the *Misra Chapu* Tala framework, shown on the bottom staff of Figure 60. The hand gestures of a musician keeping tala would outline this cycle. The melody has a different feeling depending whether the player relates to the big 7/4 bar or the three smaller 7/8 bars. This is due partly to syncopation.¹⁷⁴ The melody is more syncopated against the 7/4 metre than against the

¹⁷³ The length of the 7/8 bar in Western conception comes from thinking of 7/4 as 21/8 and dividing one 21/8 bar into three 7/8 bars.

¹⁷⁴ Pressing writes that syncopation is another device that gives rise to perceptual multiplicity in Black Atlantic music (2002: 300-303).

7/8 metre. For example, the start of the second and third phrases is syncopated against the 7/4 metre, whereas all the phrases start on beat 1 of the 7/8 metre. Another consideration is that in jazz conceptions of a triplet feel, groupings of 2s and 3s are often simultaneously juxtaposed, for example 3 crotchet triplets against 2 crotchets. These relationships, shown in Figure 61, are also implicit in the third speed melody.

Figure 61: Anbe Sivam, crotchet triplets in the third speed melody (7.15)



The predominant feeling in the 2012 performances was the 2 + 2 + 3 grouping of the 7/8 metre. One strategy explored in the 2013 Brisbane performance was to articulate the multiple rhythmic layers more strongly in the orchestration of the drum kit part. This helped to create a more polyrhythmic feeling. There is scope for further development of musical ideas that bridge the perceptual multiplicity inherent in tala/phrase relationships and jazz conceptions of polyrhythm.

In the staff notation for the second and third speeds, dashed bar lines are used to indicate the phrase groupings and their relationship to the 7/4 metre. An example is given in Figure 62.

Figure 62: 'Anbe Sivam' dashed barlines in third speed melody



In the original dance version there is an *arudi*, composed by Mani-Sir, in each speed, usually as a transition to the next speed. The *arudi* is recited first as *konakkol*, then with the poetic text. There were many considerations in arranging the *arudis* for the Two Oceans ensemble, such as whether the *arudis* would be spoken, or played, or a combination of both; and whether instrumental versions would include melodic as well as rhythmic material. The final form of the arrangement of the *arudis* is shown in Table 13.

Table 13: 'Anbe Sivam' Order of Arudis

First speed	Konakkol	Poetry
Second speed	Melody	Poetry
Third speed	Poetry	Melody
Fourth speed	Melody	Poetry

I composed the melody in Figure 63 for the second speed *arudi*.

Figure 63: 'Anbe Sivam' second speed arudi (7.00)



This melody was written to accompany the recitation of both the *konakkol* and the poetry.

In rehearsal, we discovered that although this was a pleasing texture, the orchestration overpowered the voice. A better result was to play the instrumental melody (using the A2, B2, C2 pitches), followed by the poetry.¹⁷⁵ The trumpet plays only the accented notes,

¹⁷⁵ The original melodic conception of the idea is used in 'Siva's Wide Sky', an arrangement of 'Anbe Sivam' for jazz sextet. 'Siva's Wide Sky' was performed by The Sandy Evans Sextet at the Sound Lounge for the Sydney Improvised Music Association on November 10th, 2012. The musicians were Sandy Evans: tenor saxophone; Phil Slater: trumpet; James Greening: trombone; Alister Spence: piano; Brett Hirst: bass; and Toby Hall: drums.

giving a bell-like quality to the start of each rhythmic grouping. The melodic contour is on the threshold of Carnatic and jazz sensibilities. The A and B phrases follow a descending scale pattern. Wider intervallic shapes in the subsequent phrases locate the melodic conception closer to modal jazz than Carnatic music.

The orchestration accompanying the poetry in the third speed *arudi* was more successful. Sustained notes on trumpet and saxophone support the *purvanga* (A) sections. Trombone and drum kit accompany the *uttaranga* (B) sections with the phrase shown in Figure 64.

Figure 64: 'Anbe Sivam' Trombone B phrase, third speed arudi (10.38)



The instrumental version of the *arudi* that answers the poetry is orchestrated using predominantly minor 11th chords. This is the first time harmonised melodies are used in the arrangement of the *arudis*. Step-wise melodic movement in the A section contrasts with the ascending fifths in the B section.

The instrumental version of the fourth speed *arudi* is harmonised using parallel sus9 chords (Figure 65).

Figure 65: 'Anbe Sivam' fourth speed arudi harmonisation (14.37)



A 7/16 time signature is used in the staff notation of the fourth speed, except during the *arudi* (as shown in Figure 65), where the time signatures follow the phrase shapes rather than the tala framework.¹⁷⁶ The Western musicians could sight read the passage with this notation, and immediately understood the rhythmic groupings.

Arranging the *arudis* was part of the detailed process of stitching this musical ‘garment’ together, with materials, designs, and aesthetic preferences from many sources. One of my roles was to integrate Balasai’s melodic material into the Two Oceans arrangement. My initial arrangement didn’t include any of Balasai’s melodies, largely because at first I wasn’t aware of his material. Once I became aware of it, I wondered if it was necessary for me to compose anything, but both Balasai and Mani-Sir encouraged me to continue with

¹⁷⁶ This is the strategy used in ‘One Justice’.

composing and arranging my own melodies. During the months leading up to the tour, I realised that including some of Balasai's material would give Mani-Sir a familiar framework in which to recite the poetry, create an important link to the dance version, and strengthen the Carnatic feeling of the work. This was an important consideration in the South Indian context of the first performances.

IMPROVISATIONS

The dance version did not contain any improvised sections. Another of my roles in the Two Oceans arrangement was to decide where solos would occur, who would be featured, and what accompaniment would be used. There are three spaces for improvisation in 'Anbe Sivam': an opening *alapana* for synthesiser and flute, a flute solo in the third speed, and a trumpet solo in the fourth speed.

The piece begins with an improvisation on iPad.¹⁷⁷ Adrian describes the instrument, processing, and performance techniques he uses:

I am using the Animoog synthesizer...by Moog Music on the iPad. I did the sound design by adapting one of the preset sounds into an appropriate timbre and setting the keyboard to be in the tuning for the raga. The processing of the sound is done with the built in delay in the program and manipulated in real time with the XY touch surface.¹⁷⁸

In this improvisation, Adrian sets both the mood of the piece and the tone of the collaboration. His exposition morphs from drone to melody to textural soundscape,

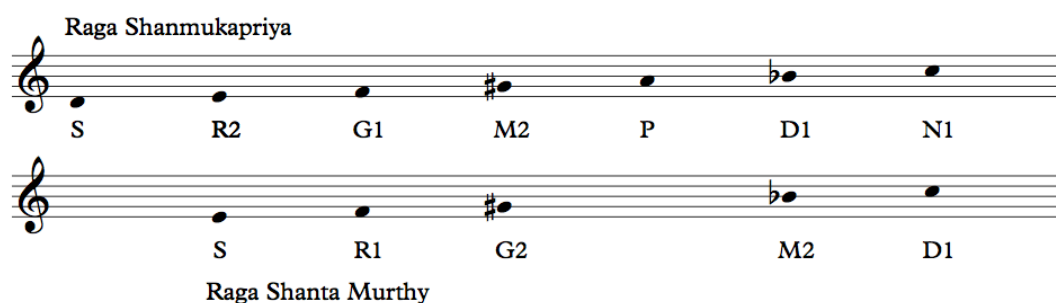
¹⁷⁷ Synthesisers are ubiquitous in film and fusion music in India. Synthesisers are becoming more common in Carnatic classical music, although their use in India is still controversial. Mohan Ayyar is one of the leading practitioners in Australia. See Pesch for a summary of the use of keyboards in Carnatic music (2009: 126-127).

¹⁷⁸ A. Sherriff, personal communication, 28th April, 2013.

referencing some of the glides and ornamentation of *gamaka*. In Balasai's *alapana*, Adrian shadows the flute in a type of accompaniment characteristic of Carnatic violinists,¹⁷⁹ while continuing the textural development introduced in his opening improvisation.

An ostinato played by mandolin, saxophone, and trombone emphasising Ni1 (b7) and Ri2 (9th) accompanies the flute solo in the third speed. The backing parts suggested the use of *graha bedham* to Balasai. He chose raga *Shanta Murthy*, an *audava* raga built from R (2nd degree) of *Shanmukapriya*, for his improvisation. Figure 66 shows the relationship of raga *Shanmukapriya* to raga *Shanta Murthy*.

Figure 66: Graha bedham, Raga Shanmukapriya and Raga Shanta Murthy



Raga *Shanta Murthy* does not include the pitch D (Sa in *Shanmukapriya*). By avoiding this pitch until the very end of his solo, Balasai heightens the tension created by the insistent accompanying parts.

The only guidelines I suggested for the trumpet solo section were to maintain the high energy 7/16 pulse, to use the pitches of *Shanmukapriya* (optional), and a core instrumentation of trumpet, bass trombone, and drum kit. Other musicians were free to participate if they wished. Suresh usually joined on ghatam. Scott leads the ensemble

¹⁷⁹ See Shankar for discussion of Carnatic violin accompaniment style (1974).

interaction.¹⁸⁰ He describes his musical practice in these terms: ‘My main area of focus over many years has been rhythmic development and exploration...I am into rhythmic substitutions or superimpositions as well as rhythm cycles or magic squares, as used in Indian Carnatic music’ (Scott in Vantrikt 2009). The tone and energy of Adrian’s bass trombone matches the trumpet, producing a different ensemble effect than an acoustic bass would have. The relationship between trumpet and trombone becomes more like a duet at times, although Adrian is careful not to lose sight of his supporting role.

The collective experience of the rhythm section is an important factor in this solo, and in the Two Oceans ensemble generally. The success of the rhythm section is partly the result of the breadth of knowledge and experience of each of the players. Suresh has extensive experience working with jazz drummers, and is at home with the types of interaction that might occur in a jazz rhythm section. Adam has a background in Carnatic rhythmic practice that began when he was a student of Adrian’s at the Victorian College of The Arts. He continued to develop his knowledge through his own professional practice, including work with Adrian in the ensemble Kewti.¹⁸¹ Strong relationships within the rhythm section, and between the rhythm section and the soloist, facilitated clear and confident communication, and interactive exploration.

Religious referents and poetic significations had a substantial role in the creation, development, and appreciation of this work. There are many strands to this complex web:

¹⁸⁰ It is beyond the scope of this study to research Scott’s improvisatory language. He is an extremely accomplished player who is an influential figure in Australian improvised music. Andy Fiddes is currently researching Scott’s improvisatory practice at the Sydney Conservatorium of Music. See Hannaford (2012) for other information, particularly in relation to the influence of Elliott Carter; and Jackson (2009) and Shand (2009) for interviews with Scott.

¹⁸¹ Kewti is a Melbourne based trio of Tom Fryer: fretless guitar; Adrian Sherriff: bass trombone; and Adam King: drums. See Webb’s interview with Adrian for a brief description of the trio’s work (2010: 61-62).

the symbolism and cosmology of Siva in Hinduism; the relationship between Siva and dance, music, and poetry; the transportation of belief systems by Hindu musicians to an intercultural context; and the relationship of non-Hindu performers and audience members to creative work expressing devotion for Siva.

To my knowledge, spiritual and philosophical aspects of Carnatic music have not been at the forefront of recent Western discourse about Carnatic intercultural and fusion music,¹⁸² (or jazz)¹⁸³ and yet, to my collaborators in Sruthi Laya devotion and music are inseparable. Sambamoorthy writes: ‘There are many paths to reach God. But music is the easiest and the most pleasant path to reach him’ (1969: 27). This was, almost word for word, the first thing Mani-Sir said to me at my first lesson at his *gurukulam* in Chennai in 2009.¹⁸⁴ These beliefs most likely derive from the ‘significance of sacred sound as Nada-Brahman in Hindu religious thought and practice’ (Beck 1993: xv).¹⁸⁵ More extensive research would be needed to verify to what extent the musicians in Sruthi Laya transport these beliefs to intercultural musical contexts. Nevertheless, my experience with Sruthi Laya aligns with commentary suggesting that, in Hindu philosophy, the divine origin and creative power of sound would apply in sacred and secular contexts.¹⁸⁶

¹⁸² Weidman’s landmark study of socio-political, cultural, and economic factors that have shaped the contemporary understanding and practice of Carnatic classical music discusses the significant impact of responses to the colonial influence in South India, nationalism, modernity, and the Brahminisation of Carnatic music (2006). Recent Western discourse about Carnatic intercultural music and fusion (Kalmanovitch 2008, Higgins 2013) has focused on some of the, undoubtedly important, socio-political, cultural, and economic trends that follow on from Weidman’s study.

¹⁸³ Berkman writes in her erudite article on the spirituality of John and Alice Coltrane that ‘Even though many African American jazz musicians have acknowledged the role of spirituality in their creative process, jazz scholars have tended to neglect this important context’ (2007: 41).

¹⁸⁴ He phrased it as the ‘nearest’ path to God, rather than the easiest or most pleasant.

¹⁸⁵ Refer to Beck (1993) and Rowell (1992) for more on this topic.

¹⁸⁶ An example of commentary along these lines is found in this review of Beck’s book: ‘His [Beck’s] use of the qualifying adjective “sacred” to modify the substantive “sound” appears to presuppose a dichotomy with nonsacred, or profane sound. By contrast, as Beck himself has shown, Hindus have perceived sound itself, not merely a subset of sounds, as having a divine origin, as the creative power that brings the universe into being again and again, and as a powerful means of religious realization’ (Wulff 1996: 486).

Since I don't speak Tamil, Mani-Sir and Rajeswari Sainath explained the meaning of the text of 'Anbe Sivam' to me. When I returned to Australia, Sarangan expanded on their explanation. To communicate my version of 'Anbe Sivam' to the musicians in India, I recorded myself speaking the Tamil poetry with the MIDI version of my score.¹⁸⁷ After hearing this, Mani-Sir asked me to recite the Tamil poetry in the first speed at the performances in India, which I did at the start of the composition, and in duet with him at the end. I accepted this challenge with a mix of trepidation about the likelihood of poor pronunciation, and gratitude for the opportunity to participate in cultural exchange.

DRUMS ACROSS THE GANGES

Track 2 CD3

In Chapter 3, I discussed confluences in 'One Planet' between jazz and Carnatic conceptions of a fast 7/8 rhythm and the *rutchenitsa*. 'Drums Across the Ganges' explores confluences with fast 9/8 rhythms using a 2+2+2+3 grouping. In Bulgarian dance music this rhythm is known as *Dajchovata* (Rice 1980: 63).¹⁸⁸ This is similar to the Carnatic conception of 9, *Sankeernam*. The Brubeck composition 'Blue Rondo a la Turk', inspired by his quartet's 1958 tour of Turkey, also uses this rhythm.¹⁸⁹

'Drums Across the Ganges' has contrasting 12 bar A and B melodies. Differences in melodic conception, hinted at in the *arudis* in 'Anbe Sivam', are explored more overtly in

¹⁸⁷ I made a rough transliteration of the Tamil words in 2012. I used this to construct the score, and to direct the rehearsals and performances in 2012 and 2013. The transliteration in the score (pages 293-330) was given to me by Mani-Sir in January 2014.

¹⁸⁸ In performances with Mara! the dance is usually called *Daichevo*.

¹⁸⁹ 'Blue Rondo a la Turk' is most likely derived from a Turkish 9/8 rhythm known variously as *Zeybek*, *Bas bari*, *Halay* or *Sari cicek* (Markoff 2001). Crist mentions a field report from Turkey documenting Brubeck's request to a member of the cultural staff in Ankara to prepare 'a tape of representative examples of Turkish music' (2009: 155).

this composition. The A melody has features common in jazz but not Carnatic music, such as wide intervallic leaps, key changes, and irregular rhythmic accents. The melody is accompanied by a bass trombone counterline. Both parts are shown in Figure 67.

Figure 67: 'Drums Across the Ganges' A melody and bass part (0.07)



The B melody has typically Carnatic features. It moves step-wise in unison, without changing key, through a minor pentatonic scale equivalent to raga *Udayaravichandrika*. It is based on a *korvai* structure. During the March creative development period, Mani-Sir taught Adrian and I a *korvai* with 6 5 4 3 (phrased as 33 23 13 3) as the structure for the *purvanga*. Adrian suggested a variation of this *korvai* in *sankeernam* where the *uttaranga* would be 6 6 6. The rhythmic structure of the B melody comes from a *korvai* of Mani-

Sir's adapted by Adrian, reinterpreted by me. Figure 68 illustrates the rhythmic structure of the B melody.

Figure 68: 'Drums Across the Ganges' B melody (0.24)



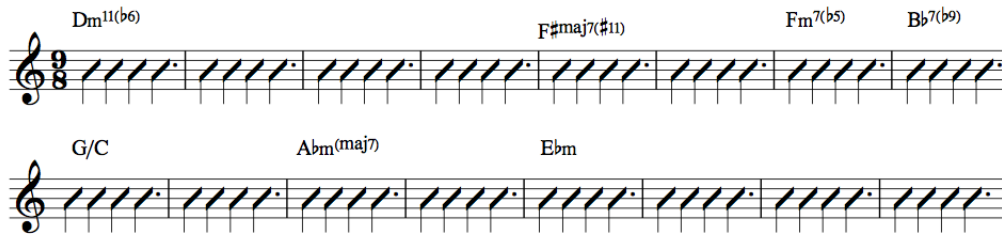
The implications of harmonic modulation are an important consideration for composers in Carnatic jazz intercultural contexts. Key changes make it difficult for Indian melody players to participate as soloists. Even in composed sections there are practical, aesthetic, and conceptual considerations, such as the effect of tuned percussion instruments, like mridangam and ghatam, in harmonically modulating sections. Alister Spence explored this area with the AAO and Sruthi Laya in his composition 'The Creeper' (Spence 2009).¹⁹⁰ Mridangam and ghatam underpin a sequence of polychords from F/A to D^bsus/A^b with the D drone of the drums.¹⁹¹ The effectiveness of this strategy in 'The Creeper' gave me confidence to explore the use of Carnatic percussion instruments in music that changed

¹⁹⁰ Recorded on *The Chennai Sessions* (Australian Art Orchestra with Guru Kaaraikkudi Mani 2009).

¹⁹¹ In this sequence, the harmonic function of the D in the first chord can be heard either as the 6th of the F chord, or the 4th against the A bass note. This is a relatively consonant sound. The D is more dissonant in the second chord. It can be heard either as a minor 2nd in relation to the D^b chord, or a diminished 5th in relation to the A^b bass note.

key. This is one of the ideas in ‘Drums Across the Ganges’. I constructed a chord sequence for the jazz soloists (Figure 69) from implied harmonic movement in the A melody.

Figure 69: ‘Drums Across the Ganges’ saxophone solo harmonic form (0.58)



On this recording, there is a saxophone solo over this harmonic form accompanied by bass trombone, drum kit, mridangam, and ghatam. This instrumental combination seemed to be compatible with the harmonic modulations in the chord sequence. Perhaps the dissonance of the Eb minor chord against the D pitch of the percussion would be more noticeable if a chord instrument was also playing.

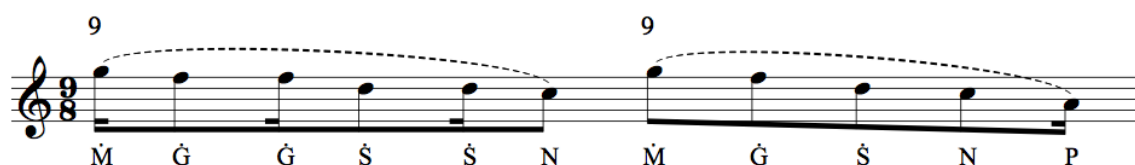
The saxophone solo concludes with a modal section based on D minor pentatonic scale in a 3+3+3 grouping. This section links to the mandolin solo that is in *Tisra Gati (Nadai) Rupaka* Tala (the 3+3+3 grouping), in raga *Udayaravichandrika* (equivalent to the minor pentatonic scale). The mandolin solo is accompanied by mridangam and ghatam. The collaborative process in composition and arranging that occurred in ‘Anbe Sivam’ was also important in ‘Drums Across the Ganges’. Sruthi Laya composed an *arudi* for the conclusion of the mandolin solo. The following analysis of the *arudi* informed my understanding of the rhythmic material, and may serve a similar purpose for other Western musicians, although it is likely Sruthi Laya think of the rhythmic patterns differently. The staff notation would certainly be meaningless to them. The opening phrase lasting 6 quaver beats is stated 3 times (Figure 70).

Figure 70: 'Drums Across the Ganges' mandolin solo Arudi, part 1 (5.42)



Figure 71 illustrates the rhythmic pattern in the second part of the *arudi*. This pattern divides the 9/8 bar in half, so each phrase is the equivalent of 9 semiquavers.

Figure 71: 'Drums Across the Ganges' mandolin solo Arudi, part 2 (5.45)



The complete *arudi* is shown in Figure 72.

Figure 72: 'Drums Across the Ganges' mandolin solo Arudi (5.42)



The *arudi* uses calculations for aesthetic affect rather than purely mathematical ends, balancing variation with repetition to create pleasing melodies. Much of the aesthetic affect of this *arudi* comes from the extremely fast tempo. Raju plays a cue phrase to lead in to the *arudi* (Figure 73).

Figure 73: 'Drums Across the Ganges' mandolin solo cue phrase (5.34)



This cue phrase is developed into an *arudi* that is played by the whole ensemble at the conclusion of the composition. In the closing *arudi*, shown in Figure 74, the phrase is played once in quavers, and once in quaver triplets, finishing with 3 repeated crotchets. The start of the phrase is displaced by one quaver (a *karvai* of 1) each time, finishing on beat 1 the last time, an important consideration in Carnatic aesthetics.

Figure 74: 'Drums Across the Ganges' final arudi (13.02)



The musicians learnt the phrase by ear and it was not notated during rehearsal. The notation in Figure 74 is difficult for most jazz musicians to read. In the score (pages 348-349), created partly for subsequent performances with other jazz musicians, time signatures follow the phrase shapes, rather than the tala framework. This is the strategy developed in 'One Justice' and 'Anbe Sivam'.

The flute and saxophone trading in 'Drums Across the Ganges' integrates a formal structure from Carnatic music (*koraippu*) with harmonic elements from jazz. The flute improvisation is in raga *Natabhairavi* (D Aeolian); the saxophone improvisation follows a

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chord sequence. The question and answer phrases become shorter as the duet unfolds.

Figure 75 illustrates the harmonic and rhythmic form of the *koraippu*.

Figure 75: 'Drums Across the Ganges' harmonic form of Koraippu (6.10)

The musical score for 'Drums Across the Ganges' is composed of eight staves, each representing a different instrument or voice part. The instruments are Flute and Saxophone. The chords are written above the staves. The rhythm is indicated by diamond-shaped notes on a treble clef staff.

Staff 1: Flute. Chord: Dm¹¹(b6).

Staff 2: Sax. Chords: F#maj7(#11), Fm7(b5), Bb7(b9), G/C, Abm(maj7).

Staff 3: Flute. Chords: Dm¹¹(b6), Ebm¹¹(b6).

Staff 4: Flute. Chords: Dm¹¹(b6), F#maj7(#11).

Staff 5: Flute. Chords: Dm¹¹(b6), G/C, Dm¹¹(b6), F#maj7(#11).

Staff 6: Flute. Chords: Dm¹¹(b6), G/C, Dm¹¹(b6), Ebm¹¹(b6).

Staff 7: Flute. Chords: Dm¹¹(b6), F#maj7(#11), Dm¹¹(b6), G/C, Dm¹¹(b6), Abm(maj7), Dm¹¹(b6), Ebm¹¹(b6).

Staff 8: Flute. Chords: Dm¹¹(b6), F#maj7(#11), Dm¹¹(b6), G/C, Dm¹¹(b6), F#maj7(#11).

Staff 9: Flute. Chords: Dm¹¹(b6), Ebm¹¹(b6), Dm¹¹(b6), F#maj7(#11), Dm¹¹(b6), G/C.

This section is like a new version of a familiar musical game. The choices between

copying, complementing, and contrasting that Balasai and I explored in 'Cosmic Waves'

are also explored here. In this passage differences in the melodic and harmonic structure of each player's allocated space add another dimension to the dialogue.

The Carnatic practice of *trikala* (3 speeds) is used in a slightly atypical way in the passage following the *koraippu*. The rhythmic structure of the B melody is adapted to two slower speeds. As discussed on pages 164-165, the rhythmic structure of the B melody is:

6 5 4 3

6 6 6

In the original melody (the fast speed), each unit of time is a quaver. In this passage, the rhythmic pattern is stated once in the slow speed, where the unit of time is a dotted crotchet; once in medium speed, where the unit of time is a crotchet; then in the fast speed.

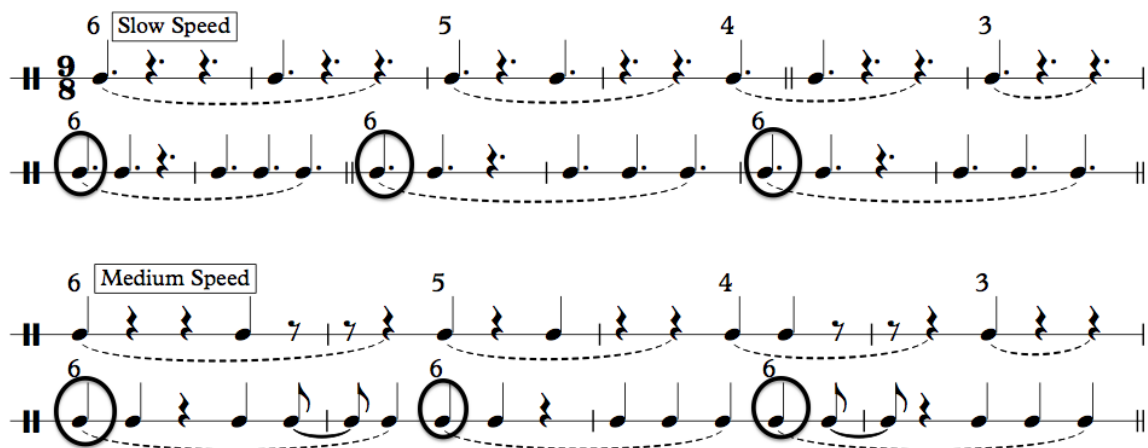
Figure 76 shows the rhythmic pattern in each of the three speeds.

Figure 76: 'Drums Across the Ganges' 3 speeds of B (7.27)

The figure displays three musical staves, each representing a different speed of the B melody. Each staff consists of two lines of music. The top line of each staff has notes with fingerings 6, 5, 4, and 3. The bottom line has notes with fingerings 6, 6, and 6. The first staff is labeled 'Slow Speed' and features a 9/8 time signature. The second staff is labeled 'Medium Speed' and the third is labeled 'Fast Speed'. The notation uses various note values (dotted crotchets, crotchets, quavers) and rests to represent the rhythmic pattern across the three speeds.

The passage is harmonised in D Minor with block chords in rhythmic unison. In the slow and medium speeds, the melody instruments play only the first note (circled in Figure 77) of the last 3 phrases. This a more successful use of the technique I experimented with in the interlude section of 'Cosmic Waves at West Beach'. In that passage, the Carnatic musicians preferred to have the complete rhythm played by a melody instrument.

Figure 77: 'Drums Across the Ganges' Slow and medium speed accents



AN INTERCULTURAL HORN SECTION

When I realised there would be no bass or piano in the Two Oceans ensemble, I looked for alternatives for passages where a chordal sound was envisaged. One unexpected outcome of this was a greater unity between the melody instruments in the ensemble. A horn section of trumpet, trombone, and saxophone has a certain power playing a chord, partly because of the acoustics of the instruments, but also because of the mindsets of the players. The players instinctively listen for the balance of their notes within the chord, making subtle adjustments to pitch, timbre, and dynamics to bring out the sweetness of the harmony. Stylistic conventions regarding articulation, vibrato, rhythmic placement, and note lengths help to create an ensemble sound. A jazz composer considers voicings carefully, achieving

different effects with the inversion, quality, span, and context of the chord, as well as the distribution of the parts between instruments.

My usual orchestration practice with Carnatic flute and mandolin had been to give them the melody in unison. This aligns with performance practice in Carnatic music. I wasn't sure how they would adapt to playing inner parts, especially in music that changed key. I explored ways of creating a section blend combining the Carnatic and Western instruments in one section of 'Drums Across the Ganges', and more extensively in 'An Indian in Paris'. Figure 78 shows a trumpet, flute, and mandolin passage in 'Drums Across the Ganges' that is reorchestrated from a piano part.

Figure 78: 'Drums Across the Ganges' trumpet, flute, mandolin voicing (0.52)



A conversation between Raju and myself during rehearsal about the *swaras* for the mandolin part in Figure 78, highlighted an important difference in our melodic conceptions. For me, the first two bars modulated from D minor to E \flat minor. I conceived the interval relationships in the key of E \flat , hence the E \flat pitch became the tonic, or Sa. In Raju's conception, the *sruthi* had not changed, so Sa was D, not E \flat . Not being fully cognisant of this crucial difference, I directed Raju to play Sa, so of course he played D. We quickly realised something was wrong and clarified the misunderstanding. Raju's notation for this *swara* became Ri1 and the problem was solved. I learned to communicate

the nomenclature of harmonically modulating passages differently to the Carnatic musicians and the jazz musicians. Communicating the correct musical information to the performers was the main consideration during rehearsal. It is likely that differences in the perception of interval relationships also have more profound implications affecting the player's understanding and interpretation of melodic material.

There have been many times during AAO collaborations with Sruthi Laya where Carnatic players would instinctively learn and play new material derived from the Carnatic system in a matter of seconds. The Western musicians would often have to spend much longer learning the same material. In this case, the Carnatic musicians took longer to learn the material, and grasp the importance of phrasing it with the trumpet. These moments in the collaboration have special significance, as skills and knowledge about aspects of music are shared. New possibilities for performance practice often develop as the range of roles players can confidently perform grows.

The title of this work is a tribute to Australian jazz drummer John Pochée, founder of Ten Part Invention, of which I have been a member since its inception in 1986.¹⁹² John is a great raconteur. He often describes memorable climactic moments in improvised music in this way: 'and then it was drums across the Ganges'! I asked his permission to use this phrase as the title for this composition. He agreed, but was keen to make sure an Indian person wouldn't find the title disrespectful.¹⁹³ I explained that the spirit of the composition paid due respect to the shared, if somewhat different, connection between drums and the

¹⁹² The premiere of this piece was given by Ten Part Invention at the Sound Lounge for the Sydney Improvised Music Association on 13th October, 2012. The arrangement was different from the Two Oceans version. The musicians were: Sandy Evans: soprano saxophone; Peter Farrar: alto saxophone; Matt Ottignon: flute; Paul Cutlan: baritone saxophone; Miroslav Bukovsky: trumpet; Warwick Alder: trumpet; James Greening: trombone; Paul McNamara: piano; Steve Arié: bass; and Dave Goodman: drums.

¹⁹³ J. Pochée, personal communication, 17th September, 2012

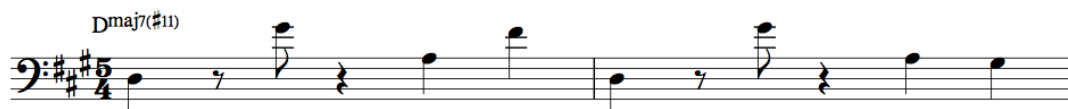
sacred, in both jazz and Carnatic music.¹⁹⁴ The piece finishes in this spirit with a drum solo, followed by a mridangam and ghatam duet.

AN INDIAN IN PARIS

Track 3 CD3

Confluences between rhythms in 5 in jazz and *khandam* in Carnatic music are explored in 'An Indian in Paris'. As with 'Drums Across the Ganges', jazz and Carnatic conceptions are integrated into the compositional framework and used to generate improvisatory spaces. In 'Drums Across the Ganges', similarity and difference were primarily explored through harmonic and modal elements. In 'An Indian in Paris' differences in feel and orchestration are the primary focus, expressed in contrasting A and B sections. The A section is in a swing feel referencing the Paul Desmond composition 'Take Five'. The bass trombone line, shown in Figure 79, sets up the groove.

Figure 79: 'An Indian in Paris' A section bass line (0.16)



The B section is in double time with an even semiquaver feel, and a walking bass trombone line. The *Khanda Chapu* Tala outline is incorporated into the drum part on cross stick. The bass and drum parts are shown in Figure 80.

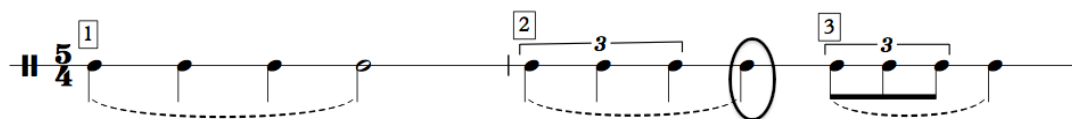
¹⁹⁴ In Australia we refer to the River Ganges, but in India, Adrian (A. Sherriff, personal communication, 17th November, 2012) suggested we should change to title to reflect the Indian name for the sacred river, so the composition became 'Drums Across the Ganga'.

Figure 80: 'An Indian in Paris' B section bass line and drum rhythm (0.22)

Figure 80 displays the B section bass line and drum rhythm. The Bass Trombone part is written in 5/4 time with a key signature of two sharps (F# and C#). The melody consists of a series of eighth notes: G2, A2, B2, C3, D3, E3, F#3, G#3, A3, B3, C4, D4, E4, F#4, G#4, A4, B4, C5, D5, E5, F#5, G#5, A5, B5, C6, D6, E6, F#6, G#6, A6, B6, C7, D7, E7, F#7, G#7, A7, B7, C8, D8, E8, F#8, G#8, A8, B8, C9, D9, E9, F#9, G#9, A9, B9, C10, D10, E10, F#10, G#10, A10, B10, C11, D11, E11, F#11, G#11, A11, B11, C12, D12, E12, F#12, G#12, A12, B12, C13, D13, E13, F#13, G#13, A13, B13, C14, D14, E14, F#14, G#14, A14, B14, C15, D15, E15, F#15, G#15, A15, B15, C16, D16, E16, F#16, G#16, A16, B16, C17, D17, E17, F#17, G#17, A17, B17, C18, D18, E18, F#18, G#18, A18, B18, C19, D19, E19, F#19, G#19, A19, B19, C20, D20, E20, F#20, G#20, A20, B20, C21, D21, E21, F#21, G#21, A21, B21, C22, D22, E22, F#22, G#22, A22, B22, C23, D23, E23, F#23, G#23, A23, B23, C24, D24, E24, F#24, G#24, A24, B24, C25, D25, E25, F#25, G#25, A25, B25, C26, D26, E26, F#26, G#26, A26, B26, C27, D27, E27, F#27, G#27, A27, B27, C28, D28, E28, F#28, G#28, A28, B28, C29, D29, E29, F#29, G#29, A29, B29, C30, D30, E30, F#30, G#30, A30, B30, C31, D31, E31, F#31, G#31, A31, B31, C32, D32, E32, F#32, G#32, A32, B32, C33, D33, E33, F#33, G#33, A33, B33, C34, D34, E34, F#34, G#34, A34, B34, C35, D35, E35, F#35, G#35, A35, B35, C36, D36, E36, F#36, G#36, A36, B36, C37, D37, E37, F#37, G#37, A37, B37, C38, D38, E38, F#38, G#38, A38, B38, C39, D39, E39, F#39, G#39, A39, B39, C40, D40, E40, F#40, G#40, A40, B40, C41, D41, E41, F#41, G#41, A41, B41, C42, D42, E42, F#42, G#42, A42, B42, C43, D43, E43, F#43, G#43, A43, B43, C44, D44, E44, F#44, G#44, A44, B44, C45, D45, E45, F#45, G#45, A45, B45, C46, D46, E46, F#46, G#46, A46, B46, C47, D47, E47, F#47, G#47, A47, B47, C48, D48, E48, F#48, G#48, A48, B48, C49, D49, E49, F#49, G#49, A49, B49, C50, D50, E50, F#50, G#50, A50, B50, C51, D51, E51, F#51, G#51, A51, B51, C52, D52, E52, F#52, G#52, A52, B52, C53, D53, E53, F#53, G#53, A53, B53, C54, D54, E54, F#54, G#54, A54, B54, C55, D55, E55, F#55, G#55, A55, B55, C56, D56, E56, F#56, G#56, A56, B56, C57, D57, E57, F#57, G#57, A57, B57, C58, D58, E58, F#58, G#58, A58, B58, C59, D59, E59, F#59, G#59, A59, B59, C60, D60, E60, F#60, G#60, A60, B60, C61, D61, E61, F#61, G#61, A61, B61, C62, D62, E62, F#62, G#62, A62, B62, C63, D63, E63, F#63, G#63, A63, B63, C64, D64, E64, F#64, G#64, A64, B64, C65, D65, E65, F#65, G#65, A65, B65, C66, D66, E66, F#66, G#66, A66, B66, C67, D67, E67, F#67, G#67, A67, B67, C68, D68, E68, F#68, G#68, A68, B68, C69, D69, E69, F#69, G#69, A69, B69, C70, D70, E70, F#70, G#70, A70, B70, C71, D71, E71, F#71, G#71, A71, B71, C72, D72, E72, F#72, G#72, A72, B72, C73, D73, E73, F#73, G#73, A73, B73, C74, D74, E74, F#74, G#74, A74, B74, C75, D75, E75, F#75, G#75, A75, B75, C76, D76, E76, F#76, G#76, A76, B76, C77, D77, E77, F#77, G#77, A77, B77, C78, D78, E78, F#78, G#78, A78, B78, C79, D79, E79, F#79, G#79, A79, B79, C80, D80, E80, F#80, G#80, A80, B80, C81, D81, E81, F#81, G#81, A81, B81, C82, D82, E82, F#82, G#82, A82, B82, C83, D83, E83, F#83, G#83, A83, B83, C84, D84, E84, F#84, G#84, A84, B84, C85, D85, E85, F#85, G#85, A85, B85, C86, D86, E86, F#86, G#86, A86, B86, C87, D87, E87, F#87, G#87, A87, B87, C88, D88, E88, F#88, G#88, A88, B88, C89, D89, E89, F#89, G#89, A89, B89, C90, D90, E90, F#90, G#90, A90, B90, C91, D91, E91, F#91, G#91, A91, B91, C92, D92, E92, F#92, G#92, A92, B92, C93, D93, E93, F#93, G#93, A93, B93, C94, D94, E94, F#94, G#94, A94, B94, C95, D95, E95, F#95, G#95, A95, B95, C96, D96, E96, F#96, G#96, A96, B96, C97, D97, E97, F#97, G#97, A97, B97, C98, D98, E98, F#98, G#98, A98, B98, C99, D99, E99, F#99, G#99, A99, B99, C100, D100, E100, F#100, G#100, A100, B100, C101, D101, E101, F#101, G#101, A101, B101, C102, D102, E102, F#102, G#102, A102, B102, C103, D103, E103, F#103, G#103, A103, B103, C104, D104, E104, F#104, G#104, A104, B104, C105, D105, E105, F#105, G#105, A105, B105, C106, D106, E106, F#106, G#106, A106, B106, C107, D107, E107, F#107, G#107, A107, B107, C108, D108, E108, F#108, G#108, A108, B108, C109, D109, E109, F#109, G#109, A109, B109, C110, D110, E110, F#110, G#110, A110, B110, C111, D111, E111, F#111, G#111, A111, B111, C112, D112, E112, F#112, G#112, A112, B112, C113, D113, E113, F#113, G#113, A113, B113, C114, D114, E114, F#114, G#114, A114, B114, C115, D115, E115, F#115, G#115, A115, B115, C116, D116, E116, F#116, G#116, A116, B116, C117, D117, E117, F#117, G#117, A117, B117, C118, D118, E118, F#118, G#118, A118, B118, C119, D119, E119, F#119, G#119, A119, B119, C120, D120, E120, F#120, G#120, A120, B120, C121, D121, E121, F#121, G#121, A121, B121, C122, D122, E122, F#122, G#122, A122, B122, C123, D123, E123, F#123, G#123, A123, B123, C124, D124, E124, F#124, G#124, A124, B124, C125, D125, E125, F#125, G#125, A125, B125, C126, D126, E126, F#126, G#126, A126, B126, C127, D127, E127, F#127, G#127, A127, B127, C128, D128, E128, F#128, G#128, A128, B128, C129, D129, E129, F#129, G#129, A129, B129, C130, D130, E130, F#130, G#130, A130, B130, C131, D131, E131, F#131, G#131, A131, B131, C132, D132, E132, F#132, G#132, A132, B132, C133, D133, E133, F#133, G#133, A133, B133, C134, D134, E134, F#134, G#134, A134, B134, C135, D135, E135, F#135, G#135, A135, B135, C136, D136, E136, F#136, G#136, A136, B136, C137, D137, E137, F#137, G#137, A137, B137, C138, D138, E138, F#138, G#138, A138, B138, C139, D139, E139, F#139, G#139, A139, B139, C140, D140, E140, F#140, G#140, A140, B140, C141, D141, E141, F#141, G#141, A141, B141, C142, D142, E142, F#142, G#142, A142, B142, C143, D143, E143, F#143, G#143, A143, B143, C144, D144, E144, F#144, G#144, A144, B144, C145, D145, E145, F#145, G#145, A145, B145, C146, D146, E146, F#146, G#146, A146, B146, C147, D147, E147, F#147, G#147, A147, B147, C148, D148, E148, F#148, G#148, A148, B148, C149, D149, E149, F#149, G#149, A149, B149, C150, D150, E150, F#150, G#150, A150, B150, C151, D151, E151, F#151, G#151, A151, B151, C152, D152, E152, F#152, G#152, A152, B152, C153, D153, E153, F#153, G#153, A153, B153, C154, D154, E154, F#154, G#154, A154, B154, C155, D155, E155, F#155, G#155, A155, B155, C156, D156, E156, F#156, G#156, A156, B156, C157, D157, E157, F#157, G#157, A157, B157, C158, D158, E158, F#158, G#158, A158, B158, C159, D159, E159, F#159, G#159, A159, B159, C160, D160, E160, F#160, G#160, A160, B160, C161, D161, E161, F#161, G#161, A161, B161, C162, D162, E162, F#162, G#162, A162, B162, C163, D163, E163, F#163, G#163, A163, B163, C164, D164, E164, F#164, G#164, A164, B164, C165, D165, E165, F#165, G#165, A165, B165, C166, D166, E166, F#166, G#166, A166, B166, C167, D167, E167, F#167, G#167, A167, B167, C168, D168, E168, F#168, G#168, A168, B168, C169, D169, E169, F#169, G#169, A169, B169, C170, D170, E170, F#170, G#170, A170, B170, C171, D171, E171, F#171, G#171, A171, B171, C172, D172, E172, F#172, G#172, A172, B172, C173, D173, E173, F#173, G#173, A173, B173, C174, D174, E174, F#174, G#174, A174, B174, C175, D175, E175, F#175, G#175, A175, B175, C176, D176, E176, F#176, G#176, A176, B176, C177, D177, E177, F#177, G#177, A177, B177, C178, D178, E178, F#178, G#178, A178, B178, C179, D179, E179, F#179, G#179, A179, B179, C180, D180, E180, F#180, G#180, A180, B180, C181, D181, E181, F#181, G#181, A181, B181, C182, D182, E182, F#182, G#182, A182, B182, C183, D183, E183, F#183, G#183, A183, B183, C184, D184, E184, F#184, G#184, A184, B184, C185, D185, E185, F#185, G#185, A185, B185, C186, D186, E186, F#186, G#186, A186, B186, C187, D187, E187, F#187, G#187, A187, B187, C188, D188, E188, F#188, G#188, A188, B188, C189, D189, E189, F#189, G#189, A189, B189, C190, D190, E190, F#190, G#190, A190, B190, C191, D191, E191, F#191, G#191, A191, B191, C192, D192, E192, F#192, G#192, A192, B192, C193, D193, E193, F#193, G#193, A193, B193, C194, D194, E194, F#194, G#194, A194, B194, C195, D195, E195, F#195, G#195, A195, B195, C196, D196, E196, F#196, G#196, A196, B196, C197, D197, E197, F#197, G#197, A197, B197, C198, D198, E198, F#198, G#198, A198, B198, C199, D199, E199, F#199, G#199, A199, B199, C200, D200, E200, F#200, G#200, A200, B200, C201, D201, E201, F#201, G#201, A201, B201, C202, D202, E202, F#202, G#202, A202, B202, C203, D203, E203, F#203, G#203, A203, B203, C204, D204, E204, F#204, G#204, A204, B204, C205, D205, E205, F#205, G#205, A205, B205, C206, D206, E206, F#206, G#206, A206, B206, C207, D207, E207, F#207, G#207, A207, B207, C208, D208, E208, F#208, G#208, A208, B208, C209, D209, E209, F#209, G#209, A209, B209, C210, D210, E210, F#210, G#210, A210, B210, C211, D211, E211, F#211, G#211, A211, B211, C212, D212, E212, F#212, G#212, A212, B212, C213, D213, E213, F#213, G#213, A213, B213, C214, D214, E214, F#214, G#214, A214, B214, C215, D215, E215, F#215, G#215, A215, B215, C216, D216, E216, F#216, G#216, A216, B216, C217, D217, E217, F#217, G#217, A217, B217, C218, D218, E218, F#218, G#218, A218, B218, C219, D219, E219, F#219, G#219, A219, B219, C220, D220, E220, F#220, G#220, A220, B220, C221, D221, E221, F#221, G#221, A221, B221, C222, D222, E222, F#222, G#222, A222, B222, C223, D223, E223, F#223, G#223, A223, B223, C224, D224, E224, F#224, G#224, A224, B224, C225, D225, E225, F#225, G#225, A225, B225, C226, D226, E226, F#226, G#226, A226, B226, C227, D227, E227, F#227, G#227, A227, B227, C228, D228, E228, F#228, G#228, A228, B228, C229, D229, E229, F#229, G#229, A229, B229, C230, D230, E230, F#230, G#230, A230, B230, C231, D231, E231, F#231, G#231, A231, B231, C232, D232, E232, F#232, G#232, A232, B232, C233, D233, E233, F#233, G#233, A233, B233, C234, D234, E234, F#234, G#234, A234, B234, C235, D235, E235, F#235, G#235, A235, B235, C236, D236, E236, F#236, G#236, A236, B236, C237, D237, E237, F#237, G#237, A237, B237, C238, D238, E238, F#238, G#238, A238, B238, C239, D239, E239, F#239, G#239, A239, B239, C240, D240, E240, F#240, G#240, A240, B240, C241, D241, E241, F#241, G#241, A241, B241, C242, D242, E242, F#242, G#242, A242, B242, C243, D243, E243, F#243, G#243, A243, B243, C244, D244, E244, F#244, G#244, A244, B244, C245, D245, E245, F#245, G#245, A245, B245, C246, D246, E246, F#246, G#246, A246, B246, C247, D247, E247, F#247, G#247, A247, B247, C248, D248, E248, F#248, G#248, A248, B248, C249, D249, E249, F#249, G#249, A249, B249, C250, D250, E250, F#250, G#250, A250, B250, C251, D251, E251, F#251, G#251, A251, B251, C252, D252, E252, F#252, G#252, A252, B252, C253, D253, E253, F#253, G#253, A253, B253, C254, D254, E254, F#254, G#254, A254, B254, C255, D255, E255, F#255, G#255, A255, B255, C256, D256, E256, F#256, G#256, A256, B256, C257, D257, E257, F#257, G#257, A257, B257, C258, D258, E258, F#258, G#258, A258, B258, C259, D259, E259, F#259, G#259, A259, B259, C260, D260, E260, F#260, G#260, A260, B260, C261, D261, E261, F#261, G#261, A261, B261, C262, D262, E262, F#262, G#262, A262, B262, C263, D263, E263, F#263, G#263, A263, B263, C264, D264, E264, F#264, G#264, A264, B264, C265, D265, E265, F#265, G#265, A265, B265, C266, D266, E266, F#266, G#266, A266, B266, C267, D267, E267, F#267, G#267, A267, B267, C268, D268, E268, F#268, G#268, A268, B268, C269, D269, E269, F#269, G#269, A269, B269, C270, D270, E270, F#270, G#270, A270, B270, C271, D271, E271, F#271, G#271, A271, B271, C272, D272, E272, F#272, G#272, A272, B272, C273, D273, E273, F#273, G#273, A273, B273, C274, D274, E274, F#274, G#274, A274, B274, C275, D275, E275, F#275, G#275, A275, B275, C276, D276, E276, F#276, G#276, A276, B276, C277, D277, E277, F#277, G#277, A277, B277, C278, D278, E278, F#278, G#278, A278, B278, C279, D279, E279, F#279, G#279, A279, B279, C280, D280, E280, F#280, G#280, A280, B280, C281, D281, E281, F#281, G#281, A281, B281, C282, D282, E282, F#282, G#282, A282, B282, C283, D283, E283, F#283, G#283, A283, B283, C284, D284, E284, F#284, G#284, A284, B284, C285, D285, E285, F#285, G#285, A285, B285, C286, D286, E286, F#286, G#286, A286, B286, C287, D287, E287, F#287, G#287, A287, B287, C288, D288, E288, F#288, G#288, A288, B288, C289, D289, E289, F#289, G#289, A289, B289, C290, D290, E290, F#290, G#290, A290, B290, C291, D291, E291, F#291, G#291, A291, B291, C292, D292, E292, F#292, G#292, A292, B292, C293, D293, E293, F#293, G#293, A293, B293, C294, D294, E294, F#294, G#294, A294, B294, C295, D295, E295, F#295, G#295, A295, B295, C296, D296, E296, F#296, G#296, A296, B296, C297, D297, E297, F#297, G#297, A297, B297, C298, D298, E298, F#298, G#298, A298, B298, C299, D299, E299, F#299, G#299, A299, B299, C300, D300, E300, F#300, G#300, A300, B300, C301, D301, E301, F#301, G#301, A301, B301, C302, D302, E302, F#302, G#302, A302, B302, C303, D303, E303, F#303, G#303, A303, B303, C304, D304, E304, F#304, G#304, A304, B304, C305, D305, E305, F#305, G#305, A305, B305, C306, D306, E306, F#306, G#306, A306, B306, C307, D307, E307, F#307, G#307, A307, B307, C308, D308, E308, F#308, G#308, A308, B308, C309, D309, E309, F#309, G#309, A309, B309, C310, D310, E310, F#310, G#310, A310, B310, C311, D311, E311, F#311, G#311, A311, B311, C312, D312, E312, F#312, G#312, A312, B312, C313, D313, E313, F#313, G#313, A313, B313, C314, D314, E314, F#314, G#314, A314, B314, C315, D315, E315, F#315, G#315, A315, B315, C316, D316, E316, F#316, G#316, A316, B316, C317, D317, E317, F#317, G#317, A317, B317, C318, D318, E318, F#318, G#318, A318, B318, C319, D319, E319, F#319, G#319, A319, B319, C320, D320, E320, F#320, G#320, A320, B320, C321, D321, E321, F#321, G#321, A321, B321, C322, D322, E322, F#322, G#322, A322, B322, C323, D323, E323, F#323, G#323, A323, B323, C324, D324, E324, F#324, G#324, A324, B324, C325, D325, E325, F#325, G#325, A325, B325, C326, D326, E326, F#326, G#326, A326, B326, C327, D327, E327, F#327, G#327, A327, B327, C328, D328, E328, F#328, G#328, A328, B328, C329, D329, E329, F#329, G#329, A329, B329, C330, D330, E330, F#330, G#330, A330, B330, C331, D331, E331, F#331, G#331, A331, B331, C332, D332, E332, F#332, G#332, A332, B332, C333, D333, E333, F#333, G#333, A333, B333, C334, D334, E334, F#334, G#334, A334, B334, C335, D335, E335, F#335, G#335, A335, B335, C336, D336, E336, F#336, G#336, A336, B336, C337, D337, E337, F#337, G#337, A337, B337, C338, D338, E338, F#338, G#338, A338, B338, C339, D339, E339, F#339, G#339, A339, B339, C340, D340, E340, F#340, G#340, A340, B340, C341, D341, E341, F#341, G#341, A341, B341, C342, D342, E342, F#342, G#342, A342, B342, C343, D343, E343, F#343, G#343, A343, B343, C344, D344, E344, F#344, G#344, A344, B344, C345, D345, E345, F#345, G#345, A345, B345, C346, D346, E346, F#346, G#346, A346, B346, C347, D347, E347, F#347, G#347, A347, B347, C348, D348, E348, F#348, G#348, A348, B348, C349, D349, E349, F#349, G#349, A349, B349, C350, D350, E350, F#350, G#350, A350, B350, C351, D351, E351, F#351, G#351, A351, B351, C352, D352, E352, F#352, G#

explicit in the title.¹⁹⁵ In the last two bars of the B section, I composed a reducing percussion phrase to effect the transition from double time back to the swing feel (Figure 83).

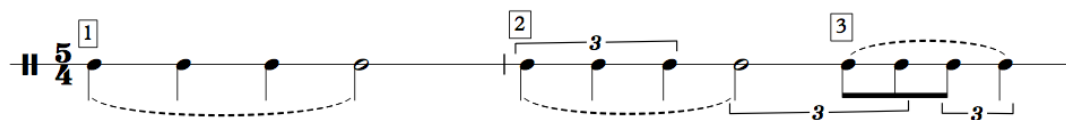
Figure 83: 'An Indian in Paris' drum and percussion fill (0.25)



Initially, Mani-Sir questioned the integrity of the passage.¹⁹⁶ It concurs with the Carnatic model of a 3 times repeating phrase in 3 different speeds, but doesn't execute the calculation exactly. The second phrase begins at 2/3rds the speed of the first phrase.

However the final crotchet (circled) is half the length of the corresponding note (the minim) at the end of the first phrase. Similar discrepancies occur at the end of the third phrase. I deduced that the pattern shown in Figure 84 would probably be more acceptable because the proportions remain consistent throughout the 3 phrases.

Figure 84: 'An Indian in Paris' alternative rhythm for fill



I was reminded of Sarangan's question 'Is it jazz, or is it Indian and wrong?' I could either use my original phrase, the more Carnatically 'correct' phrase, or ask the players to improvise a fill. My original phrase (Figure 83) achieved the aesthetic effect I wanted, and facilitated a smooth transition between the two time feels, so I suggested we use it. The musicians accepted this. The intercultural exchange of musical ideas, and the negotiation

¹⁹⁵ The musical similarity in the composition phase was not deliberate, but took on extra-musical significance as Mani-Sir travelled to Paris as a tourist while I was composing this piece.

¹⁹⁶ My discussions with colleagues suggest that Mani-Sir's *bani* is characterised by a higher degree of precision in maintaining the symmetry of calculations compared to other *banis* in Carnatic music. It is beyond the scope of my research to verify this.

of difference, often occurs at a micro-level. The success of musical outcomes is partly contingent on the musicians' willingness and capacity to adjust to a plethora of subtle differences like this one.

The interpretation of the 5/4 swing feel was another example of conceptual difference. At the first performance, the 5/4 jazz swing feel didn't sit comfortably with the Carnatic conception of *Khandam*. Researchers such as Keil and Feld (2005), Friberg and Sundström (1997), and Goodman (2005, 1997, 2011), have identified some characteristics of the jazz swing feel. One trope in discussions of swing holds that quavers are phrased in the ratio of 2:1 (a crotchet triplet followed by a quaver triplet). Friberg and Sundstrom's (1997) empirical study found that the ratio varies from 1:1 to 3.5:1, contingent primarily on tempo. More even ratios typically occur at faster tempi. I am not aware of any analogous studies of ratios in Carnatic rhythmic feels, but my experience suggests Carnatic musicians articulate rhythmic ratios very precisely. The Carnatic musicians' understanding of swing was most likely informed by the 2:1 ratio. A Carnatic conception of 5/4 swing would perhaps be *Tisra Jaati Khanda Chapu Tala*. The rhythmic precision of the Carnatic musicians would make them sensitive to perceived inaccuracies in performance using this tala.

The placement of strong and weak beats within the 5/4 swing pattern possibly compounded the tension between the jazz and Carnatic conceptions. The first 3 beats in the 5/4 jazz swing feel are like a jazz waltz with an emphasis on the swing quaver after beat 2. The *kriya* for *Khanda Chapu Tala* used in this performance was a clap on beats 1, 3, and 4, or alternatively a clap on beat 1 and a wave on beats 3 and 4. The emphasis on the upbeat swing quaver just before beat 3 competed with the *kriya* on beat 3, probably because of the

swing quaver's inherent syncopation. Pressing writes that: 'Syncopation...establishes a tension between the accent structure of the meter or underlying beat and the accent structure of the syncopated line' (2002: 301). In this case there was also tension between the accent structure in the jazz and Carnatic conceptions. At the next rehearsal the musicians discussed the subtleties of the 5/4 swing feel. It was agreed that the jazz rhythm section players would lead the phrasing of the 5/4 swing section in subsequent performances, paying attention to maintaining a steady tempo.

Mani-Sir composed the rhythm of the opening phrase of 'An Indian in Paris'. I composed the melody based on his rhythmic structure. The reducing 7 6 5 4 3 pattern is a variant of the B section pattern in 'Drums Across the Ganges'. There are *karvais* of increasing duration after each phrase, indicated thus (3). Figure 85 demonstrates the relationship between the melodic and rhythmic elements in the B melody.

Figure 85: 'An Indian in Paris' opening (0.01)



The melodic and harmonic material comes D Lydian mode, which is similar to raga *Kalyani*. The opening passage is harmonised using parallel three-note shell voicings

illustrated in Figure 86.¹⁹⁷ The last chord is E major juxtaposed on D, a bitonal sound inherent in the D Lydian scale.

Figure 86: 'An Indian in Paris' Lydian scale harmonisation



Balasai composed the rhythm of the final passage of 'An Indian in Paris'. I composed the pitches (Figure 87).

Figure 87: 'An Indian in Paris' closing melody (1.46)



As in the opening passage (Figure 85), the melody finishes on E (Ṙ 2). An E major sound is juxtaposed on the D bass note, creating several possibilities for the perception of pitch relationships. Balasai was unfamiliar with this concept and initially assumed the *sruthi* for the composition must be E. Through collaborative composition, this passage syncretised the aesthetics of Carnatic rhythmic architecture and resolution, with the ambiguity of bitonal jazz conceptions.

I composed a fast descending run for flute, mandolin, and saxophone to lead into the closing passage. During rehearsal, the Carnatic musicians suggested this should happen 3

¹⁹⁷ Shell voicings usually omit the 5th. See Levine (1989: 17) for discussion of three-note voicings in jazz.

times, not once, to match Carnatic aesthetic expectations more closely. We agreed on the contour shown in Figure 88.

Figure 88: 'An Indian in Paris' melody ending runs (1.34)



There are two contrasting improvisatory spaces in ‘An Indian in Paris’: one in D Lydian mode with the 5/4 jazz swing feel; one in D Aeolian mode with the double time feel. Each section includes cued accompanying parts, similar to jazz big band backgrounds, to introduce timbral variety, build energy behind the soloist, and set up the next section of the composition. The Carnatic improvisers were not familiar with the function of backgrounds. Possibly they perceived the backgrounds as a new section of the composition, rather than accompaniment. They invariably added composed Carnatic endings (usually *arudis*) to their solos before the backgrounds were cued, so each solo had a Carnatic ending, as well as a jazz ending.

By the third concert, Balasai proposed a *koraippu* with Suresh before his *arudi* in the swing feel section. I was uncertain about this, fearing that a regimented question and answer passage might threaten the looseness and fluidity of the ensemble groove.

Nevertheless, I supported his suggestion because of my trust in his innate musicality. I had no idea how the idea would work in practice, or how the rhythm section would respond to my direction to maintain an interactive, organic jazz swing feel while the Carnatic trading took place. Balasai cues the beginning of this section with 4 bars of repeated triplet phrases on Sa (3.44). Suresh joins Balasai on the triplets. Adam recognises the cue for the start of

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the *koraippu* and drops his dynamic level and density, perhaps to listen more closely to Balasai and Suresh, and/or to allow their exchange to take prominence.¹⁹⁸ At the beginning of the *koraippu* there appears to be some uncertainty about whether the exchange will be of 1 or 2 bar phrases. From 3.56 a clear protocol of 2 bar exchanges is established. Adam rejoins during Suresh's answer phrase in the first complete 2 bar exchange. After four lots of 2 bar exchanges, there are five exchanges of 1 bar phrases. A freer section follows, building into the *arudi*. Adrian maintains the swing bass line throughout the whole passage, providing continuity and groove. As well as playing the groove, Adam provides dynamic and textural contrast. Balasai's phrases are all built off triplet quavers. There is no apparent conflict between Balasai and Suresh's triplets and Adrian and Adam's swing groove, no doubt largely due to careful listening by all the players. In this passage, two different approaches complement each other in a compatible way, as Balasai and Suresh converse over the fluid swing feel provided by Adrian and Adam.

The second improvised section is primarily a bass trombone and mridangam duet. It is beyond the scope of this study to analyse this duet, although that would be a worthwhile research project. Even though bass trombone is not a common instrument in Carnatic music, South Indian audiences often identified Carnatic elements in Adrian's improvisations.¹⁹⁹ They responded with warm applause when they heard him perform musical material and processes they recognised and enjoyed.

¹⁹⁸ He may have dropped out altogether for a couple of bars. It is difficult to hear on the recording.

¹⁹⁹ I am not aware of any other bass trombonist whose playing is informed by Carnatic music to the extent that Adrian's is.

DISCUSSION

Carnatic vocalist T. M. Krishna implores: ‘It’s a world over phenomenon that most people are taking the easy way out because the tough way to handle fusion is ... You and I meet and say, “we’re going to sit and work on this and CRACK it”’ (Higgins 2013: 168) . In ‘Meetings At The Table of Time’ the musicians sat together and worked to ‘crack’ some of the ‘tough’ aspects of fusion.²⁰⁰

This collaborative process centred on integrating rhythmic components from Carnatic music and jazz, such as the *chapu* talas and odd metres. Rhythmic elements are the primary determinant of compositional structure in ‘Meetings at the Table of Time’. Combined with the skills of the players, these elements helped to ignite a rhythmic energy that is at the heart of both Carnatic music and jazz. The music was conceived and performed in South India, and this context also contributed to the high-energy rhythmic focus.

The collaborative process was most apparent in ‘Anbe Sivam’. I was one of a community of artists who contributed creative ideas to the broad canvas laid out in Mani-Sir’s original composition. I could add or subtract from the canvas, and modify or rearrange any of the material. At every turn I had to consider how my contribution would affect Mani-Sir’s compositional vision, and his performance of the work. I had to balance these considerations with my vision for the arrangement, and the instrumentation and approach of the Two Oceans ensemble.

²⁰⁰ As much as resources would permit given the expense of international collaboration.

Sruthi Laya added *arudis* to the compositional canvas I laid out in ‘Drums Across the Ganges’ and ‘An Indian in Paris’. This led to many solos being in two sections: one with a ‘Carnatic’ ending, and one with composed background figures and a ‘jazz’ ending. The flow and architecture of the arrangements did not always work the way I envisaged, but a new structure emerged that was perhaps more appropriate to this context.

The expectation for a three times repeating ending, following mathematical principles demonstrating a balance of symmetry and asymmetry based on one of the preferred *yati* shapes, is deeply engrained in Carnatic musicians. There isn’t the same formal expectation in jazz, although the last phrase of a melody will often be played three times as an ending. Some common jazz conventions for endings, like ritardandos or syncopated rhythmic accents not resolving on beat 1, can be foreign to Carnatic sensibilities.²⁰¹

There are different approaches to the build and release of tension in group improvisation in the Two Oceans ensemble. Scott has developed an approach where musicians ‘play against each other, to create intensity’, trying to hold their own idea ‘in a complimentary way’ (Tinkler in Jackson 2009: 20).²⁰² In Sruthi Laya, intensity is more often created by the musicians playing against the tala, rather than against each other. The intention of holding the ‘idea in a complimentary way’ is important in both practices, but the results sound quite different. In the model Scott describes, the build in intensity is heard in several independent musical voices; in the more Carnatic conception, it is monophonic. Both ideas play artfully with ambiguity. For example, Mani-Sir and Suresh may play for long periods of time on a *matrai* a small distance from the first count of the tala cycle, causing the

²⁰¹ I use a ritardando at the end of ‘Bhava Raaga Thaala’ (Track 6, CD3). This usually brings peals of laughter from Indian musicians when they are asked to play it.

²⁰² In this interview, Scott was discussing the development of his improvisatory practice in a trio with drummer Simon Barker and bass player Adam Armstrong.

listener to wonder whether the tala has shifted. When they eventually return to the first count, or *samam*, of the tala cycle, aesthetic pleasure comes from this skillful release. The clarity of the resolution makes sense of the preceding uncertainty. A formulaic relationship between tension and resolution is not prescribed in the improvisatory approach Scott describes, although it may occur.

Sometimes the two approaches co-exist in the Two Oceans ensemble. One example occurred in the trading between Balasai and Suresh during Balasai's solo in 'An Indian in Paris'. The Carnatic musicians 'hold on to their idea' while the Western musicians 'hold on to their idea' resulting in the synchronous and complementary expression of difference.

Several strategies for integrating raga and harmony were explored in 'Meetings at the Table of Time', such as alternating modal and harmonic sections in the compositional framework. Another approach emerged as an unexpected consequence of the Two Oceans instrumentation. The absence of a chordal instrument resulted in a predominantly linear, rather than vertical, perception of harmonic relationships. Having bass trombone as the bass instrument also opened up a fluid space between rhythm section and melody roles. The result was a type of counterpoint where one musician's melodic narrative could follow raga grammar, while another's was guided by harmonic, as well as melodic, logic. This was another example of the synchronous and complimentary expression of difference.

There were significant differences between this ensemble and previous AAO/Sruthi Laya collaborations. The Two Oceans ensemble had fewer musicians, and different relative

proportions of Australian and Indian players.²⁰³ Overall, the players had more knowledge of each other's musical systems. This was due to a range of factors, including experience in previous AAO and related projects, and individual study undertaken by various members of the group. This collective knowledge assisted with the speed and depth of learning musical material, and the communication and interpretation of musical and visual cues. All these factors enhanced group synergy.

The project objective stated at the beginning of this chapter, was to integrate ideas and aesthetics from jazz and Carnatic music with depth and integrity, while encouraging freedom of expression. What do depth, integrity, and freedom of expression mean in this context, and why are they important?

'Deep' is used in Carnatic music and jazz to describe both music and musicians. The usage in reference to musical style may have specific local meanings, but many qualities apply in both contexts.²⁰⁴ Depth suggests music that is serious, substantial, important, profound, of enduring worth, 'heavy' as opposed to 'light'. Attributes of a 'deep' musician include high levels of instrumental, aural, and memory skills; extensive knowledge of the relevant musical system and its canon; and the ability to understand and communicate essential expressive qualities of the music. Qualities like virtuosity and imagination are often inferred. The 'heavy' or 'deep' status of a musician is usually recognised by other musicians within their musical culture. The depth of knowledge of the individual musicians, and the depth of engagement within the ensemble are both important factors in determining the quality of intercultural musical projects.

²⁰³ In the Two Oceans ensemble there were four players from each country, compared with the first AAO collaboration in 1996 when there were nineteen Australian musicians and two Indian musicians.

²⁰⁴ See Higgins (2013: 95-98) for discussion of the use of the similar descriptive terms 'light' and 'heavy' in Carnatic music in Chennai.

One meaning of integrity is honesty. In the Two Oceans ensemble, integrity might mean ‘playing for oneself’,²⁰⁵ being true to one’s musical source culture(s), to the music being performed, and to the ensemble. The music in ‘Meeting at the Table of Time’ was constantly shaped by the interaction between these considerations. Another meaning of integrity is wholeness, a quality Mani-Sir expresses as inseparability:

fusion is not just the coming together of musical instruments but the fusing of musical systems done by musicians who have sufficient expertise to produce music that is inseparable (Mani 2010).

The process of producing inseparability, or not, occurs at every level of the music, from the architectonic structure of the composition, to the groove, to the timbre and intonation of even the fastest notes. Inseparability is also engendered through friendship between musicians.

Freedom of expression is a difficult concept to define or evaluate in creative work. Many external and internal factors can inhibit or encourage an artist’s ability to express themselves freely. In ‘Meetings at the Table of Time’, I sought to develop the expertise and confidence to be imaginative, free, and adventurous in this genre, based on the respect and understanding of ‘cultural embeddedness’ (Mall 2010: 162), while ‘transcending’ it.

²⁰⁵ The attitude that Mani-Sir spoke about in the interview with Michael Shirrefs (page 148).

CHAPTER 5: CONCLUSION

The aim of this research has been to contribute primary material from creative practice case studies to identify, generate, and develop effective approaches to intercultural collaboration between jazz musicians and Carnatic musicians; and to produce artistically strong outcomes that respect and integrate the aesthetic preferences of all the musicians involved. Three interrelated areas were investigated: the evolution of my improvisatory practice in response to engagement with Carnatic (and, at times, Hindustani) music, compositional and improvisatory strategies in Carnatic jazz intercultural music, and the effect of cultural and aesthetic factors in this context.

Through creative practice and musicological analysis this study identified and developed effective approaches to Carnatic jazz intercultural music using the following strategies and techniques:

- Constructing improvised and composed melodies, and architectonic structures using rhythmic and melodic principles originating in the Carnatic system
- Integrating aspects of Carnatic expressive phrasing with other styles of saxophone playing
- Exploring the complementary use of harmony and counterpoint in drone-based music informed by raga
- Adapting formal models from the source musical cultures such as *alapana*, *koraippu*, blues, and harmonic forms
- Collaborative composition
- Incorporating implicit improvisatory codes into compositional vehicles

- Improvised interaction with compositional vehicles and implicit improvisatory codes
- Improvised musical dialogue between flute and saxophone, voice and saxophone, rhythm section, and soloist and rhythm section
- Exploring performance practice and aesthetics using different instrumental combinations
- Using extramusical factors as a unifying thread and pathway for intercultural communication
- Clear and appropriate use of notation systems

In this chapter I will present conclusions drawn from the creative practice case studies grouped under four headings: skills development, decision-making and musical change, implications of the co-existence of multiple viewpoints, and guiding principles for evaluation and creative practice.

SKILLS DEVELOPMENT

The development of new skills is a pivotal, dynamic, and rewarding dimension of intercultural music. Learning occurs as a natural part of the creative development process as musicians play each other's material in rehearsal, share ideas to generate new material, and develop tools to communicate with each other in performance. Individual musicians may decide to undertake more formal study of the other musical system(s). This can have profound effects on the individual musician's practice, ensemble interaction, and collective musical outcomes.

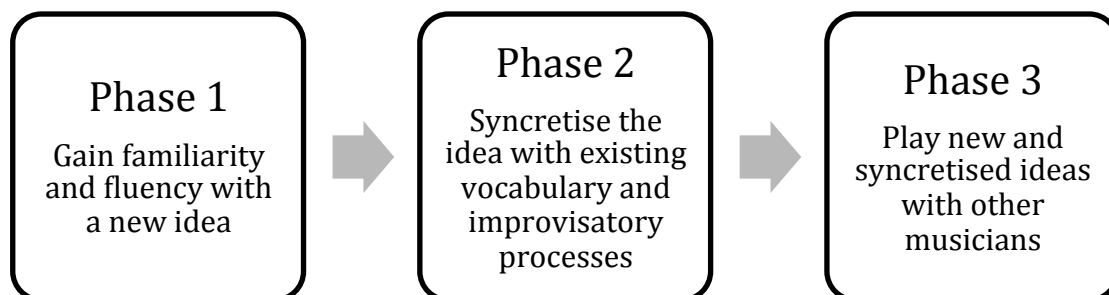
My decision to study Carnatic music was motivated by a deep and passionate interest in the sounds I heard Carnatic musicians make,²⁰⁶ the possibilities these sounds suggested for the development of my own expressive language, and the desire to create and communicate meaningfully in collaborative work with Carnatic musicians. The passion and pedagogical skill of my teachers was a key factor in my continued interest over time.

The effects of Carnatic music study on my compositional and improvisatory practice have been extensive. I developed new knowledge and expertise in a range of rhythmic and melodic areas, a deeper understanding of musical thought and practice in Carnatic culture, and an appreciation of its substantial musical canon. The breadth and depth of my musical palette grew, giving me more material to work with, guidelines about how to organise it, and skills to communicate my ideas to my colleagues.

Putting new ideas into practice in an improvisatory context is by no means easy. Although I have achieved small degrees of success in realising my goals, more is possible. To guide the evolution of my improvisatory practice I developed a three phase model structured around learning new ideas, syncretising new ideas with existing idiolect, and playing new and syncretised ideas with other musicians. The model, illustrated in Table 14, integrates methods from Carnatic and jazz pedagogy.

²⁰⁶ The fundamental importance of deep and passionate interest to motivate creative processes is identified in diverse sources. ‘Intrinsic Task Motivation’ is a key component in Amabile’s ‘Component Model of Creativity’ (1996). The role of Intrinsic Task Motivation in the performance and evaluation of improvised music has been investigated with the results suggesting: ‘Musicians who were highly motivated produced improvisations that were more creative, complex, and technically good than improvisations produced by musicians who were less motivated’ (Eisenberg and Thompson 2003: 294). In an intercultural musical context, John McLaughlin suggests that ‘Only love has the key to open the doors of different musical cultures’ (McLaughlin in Lavezzoli 2006: 339).

Table 14: Three phase model



The goal of phase one is to gain familiarity and fluency with a new idea. The steps in this process are: learn the idea through listening and imitation (in this case study from a Carnatic music teacher); internalise the idea through precise, deliberate, and repeated practise;²⁰⁷ explore permutations of the idea more freely; use the idea in an improvisation in context with other ideas; and listen to other improvisers using similar ideas.²⁰⁸

The goal of phase two is to syncretise the idea with one's existing vocabulary and improvisatory processes. The first step is to use one's imagination, intuition, and knowledge to conceive of possibilities. Once a clear conception of an idea has emerged, the stages of focused practice, free exploration, contextual improvisation, and listening to others are repeated with the syncretised idea.

²⁰⁷ See Ericsson (2006) for a description of deliberate practice and its importance in expert performance.

²⁰⁸ It is not always possible to find examples of other musicians using specific practices in this field, as one might, when learning to play bebop, for example.

In phase three these steps are repeated with other musicians. The method of practice is almost always to vocalise the idea, then play it. If the idea relates to a rhythmic structure, it is vocalised while keeping tala with hand gestures to develop an embodied sense of the relationship with the time cycle.

I used this model to develop and practise ideas relating to raga and *gamaka*, the relationship between rhythmic and melodic elements, and the pacing and shaping of improvised solos. One of the Carnatic music practices I focused on was using rhythmic calculations as a structural component in the creation of improvised melodies. To gain fluency with this strategy I found it was necessary to practise the rhythmic and melodic elements separately, and together.²⁰⁹ After vocalising the *solkattu*, the next step was to conceive and sing a melodic shape for the calculation with the tala, then apply the idea to the instrument. A considerable amount of deliberate practice is needed to develop the aural, cognitive, technical, and creative skills to articulate rhythmic shapes quickly, clearly, and eloquently in improvised melodic performance.

Developing new skills in response to the study of the musical systems of the source cultures is a beneficial, perhaps even indispensable, strategy in engagement with intercultural music. It is not always a straightforward process and may lead to questioning and reconstructing one's musical identity, as I discussed in Chapter 3 in reference to my engagement with Carnatic saxophone playing. As the individual and collective knowledge of an intercultural group grows, so do choices about the creative use of this knowledge.

²⁰⁹ My experience suggests that for Carnatic musicians who are deeply enculturated in this practice, a division between rhythm and melody is not part of their education or conception, although they can easily separate either element for the purposes of explanation and communication. See Pesch (2009: 151-153) for relevant information about Carnatic music education.

DECISION MAKING AND MUSICAL CHANGE

The process of musical change is inherent in almost all the compositional and improvisatory strategies investigated.²¹⁰ In response to new ideas, musical material, and relationships, musicians constantly make decisions about when, and to what degree, to draw from familiar musical language and processes, or from new language and processes, or a combination of the two. Musicians have to work out how to integrate new concepts with their existing idiolect. Each change affects group interaction.

Higgins distilled this view from an interview with sitar player Niladri Kumar: ‘one of the central tensions of Fusion [is]: the problems *and* possibilities of having no guidelines’ (Higgins 2013: 250). I began this research project with a similar opinion, but now suggest a slightly different emphasis. The tensions, possibilities, and challenges in this field result from negotiating, prioritising, and reconfiguring a plethora of guidelines imported by musicians from the vast spheres of jazz and Indian music.

In an intercultural context the vast array of choices can lead to confusion²¹¹ and indecision. The practice of using rhythmic calculations to create improvised melodies is also a useful exemplar in consideration of this issue. The intercultural improviser has a seemingly infinite choice of rhythmic and melodic shapes. They may choose the Carnatic model of a three times stated phrase with a scalar melodic contour, resolving to a recurring melodic motif, as I did in ‘One Justice’. Other choices could be four, five, or seven times repeating phrases. The melodic material could be organised using harmonic sequences or intervallic

²¹⁰ Perceptions about what constitutes change may vary between the musicians in an intercultural ensemble. See Jairazbhoy for discussion of likely differences between Indian and Western conceptions of musical change (1991: 222-223).

²¹¹ See Higgins (2013: 134-178) for incisive discussion and analysis of the trope of ‘fusion as confusion’ in the Chennai context.

shapes, instead of raga or scale based patterns. Even within the Carnatic system the possibilities are extensive. Options increase further when any geometric and intervallic structure is available. To succeed in articulating an idea in improvised performance the player has to be very clear about the conception of the idea, the process described in phase two of the skills development model. To achieve clarity it is imperative to make choices. By imposing restrictions on the rhythmic and melodic structure of the phrase it becomes possible to clearly conceptualise sounds and how they translate to one's instrument, then systematically gain mastery within those parameters. Specific choices are largely determined by individual aesthetic preferences.

Another set of aesthetic and practical considerations arises when the idea is played in an improvised context with other musicians. The player has to consider the musical whole the phrase creates with the other sounds and players at that moment, and relative to the overall composition. Practical considerations, such as how the parts of the other players affect the soloist's capacity to successfully articulate their idea, and vice versa, also come into play. The steps outlined in phase one and two of the skills development model strengthen the improviser's command of new ideas. When the other musicians in an ensemble recognise, understand, and support the musical logic it can be easier for the soloist to successfully articulate their idea. This is analogous to swimming with the current, or the energy flow of the music, instead of against it.

The musical success of an idea is also contingent upon collective understanding and expression of the temporal framework the idea relates to. The framework might be expressed through kinesic means like *krīya*, or through sound such as a bass line or a groove on a percussion instrument. When the temporal framework is an audible musical

component like a bass line, the musical idea becomes not just a singular expression of the soloist's thought, but a duologue with the bass part. This leads to many choices about artistic goals and behavioural codes. Is the function of the bass line primarily to mark the space-time continuum that the soloist's phrases interact with? Is the bass player allowed to deviate from this role, and, if so, who decides when and how that can occur? Should the bass player's interaction follow the same rhythmic calculation as the soloist's? Is it important if the soloist's phrase disturbs the groove of the bass line? What principles, if any, guide the melodic and harmonic counterpoint between the bass part and the melody? How are dissonance and consonance conceived and evaluated? Are melodic and harmonic considerations secondary to rhythmic considerations? Is the measure of a successful solo judged by the quantity, complexity, and perfection of rhythmic resolutions? Are creative responses to mistakes celebrated?

Answers to questions such as these are often determined by the relative value given to factors such as groove, consonance and dissonance in melodic counterpoint, risk-taking, spontaneity, complexity, and collective versus individual expression. Decisions may also reflect the dominance of a particular viewpoint within the ensemble at a given time, perhaps the composer, bandleader, soloist, or even a competitive tendency between musical systems.

Decisions are often informed by codes from the source musical systems. Musicians improvise with these codes, modifying them in response to the compositions and/or the playing of the other musicians. This is a meta-level of improvisation where musicians experiment with ideas about how to play together, as well as musical elements like pitches and rhythms. It is difficult to predict the extent to which improvisers will apply the codes

from their source systems. For example, I expected to find a higher degree of imitation in improvised melodic interaction among the Carnatic musicians than the jazz musicians. Usually the opposite was true. This appeared to be influenced by the degree of familiarity of the sound world. In more familiar sound worlds the Carnatic players were usually quite adventurous with transforming codes of practice, playing ‘with the system’ (Hall 1992: 224).

Sometimes, transporting ideas from one musical system to a new context can create unease for musicians. The musicians’ anxiety at these times may be a warning sign that compromise has gone too far and that something important in the music has been lost, or it may be part of adjusting to something new. Each musical experience is different. Sometimes issues are resolved by adjustments to the musical structure or playing. At other times the musicians may decide to give the idea time to develop, and themselves time to adjust to its new environment, before making changes. Through collaboration, information and ideas are shared and crafted to suit the players and the intention of the composer(s). This is a cyclical and organic process.

Making informed decisions about musical change is integral to the success of improvisatory and compositional strategies. Decisions may be conscious or intuitive, individual or collective, composed or improvised. Modifications may be minor or substantial. Some or all members of the group may make them. Not all musicians in an ensemble make the same types of choices at the same time. Some decisions, such as the instrumentation in ‘Meetings at The Table of Time’ are responses to external factors like economic pressures.

Changes often feed back into the source cultures. Some rhythmic elements from Carnatic music are gaining currency in the broader field of jazz practice. A basic knowledge of *arudis* and *solkattu* is starting to be part of the contemporary jazz musician's tool kit.²¹² In this process of assimilation and exchange it's important to guard against simplistic understandings of jazz or Carnatic music. This could be jazz musicians thinking they know all about Carnatic music because they can play a couple of *korvais*,²¹³ or Carnatic musicians thinking they know all about jazz because they have learned a dominant seventh chord. There is nothing inherently wrong with this level of exchange, and it is a routine part of most contemporary musicians' practice, but it is prudent to remain alert to its musical limitations, and to respect and appropriately acknowledge the source material.

THE CO-EXISTENCE OF MULTIPLE VIEWPOINTS

Diverse knowledge from a range of musical systems and experiences informs the creativity and practice of each individual musician, and the interaction between musicians in these case studies. The musical ideas, and the histories of sounds, songs, and practices they derive from, intertwine. Each musician listens and acts from different vantage points depending on how they are enculturated, what they are listening for, how familiar they are

²¹² See Reina (2013) regarding strategies developed through the 'Advanced Rhythm' program at the Conservatorium van Amsterdam for utilising Carnatic rhythmic concepts in the teaching, performance, and composition of contemporary music, including jazz. Kalmanovitch (2008), Panniker (2010), and Fellezs (2004) indicate the currency of Carnatic rhythmic ideas among some contemporary jazz musicians. This concurs with my professional experience in Australia.

²¹³ Kalmanovitch comments that: 'The process of acquiring knowledge about Karnatak music was described by some participants in terms that seemed to equate portable packets of musical information with souvenirs, to be brought back to jazz and employed' (2008: 112). This comment was made in reference to the exchange program between the Jazz and Contemporary Music program of the New School University, New York, and the Brhaddhvani Research and Training Center, Chennai.

with the sounds, which direction they are travelling,²¹⁴ and a range of other factors. They also inscribe meaning into what they hear in different ways.

Within this diversity, difference and similarity rarely manifest as straightforward binary opposites but more like fluid gradations in a complex multidimensional continuum. For example, two musical concepts that differ significantly are harmony and raga, but even here there are areas of similarity. Both harmony and raga are important agents in creating colour and feeling in music, and both work with relationships between pitch frequencies. As each musician's knowledge about these musical building blocks grows, the degree of similarity and difference between individuals changes. My rudimentary knowledge of raga has brought me slightly closer to Balasai, Sarangan, and Raju on the continuum of raga knowledge. Conversely as their knowledge of harmony grows, our differences in that area become less pronounced.

Any point can be the catalyst for creative ideas. Points of coalescence are important meeting points. There is a sense of excitement about recognising commonalities, collective passion for a well-loved idea, the ease of communication that comes with shared understandings, and the opportunity to use existing skills resulting from years of training and practice. At points of coalescence, the collective energy of the ensemble is often most focused, stable, and confident. This might be a point where modal and raga knowledge intersect, such as confluences between the Lydian mode and *Kalyani* raga in 'Morning Star' (Track 8, CD 1). It might be the passion for rhythmic complexity, virtuosity, and power shared by Mani-Sir and Adrian in 'Meetings at the Table of Time'.

²¹⁴ For example from modal jazz to Carnatic classical music, from Carnatic classical music to free jazz, from bebop to Carnatic fusion music, from Hindustani classical music to Carnatic fusion music, from Carnatic fusion music to jazz-rock etc.

Points of difference can be equally important as creative catalysts. Encountering new ideas can be stimulating, surprising, refreshing, intriguing, even puzzling. The guided improvised soundscape in ‘Eagle Landing at Cape Leveque’ (Track 6, CD1) engaged the interest of the Carnatic musicians in this way. The appeal of new ideas may at times be in their exoticism. How exotic something seems depends on many factors such as who is encountering it, and what their previous experience is. Points of difference can renew one’s passion for music, lead to the development of new skills, deepen understanding of the other musical system(s) and culture(s), and offer fresh perspectives on one’s own culture and artistic practice.

Sometimes the co-existence of different understandings has little or no effect on the music itself, such as the conception of the E♭ pitch between Raju and myself in ‘An Indian in Paris’. Differences of this nature affect the way musicians communicate about musical mechanics, but are not necessarily apparent in the sound and feel of the music.

The success of the musical outcomes depends partly on balancing degrees of difference and similarity. A recurring choice in my compositional practice was to use Carnatic rhythmic ideas, often composed by Mani-Sir, as the framework for melodic conceptions outside the ‘fence’ which bounds the Carnatic music field. This created an intercultural pathway on structural and aesthetic levels, and also speaks to the efficacy of collaboration in intercultural contexts.

Musicians with high degrees of bi- or poly-musicality play an important role in intercultural ensembles, acting as interpreters across musical systems. Their knowledge of

different musical spaces creates a bridge for ideas to travel back and forth. Adrian has been very important in this capacity in the AAO's collaborations with Sruthi Laya. In many Australian intercultural projects Bobby has created bridges between Australian and Indian musicians.²¹⁵ Sarangan acts in a similar capacity in Mantrasonic, and also bridges Carnatic and Hindustani conceptions for Bobby.

An intercultural improvising ensemble is a team playing in a dynamic, highly charged field of change. Misunderstandings and confusion can occur as musicians simultaneously play different improvisatory games with potentially different understandings of the musical goals. Conversely, one of the joys of improvised music is that it can, at times, simultaneously accommodate multiple ideas of what the guiding principles and successful performance of the musical game are. The multiplicity of coalescences between Carnatic music and jazz, and the powerful fascination afforded by the differences can be dynamic catalysts for music making, given dedicated engagement over time.

GUIDING PRINCIPLES FOR EVALUATION AND CREATIVE PRACTICE

The complexity that characterises the creative process in intercultural music also pervades the evaluation of the musical outcomes. The outcomes are likely to be heard and evaluated differently depending on the perspective of the listener. The music might be heard as jazz with a Carnatic influence, or Carnatic music with a jazz influence, or something in a liminal space that is neither jazz nor Carnatic music.

Different criteria might be applied to the evaluation in each scenario. Musicians often adapt criteria from the source musical systems. A stamp of approval is bestowed by

²¹⁵ So much so, that he has become known at times as BBSingh (Bobby the Bridge Singh).

authenticity within an established musical system. In an intercultural ensemble the authority to validate this authenticity is often conferred on the musicians ‘representing’ that system. When Sarangan asked me the question “Is it jazz, or is it Indian and wrong?” (discussed in Chapter 3), he is implicitly vesting in me the authority to decide about jazz, and himself to arbitrate about Indian music. A ‘yes’ answer helps Sarangan to favourably resituate his listening. If my answer to Sarangan’s question is ‘I don’t know’, or ‘No, it’s not jazz’, or ‘No, it’s not jazz, but it’s not Indian either’, the weight of authority from existing systems to validate the musical construct disintegrates and the full responsibility falls to the musicians. The point where it is no longer possible to look to one system or the other for ‘correct’ musical and aesthetic codes is perhaps the point where collective ownership of intercultural music truly begins.

It would be satisfying, but unrealistic, illusory, and possibly counter-productive to imagine that an archetypal model for a not-jazz, not-Carnatic hybrid genre could be distilled from this research. The three projects in these case studies have overlapping personnel and the same principal composer and musical director, yet there is considerable difference in sound, feeling, structure, group interaction, and individual and collective musical goals. The scope of possibilities in the wider field is enormous and it would serve no purpose to impose limits on this potential. That is not to say the field is a complete unknown.

Ubiquitous characteristics are a mix of pre-composed and improvised material, engagement with Carnatic and Hindustani rhythmic principles (particularly *arudis*, *korvais* and *tihais*), an emphasis on modal music, some use of Western harmony, and a predilection for virtuosity.²¹⁶

²¹⁶ In the context of John McLaughlin’s Floating Point recording, Higgins (2013) astutely identifies virtuosity as the impetus and transnational link for the project, arguing that ‘Rather than a fusion of the cultures, it was really virtuosities that were fused’ (2013: 261).

While some characteristic traits have emerged, Carnatic jazz intercultural music is arguably still in a developmental stage as musicians digest a plethora of rich ingredients and explore creative possibilities. To contribute to this discourse I've compiled a set of process-oriented guidelines for creative practice in this field, based on my research in these case studies.²¹⁷ These guidelines are framed in relation to Carnatic jazz intercultural music, but could be applied more broadly to other intercultural contexts.

Effective intercultural music making between Carnatic and jazz musicians involves:

1. Listening to, respecting, and trusting each other, and enjoying playing together.
2. Unifying ideas and aesthetics from jazz and Carnatic music into a cohesive whole in ways that facilitate and encourage freedom of expression.²¹⁸
3. Building deep musical relationships that transcend superficial engagement.
4. Understanding and internalising new and familiar musical materials individually and collectively, over time, with deliberate practice.
5. Applying values that are important to the individual performers, the musical source culture(s), and the composer(s) honestly, but flexibly. This may concern the relative value ascribed to factors like risk and certainty, innovation, complexity, virtuosity, poetry, feeling, groove, and the relative proportions of composed and improvised material.
6. Establishing enough shared sense of what the musical game is so that improvisers can understand each other, respond to cues, and collectively create a cohesive musical statement.

²¹⁷ Webb (2008: 26-27), and three of his music teacher colleagues, compiled a list of '21 habits of 'musicianing''. He writes that the list was 'intended as an attitude-shaping guide, not a prescriptive formula'. My list is intended in the same way.

²¹⁸ And other source musical systems where applicable, for example Hindustani music in Mantrasonic.

7. Celebrating areas of difference and, where appropriate, exploring these areas as catalysts for the generation of new ideas.
8. Playing with technical expertise, imagination, confidence, expressive feeling, commitment, and energy.
9. Conceiving orchestration thoughtfully, taking into account idiomatic instrumental and vocal considerations with regard to subtleties of timbre, dynamics, intonation, performance practice, and instrumental roles.
10. Using amplification and recording technology sympathetically and effectively.
11. Extending the trust, mutual respect, and passion for music that informs the relationship between the musicians, to the audience.

LIMITATIONS OF THIS STUDY

This study is written from the perspective of one person engaging with particular musicians. This caveat needs to be noted in determining the extent to which the findings might relate to other intercultural projects, or reflect the experience of the other musicians in this study. The strengths of this approach were that it facilitated depth of engagement with the topic, with the musicians involved, and a participant's insight into the creative process.

It is almost impossible to engage with intercultural research in this manner without encountering the series of political, economic, and social factors and conditions that made the musical interactions in these case studies possible. The focus of this study was not to critique musical interactions and outcomes vis-à-vis the agency of these factors in local, national, and international contexts. Nevertheless, the question arises as to how to acknowledge these factors and conditions, and the privileged, contradictory, and perhaps

even conflicted positions held by the musicians within local and global communities. This is arguably an even more difficult and expansive question than is raised by the purely musical issues of interculturality. The scope of this creative practice study determines that this is not the place to pursue such a line of enquiry, although it would be worthwhile to do so in some form in the future. Nevertheless, I am conscious of the various levels at which identity, power, and privilege permeate intercultural projects. Without wishing to suggest an overarching theory, perhaps this much can be said: the relationships between the musicians in these case studies have been mutually beneficial, and this reciprocity has been important in the desirability and sustainability of the musical projects. While this is my personal experience in these case studies, I also recognise that there are situations where these qualities have not been present in intercultural projects.

FURTHER RESEARCH

Further research might explore areas like the development of a model for the analysis of intercultural music between improvisers, or the potential for processes used in improvised intercultural musical dialogue to be applied in non-musical intercultural contexts. This study raised some interesting questions about the effect of differences in perception and aesthetic expectation on intercultural musical performance that merit further investigation. Some musical ideas that arose during this creative practice, but were not explored, suggest ideas for further practice-based research. Examples are the application of *arudis* and other Carnatically derived rhythmic syntax in swing feels, the use of architectonic principles from Carnatic music to construct computer generated manipulations of timbre and other musical processes, and microtonal harmony as raga accompaniment. Further research in saxophone playing could investigate instrumental modifications to the saxophone and saxophone playing techniques, both those currently used in Carnatic music and potential

innovations for the future. Studying the effect of Western saxophone players who are also Carnatic music students, on saxophone sound and playing techniques in Carnatic music would also be instructive. Like the group Mantrasonic, many intercultural ensembles include musicians from Carnatic, Hindustani, and jazz backgrounds. It was beyond the scope of this research to investigate this three-way interaction in depth, but this suggests a worthwhile area for future study.

FINAL THOUGHTS

This study deals with some of the musical and cultural complexities of the contemporary world. Many contemporary musicians from diverse backgrounds engage in intercultural music making. In this process, individual and group knowledge, expertise, imagination, and aesthetic preferences intersect, richly coloured by knowledge and practices from the source musical systems. Musicians use their skill and intuition to respond in the moment to each other's ideas and sound knowledge. Sustained commitment to the pursuit of deep connections and understandings increases the likelihood of progressing beyond superficial engagement. Passion for music, dedication to its realisation, mutual respect, trust, and friendship are fundamental to the success and sustainability of these intercultural spaces. By exploring confluences and differences between jazz and Carnatic music in creative ways, it seems possible to transcend binary oppositions, to give voice to different musical worldviews simultaneously and harmoniously. These worldviews are not fixed, but are themselves subject to change. They are not mutually exclusive, but overlap with a shared commitment to creating beauty in familiar and previously unimagined ways.

GLOSSARY

Adi Tala(m): An 8 beat rhythmic cycle common in Carnatic music, consisting of a 4 beat section followed by 2 sections of 2 beats each

Akshara(m): Basic unit of tala cycle, beat

Alapana, Alap: Non-metric melodic improvisation introducing a raga

Arohana(m): Ascending pitch orders

Arudi: Short cadential rhythmic phrase

Avartana(m): One cycle of a tala

Avorohana(m): Descending pitch orders

Bani: Lineage, playing tradition

Bansuri: North Indian bamboo flute

Bharatanatyam: South Indian Classical dance form

Chatusra(m): 4 in relation to rhythm

Dholak: North Indian double-headed hand drum

Durita Kala(m): Fast tempo

Gamaka(m): Melodic ornamentation

Ghatam: A clay pot drum

Graha Bedha(m): Position change (in reference to modal shift of tonic)

Jati: Rhythmic solmisation syllables, phrases combining the syllables

Jaati: Rhythmic classification type (eg 3, 4, 5, 7, 9)

Kacceri: Concert

Kannaku: Calculation

Khanda(m): 5 in relation to rhythm

Konakkol: Performance of solkattu in concert

Koraippu: 1. Decreasing question and answer phrases in improvised section
2. Reducing rhythmic structure

Korvai: Cadential rhythmic structure

Kriti: A song form in Carnatic music

Kriya: Hand gestures for reckoning tala

Laya Rathna: Time shifting, similar to metric modulation

Madhyama Kala(m): Medium tempo

Madhya Sthayi: Middle register or octave

Mandra Sthayi: Low register or octave

Matrai: Small unit of time

Misra(m): 7 in relation to rhythm

Mora: 3 times repeating cadential rhythmic structure

Mridangam: A double-headed barrel drum, the principal drum in Carnatic music

Nadai: Rhythmic subdivision (eg 3, 4, 5, 7, 9)

Nagaswaram: South Indian double reed instrument

Niraval: Improvised melody on a text, often used in a kriti

Pallavi: Opening melodic section in a Carnatic composition

Pujas: Hindu religious ritual where offerings are made to deities

Purvanga(m): The first part (especially of a korvai)

Raga(m): The foundation of melodic material in Indian classical music
incorporating combinations of notes, phrases and embellishments

Ragamalika: Garland or succession of ragas

Rasa: Emotional mood, tone or flavour

Samam or *Sam*: First beat of tala cycle

Samcara: Characteristic melodic material relating to raga (also known as *Prayoga*)

Sargam: Notation system for Indian music developed by musicologist Pandit
Vishnu Narayan Bhatkhande (1860 -1936)

Sankeerna(m): 9 in relation to rhythm

Shishya: Disciple

Solkattu: Syllables used for learning rhythmic language

Sruthi (Sruti): Pitch; interval; intonation

Sruthi Box: Electronic drone instrument

Swara(m): Musical note, scale degree

Swara Kalpana: Free melodic improvisation within the boundaries of a composition

Tala(m): Metric system of Indian classical music

Tambura: Plucked lute played with open strings to provide drone pitches

Tanam: The second section of an improvisation in *ragam-tanam-pallavi* form where rhythmic pulse is introduced in an unmetered improvisation

Tani Avartanam: Percussion solo section

Tara Sthayi: High register or octave

Theka: Sequence of strokes in tabla playing (and other Hindustani percussion instruments) delineating the tala framework

Tillana: A song form in Carnatic music

Tisra(m): 3 in relation to rhythm

Trikala(m): 3 speeds

Uttaranga(m): The second part (especially of a korvai)

Vadi: The note given most prominence in a given raga

Vakra Raga(m): Raga where the pitches appear in a zigzag pattern

Varnam: Song form in Carnatic music, often played as the first item in a concert

Venu: South Indian bamboo flute

Vilambita Kala(m): Slow tempo

Veena: Plucked lute prominent in Carnatic music

Yati: Rhythmic shape

APPENDICES

APPENDIX ONE:

RELATED CREATIVE PRACTICE HISTORY

AUSTRALIAN ART ORCHESTRA COLLABORATIONS with GURU KAARAIKKUDI MANI and SRUTHI LAYA

Two Oceans Ensemble

2013 - *Encounters India*: Queensland Conservatorium, Griffith University, Brisbane

2012 - Indian Tour, *Hindu Friday Review November Fest*: Coimbatore, Chennai, Hyderabad

Adrian Sherriff and Sandy Evans with Sruthi Laya

2012 – Indian tour: *Daya, On Kindness*: A celebration of 20 years of Australia India cross-cultural exchanges in collaboration with the Australia-India Council and RMIT, New Delhi

Chennai Sessions Ensemble: 8 AAO musicians and Sruthi Laya

2010 - *Parramasala Festival of South Asian Arts*: Parramatta Riverside Theatre, Sydney

2009 - *OzAsia Festival*: Adelaide Festival Centre; Melbourne Recital Centre

2008 - Indian Tour: Hyderabad, Mysore, Bangalore, Chennai

2007 - Indian Tour: Hyderabad, Mumbai Arts Festival, Kolkata, Bangalore

Into the Fire: 19 AAO musicians and Sruthi Laya

2003 - *Melbourne International Arts Festival*: Hamer Hall, Melbourne

2001 - Sydney Opera House

2000 - European Tour: *Australia Celebrates, Heads Up*, London; *World Expo*, Hanover; *Copenhagen Jazz Festival*, *Archa Theatre*, Prague; *Pori International Jazz Festival*, Finland

1998 - *Adelaide Festival of the Arts*, Adelaide Festival Centre (Preceded by Creative

Development Period: Ironbank Music Camp, South Australia)

1997 - *Wangaratta Jazz Festival*, Victoria

1996 - Indian Tour: New Delhi, Mumbai, Kolkata

PROJECTS RELATED TO MANTRATONIC

Citizens of Earth

This group, active during 2008 and 2009, was the precursor to Mantratonic. The line up was Sandy Evans: tenor and soprano saxophone; Tony Gorman: clarinet; Sarangan Sriranganathan: sitar and voice; Steve Elphick: bass; Bobby Singh: tabla; and Ben Walsh: drums.

Sandy Evans Trio

2001 to present: Brett Hirst: bass²¹⁹ and Toby Hall: drums.

This trio has been central to the development of my compositional and improvisatory practice. As my interest in Carnatic music grew, it was natural to explore Carnatic concepts, repertoire, and techniques in this context. Experimentation with a range of Carnatic techniques in a jazz trio context, particularly during an Australian national tour for Sound Travellers in 2010, laid the groundwork for subsequent research.

Over the next three years I explored creative practice with different ensemble configurations from the same pool of players: myself, Sarangan Sriranganathan, Brett Hirst, Bobby Singh, and Toby Hall. The ensemble sound and the way musicians played together changed with different instrumentations. While the quartet Mantratonic is the focus of discussion in Chapter 3, each of the following lineups contributed to the creative development of Mantratonic's music.

Quintet:	Saxophone, Sitar/Voice, Bass, Drums, Tabla
Quartet:	Saxophone, Bass, Drums, Tabla
Quartet:	Saxophone, Sitar/Voice, Bass, Tabla (Mantratonic)
Trio:	Saxophone, Bass, Tabla
Trio:	Saxophone, Sitar/Voice, Tabla
Duo:	Saxophone, Tabla

²¹⁹ Brett Hirst replaced bassist Brendan Clarke in 2003.

Other musicians sometimes appeared as guests, including bass players Lloyd Swanton and Michael Galeazzi, tabla player Maharshi Raval, and drummers Chris Fields and Hamish Stuart.

OTHER PROJECTS

Other intercultural projects with Indian musicians that informed this research were:

- Bollywood concerts in Sydney and Melbourne with Sarangan Sriranganathan and Hariharan
- ‘Fearless Nadia’ tours of Australia and India with Ben Walsh and the Orchestra of the Underground, playing Ben’s score for the 1940 Bollywood film ‘Diamond Queen’ with Hindustani musicians Aneesh Pradhan: tabla; Sudhyir Nayak: harmonium; Sanjeev Shankar: shenai; Sangeet Mishra: sarangai; Bobby Singh: tabla; and Australian musicians Matt Ottignon: saxophones and clarinet; Grant Arthur: sousaphone, trombone, bass trumpet, and banjo; Shenzo Gregorio: violin and viola; Luke Dubber: piano and keyboards; Eden Ottignon: bass; and Greg Sheehan and Ben Walsh: drums and percussion
- performances with sarod player Adrian McNeil
- collaboration at the Guelph Jazz Festival, 2013 with Matt Brubeck: cello, and Pandit Anindo Chatterjee: tabla

The composition, workshopping, and recording of the big band composition ‘Kali and The Time of Change’ for Sirens Big Band, and ‘Ode To An Autorickshaw’ for saxophone quartet Compass, with tabla and Carnatic voice, were important in the creative development of my compositional strategies. Both compositions explore transporting *korvai* structures composed by Mani-Sir into new contexts, and investigate modal ideas reflecting some aspects of raga.

The ensembles Waratah, MARA!, Kim Sanders and Friends, The Catholics, and various groups with guitarist Guy Straz have been significant platforms for the development of modal, rhythmic, and intercultural processes and ideas relevant to this research.

APPENDIX TWO:

DATA FOR COMPARATIVE ANALYSIS OF ALAPANA STRUCTURE

In Chapter 3 (pages 105-110), seven solo improvisations from the creative practice projects are analysed using Viswanathan's division of *alapana* structure into four sections.

The timings marking the delineation of the four sections in my analysis are:

1. Sitar (Track 1, Supplementary CD)

Section 1: 0.20-2.19

Section 2: 2.19-2.32

Section 3: Not present

Section 4: 2.32-3.12

2. Voice (Track 2, Supplementary CD)

Section 1: 0.04-2.00

Section 2: 2.00-2.27

Section 3: 2.27-2.57 (Multiple interpretations of start and end point possible)

Section 4: 2.57-3.08

3. Soprano saxophone (Track 3, Supplementary CD)

Section 1: 0.00-1.34

Section 2: 1.34-2.05

Section 3: 2.05-3.14

Section 4: 3.14-3.52

4. Flute (Track 4, Supplementary CD)

Section 1: 0.11-2.40

Section 2: 2.40-3.48

Section 3: 3.48-6.24 (includes *Tanam*)

Section 4: 6.24-7.10

5. Mandolin (Track 5, Supplementary CD)

Section 1: 0.07-1.18

Section 2: 1.18-2.09

Section 3: 2.09-2.50 (includes *Tanam*)

Section 4: 2.50-3.08

6. Bass (Track 6, Supplementary CD)

Section 1: 0.01-0.19

Section 2: 0.19-1.50

Section 3: 1.50-2.03 (includes rhythmic development similar to *Tanam*)

Section 4: 2.03-2.35

7. Tenor saxophone (Track 7, Supplementary CD)

Section 1: Not present

Section 2: Not present

Section 3: 0.00-1.16

Section 4: 1.16-1.25

APPENDIX THREE:

RECORDING INFORMATION

CD 1: COSMIC WAVES

Recorded and mixed by Denis Crowdy, produced by Tony Gorman

Recorded and mixed at Studio 1, Macquarie University

Recording dates: November 2010 to February 2011

Piano recording at Alister Spence's house - engineer Denis Crowdy, 11th January 2011

Mixing dates: February 2011 to June 2011

Mastered by Don Bartley at Benchmark Mastering: 14th November 2011

Published on Underscore Records, 12EX0001ACD, March 2012

CD 2: SEVEN STORIES OF DREAMS

Recorded and mixed by Denis Crowdy, produced by Tony Gorman

Assistant engineer: Steve Morley

Recorded and mixed at Studio 1, Macquarie University

Vocal overdub recorded by Sarangan Sriranganathan at his home studio, October 2012

Recording dates: 18th and 19th August 2012. Mixing dates: December 2012 to July 2013

CD3: MEETINGS AT THE TABLE OF TIME

Live performances recorded by Guy Smith

Track 1: Recorded at Madras Music Academy, Chennai, Tamil Nadu: 20th November 2012

Tracks 2 and 3: Recorded at Ravindra Bharathi Auditorium, Lakdi-ka-pul, Hyderabad,

Andhra Pradesh: 23rd November 2012

SUPPLEMENTARY CD

Track 1: Studio 1, Macquarie University, 18/8/12 (Recording engineer: Denis Crowdy)

Track 2: Live recording from the OzAsia Festival, Adelaide Festival Centre, 22/9/12

(Recorded by Australian Broadcasting Corporation for Music Deli)

Track 3: Studio 1, Macquarie University, 18/8/12 (Recording engineer: Denis Crowdy)

Track 4: Studio 1, Macquarie University, 18/8/12 (Recording engineer: Denis Crowdy)

Track 5: Studio 1, Macquarie University, 1/1/10 (Recording engineer: Denis Crowdy)

Tracks 6 and 7: Live recording from the Capital Jazz Festival, Street Theatre, Canberra,
4/8/12 (Recording engineer: Kimmo Vennonen)

BIBLIOGRAPHY

- Ake, David, Charles Hiroshi Garrett, and Daniel Ira Gldmark. *Jazz/Not Jazz the Music and Its Boundaries*: University of California Press. 2012.
- Amabile, Teresa M. *Creativity in Context*. Boulder, CO: Westview Press. 1996.
- Aubert, Laurent. *The Music of the Other: New Challenges for Ethnomusicology in a Global Age*. Translated by Carla Ribeiro. Aldershot: Ashgate Publishing Limited. 2007.
- Australian Art Orchestra. "Adrian Sherriff Biography." Accessed 20th July, 2013
<http://aao.com.au/people/musicians/bio/adrian-sherriff2/>
- Australian Art Orchestra with Guru Kaaraikkudi Mani. *The Chennai Sessions*. Rec. 2008. Australian Art Orchestra Recordings, 2009.
- Australian Art Orchestra with Guru Kaaraikkudi Mani and Sruthi Laya. *Into the Fire*. Rec. 1999. ABC Classics, 2000 (465 702-5).
- Bailey, Derek. *Improvisation*. New York: Da Capo Press. 1980.
- Balkwill, Laura-Lee, and William Forde Thompson. "A Cross-Cultural Investigation of the Perception of Emotion in Music: Psychophysical and Cultural Cues." *Music Perception: An Interdisciplinary Journal* 17, no. 1, (1999).
- Barrett, E., and B. Bolt. *Practice as Research: Approaches to Creative Arts Enquiry*. London and New York: I. B. Tauris. 2007.
- Beck, Guy L. *Sonic Theology: Hinduism and Sacred Sound*. Columbia, South Carolina: University of South Carolina Press. 1993.
- Bergonzi, Jerry. *Melodic Rhythms*. Rottenburg Nth: Advance Music. 1998.
- Berkman, Franya J. "Appropriating Universality: The Coltranes and 1960s Spirituality." *American Studies* 48, no. 1, (2007).

- Berliner, Paul F. *Thinking in Jazz: The Infinite Art of Improvisation* Chicago: The University of Chicago Press. 1994.
- Bhagwati, Sandeep. "Imagining the Other's Voice: On Composing across Vocal Traditions." In *Vocal Music and Contemporary Identities: Unlimited Voices in East Asia and the West*, edited by Christian Utz and Frederick Lau: Routledge, 2013.
- Bhagyalekshmi, Dr. S. *Ragas in Carnatic Music*. Nagercoil: CBH Publications. 1990.
- Birtwistle, Andy. "Marking Time and Sounding Difference: Brubeck, Temporality and Modernity." *Popular Music* 29, no. 3, (2010).
- Bisset, Andrew. *Black Roots, White Flowers: A History of Jazz in Australia*. Sydney: ABC Enterprises for the Australian Broadcasting Corporation. 1987.
- Born, Georgina, and David Hesmondhalgh. *Western Music and Its Others: Difference, Representation, and Appropriation in Music*. Berkley: University of California Press. 2000.
- Bowling, Daniel Liu, Janani Sundarajan, Shui'er Han, and Dale Purves. "Expression of Emotion in Eastern and Western Music Mirrors Vocalization." *PLoS ONE* 7, no. 3, (2012).
- Brady, Shaun. "Rudresh Mahanthappa." *Downbeat*, 76, no. 8, 2009.
- Braembussche, Antoon Van den, Heinz Kimmerle, and Nicole Note. "Intercultural Aesthetics: An Introduction." In *Intercultural Aesthetics a Worldview Perspective*, Brussels: Springer Science + Business Media B.V., 2009.
- Brown, Robert E. "The Mrdanga: A Study of Drumming in South India." PhD Thesis, University of California, 1965.
- . "World Music - Past, Present, and Future." The UCLA Herb Alpert School of Music, Department of Ethnomusicology, College Music Society Newsletter, Accessed 10th December, 2013 <http://www.ethnomusic.ucla.edu/world-music-and-ethnomusicology>
- Candy, Linda. "Practice Based Research: A Guide." Sydney: University of Technology, 2006.

- Chapman, Jim. "Afro No-Clash Composing Syncretic African/Western Music: Eleven Compositions and the Frameworks for Their Systematic Analysis." PhD Thesis, Queensland University of Technology, 2007.
- Chari, Madhav. "Pundit Coltrane Shows the Way." *Journal of Asian American Studies* 4, no. 3, (2001).
- Chelladurai, Dr P. T. *The Splendour of South Indian Music*. Dindigul, Tamil Nadu: Vaigarai Publishers. 1991.
- Chen, Jer Ming; Smith, John; Wolfe, Joe;. "Pitch Bending and *Glissandi* on the Clarinet: Roles of the Vocal Tract and Partial Tone Hole Closure." *Journal of the Acoustical Society of America* 126, no. 3, (2009).
- Claman, David Neumann. "Western Composers and India's Music: Concepts, History, and Recent Music." PhD Thesis, Princeton, 2002.
- Clare, John. *Bodgie Dada and the Cult of Cool: Jazz in Australia since the 1940s*. Sydney: University of New South Wales Press. 1995.
- Clayton II, Matthew Daniel. "M-Base: Envisioning Change for Jazz in the 1980s and Beyond." PhD Thesis, Harvard University, 2008.
- Clayton, Martin. *Time in Indian Music*. Oxford and New York: Oxford University Press. 2000.
- . "Local Practice, Global Network: The Guitar in India." In *Theorizing the Local. Music, Practice, and Experience in South Asia and Beyond*, edited by Richard K. Wolf, Oxford and New York: Oxford University Press, 2009.
- Clements, Carl. "John Coltrane and the Integration of Indian Concepts in Jazz." *Jazz Research Journal* 2, no. 2, (2008).
- Coleman, Ornette. *The Shape of Jazz to Come*. Rec.1959. Atlantic Records, 1959 (1317).
- Coltrane, John. *Giant Steps*. Rec. 1959. Atlantic 1960 (SD 1311).
- . *Coltrane Live at Birdland*. Rec. 1963. Impulse, 1964 (A-50).
- Connolly, Candida. *Indian Melodies for Alto Saxophone*. London: Schott. 2006.

- Cook, Richard. "Age Shall Not Wither Him." *New Statesman*, 3rd May 1999.
- Cooper, John Burnie. "An Aesthetic Inquiry into a Process of Composition for the Jazz Orchestra." PhD Thesis, New York University, 1996.
- Cooper, Robin. "Abstract Structure and the Indian Raga System." *Ethnomusicology* 21, no. 1, (1977).
- Crist, Stephen A. "Jazz as Democracy? Dave Brubeck and Cold War Politics." *The Journal of Musicology* 26, no. 2, (2009).
- Cuthbertson-Lane, Rebecca. "Breath and the Science of Feeling." In *Breath in Action the Art of Breath in Vocal and Holistic Practice*, edited by Jane Boston and Rena Cook, London and Philadelphia: Jessica Kingsley Publishers, 2009.
- Davis, Miles. *Kind of Blue* Columbia, 1959.
- Dean, Roger T. *Creative Improvisation*. Milton Keynes, UK: Open University Press. 1989.
- . *New Structures in Jazz and Improvised Music since 1960*. Milton Keynes and Philadelphia: Open University Press. 1992.
- . *Sounds from the Corner: Australian Contemporary Jazz on Cd*. Sydney: Australian Music Centre. 2005.
- Eisenberg, Jacob, and William Forde Thompson. "A Matter of Taste: Evaluating Improvised Music." *Creativity Research Journal* 15, no. 2 & 3, (2003).
- Ericsson, K. Anders. "The Influence of Experience and Deliberate Practice on the Development of Superior Expert Performance." In *The Cambridge Handbook of Expertise and Expert Performance*, edited by Neil Charness K. Anders Ericsson, Paul J. Feltovich, Robert R. Hoffman, Cambridge: Cambridge University Press, 2006.
- Evans, Sandy. "Two Oceans." Australian Art Orchestra, Accessed 23rd April, 2013 <http://aao.com.au/news/post/two-oceans/>
- Farrell, Gerry. "Reflecting Surfaces: The Use of Elements from Indian Music in Popular Music and Jazz." *Popular Music* 7, no. 2, (1988).

- . *Indian Music and the West*. Oxford: Oxford University Press. 1997.
- Farrell, Gerry, Jayeeta Bhowmick, and Graham Welch. "South Asian Music in Britain." In *Diasporas and Interculturalism in Asian Performing Arts: Translating Traditions*, edited by Hae-Kyung Um, London and New York: Routledge Curzon, 2005.
- Feld, Steven. "Sound Structure as Social Structure." *Ethnomusicology* 28, no. 3, (1984).
- . "Pygmy Pop: A Genealogy of Schizophonic Mimesis." *Yearbook for Traditional Music* 28, (1996).
- . "Communication, Music, and Speech About Music." In *Music Grooves*, Tuscon, Arizona: Fenestra Books, 2005.
- Fellezs, Kevin. "Between Rock and a Jazz Place: Intercultural Interchange in Fusion Musicking." PhD Thesis, University of California, 2004.
- Fenlon, Sean P. "The Exotic Rhythms of Don Ellis." DMA Thesis, John Hopkins University, 2002.
- Fernandes, Naresh. *Taj Mahal Foxtrot: The Story of Bombay's Jazz Age*. Mumbai: Roli. 2011.
- Friberg, A, and A Sundström. "Preferred Swing Ratio in Jazz as a Function of Tempo." *TMH-QPSR* 38, no. 4, (1997).
- Garzone, George. *The Music of George Garzone and the Triadic Chromatic Concept* JodyJazz Inc, 2008.
- Gates Jnr, Henry Louis. *The Signifying Monkey: A Theory of Afro-American Literary Criticism*. New York: Oxford University Press. 1988.
- Gioia, Ted. *The History of Jazz*. Oxford and New York: Oxford University Press. 1997.
- Goodman, Dave. "Tony Williams' Drumset Ideology to 1969: Synergistic Emergence from an Adaptive Modeling of Feel, Technique and Creativity as an Archetype for Cultivating Originality in Jazz Drumset Performance Studies." PhD Thesis, Sydney Conservatorium of Music, University of Sydney, 2011.

- Gopalnath, Kadri. "Adapting the Saxophone to Carnatic Music." *Carnatica* (2000), Accessed 14th May, 2010 <http://www.carnatica.net/sangeet/saxophone1.htm>
- Government of Canada. "Tcps 2-Glossary: Panel on Research Ethics." Accessed 12th July, 2014 <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/glossary-glossaire/>
- Greenland, Tom. "Rudresh Mahanthappa." *All About Jazz* (2006), Accessed 14th May, 2010 <http://www.allaboutjazz.com/php/article.php?id=21453>
- Grey, Carola. "Carola Grey's Noisy Mama -Live 2011." (2011), Accessed 16 May, 2011 <http://www.youtube.com/watch?v=zKL17dlTulo&feature=related>
- Gross, Terry. "Saxophone Stylings, with a South Asian Flair." *All Things Considered* NPR (2009), Accessed 10th May, 2010 <http://www.npr.org/templates/story/story.php?storyId=101644613>
- Guilfoyle, Ronan. *Creative Rhythmic Concepts for Jazz Improvisation*. Dublin: Newpark Music. 2000.
- Hall, Edward T. "Improvisation as an Acquired, Multilevel Process." *Ethnomusicology* 36, no. 2, (1992).
- Hannaford, Marc Edward. "Elliott Carter's Rhythmic Language: A Framework for Improvisation." MMus Thesis, Victorian College of the Arts, The University of Melbourne, 2012.
- Hargeaves, David J., and Raymond A. R. MacDonald. "Designing Improvisation: Intercultural Collaboration and Musical Imagination." *Procedia-Social and Behavioral Sciences* 45, (2012).
- Hicks, Tony. "The Path to Abstraction: A Practice Led Investigation into the Emergence of an Abstract Improvisation Language." MMus Thesis, Victorian College of the Arts and Music, University of Melbourne, 2011.
- Higgins, Kathleen Marie. "An Alchemy of Emotion: Rasa and Aesthetic Breakthroughs." In *Global Theories of the Arts and Aesthetics*, edited by Susan Feagin: Barnes and Noble, 2008.
- Higgins, Niko. "Confusion in the Karnatic Capital: Fusion in Chennai, India." PhD Thesis, Columbia University, 2013.

- Hill, Barry. "Sub-Cultural Translations - Greg Sheehan and the Drummers of Northern NSW." PhD Thesis, Monash University, 2008.
- Isler, Todd. *You Can Ta Ka Di Mi This!* Brooklyn, New York: Gerard And Sarzin Publishing Co. 2005.
- Iyer, Vijay. "Embodied Mind, Situated Cogntion, and Expressive Microtiming in African-American Music." *Music Perception: An Interdisciplinary Journal* 19, no. 3, (2002).
- Jackson, Adrian. "Scott Tinkler: In Conversation with Adrian Jackson." *Extempore Journal*, no. 2, (2009).
- Jackson, Stephanie Lou. "Beyond Kitsch: A. R. Rahman and the Global Routes of Indian Popular Music." MMus Thesis, Bowling Green State Univesity, 2010.
- Jairazbhoy, Nazir Ali. "Restudy of Bake's Fieldwork in India." In *Comparative Musicology and Anthropology of Music*, edited by Bruno Nettl and Philip V. Bohlman, Chicago and London: The University of Chicago Press, 1991.
- Jarnardhan, E.R. *Learn to Play Saxophone* Super Audio PVT LTD, 2009 (SADVD 10143).
- Johnny Hodges and His Orchestra. *Passion Flower* RCA Records, Inc., 1941.
- Johnson, Bruce. *The Oxford Companion to Australian Jazz*. Melbourne: Oxford University Press. 1987.
- Jordan, Seth. "Introduction." In *World Music: Global Sounds in Australia*, edited by Seth Jordan, Sydney: University of New South Wales Press, 2010.
- Kalmanovitch, Tanya. "Jazz and Karnatic Music: Intercultural Collaboration in Pedagogical Perspective." *The World of Music* 47, no. 3, (2005).
- . "'Indo-Jazz Fusion': Jazz and Karnatak Music in Contact." PhD Thesis, University of Alberta, 2008.
- Karpf, Anne. *The Human Voice: The Story of a Remarkable Talent*. London: Bloomsbury. 2006.

- Kartomi, Margaret and Blum, Stephen (ed). *Music-Cultures in Contact: Convergences and Collisions*. Sydney: Currency Press. 1994.
- Kartomi, Margaret J. "The Processes and Results of Musical Culture Contact: A Discussion of Terminology and Concepts." *Ethnomusicology* 25, no. 2, (1981).
- Keil, Charles. "Motion and Feeling through Music." In *Music Grooves*, Tuscan, Arizona: Fenestra Books, 2005.
- Keil, Charles, and Steven Feld. *Music Grooves*. Tuscon, Arizona: Fenestra Books. 2005.
- Kernfield, Barry. "Mingus, Charles " In Grove Music Online: Oxford University Press, 2007-2013. Accessed 31st January, 2013
<http://www.oxfordmusiconline.com/subscriber/article/grove/music/18734>.
- Knight, Peter. "The Intersection of Improvisation and Composition: A Music Practice in Flux." DMA Thesis, Queensland Conservatorium, Griffith University, 2011.
- Krishnan, Lalitha. "Fusion Defined." *The Hindu*, 22nd December, 2006.
- Lavezzoli, Peter. *The Dawn of Indian Music in the West*. New York and London: Continuum International Publishing Group. 2006.
- Levine, Mark. *The Jazz Piano Book*. Petaluma, California: Sher Music Co. 1989.
- . *The Jazz Theory Book*. Petaluma, California: Sher Music Co. 1995.
- Liebman, David. *A Chromatic Approach to Jazz Harmony and Melody*. Rottenburg Nth: Advance Music. 1991.
- Locke, Ralph P. *Musical Exoticism: Images and Reflections*. Cambridge: Cambridge University Press. 2009.
- Mac Erlaine, Sean. "Microtonality as an Expressive Device: An Approach for the Contemporary Saxophonist." MMus Thesis, Dublin Institute of Technology, 2009.
- Mahanthappa, Rudresh. *Kinsmen*. Rec. 2007. Pi Recordings, 2008 (28).

- Mall, R. A. "India and Intercultural Aesthetics." In *Handbook of Phenomenological Aesthetics*, edited by Hans Rainer Sepp and Lester Embree, New York and London, 2010.
- Mani, Kaaraikkudi R. "Biography." Sruthi Laya Kendra, Accessed 14th May, 2010 <http://www.karaikudirmani.com/biography.asp>
- Mani, Kaaraikkudi R. and Sherriff, Adrian. "Into the Fire." Melbourne: Australian Art Orchestra, 1996.
- Mani, Kaaraikkudi. R. *Amrutham: Fusion for Freedom*. Rec. 2003. Kosmic Music Pvt Ltd., 2003 (KM 1793D).
- Marcus, George E. *Ethnography through Thick and Thin*. Princeton, New Jersey: Princeton University Press. 1998.
- Mariano, Charlie. *Jyothi*. Rec. 1983. ECM, 1983 (1256, 811 548-2).
- . *Charlie Mariano's Bangalore*. Rec. 1998. Intuition Records, 1998 (INT 3246-2).
- . *An Introduction to South Indian Music*. Advance Music. 2000.
- Mariano, Charlie and The Karnataka College of Percussion. *Live*. Rec. 1989. VeraBra Records, 1990 (vBr 2034 1).
- Markoff, Irene. "Aspects of Turkish Folk Music Theory." In *Garland Encyclopedia of World Music*, ed Virginia Danielson: Routledge, 2001.
- McNeil, Adrian. "A Mouse, a Frog, the Hawaiian Guitar and World Music Aesthetics. Vishwa Mohan Bhatt and Ry Cooder Meet by the River." *Perfect Beat* 2, no. 3, (1995).
- . "Improvisation as Conversation: A Cross-Cultural Perspective." *Journal of The Indian Musicological Society* 38, (2007).
- Mehta, R.C. "Melodic Tensions and Musical Aesthetics." *The Journal of The Music Academy, Madras* XXX, (1959).
- Mehta, Rajesh. "Orka-M: International Institute of Innovative Music." Accessed 7th June, 2013 <http://www.orka-m.com/institute/>

- Meyer, Leonard B. *Emotion and Meaning in Music*. Chicago: University of Chicago Press. 1956.
- Monson, Ingrid. *Saying Something: Jazz Improvisation and Interaction*. Chicago: The University of Chicago Press. 1996.
- . "Riffs, Repetition, and Theories of Globalization." *Ethnomusicology* 43, no. 1, (1999).
- Morello, Joe. *Master Studies*. New Jersey: Modern Drummer Publications Inc. 1983.
- Munro, Charlie. *Eastern Horizons*. Rerelased 2008. Votary, 1967.
- Nachmanovitch, Stephen. *Free Play: Improvisation in Life and Art*. Los Angeles: Jeremy P. Tarcher, Inc. 1990.
- Napier, John. "South Asia: Courts and Temples, Concert Halls and Suburbs." In *World Music: Global Sounds in Australia*, edited by Seth Jordan, Sydney: University of New South Wales Press, 2010.
- Nelson, David P. "Mrdangam Mind: The Tani Avartanam in Karnatak Music. Volume I: Text and Analysis." PhD Thesis, Wesleyan University, 1991.
- . *Solkattu Manual*. Middletown, Connecticut Wesleyan University Press. 2008.
- Nelson, Robin. *Practice as Research in the Arts: Principles, Protocols, Pedagogies, Resistances*. New York and Basingstoke: Palgrave Macmillan. 2013.
- Nelson, Robin, and Stuart Andrews. "Practice as Research: Regulations, Protocols and Guidelines." 2003.
- Nettl, Bruno. "Thoughts on Improvisation: A Comparative Approach." *The Musical Quarterly* 60, no. 1, (1974).
- . "Some Aspects of the History of World Music in the Twentieth Century: Questions, Problems, and Concepts." *Ethnomusicology* 22, no. 1, (1978).
- . "Relating the Present to the Past. Thoughts on the Study of Musical Change and Culture Change in Ethnomusicology." *Music and Anthropology. Journal of Musical Anthropology of the Mediterranean*, (1996).

- . "An Art Neglected in Scholarship." In *In the Course of Performance: Studies in the World of Musical Improvisation*, edited by Bruno Nettl and Melinda Russell, Chicago: The University of Chicago Press, 1998.
- . *The Study of Ethnomusicology : Thirty-One Issues and Concepts*. Urbana, Ill.: University of Illinois Press. 2005.
- Nettl, Bruno, and Melinda Russell. *In the Course of Performance: Studies in the World of Musical Improvisation*. Chicago: University of Chicago Press. 1998.
- Nicholson, Stuart. *Is Jazz Dead? (or Has It Moved to a New Address)*. New York and London: Routledge. 2005.
- O'Brien, Flann. *The Third Policeman*. Champaign and London: Dalkey Archive Press. 1996.
- O'Neill, Luke. "Creating New Music Compositions Based on the Number Systems of Composer Greg Sheehan." MCA Thesis, The University of Wollongong, 2013.
- Panikker, Dharendra Mikhail. "Indian-American Jazz: An Emerging Hybrid." MFA Thesis, University of California, Irvine, 2010.
- Pesch, Ludwig. *The Oxford Illustrated Companion to South Indian Classical Music*. New Delhi: Oxford University Press. 2009.
- Pinckney, Warren R. Jr. "Jazz in India: Perspectives on Historical Development and Musical Acculturation." *Asian Music Published by University of Texas Press* 21, no. 1, (1989).
- Porter, Lewis. *John Coltrane: His Life and Music*. Ann Arbor: University of Michigan Press. 1998.
- Potter, Gary. "Analyzing Improvised Jazz." *College Music Symposium* 30, no. 1, (1990).
- Powell, Diane, and Fiona Sze. *Interculturalism: Exploring Critical Issues*. Oxford: Inter-Disciplinary Press. 2004.
- Pradhan, Aneesh. "Fusion Music." *Journal of the Indian Musicological Society* (2011), Accessed 14th May, 2011
<http://www.readperiodicals.com/201101/2692214841.html>

- . *Tabla: A Performer's Perspective*. New Delhi: Underscore Records. 2011.
- Premalatha, N. "Association of Rasa and Kala with Ragas." *musicresearch.in* (2008), Accessed 20th January, 2013 <http://www.musicresearch.in>
- Pressing, Jeff. "Improvisation: Methods and Models." In *Generative Processes in Music*, edited by J. Sloboda, Oxford: Clarendon Press, 1987.
- . "Black Atlantic Rhythm: Its Computational and Transcultural Foundations." *Music Perception: An Interdisciplinary Journal* 19, no. 3, (2002).
- Radhakrishnan, Prasant *Vidya*. Rec. 2007. Lotus Music, 2008 (LM04-0805).
- Ramanathan, N. "Musicology in India." *Sangeet Natak: The Journal of the Sangeet Natak Akademi* 110, (1993).
- . "Sargam and Musical Conception in Karnataka System." *musicresearch.in* (2004), Accessed 20th January, 2013 <http://musicresearch.in>
- Ramnarine, Tina K. "Beyond Borders: Memory and Creativity in the Diaspora." In *Remembered Rhythms*, edited by Shubha Chaudhuri and Anthony Seeger, Calcutta: Seagull Books, 2010.
- Ranade, Ashok Da. *Music Contexts: A Concise Dictionary of Hindustani Music*. New Delhi: Promilla & Co., Publishers in association with Bibliophile South Asia. 2006.
- . "Improvisation ; the Indian Cultural Perspective." In *Perspectives on Music: Ideas and Theories*, New Delhi and Chicago: Promilla & Co., Publishers in association with Bibliophile South Asia, 2008.
- Rangacharya, Adya. *The Natyasastra: English Translation with Critical Notes*. New Delhi: Munshiram Manoharlal. 1996.
- Rapoport, Elizier. "Singing, Mind and Brain - Unit Pulse, Rhythm, Emotion and Expression." Ramat-Gan, Israel: Bar-Ilan University.
- Ravikiran, Chitravina N.; Morris, Robert. "Ravikiran's Concept of Melharmony: An Inquiry into Harmony in South Indian Ragas " *Music Theory Spectrum* 28, no. 2, (2006).

- Reck, David B. "Beatles Orientalis: Influences from Asia on a Popular Song Form." *Asian Music Published by University of Texas Press* XVI, no. 1, (1985).
- Reck, David Benedict. "A Musician's Tool-Kit: A Study of Five Performances by Thirugokarnam Ramachandra Iyer." PhD Thesis, Wesleyan University, 1983.
- Reina, Rafael. "Karnatic Rhythmical Structures as a Source for New Thinking in Western Music." Introduction to PhD Thesis, Brunel University, 2013.
- Rice, Timothy. "Aspects of Bulgarian Music Thought." *Yearbook of the International Folk Music Council* 12, (1980).
- Rodgers, John , and Kaaraikkudi. R. Mani. "Moras." Brisbane: Australian Art Orchestra, 1998.
- Rowell, Lewis. *Music and Musical Thought in Early India*. Chicago: University of Chicago Press. 1992.
- Russell, George. *The Lydian Chromatic Concept of Tonal Organisation*. New York: Concept Publishing Co. 1959.
- Sambamoorthy, P. *South Indian Music Book 1*. Chennai: The Indian Music Publishing House. 1963.
- . *South Indian Music Book V*. Chennai: The Indian Music Publishing House. 1963.
- . *South Indian Music Book VI*. Chennai: The Indian Music Publishing House. 1969.
- . *South Indian Music Book III*. Chennai: Indian Music Publishing House. 1973.
- . *South Indian Music Book IV*. Chennai: The Indian Music Publishing House. 1998.
- . *South Indian Music Book II*. Chennai: The Indian Music Publishing House. 2005.
- Sanders, Kim. *Bent Grooves*. Rec. 2006. 2007 (MMKS 002).
- Sarath, Edward W. *Improvisation, Creativity and Consciousness: Jazz as Integral Template for Music, Education, and Society*. Albany: SUNY Press. 2013.

- Schaeffer, John. "Soundcheck." WNYC (2008), Accessed 29th May, 2010
<http://mediasearch.wnyc.org/m/21343838/rudresh-mahanthappa-soundcheck-thursday-25-september-2008.htm>
- Schneckloth, Tim. "Frank Zappa: Garni Du Jour, Lizard King Poetry and Slime." *Downbeat*, 45, no. 10, 1978.
- Segell, Michael. *The Devil's Horn: The Story of the Saxophone, from Noisy Novelty to King of Cool*. New York: Picador. 2005.
- Selinsky, Peter. "An Analytical Approach to Non-Isochronous Meter: Variable Beat Length in Groove-Oriented Jazz." MA Thesis, University at Buffalo, University of New York, 2012.
- Shand, John. *Jazz: The Australian Accent*. Sydney: University of New South Wales Press. 2009.
- Shankar, L. "The Art of Violin Accompaniment in South Indian Classical Music." PhD Thesis, Wesleyan University, 1974.
- Sharpe, John. *I Wanted to Be a Jazz Musician*. Canberra: National Film and Sound Archive. 2008.
- Sherriff, Adrian. "Chasing the Koraippu." MMus (Perf) Thesis, Victorian College of the Arts, The University of Melbourne, 2005.
- Shipton, Alyn. "Indo-Jazz Fusions." 1998, Accessed 11th March, 2011
<http://www.indojazz.f9.co.uk/indojazz.htm>
- Shirrefs, Michael. "Creating a Path into India." In *Creative Instinct* ABC Radio National, 17th March, 2012.
- Shope, Bradley. "The Public Consumption of Western Music in Colonial India: From Imperialist Exclusivity to Global Receptivity." *South Asia: Journal of South Asian Studies* 31, no. 2, (2008).
- Sloboda, John A. *The Musical Mind: The Cognitive Psychology of Music*. Oxford: Clarendon Press. 1985.

- Smith, Hazel, and Roger T. Dean. *Practice-Led Research, Research-Led Practice in the Creative Arts*. Edinburgh: Edinburgh University Press. 2010.
- Smith, Margery Rainer. "Improvisation as a Catalyst for Collaborative Musical Thinking and Composition." PhD Thesis, University of Newcastle, 2006.
- Spence, Alister. "The Creeper." In *The Chennai Sessions: Australian Art Orchestra Recordings*, 2009.
- Stephenson, Angus, and Christine A. Lindberg. "New Oxford American Dictionary." Oxford University Press, 2005-2009.
- Stevens, Catherine. "Cross-Cultural Studies of Pitch and Time." *Acoustical Science and Technology* 25, no. 6, (2004).
- Stoller, Paul. *Sensuous Scholarship*. Philadelphia: University of Pennsylvania Press. 1997.
- Subramaniam, Dr. L, Subramaniam, V. *An Anthology of South Indian Classical Music Living Media*, 2006.
- Swarnabhoomi Academy of Music. Accessed 1st February, 2013 <http://sam.org.in>
- Swift, Gordon Nichols. "The Violin as Cross-Cultural Vehicle: Ornamentation in South Indian Violin and Its Influence on a Style of Western Violin Improvisation." PhD Thesis, Wesleyan University, 1989.
- Sze, Fiona. "How Interculturalism Performs: Performativity, Performability and Theatricality of Interculturalism." In *Interculturalism: Exploring Critical Issues*, edited by Diane Powell and Fiona Sze, New York: Inter-Disciplinary Press, 2004.
- Taylor, Timothy. *Global Pop: World Music, World Markets*. New York: Routledge. 1997.
- Tenzer, Michael. "Analysis, Categorization, and Theory of Musics of the World." In *Analytical Studies in World Music*, edited by Michael Tenzer, New York: Oxford University Press, 2006.
- . "Temporal Transformations in Cross-Cultural Perspective: Augmentation in Baroque, Carnatic and Balinese Music." *Analytical Approaches to World Music* 1, (2011).

The catholics. *Yonder*. Rec. 2012. Bugle Records, 2013.

Trail, Margaret. "'There's the Siren!'" Aurality and Representation of the Sounds of (Australian) Football." PhD Thesis, Victoria University, 2009.

Tzur, Oded. "A Middle Path in Saxophone." Unpublished Thesis, Rotterdam World Music Academy, 2011.

———. "Oded Tzur." Accessed 28th February, 2011 <http://www.odedtzur.com/>

Utz, Christian. "The Rediscovery of Presence: Intercultural Passage through Vocal Speech and Song." In *Vocal Music and Contemporary Identities: Unlimited Voices in East Asia and the West*, edited by Christian Utz and Frederick Lau, London: Routledge, 2013.

Van Hulzen, Robbert. "Improvisation and Its Guiding Principles in Percussion Playing in South Indian Classical Music." MA Thesis, University of Amsterdam, 2002.

Vantrikt, Ludwig. "Scott Tinkler: Trumpet Down Under." Accessed 23rd July, 2013 <http://www.allaboutjazz.com/php/article.php?id=33638-.Ue3bDOC-I-B>

Vedavalli, Dr M. B. *Sangita Sastra Sangraha: A Guide to Theory of Indian Music*. Chennai: The Karnatic Music Book Centre, 2006.

Vishwa Mohan Bhatt, Ry Cooder. *A Meeting by the River* Water Lily Acoustics, 1993.

Viswanathan, T. "The Analysis of Raga Alapana in South Indian Music." *Asian Music Published by University of Texas Press* 9, no. 1, (1977).

Viswanathan, T., and Matthew Harp Allen. *Music in South India: The Karnatak Concert Tradition and Beyond*. New York, Oxford: Oxford University Press. 2004.

Viswanathan T., and Jody Cormack. "Melodic Improvisation in Karnatak Music." In *In the Course of Performance, Studies in the World of Musical Improvisation*, edited by Bruno Nettl and Melinda Russell, Chicago: The University of Chicago Press, 1998.

Wade, B. "Fixity and Flexibility: From Musical Structure to Cultural Structure." *Anthropologica, New Series* 18, no. 1, (1976).

- Wade, B (ed). *Text, Tone and Tune: Parameters of Music in Multicultural Perspective*. New Delhi: Oxford and IBH Publishing Co. 1993.
- Wade, Bonnie. *Music in India: The Classical Traditions*. New Delhi: Manohar Publications. 1987.
- Watson, Christian. "How Musicians Develop the Ability to Improvise: A Cross-Cultural Comparison of Skill Development in the Egyptian, Hindustani Classical, and Jazz Traditions." PhD Thesis, University of New South Wales, 2012.
- Webb, Michael. "Gilles Apap's Mozart Cadenza and Expanding Musical Competences of Twenty-First-Century Musicians and Music Educators." *Music Education Research* 10, no. 1, (2008).
- . "Adrian Sherriff: In Conversation with Michael Webb." *Extempore Journal*, no. 5, (2010).
- Weidman, Amanda J. *Singing the Classical, Voicing the Modern: The Postcolonial Politics of Music in South India*. Durham and London: Duke University Press. 2006.
- Welch, Allison. "Meetings Along the Edge: Svāra and Tālā in American Minimal Music." *American Music* 17, no. 2, (1999).
- Whiteoak, John. *Playing Ad Lib: Improvisatory Music in Australia 1836-1970*. Sydney: Currency Press. 1998.
- Wilson, Olly. "Clarke, Kenny." In Grove Music Online: Oxford University Press, 2007-2013. Accessed 4th January, 2013
<http://www.oxfordmusiconline.com/subscriber/article/grove/music/05879>.
- Wren, Toby. "The Carnatic Jazz Experiment: The Influence of Carnatic Music on My Composition and Improvisation Practice." MMus Thesis, Queensland Conservatorium, Griffith University, 2009.
- Wulff, Donna M. "Review of Sonic Theology: Hinduism and Sacred Sound." *The Journal of Asian Studies* 55, no. 2, (1996).
- Young, Lisa. "Konakkol the History and Development of Solkattu - the Vocal Syllables - of the Mridangam." MMus (Perf) Thesis, Victorian College of the Arts, University of Melbourne, 1998.

———. *Grace* Sound Vault Records, 2006 (SV0540).

Zolin, Miriam. *Extempore*. Melbourne: Extempore Pty Ltd. 2008-2010.

MUSIC SCORES

BIG SWELL

TRACK 2, CD1

S. Evans

$\text{♩} = 80$ Dark and moody

Flute
Fills: Natabhairavi

Soprano Saxophone

Mandolin

Piano
Low sustained Ds
Sparse fills: D Aeolian

Mridangam and Ghatam
p

5

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

9

Fl.

Sop. Sax.
mp

Mand.

Pno.

Mrd./Gtm.
mp

13

Fl.

Pno.

Mrd./Gtm.

17

Sop. Sax.

Pno.

Mrd./Gtm.

21

Fl.

Pno.

Mrd./Gtm.

25

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

29

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

32

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

35

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

mf

39 Sax. solo
D7sus4(b6)

Sop. Sax.

Pno.

Mrd./Gtm.

Double time groove

4

43 Ebmaj7(#11)/D

Sop. Sax.

Pno.

Mrd./Gtm.

4

47 Eb7(sus4)/D Dmaj9(#11)

Sop. Sax.

Pno.

Mrd./Gtm.

4

51

Fl.

Sop. Sax.

Pno.

Mrd./Gtm.

Dm11(b6)

4

8

55

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

D7sus4(b6b9)

57

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

f

6

4

59

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

D7sus4(b6)

4

8

4

8

4

8

4

8

Quadruple time groove

67

Sop. Sax.

Pno.

Mrd./Gtm.

4

4

4

4

71

Fl.

Sop. Sax.

Pno.

Mrd./Gtm.

75

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

$D^7(b9 \text{ sus } 4)$

77

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

79

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

Low sustained Ds
Sparse fills

83

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

87

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

89

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

91

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

93

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

95

Fl.

Sop. Sax.

Mand.

Pno.

Mrd./Gtm.

FLOATING ON AN EMERALD GREEN SEA

TRACK 3, CD 1

S.Evans

$\text{♩} = 60$

Flute

Tenor Saxophone

Mandolin

Electric Bass

Mridangam and Ghatam

Free choice of groove

3

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

5

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

7

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

9

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

11

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

15

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

OPEN

Solo: Natabhairavi

Dm¹¹

Or Sim.

17

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

OPEN

Solo Dm¹¹

Dm¹¹

Or Sim.

19

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

21

Fl. OPEN

Ten. Sax. Solo Dm¹¹

Mand.

E. Bass

Mrd./Gtm.

23

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

25

Fl.

Ten. Sax. Solo Dm¹¹

Mand.

E. Bass

Mrd./Gtm. Free choice of groove

27

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

30

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

33

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

35

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

37

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

Free choice of groove

39

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

41 ♩ = 105

Fl.

Ten. Sax.

Mand.

E. Bass

Mrd./Gtm.

Segue to Big Swell reprise

BIG SWELL REPRISE

TRACK 4, CD 1

S. Evans

Rhythm patterns Bars 3 to 6: B.V. Balasai

Rhythm patterns Bars 7 to end: Guru Kaaraikkudi Mani

Flute $\text{♩} = 105$ OPEN
Solo: D Natabhairavi

Soprano Saxophone

Mandolin

Electric Bass
Accompany flute solo: D Aeolian

Mridangam and Ghatam
Accompany flute solo:
Double time groove

3

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

5

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

The musical score is written for a five-piece ensemble: Flute, Soprano Saxophone, Mandolin, Electric Bass, and Mridangam/Ghatam. The key signature has one flat (B-flat), and the time signature is 4/4. The tempo is marked as 105 beats per minute. The score begins with a flute solo in D Natabhairavi, which is accompanied by a double time groove from the Mridangam and Ghatam. The solo is marked 'OPEN' at the end. The score then transitions into a double time groove for bars 3 to 6, and then continues with a double time groove for bars 7 to the end. The flute solo is marked 'Solo: D Natabhairavi' and 'Accompany flute solo: D Aeolian'. The Mridangam and Ghatam part is marked 'Accompany flute solo: Double time groove'. The score is divided into three systems, with the first system starting at bar 1 and the second system starting at bar 3. The third system starts at bar 5. The score ends with a double bar line.

7

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

9

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

11

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

13

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

15

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

17

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

19

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

21

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

23

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

25

Fl.

Sop. Sax.

Mand.

E. Bass

Mrd./Gtm.

EAGLE LANDING AT CAPE LEVEQUE

TRACK 6, CD 1

S. Evans

Sad, majestic, uplifting

Mridangam and ghatam:

Create a soundscape conjuring birds flapping their wings, gliding, and landing smoothly on the surface of the water.

Ghatam: fast, light tisram. Maintain constant momentum with improvised variations.

Mridangam: Occasional low (left side) interjections.

Use other nadais against ghatam if desired.

Mridangam and ghatam: long crescendos and decrescendos, sometimes simultaneous, sometimes overlapping

Tenor saxophone, flute and mandolin:

Saxophone plays each phrase, echoed by flute and mandolin.

Interpret the melody freely. After each melodic motif, improvise using only the pitches introduced in the phrase.

Respond to the modality or raga implied in the phrase.

Follow this strategy until all 10 phrases have been played.

As the piece develops, the improvisations may contain pitches from any of the preceding phrases.

Piano:

Improvised soundscape incorporating prepared piano, free harmonic responses to the melodic material, and sustained low Ds.

Keyboard:

Dark low drone on D



COSMIC WAVES AT WEST BEACH

TRACK 7, CD1

Ragas: Varamu and Sunadavinodini
Tala: Adi

S. Evans
Konakkol by Guru Kaaraikkudi Mani

A ♩ = 230

Flute

Tenor Saxophone

Mandolin

Konakkol

Mridangam and Ghatam

f

5

Mrd./Gtm.

9

Mrd./Gtm.

B

13

Fl.

Ten. Sax.

Mand.

15

Fl.

Ten. Sax.

Mand.

Kkol.

tha ki ta dhom tha ki ta dhom tha ki

17

Kkol.

ta dhom tha ka dhom tha ka dhom tha ka dhom tha

19 Kkol. 
dhom tha dhom tha dhom dhom dhom

21 Fl. 
Ten. Sax. 
Mand. 

23 Fl. 
Ten. Sax. 
Mand. 
Kkol. 
tha ka thi ku tha thi ki ta dhom tha tha

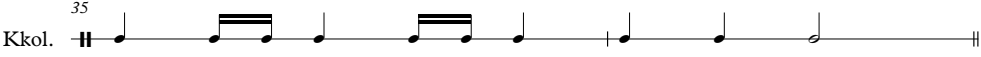
25 Kkol. 
(ga) tha ka thi ku tha thi ki ta dhom tha tha (ga)

27 Kkol. 
tha ka thi ku tha thi ki ta dhom tha tha (ga)





29 Fl. 
Ten. Sax. 
Mand. 

31 Fl. 
Ten. Sax. 
Mand. 
Kkol. 
tha ri ki ta tha ka dhom tha ri ki ta tha ka dhom tha ri ki ta

33 Kkol. 
tha ka dhom tha ri ki ta dom tha ri ki ta dhom tha ri ki ta dhom tha ka

35
Kkol. 
dhom tha ka dhom tha ka dhom dhom dhom

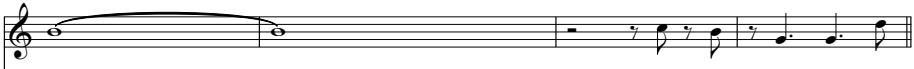
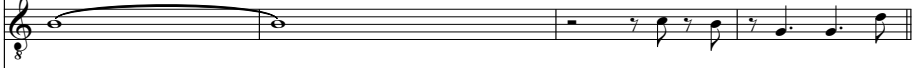
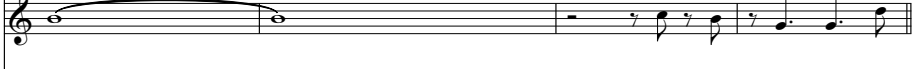
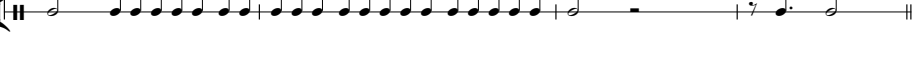
37
Fl. 
Ten. Sax. 
Mand. 

39
Fl. 
Ten. Sax. 
Mand. 
Kkol. 
ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha

41
Kkol. 
(ga) ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha (ga)

43
Kkol. 
ki ta tha ka tha ki ta tha ka tha ri ki ta dhom tha tha (ga)

45
Fl. 
Ten. Sax. 
Mand. 
Mrd./Gtm. 

49
Fl. 
Ten. Sax. 
Mand. 
Mrd./Gtm. 

53

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

57

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

61

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

C OPEN **D**

Solo Continue solo

Accompany sax solo Fl/Mand. Sim.

67

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

95

Fl.

Ten. Sax.

Mrd./Gtm.

99 **F**

Fl.

Ten. Sax.

Mand.

101

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

tha ki ta dhom tha ki ta dhom tha ki ta dhom tha tha

103

Mrd./Gtm.

tha ki ta dhom tha tha ki ta dhom tha tha ki ta dhom tha tha dhi tha

105

Mrd./Gtm.

ki ta dhom tha dhi tha ki ta dhom tha dhi tha ki ta dhom tha

107

Fl.

Ten. Sax.

Mand.

109

Fl.

Ten. Sax.

Mand.

Kkol.

tha dhi ki ta dhom tha dhin ki ta

111

Kkol.

dhom tha dhin ki ta dhom tha dhin ki ta dhom tha

113

Kkol.

dhin ki ta dhom tha dhin ki ta dhom tha

115

Fl.

Ten. Sax.

Mand.

117

Fl.

Ten. Sax.

Mand.

Kkol.

tha ki ta dhom tha ki ta dhom tha ki ta dhom tha tha

119

Kkol.

tha ki ta dhom tha tha ki ta dhom tha tha ki ta dhom tha tha dhi tha

121

Kkol.

ki ta dhom tha dhi tha ki ta dhom tha dhi tha ki ta dhom tha

123

Fl.

Ten. Sax.

Mand.

125

Fl.

Ten. Sax.

Mand.

Kkol.

tha dhi ki ta dhom tha dhin ki ta

127

Kkol.

dhom tha dhin ki ta dhom tha dhin ki ta dhom tha

129

Kkol.

dhin ki ta dhom tha dhin ki ta dhom tha

131

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

135

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

139

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

143

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

147

G Solo: Sunadavinodini

Mand.

Mrd./Gtm.

Accompany mandolin solo

OPEN

149

H ON CUE

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

153

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

157

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Continue solo

Accompany solo

161

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

165

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

169

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Continue solo

Accompany solo

173

Mand.

Mrd./Gtm.

177

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Solo: Varamu

Mridangam w. sax

181

Ten. Sax.

Mrd./Gtm.

185

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Solo: Sunadavinodini

Ghatam w. fl.

189

Fl.

Mrd./Gtm.

193

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Solo: Varamu

Mridangam w. sax

197

Ten. Sax.

Mrd./Gtm.

201

Ten. Sax.

Mand.

Mrd./Gtm.

Solo: Sunadavinodini

Ghatam w. mand.

205 Solo: Varamu

Ten. Sax.

Mand.

Mrd./Gtm.

Mridangam w. sax

213 Solo: Sunadavinodini

Fl.

Ten. Sax.

Mrd./Gtm.

Ghatam w. fl. Mridangam w. sax

221 Solo: Varamu

Ten. Sax.

Mand.

Mrd./Gtm.

Ghatam w. mand. Mridangam w. sax Ghatam w. mand.

229 Solo: Sunadavinodini

Fl.

Ten. Sax.

Mrd./Gtm.

Mridangam w. sax Ghatam w. fl.

233 Solo: Sunadavinodini

Fl.

Ten. Sax.

Mand.

Mrd./Gtm.

Mridangam w. sax Ghatam w. fl. Mridangam w. sax Ghatam w. mand.

237 **J** **S**

Fl. 

Ten. Sax. 

Mand. 

Mrd./Gtm. 

241

Fl. 

Ten. Sax. 

Mand. 

Mrd./Gtm. 

245

Fl. 

Ten. Sax. 

Mand. 

Mrd./Gtm. 

249

Fl. 

Ten. Sax. 

Mand. 

Kkol. 

Mrd./Gtm. 

253

Fl. 

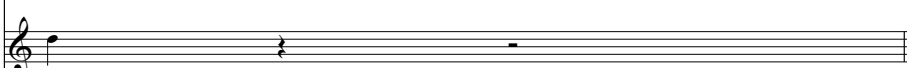
Ten. Sax. 

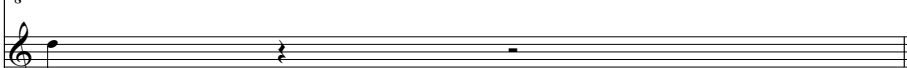
Mand. 


Mrd./Gtm. 

257 **Fine**

Fl. 

Ten. Sax. 

Mand. 

Mrd./Gtm. 

258 Tani Avartanam **D. S al Fine**

Mrd./Gtm. 

CLOUDS AT DAWN

TRACK 9, CD 1

S.Evans

Piano part developed by Alister Spence
from an idea by the composer

$\text{♩} = 160$

Flute

Soprano Saxophone

Piano

Soft flute pad

Keyboards

Soft string pad

Mridangam and Ghatam

5

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

9

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Measures 9-12: Flute and Soprano Saxophone play a melodic line with triplets. Piano accompaniment features chords with triplet bass lines. Keys play sustained chords. Mridangam/Ghatam has rests.

13

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Measures 13-16: Flute and Soprano Saxophone continue the melodic line. Piano accompaniment features a Dm13 chord and a rhythmic bass line. Keys play sustained chords. Mridangam/Ghatam plays a rhythmic pattern.

17

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Measures 17-20: Flute and Soprano Saxophone continue the melodic line. Piano accompaniment features a D13 chord and a rhythmic bass line. Keys play sustained chords. Mridangam/Ghatam plays a rhythmic pattern.

20

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

3 3 3 3 3 3 3 3

22

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Dmaj13(#11)

7 7 7 7

7 7 7 7

7 7

24

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

D11

26

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Eb/D

28

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Fl. and Sop. Sax. parts are in B-flat major. Piano part features a descending bass line with triplets. Keys part is a sustained chord. Mridangam/Ghatam part shows a rhythmic pattern with a slash indicating a break.

30

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

Fl. and Sop. Sax. parts are in B-flat major. Piano part features a descending bass line with triplets. Keys part is a sustained chord. Mridangam/Ghatam part shows a rhythmic pattern with a slash indicating a break.

Fine

32

Fl.

Sop. Sax.

Pno.

Keys

Mrd./Gtm.

SOLO FORM

34

Fl.

Dmaj13(#11)
D Lydian: Raga Kalyani

38

Fl.

42

Fl.

Dm13
D Dorian: Raga Karaharapriya

46

Fl.

50

Fl.

Dmaj13(#11) D Lydian: Raga Kalyani D11 D Mixolydian: Raga Harikhamboji Eb/D D Phrygian: Raga Todi

56

Fl.

Dmaj13(#11)
D Lydian: Raga Kalyani

THE AGILE WALLABY

TRACK 11, CD 1

S. Evans

Flute $\text{♩} = 96$ Swing Tacet 1st x

Tenor Saxophone Tacet 1st x

Mandolin Tacet 1st x

Sousaphone

Mridangam and Ghatam
Mridangam

5 ♩ Play both xs

Ten. Sax. Tacet 1st x

Mand. Play both xs

Sousa. Tacet 1st x

Mrd./Gtm. Mrd. continue sim. Gtm. fills around melody

9 Tacet 1st x Play both xs

Ten. Sax. Play both xs Tacet 1st x

Mand. Tacet 1st x Play both xs

Sousa. Play both xs Tacet 1st x

Mrd./Gtm.

13 Play both xs

Fl.

Ten. Sax.

Mand.

Sousa.

Mrd./Gtm.

15

Fl.

Ten. Sax.

Mand.

Sousa.

Mrd./Gtm.

Fine

Solos: Open.
Continue similar groove.
Reference blues in D freely

17

Fl.

Ten. Sax.

Mand.

Sousa.

Mrd./Gtm.

18 ON CUE

Fl.

Ten. Sax.

Mand.

Sousa.

Mrd./Gtm.

20 D.S. al Fine

Fl.

Ten. Sax.

Mand.

Sousa.

Mrd./Gtm.

ONE PLANET

TRACK 1, CD 2

S.Evans

A $\text{♩} = 230$

5

9 **B** Sax and bass Sitar

13 Sax and bass Sitar

17 Sax and bass Sitar

21 Tutti Tabla

25 **C**

29

33

37 Fine

41 SOLOS Composed by Sarangan Sriranganathan

46 D.C. al Fine

ONE JUSTICE

Track 3, CD 2

Raga: Bhavapriya

Tala: Adi

S. Evans and
Guru Kaaraikkudi Mani

$\text{♩} = 210$

Male Voice

Tenor Saxophone

Bass

Tabla in D (rhythm w. bass)

4

Voice

Sax.

Bass

7

Voice

Sax.

Bass

10

Voice

Sax.

Bass

15

Voice

Sax.

Bass

19

Voice

Sax.

Bass

D P M G R S R G M P

S R G M N D P M G R

N D P M P M D P M P

D M P M G P G M G R D M P M G N P D P M D M P M G

Ś D N D P Ś D N D P N P D P M D M P M G

S R G M P M G P D P M G R G M

22

Voice

Sax.

Bass

P N D P M P M G P

25

Voice

Sax.

Bass

S R G M P R G M P D G M P D N

28

Voice

Sax.

Bass

Ṡ N D P M N D P M G D P M G R

31

Voice

Sax.

Bass

G M P D N M P D N Ṡ P D N Ṡ Ṙ

34

Voice

Sax.

Bass

Ġ Ṙ Ṡ ND Ṡ Ṙ Ṡ NDP Ṡ Ṡ NDP M P

40

Voice

Sax.

Bass

R S P G M G R

42

Voice

Sax.

Bass

G R D M P M G M G N P D P M

46

Voice

Sax.

Bass

P M Š D N D P D P Ř N Š N D

50

Voice

Sax.

Bass

Š N Ğ Š Ř Š N Ř Š Ğ Š Ř Š N

54

Voice

Sax.

Bass

Š N Ř N Š N D N D Š D N D P Š

59

Melodic motif for saxophone solo

Sax.

ONE PRAYER

TRACK 4, CD 2

S.Evans

A Rubato

Soprano saxophone

6

11 $\text{♩} = 115$

Sax w. D tabla:
Dadra

15 **B**

20 **C**

Dm⁷(b6)

Bass: Melody
Open solo

24

28 **D** Dm⁷(b6)

Sax and bass:
Unison Melody

32

37 **E** D⁷/A

Sax: Melody
Bass: Groove

41

46 Eb/D

50 **F**

55 Dm⁷(b6)

59

64

G
68 Dm⁷(b6) 4 To Coda last x 8
Sax Solo

76 D⁷/A 4 8

84 E^b/D 4 8

92 **H** D⁷/A

96

I E^b/D

1. 2.

J Dm⁷(b6)
Tabla solo: 4 xs

1.2.3. 4.

ONE DREAM

TRACK 5, CD 2

Tala: Rupak

S. Evans

Alapana

Male Voice

A Hindolam

♩ = 64

Voice

S G S P M S G S D M

Ten. Sax.

Swing semiquavers

♩ = 64

Bass

Tabla in D
Tala: Rupak (til end)

4

Voice

1. 2.

S G S N P S G S D M S G S D M

Ten. Sax.

Bass

1. 2.

7 **B**

Voice

Solo w. tabla.
Tala: Rupak

OPEN

8

Ten. Sax.

Solo w. bass and tabla

Last x only

OPEN

Bass

9 **C**

Voice

S G S P M S G S D M

Ten. Sax.

C

Bass

11

Voice

S G S N P

1. S G S D M

2. S G S D M

Ten. Sax.

Bass

1. 2.

14

Voice

D

Ten. Sax.

Bass

D Fill

Fill

16

Voice

Ten. Sax.

Bass

18

Voice

S G S P M

S G S D M

Ten. Sax.

Bass

E

20

Voice

S G S N P

S G S D M

Ten. Sax.

Bass

22 **F** FASTER
Tabla solo

Voice

Ten. Sax.

Bass

W. bass for tabla solo

W. sax for tabla solo

24 OPEN

Voice

Ten. Sax.

Bass

rit last x

rit last x

PEACE

TRACK 7, CD2

Raga: Harikhamboji

S.Evans
Based on a rhythmic idea by
Guru Kaaraikkudi Mani

Gentle

Soprano Saxophone

Sitar

Bass and Sitar
Rubato duet

Bass

Tabla in D

2 **A** ♩ = 120

Sop. Sax.

Sit.

Bass

Tab.

Simple 5

6 **Til Ready**

Sop. Sax.

Sit.

Bass

Tab.

10 **B** §

Sop. Sax.

Sit.

Bass

Tab.

14

Sop. Sax.

Sit.

Bass

Tab.

18 **C**

Sop. Sax.

Sit.

Bass

Tab.

22

Sop. Sax.

Sit.

Bass

Tab.

26 **D**

Sop. Sax.

Sit.

Bass

Tab.

30 To Coda

Sop. Sax. 

Sit. 

Bass 

Tab. 

34 **E**

Sop. Sax. 

Sit. 

Bass 

Tab. 

38

Sop. Sax. 

Sit. 

Bass 

Tab. 

42 **F** Solo D⁷

Sop. Sax. 

Sit. 

Bass 

Tab. 

Accompany sax solo

46 **D.S. Al Coda**
OPEN

Sop. Sax.

Sit.

Bass

Tab.

G

50

Sit.

Bass

Tab.

54

Sop. Sax.

Sit. **Lively solo**

Bass

Tab.

Lively w. sitar

58

Sop. Sax.

Sit.

Bass

Tab.

62

Sop. Sax. 

Sit.  Lively solo

Bass 

Tab.  Lively w. sitar

66

Sop. Sax. 

Sit. 

Bass 

Tab. 

ONE HOPE

TRACK 7, CD2

Raga: Shankarabharanam

S. Evans

A ♩ = 250

Male Voice

Soprano Saxophone

Bass

Tabla in B♭

Tacet 1st x Sim.

Tacet 1st x Sim.

5

Voice

Sop. Sax.

Bass

Tab.

Play every x

9 **B**

Voice

Sop. Sax.

Bass

Tab.

13 **To Coda**

Voice

Sop. Sax.

Bass

Tab.

C

17 1.

Voice

Sop. Sax.

Bass

Tab.

B \flat E \flat F 7 B \flat E \flat F 7

Enter 1st x

D

25 2. Solo Continue solo OPEN

Voice

Sop. Sax.

Bass

Tab.

B \flat E \flat F 7 B \flat E \flat F 7

Vocal solo

33

Voice

Sop. Sax.

Bass

Tab.

B \flat E \flat F 7 B \flat E \flat F 7

Sax solo

41 OPEN

Voice

Sop. Sax.

Bass

Tab.

E \flat F 7 E \flat F 7 E \flat F 7 Cm 7 F 7

49 OPEN D.C. Al Coda

Voice

Sop. Sax.

Bass

Tab.

Tabla solo

50

Voice

Sop. Sax.

Bass

Tab.

M G R S N P

56

Voice

Sop. Sax.

Bass

Tab.

M G R S N P M G R S N P

62

Voice

Sop. Sax.

Bass

Tab.

M G R S N P R S N D P M G M R P S

ANBE SIVAM

TRACK 1, CD 3

Ragas: Shanmukapriya and Natabhairavi
Tala: Misra Chapu

Guru Kaaraikkudi Mani
Melodic material: S. Evans and
B.V. Balasai (Letters H, I, K, M)
Arrangement: S. Evans
Lyrics: Su Ravi

Tamil transliteration provided
by Guru Kaaraikkudi Mani.
There are some differences from the lyrics
on the live recording.

In this score, accents indicate the start of rhythmic groupings,
rather than articulation.

A

Flute

Tenor Saxophone/
Poetry

Trumpet in B \flat

iPad Improvisation (Alapana style)
Raga Shanmukapriya

Bass Trombone

Mandolin

Keyboard

Drum Set

Mridangam/Poetry,
Ghatam

B

2

Fl.

B. Tbn.

Flute Alapana accompanied by iPad
Raga Shanmukapriya

3 **C** ♩ = 105 **First Speed**
Vilambita Kala

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys

Dr.

Mrd./Gtm.

5

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

7 **D** **POETRY**

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

9

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

13

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

15 **E**

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

19

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

tha jom tha jom tha jom tha jom

21

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

tha dhin tha jom dhi na dhin tha jom

23

F **ARUDI**

Ten. Sax.

Dr.

Mrd./Gtm.

mf tha thi ki na dhom th(a) (ngu) tha thi ki na dhom th(a) (ngu) tha thi ki na dhom

26

Ten. Sax.

Dr.

Mrd./Gtm.

mf In-bam en-ren-rum oon - ga Su-trum thun-ban-gal neen - ga Nam bi pa-nin-dhom

29 **G**

Fl.

Ten. Sax.
An - be Si - vam Aan - ma Si - vam

Mand.

Dr.

Mrd./Gtm.

31

Fl.

Ten. Sax.
Cha - la - nam Si - vam Na - ta - nam Si - vam

Mand.

Dr.

Mrd./Gtm.

33

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

37 **H** **Second Speed**
Madhyama Kala

Fl.

Ten. Sax. Tenor Saxophone

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

39 **POETRY**

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Neen vaan vel - li Sa-bai- aa - gi-dum Kol meen el-lam Ol - li vee - si-dum

41

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

43 **I** POETRY

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Neen vaan vel - li Sa - bai - aa - gi - dum Kol meen el - lam Ol - li vee - si - dum

45

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

47 **J** POETRY

Fl.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Sab - dam e - zum I - di o - sai - ye Pa - dan - ga - lin Ga - thi pe - si - dum

Dramatic fill

Dramatic fill

49 **K**

Fl.

Ten. Sax.

Tpt.

B. Tbn. Optional 8va

Mand.

Dr.

Mrd./Gtm.

51 **L** **POETRY**

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Ve - dan - ga - lum Thu - dhi pa - di - dum Boo - than - ga - lin Ga - nam aa - di - dum

53 **M**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

55 **N** POETRY

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Boo - man - da-lam Thu-ga - lai e - zum Na - than na-dam Pu - ya - lai va-rum

Dramatic fill

Dramatic fill

57 **O**

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

59

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

61 **P** ARUDI

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

63

Dr.

Mrd./Gtm.

Pa-dan - ja -li-yum Pu-li pa-dam dha - rik-kum Mu-ni-va-rum ka-ram ku-lik ka

Third Speed

65 **Q** Madhyama Kala Tisra Nadai

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Or sim.

66

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

67

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

68

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

69 **R** POETRY

B. Tbn.

Dr.

Mrd./Gtm.

Neer vaar sa - dai Kaar me - ga - mai Nin - ra - di - dum

70

Dr.

Mrd./Gtm.

Gan - ga pu - nal Me - la - di - dum Ma - thi aa - di - dum

71 **S** Flute solo

Fl.

B. Tbn.

Dr.

Mrd./Gtm.

72

Fl.

B. Tbn.

Dr.

Mrd./Gtm.

73 **T** POETRY

B. Tbn.

Dr.

Mrd./Gtm.

An - gai tha - nil Chen - dhich chu - dar Tha - za - la - di - dum

74

Dr.

Mrd./Gtm.

Mat - ror ka - ram Pat - rum da - mar Ja - thi koo - ri - dum

75

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

76

Fl.

Ten. Sax.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

77

U POETRY

B. Tbn.

Dr.

Mrd./Gtm.

I - dai me - vi - dum Pu - li - a - dai - yum A - sain - dha - di - dum

78

Dr.

Mrd./Gtm.

Bha - van - ga - lum Ka - ra - nan - ga - lum Tha - nai e - zum

79

Dr.

Mrd./Gtm.

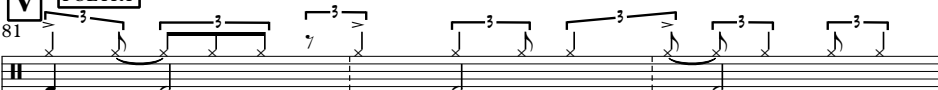
Ghatam solo

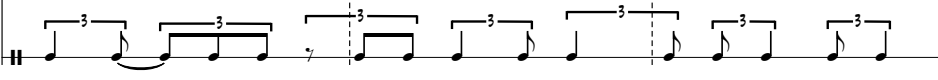
80

Dr.

Mrd./Gtm.

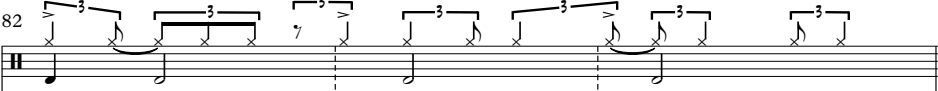
81 **V** **POETRY**

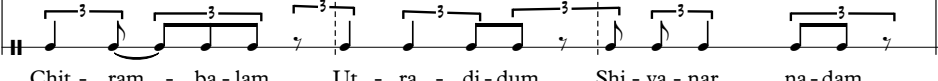
Dr. 

Mrd./Gtm. 

Sha - kthi chu - dar U - da - na - di - dum Cha - ra - na - la - yam

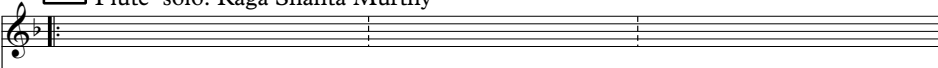
82


Dr. 

Mrd./Gtm. 

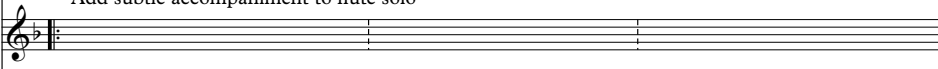
Chit - ram - ba - lam Ut - ra - di - dum Shi - va - nar na - dam


83 **W** Flute solo: Raga Shanta Murthy


Fl. 


Ten. Sax. 

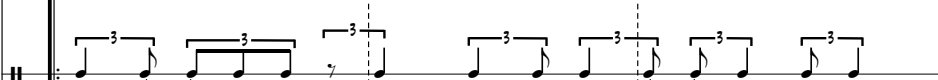
Add subtle accompaniment to flute solo

Tpt. 

B. Tbn. 

Mand. 

Dr. 

Mrd./Gtm. 

84 OPEN

Fl. 

Ten. Sax. 

Tpt. 

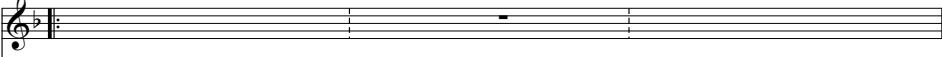
B. Tbn. 


Mand. 


Dr. 


Mrd./Gtm. 


85 ON CUE

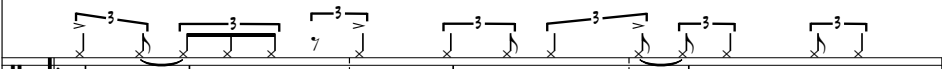
Fl. 

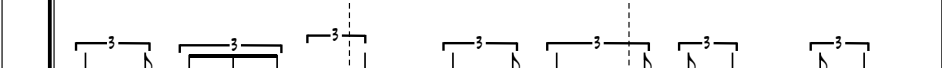
Ten. Sax. 

Tpt. 

B. Tbn. 

Mand. 

Dr. 

Mrd./Gtm. 

86

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

87

X **ARUDI**

Fl.

Tpt.

Mand.

Dr.

Mrd./Gtm.

Kat - raich cha-dai-yum Net- ri chu-da-rum Chu - tri su - zal

88

Fl. *fp*

Ten. Sax.

Tpt. *fp*

B. Tbn.

Mand. *fp*

Dr.

Mrd./Gtm.

Aa - dum ee - san chith - sa - be - sa - nam Ni - tham na - da -

89

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

nam Nru - tham pa - za - gum At - than cha - ra - nam Thaan - gi nen - jil

90

Fl. *fp*

Ten. Sax.

Tpt. *fp*

B. Tbn.

Mand. *fp*

Dr.

Mrd./Gtm.

Oon - gu ka - dha - lal Su - trum bhu - va - nam Mut - rum ka -

91

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

ru - nai En - rum ni - la - va Theen - gu neen - ga nee va - nan - gu

Y

92

Fl. *mf cresc.*

Ten. Sax. *mf cresc.*

Tpt. *mf cresc.*

B. Tbn. *mf cresc.*

Mand. *mf cresc.*

Dr. *mf cresc.*

Mrd./Gtm. *mf cresc.*

93

Fl. *mf cresc.*

Ten. Sax. *mf cresc.*

Tpt. *mf cresc.*

B. Tbn. *mf cresc.*

Mand. *mf cresc.*

Dr. *mf cresc.*

Mrd./Gtm. *mf cresc.*

94

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

95

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys

Dr.

Mrd./Gtm.

mf cresc.

cresc.

mf cresc.

96

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

97

Fourth Speed
Durita Kala

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

101

B. Tbn.

Dr.

Mrd./Gtm.

105 **AA** POETRY

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

Oon- ra - na-van U - la - gal - bha-van Pon - me - ni-yan Pu - la - ya - di-yan

109

Mrd./Gtm.

Vin - nor tho-zhil Vi - dai va - ga-nan Tha - nar - pu - nal Ma-dhi-she -ka-ran

113 **BB** Trumpet solo

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

117 **CC** POETRY

B. Tbn.

Dr.

Mrd./Gtm.

Vun na - ma-lai Am - mai-tho-zum An - na - ma-lai A-rul sho - di-yan Pa-ni-ma-ma-lai

122

Mrd./Gtm.

Ku - di - la - na - van A - di - yar - ma - nam Vu - rai - va - na - van

125 **DD** Trumpet solo

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

129 **EE** **POETRY**

B. Tbn.

Dr.

Mrd./Gtm.

Ma-da-ma - dha-val Ku-di - la - na-van I - dai-ba - ga-me Tha-ru- va - na-van

133

Mrd./Gtm.

I - bha ma - mu gan Ku-ma-re - sa-num Vi - lai - a - di-dum Bha-ga- va - na-van

137 Solo

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

141 **FF**

Ten. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

145

Ten. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

149

Fl.

Mand.

Mrd./Gtm.

Ma-da-ma - dha-val Ku-di - la - na-van I - dai-ba - ga-me Tha-ru- va - na-van

Sing melody

153

Fl.

Mand.

Mrd./Gtm.

I - bha-ma - mu-gan Ku-ma-re - sa-num Vi-lai - a - di-dum Bha-ga- va - na-van

157

GG

Ten. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

161

Ten. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./Gtm.

165

Fl.

Mand.

Mrd./Gtm.

Tha-va ma - na-van Shi-va- ma - na-van Vu - va- ma - na-me Il - la - dha-van

Sing melody

169

Fl.

Mand.

Mrd./Gtm.

Vu - ru- va - na-van A - ru- va - na-van Gu ru- va - ga - ve Va - ru- va - na-van

173

HH Tpt solo OPEN

Tpt.

Accompany Tpt. solo

B. Tbn.

Dr.

Mrd./Gtm.

177

II ON CUE

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Continue solo

181

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Detailed description: This block contains the musical notation for measures 181 through 184. The instruments are Flute (Fl.), Tenor Saxophone (Ten. Sax.), Trumpet (Tpt.), Baritone Trombone (B. Tbn.), Mandolin (Mand.), Drums (Dr.), and Mridangam/Ghatam (Mrd./Gtm.). The Flute, Tenor Saxophone, and Mandolin parts have a melodic line with eighth and quarter notes. The Trombone, Trumpet, and Drums parts have a rhythmic pattern of eighth notes. The key signature has one flat (B-flat).

185

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Detailed description: This block contains the musical notation for measures 185 through 188. The instruments are Flute (Fl.), Tenor Saxophone (Ten. Sax.), Trumpet (Tpt.), Baritone Trombone (B. Tbn.), Mandolin (Mand.), Drums (Dr.), and Mridangam/Ghatam (Mrd./Gtm.). The Flute, Tenor Saxophone, and Mandolin parts have a melodic line with eighth and quarter notes. The Trombone, Trumpet, and Drums parts have a rhythmic pattern of eighth notes. The key signature has one flat (B-flat).

189 **JJ**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

193

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

198 **KK** **ARUDI** $\text{♩} = \text{♩}$

Fl. 2/4 3/8 2/4

Ten. Sax. 2/4 3/8 2/4

Tpt. 2/4 3/8 2/4

B. Tbn. 2/4 3/8 2/4

Mand. 2/4 3/8 2/4

Dr. 2/4 3/8 2/4

Mrd./Gtm. 2/4 3/8 2/4

202

Fl. 2/4 3/8 2/4

Ten. Sax. 2/4 3/8 2/4

Tpt. 2/4 3/8 2/4

B. Tbn. 2/4 3/8 2/4

Mand. 2/4 3/8 2/4

Dr. 2/4 3/8 2/4

Mrd./Gtm. 2/4 3/8 2/4

206

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

209 **LL**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Min-nal vet - ta - tum Mu-gil mut - ta - tum Pu-yal kot - tat - tu - me

213

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

Pra-pan - cha - thir - kul A - zal shak - thik - ku La-yam kit - tat - tu - me

217

Mrd./Gtm.

Si - vam sid - dat - thil Pa - dham vai - kat - tum Na - dam sidh - ik - ku -

220 **MM**

Ten. Sax.

Tpt.

B. Tbn.

Mrd./Gtm.

me

224

Fl.

Mand.

228 **NN**

Fl. Ha-ra Ha-ra Si-va

Ten. Sax. Ha-ra Ha-ra Si-va

Tpt. Ha-ra Ha-ra Si-va

B. Tbn. Ha-ra Ha-ra Si-va

Mand. Ha-ra Ha-ra Si-va

Dr. Ha-ra Ha-ra Si-va

Mrd./Gtm. Ha-ra Ha-ra Si-va

tha ka dhi na tha ki ta tha ka dhi na tha ki ta tha ka dhi na tha ki ta Ha-ra Ha-ra Si-va

232 **OO**

Fl. Si-va Si-va Ha-ra

Ten. Sax. Si-va Si-va Ha-ra

Tpt. Si-va Si-va Ha-ra

B. Tbn. Si-va Si-va Ha-ra

Mand. Si-va Si-va Ha-ra

Dr. Si-va Si-va Ha-ra

Mrd./Gtm. Si-va Si-va Ha-ra

tha ka dhi na tha ki ta tha ka dhi na tha ki ta dhi mi dhi mi tha ki ta Si-va Si-va Ha-ra

236

Fl.  Ha-ra Ha-ra Si-va

Ten. Sax.  Ha-ra Ha-ra Si-va

Tpt.  Ha-ra Ha-ra Si-va

B. Tbn.  Ha-ra Ha-ra Si-va

Mand.  Ha-ra Ha-ra Si-va

Dr.  Ha-ra Ha-ra Si-va

Mrd./Gtm.  tha ka dhi na tha ki ta tha ka dhi na tha ki ta Ha-ra Ha-ra Si-va dhi mi dhi mi tha ki ta

240

Fl.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

Ten. Sax.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

Tpt.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

B. Tbn.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

Mand.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

Dr.  Si-va Si-va Ha-ra Ha-ra Ha-ra Si-va

Mrd./Gtm.  dhi mi dhi mi tha ki ta Si-va Si-va Ha-ra tha ka dhi mi tha ki ta Ha-ra Ha-ra Si-va

244

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./Gtm.

248 Mridangam and Ghatam Korvai

Mrd./Gtm.

249 (Cue)

Tpt.

Dr.

Mrd./Gtm.

251 Conch-like

Tpt.

Dr.

Mrd./Gtm.

252 **PP** **Third Speed**
Madhyama Kala Tisra Nadai

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys
pp

Dr.

Mrd./Gtm.

Neer vaar sa - dai Kaar me - ga - mai Nin - ra - di - dum

253

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys

Dr.

Mrd./Gtm.

Gan - ga pu - nal Me - la - di - dum Ma - thi aa - di - dum

254

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys

Dr.

Mrd./Gtm.

Sha - kthi chu-dar U - da - na - di-dum Cha - ra - na - la - yam

255

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Keys

Dr.

Mrd./Gtm.

Chit - ram - ba-lam Ut - ra - di-dum Shi - va - nar na-dam

Second Speed
Madhyama Kala Chatusra Nadai

256 **QQ**

Ten. Sax. *mp*

Tpt. *mp*

Mand. *mp*

Keys

Dr.

Mrd./Gtm.

Neen vaan vel - li Sa-bai-aa - gi-dum Kol meen el-lam Ol - li vee - si-dum

258

Fl.

Ten. Sax.

Tpt. *p*

B. Tbn. *p*

Keys

Dr.

Mrd./Gtm.

Boo man - da-lam Thu-ga-lai e-zum Na - than na-dam Pu-ya-lai va-rum

260 **RR** **First Speed**
Vilambita kala

Fl. *mp*

Ten. Sax. *mp*
 An - be Si-vam Aan - ma Si-vam Tha - lam Si-vam La-ya-me Si-vam
 Spoken

B. Tbn. *ppp*

Mand. *mp*

Keys

Dr. *mp*

Mrd./Gtm. *mp*
 An - be Si-vam Aan - ma Si-vam Tha - lam Si-vam La-ya-me Si-vam

264

Fl. *pp*

Ten. Sax. *pp*
 La - ya - me Si - vam La - ya - me Si - vam La - ya - me Si - vam

B. Tbn. *ppp*

Mand. *pp*

Keys

Dr. *pp*

Mrd./Gtm. *pp*
 La - ya - me Si - vam La - ya - me Si - vam La - ya - me Si - vam

DRUMS ACROSS THE GANGES

TRACK 2, CD 3

S. Evans

Tala: Sankeerna Chapu

Rhythm patterns Letters B and P:
Guru Kaaraikkudi Mani

Flute $\text{♩} = 184$ 2 2 2 3 grouping

Soprano Saxophone

Trumpet in B \flat

Bass Trombone

Mandolin

Drum Set

Mridangam and Ghatam
Sankeernam

3 **A**

Fl.

Sop. Sax.

Tbn.

Mrd./Gtm.

7

Sop. Sax.

Tbn.

Mrd./Gtm.

9

Sop. Sax.

Tbn.

Mrd./Gtm.

W. sax

11

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

9/8 Groove

15 **B**

Fl.

Tpt.

Mand.

Dr.

Mrd./Gtm.

19

Fl.

Tpt.

Mand.

Dr.

Mrd./Gtm.

23

Fl.

Tpt

Mand.

Dr.

Mrd./Gtm.

27

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

9/8 Groove

31

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

33

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

W. sax

35

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

9/8 Groove

39 **C** Sax. Solo

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

mp Last x only

Dm(b6)

Solo

Accompany sax solo

43

Fl.

Sop. Sax. $G\flat\text{maj}7(\sharp 11)$ $Fm7(b5)$ $B\flat7(b9)$

Tpt

Tbn. $G\flat\text{maj}7(\sharp 11)$ $Fm7(b5)$ $B\flat7(b9)$

Mand.

Dr.

Mrd./Gtm.

47

Fl.

Sop. Sax. G/C $A\flat m(\text{maj}7)$

Tpt

Tbn. G/C $A\flat m(\text{maj}7)$

Mand.

Dr.

Mrd./Gtm.

51

Fl.

Sop. Sax. $E\flat m$

Tpt

Tbn. $E\flat m$ Optional

Mand.

Dr.

Mrd./Gtm.

OPEN

55 **D** 3 3 3 grouping
Dm11(b6)

Sop. Sax.

Tpt. Plunger

Tbn. Plunger

Dr.

Mrd./Gtm. 9/8 (Like Mingus 6/8)
ff

59

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

63

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

67

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

Optional 8vb

71

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

Mandolin Solo

OPEN

Mandolin solo pick up

Solo w. Mrd. and Gtm.

Mandolin solo pick up

Accompany Mandolin solo

73

Fl.

Tbn.

Dr.

Mrd./Gtm.

2 2 2 3 grouping
Flute and sax Koraippu

E Flute

Raga: Natabhairavi

Dm¹¹(b6)

Play constantly in Koraippu
(Ghatam w. flute)

Ghatam w. flute

77

Fl.

Tbn.

Dr.

Mrd./Gtm.

Sax

81 F#maj7(#11) Fm7(b5) Bb7(b9)

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

(Mridangam w. sax)

Mridangam w. sax

85 G/C Abm(maj7)

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

89 **F** Flute Dm11(b6)

Fl.

Tbn.

Dr.

Mrd./Gtm.

Gtm./fl.

Gtm./fl.

Sax
93 Ebm¹¹(b6)

Sop. Sax. 

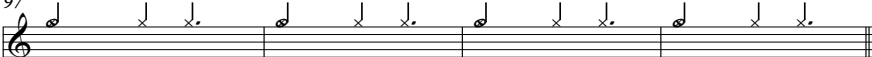
Tbn. 

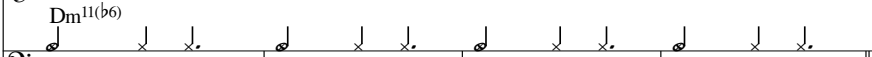
Dr. 


Mrd./Gtm. 


Mrd./sax.

Flute
97

Fl. 

Tbn. 

Dr. 

Mrd./Gtm. 

Gtm./fl.

Sax
101 F#maj7(#11)

Sop. Sax. 


Tbn. 


Dr. 


Mrd./Gtm. 

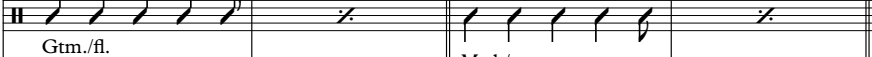
Mrd./sax.

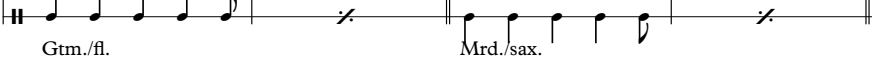
105 **G** **Flute**

Fl. 

Sop. Sax. 

Tbn. 

Dr. 

Mrd./Gtm. 

Gtm./fl.

Sax
G/C

Mrd./sax.

109 **Flute**

Fl.

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

Sax
F#maj7(#11)

Dm11(b6)

F#maj7(#11)

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

113 **H Flute**

Fl.

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

Sax
G/C

Sax
Ebm11(b6)

Dm11(b6)

G/C

Dm11(b6)

Ebm11(b6)

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

117 **I Flute**

Fl.

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

Sax
F#maj7(#11)

Sax
G/C

Dm11(b6)

F#maj7(#11)

Dm11(b6)

G/C

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

Gtm./fl.

Mrd./sax.

119 **Flute** **Flute**

Fl.

Sax **Sax**

Sop. Sax. $A\flat m(maj7)$ $E\flat m^{11}(b6)$

Tbn. $Dm^{11}(b6)$ $A\flat m(maj7)$ $Dm^{11}(b6)$ $E\flat m^{11}(b6)$

Dr.

Mrd./Gtm.

Gtm./fl. Mrd./sax. Gtm./fl. Mrd./sax.

121 **Flute** **Flute** **Flute**

Fl.

Sax **Sax** **Sax**

Sop. Sax. $F\sharp maj7(\sharp 11)$ G/C $F\sharp maj7(\sharp 11)$

Tbn. $Dm^{11}(b6)$ $F\sharp maj7(\sharp 11)$ $Dm^{11}(b6)$ G/C $Dm^{11}(b6)$ $F\sharp maj7(\sharp 11)$

Dr.

Mrd./Gtm.

Gtm./fl. Mrd./sax. Gtm./fl. Mrd./sax. Gtm./fl. Mrd./sax.

123 **Flute** **Flute** **Flute**

Fl.

Sax **Sax** **Sax**

Sop. Sax. $E\flat m^{11}(b6)$ $F\sharp maj7(\sharp 11)$ G/C

Tbn. $Dm^{11}(b6)$ $E\flat m^{11}(b6)$ $Dm^{11}(b6)$ $F\sharp maj7(\sharp 11)$ $Dm^{11}(b6)$ G/C

Dr.

Mrd./Gtm.

Gtm./fl. Mrd./sax. Gtm./fl. Mrd./sax. Gtm./fl. Mrd./sax.

125 **J** Tutti

Fl. *f*

Sop. Sax. *f*

Tpt *f*

Tbn. *f*

Mand. *f*

Dr. *f*

Mrd./Gtm. *f*

129

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

133

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

137

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

141

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

145

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

149 **K**

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

153

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

157

Fl.

Sop. Sax.

Tpt

Tbn.

Mand.

Dr.

Mrd./Gtm.

161 **L** [2 2 2 3 grouping]

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

165

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

167

Sop. Sax.

Tbn.

Dr.

Mrd./Gtm.

W. sax

169

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

173

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

177 **M** Drum solo

Tbn.

Mand.

Dr.

Solo

OPEN

179 **N** Mridangam and Ghatam solo

Mrd./Gtm.

OPEN

181

Tbn. 4 xs

Mand.

Dr.

Mrd./Gtm.

183 O

Fl. *f*

Sop. Sax. *f*

Tpt. *f*

Tbn. *f*

Mand. *f*

Dr. *f*

Mrd./Gtm. *f*

187

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

191

Fl. *ff*

Sop. Sax. *ff*

Tpt. *ff*

Tbn. *ff*

Mand. *ff*

Dr. *ff*

Mrd./Gtm. *ff*

193

Fl.

Sop. Sax.

Tpt.

Tbn.

Mand.

Dr.

Mrd./Gtm.

AN INDIAN IN PARIS

TRACK 3, CD 3

Ragas: Kalyani and Natabhairavi
Tala: Khanda Chapu

S. Evans
Rhythm patterns Letter A:
Guru Kaaraikkudi Mani
Rhythm patterns Letter I:
B.V. Balasai

A $\text{♩} = 180$ Straight quavers

Flute

Soprano Saxophone

Trumpet

Bass Trombone

Mandolin

Drum Set

Mridangam and Ghatam

3

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

5

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

7

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

10 **B** Swing

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

Ghatam w. 5/4 swing accents

14 **C** Straight

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

16

Fl.

Sop. Sax.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

18 Swing

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

Ghatam

22 **D** Straight

Fl.

Sop. Sax.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

24

Fl.

Sop. Sax.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

26 Swing

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

Ghatam

30

Sop. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./ Gtm.

32

Sop. Sax.

Tpt.

B. Tbn.

Dr.

Mrd./ Gtm.

34 **E** Straight

Fl.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

36 Swing

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

38

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

40 **F** Straight

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

Dm(b6)

42 Swing

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

44

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

46 **G** Straight

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

F#m11

F#m11/E

(Horns)

5/4 Cymbal (straight)

(Horns)

48

Fl.

Sop. Sax.

Tpt.

B. Tbn. Bm11 Dmaj7(#11)

Mand.

Dr.

Mrd./ Gtm.

50

Fl.

Sop. Sax.

Tpt.

B. Tbn. Dmaj7(#11)

Mand.

Dr.

Mrd./ Gtm.

52

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

54 **H**

Fl. *Smoothly*

Sop. Sax. *Smoothly*

Tpt. *Smoothly*

B. Tbn. *Smoothly*

Mand. *Smoothly*

(Horns)

Dr. Straight quavers

Mrd./ Gtm. (Horns) Straight quavers

57

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

59

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

I Straight

60

Fl.

Sop. Sax.

Mand.

Dr.

Mrd./ Gtm.

62

Dr.

Mrd./ Gtm.

64

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

66

To Coda

Fl.

Sop. Sax.

Tpt.

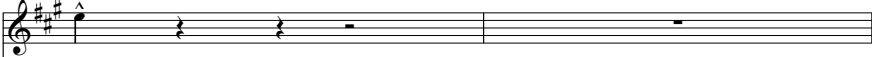
B. Tbn.

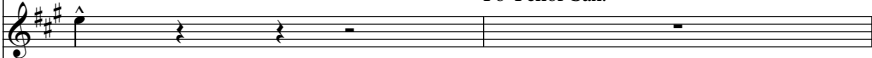
Mand.

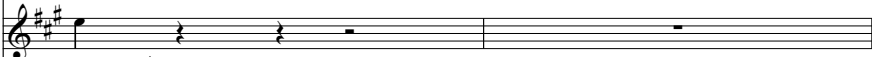
Dr.


Mrd./ Gtm.

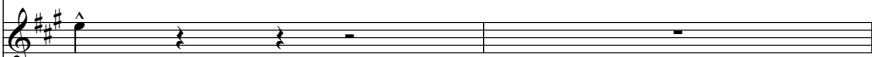
68 **J** Swing

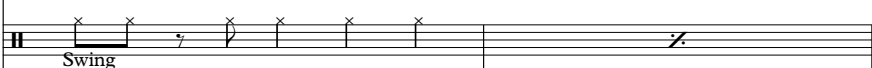
Fl. 


Sop. Sax.  To Tenor Sax.

Tpt. 

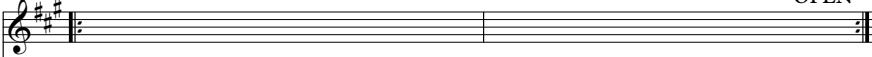
B. Tbn.  Dmaj7(#11)

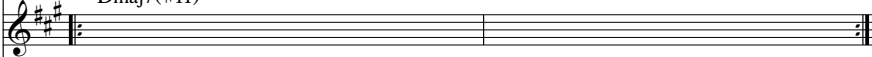
Mand. 

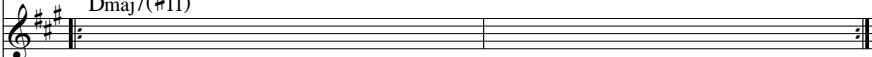
Dr.  Swing


Mrd./ Gtm. 

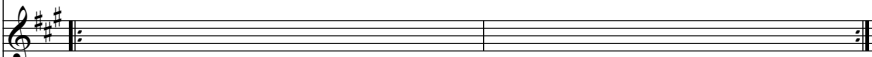
70 **SOLO 1: D Lydian/ Raga Kalyani** OPEN


Fl. 


Ten. Sax.  Dmaj7(#11)

Tpt.  Dmaj7(#11)

B. Tbn.  Dmaj7(#11)

Mand. 

Dr. 

Mrd./ Gtm. 

72 **K** Solo backgrounds

Fl. 

Ten. Sax. 

Tpt. 

B. Tbn. 

Mand. 

Dr.  (Horns)

Mrd./ Gtm.  (Horns)

88

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

92 **N**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

cresc

cresc

cresc

cresc

cresc

cresc

cresc

96

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

ff

ff

ff

ff

ff

ff

ff

100 **O** Straight **SOLO 2: D Aeolian/ Raga Natabhairavi**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

102 **P**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

106

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

110

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

114

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

118 **Q**

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

f

f

f

f

f

f

f

f

120

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

122

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

124

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

126

Fl. *f*

Ten. Sax. *f*

Tpt. *f*

B. Tbn. *f*

Mand. *f*

Dr. *f*

Mrd./ Gtm. *f*

128

Fl.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

130

Fl. *f*

Ten. Sax. *f*

Tpt. *f*

B. Tbn. *f*

Mand. *f*

Dr. *f*

Mrd./ Gtm. *f*

132 D.C. Al Coda

Fl. To Sop. Sax.

Ten. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.

134

Fl.

Sop. Sax.

Tpt.

B. Tbn.

Mand.

Dr.

Mrd./ Gtm.