The Eternal Pulse:
Creating with *konnakkol* and its adaptation into contemporary vocal performance

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The Eternal Pulse:

Creating With *Konnakkol* and its Adaptation Into Contemporary[1] Vocal Performance[2]

Lisa Young

ABSTRACT

This research examines the use of *konnakkol* in the creative musical practice of select contemporary artists, resulting in the creation and performance of a new composition for jazz quartet, and demonstrating how the *konnakkol* art form continues to evolve and be adapted on the world stage. Commonly described as a sophisticated style of vocal percussion, *konnakkol* is the performance art form of the intoned rhythmic recitation of *solkattu,* the vocalised rhythmic syllables of South Indian classical music and dance. My ethnomusicological field research finds that as a musician's companion, the *Carnatic*[3] system of *solkattu/konnakkol*[4] has a broad range of practical and creative functions. In-depth interviews with *konnakkol* artists Kaaraikkudi Mani (India), Suresh Vaidyanathan (India) and Lori Cotler (USA) provide insight into the way these musicians work creatively with *konnakkol* in traditional and cross-cultural projects. The research demonstrates how artists fluent in *konnakkol* move beyond its original pedagogical role to employ its use as a highly creative tool, in which *konnakkol* provides a conceptual framework for metred numerical calculations, improvisation, composition, rhythmic comprehension and analysis, transference of musical ideas, and expression of musical pulse. It also demonstrates the use of atypical *konnakkol* syllables, along with timbral and pitch variations in contemporary *konnakkol* delivery. For this research I created and performed the song cycle *The Eternal Pulse* with jazz musicians Ben Robertson, Stephen Magnusson and Dave Beck. In composing this work, I explored the expression of 'eternal' and 'internal' pulse, understood as the musical metre and the internal sub-

[1] Contemporary in this research is defined as 1990 to the present day.

[2] Vocal Performance refers to a musical presentation that features one or more vocal artists. In this research it includes artists who incorporate intoned recitation of *solkattu/konnakkol.*

[3] *Carnatic* refers to the classical style of music and dance of South India.

[4] In keeping with the language most often used in my study and research of the music, and also for ease of consistency for the reader, the word *konnakkol* is at times used to designate the general term given in reference to both *solkattu* language and the *konnakkol* performance art form.

divisions of the metre respectively. I used intoned and pitched *konnakkol* as a fully integrated vocal and musical expression in a Western contemporary jazz context, embedding *konnakkol* and wordless lingual sounds within this format to create a unique 'vocal sound-bank' as the basis for my vocal expression. This style of pitched *konnakkol* is a distinctive feature of my creative practice. In this process, *The Eternal Pulse* created a new style of composition and performance by integrating *konnakkol* language and concepts as melodies, riffs and the language for improvised passages. *The Eternal Pulse*, the related reflective analysis, and the insights drawn from fieldwork interviews all demonstrate the adaptive and evolving use of *konnakkol* in contemporary performance practice. The resultant new knowledge is a documented articulation of a practitioner's perspective acquired by taking the tradition of *konnakkol* into a Western creative context. This also represents a contribution to the knowledge of broader practical and creative applications of *konnakkol* in contemporary performance practice.

STATEMENT OF ORIGINALITY

I declare that this exegesis contains no material that has previously been submitted for a degree or diploma in any university, and to the best of my knowledge and belief, this exegesis contains no material that has previously been published or written by another person, except when due reference is made in the text of the exegesis.

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ACKNOWLEDGEMENTS

This research would not have been possible without the support of an Australian Postgraduate Award, the Monash-Pratt Postgraduate Award and a Monash University travel grant. Documentary video footage and the music video clip *Tha Thin Tha* were supported by Arts Victoria with a Contemporary Arts Development Grant. The choral versions of *Tha Thin Tha* and *Misra Chappu* were supported by commissions from Gondwana Choirs and The Australian Voices respectively.

I wish to acknowledge the many people who have contributed to the creation of this research project. I express great appreciation to my supervisor Prof. Margaret Kartomi AM, FAHA (Monash University) and my external associate supervisor Dr. Robert Vincs (Melbourne University) for their expertise and guidance within creative practice and ethnomusicological research methodology.

I am eternally grateful to my teachers Guru[5] Kaaraikkudi Mani and M. Ravichandhira OAM for sharing so generously with me the art of *konnakkol* and for their encouragement of my creative musical endeavours. Thanks to Kaaraikkudi Mani, Suresh Vaidyanathan and Lori Colter (also known as Loire) for their generosity and insight in the field research interviews. Also to M. Ravichandhira and Rajeswari Sainath for insight into general *Carnatic*[6] practice and terms of reference.

In creating *The Eternal Pulse* I gratefully acknowledge the collaborative contributions of double bassist Ben Robertson and inspirational *konnakkol* structures composed by Guru Kaaraikkudi Mani. Lisa Young Quartet musicians Stephen Magnusson - guitar, Ben Robertson - double bass, Dave Beck - drums and *cajon*, generously contributed their outstanding creative musicianship in the collaborative development and performance of the music and provided insightful interviews regarding their experience of the music.

[5] Guru - in this research relates to a teacher in this case of music.

Daniel Farrugia shared his musicality, taking the drum chair in many performances, including at the Borneo Jazz Festival in 2013 and Kuala Lumpur Jazz Festival 2014. Hugh Stuckey also contributed creatively, taking the guitar chair in various performances of the work. *Tabla* player Sam Evans supplied his musicality in early performances of some pieces in a trio format of voice, double bass and *tabla.*

I gratefully acknowledge support from Tabata Piccinelli, Leo Guardo, Kelly-Jayne Chambers and their production team in the making of the music video clip *Tha Thin Tha*, and the documentary videos. Again, thanks to Tabata and Leo for their expertise creating the video demonstrations. Also the Australia Council for the Arts which supported the initial 2008 study period in Chennai and the development of new works which led to the creation of *The Eternal Pulse* song cycle.

I wish to thank Lyn Williams at Gondwana Choirs and Gordon Hamilton at The Australian Voices for the opportunity to create the choral versions of *Tha Thin Tha* and *Misra Chappu*. I thank the choristers in both these choirs for their enthusiasm for these works and for their superb musicianship.

Note on ORTHOGRAPHY

In the transliteration from Tamil, Sanskrit, Telugu and other Dravidian languages into the English language, many key words in the *Carnatic* tradition have acquired a variety of acceptable spellings. Examples of spelling variations are listed in Appendix B. I have used advice from my teachers M. Ravichandhira (Melbourne) and Kaaraikkudi Mani (Chennai) in making spelling choices for this study and have tried where possible to be consistent throughout the text. The spellings used in this exegesis are as follows, *konnakkol, solkattu, mridangam, Carnatic, tala, raga, chappu, chathusram/chathusra, thisram/thisra, kandam/kanda, misram/misra, jathi, gathi, adi*. With the spelling of the *solkattu* syllables I predominantly use the spellings given by Mani and Ravichandhira. In field research interviews the spelling used with tala/talam is consistent with the pronunciation of the participant. I have noticed that at times in my study notes the spellings may vary. For example, where Mani would use *ki* Ravichandhira may use *ke*, thus in my personal notes I use either spelling. Also where Mani would use *thom* or *thin* occasionally I use *dhom* and *dhin*.

Note on DIACRITICS

To maintain a consistent style, all diacritical marks are removed from quotations and citations.

List of ABBREVIATIONS

CD - Compact Disc.
chap - chapter.
diss. - dissertation
DVD - Digital Video Disc.
ed. - editor(s) or edition(s).
e.g. - exempli gratia; for example.
exp. - exposition.
i.e. - id est; that is.

Lit. - Literally (In reference to literal translation).
LP - Long Play (recorded album).
LYQ - Lisa Young Quartet.
Numerical numbers are written as Arabic numerals for example: 1, 2, 3…25 when in relation to musical metre, notations and track numbers. Also in relation to music and metric modulation speeds, numerical ratings such as first, second and third are abbreviated as 1st, 2nd and 3rd..
n.d. - not dated, or no date available.
NZ - New Zealand
p. - page number.
p.c. - pers. comm., personal communications.
PLR - Practice-led research.
Sa/SA - is the abbreviation commonly used for *Shadjam,* the first of the seven notes of the Indian scale.
UK - United Kingdom
USA - United States of America.

Note on TERMS USED

'Dance' - in this research refers to the South Indian classical art form and does not in any way refer to nor include contemporary Indian Bollywood dance form.

In keeping with the language most often used in my study and research of the music, and also for ease of consistency for the reader, the word *konnakkol* is at times used to designate the general term given in reference to both *solkattu* language and the *konnakkol* performance art form.

The nomenclature of the *Carnatic* rhythms includes Western terms where deemed necessary for comprehension of the materials being discussed.

All Indian style *konnakkol* notations are given in English unless otherwise specified.

The title of the song cycle created for this research is *The Eternal Pulse.* Track 6 in the work is the title track, also named *The Eternal Pulse.* To avoid confusion for the reader, whenever I am discussing the title track, it appears as: track 6 - *The Eternal Pulse.* Otherwise *The Eternal Pulse* refers to the full song cycle.

All citations listed as Sankaran relate to Trichy Sankaran. Any references related to his daughter Suba Sankaran are listed as S. Sankaran.

AUDIO and VIDEO MATERIALS

Audio Material: CD / USB / YOUTUBE:

Tracks 1 - 8 are the commercial release of *The Eternal Pulse* by Lisa Young Quartet; initially an independent release (2011), then re-released worldwide on STEM (Germany, 2014). Lisa Young voice and *konnakkol*, Stephen Magnusson - guitar, Ben Robertson - double bass, Dave Beck - drums and *cajon*.

Track 1: *The Internal Pulse*, composed Young/Robertson/Mani. (duration 4:58)
https://youtu.be/ICg1fnYtiZs

Track 2: *Misra Chappu*, composed Young/Mani/Robertson. (duration 5:36)
https://youtu.be/jTgPvVX5A4E

Track 3: *Tha Thin Tha*, composed Young/Robertson/Mani. (duration 3:58)
https://youtu.be/K3eWGHqDobc

Track 4: *The Turning*, composed Young, arranged Young/Robertson. (duration 8:24)
https://youtu.be/d0kyg1nn9sY

Track 5: *The Glide*, composed Young. (duration 6:31) https://youtu.be/8ajWKDn3MaU

Track 6: *The Eternal Pulse,* composed Young/Robertson/Mani. (duration 6:26)
https://youtu.be/iqAxfKm-yJQ

Track 7: *The Exchange*, composed Young, arranged Young/Robertson. (duration 3:45)
https://youtu.be/bAKpQUj3ddc

Track 8: *Rupaka,* composed Young. (duration 1:08) https://youtu.be/gAOmIfw3lL0

Video Material: USB / YOUTUBE

Video Demonstrations: Tracks 9 - 15, filmed in Melbourne, 30th August 2014.

Track 9: Syllable variation - different lineages. Composed Mani, interpreted Ravichandhira. (duration 0:14) (p 25) https://youtu.be/Xb7M7b7p6to

Track 10: *Laya Ratna* 4/6/8 - shifting internal pulse of 4 to 6 to 8 (*rupaka tala).* Composed Young. (duration 0:30) (p76) http://youtu.be/3OKgSfGPK24

Track 11: *Misra chappu* 5 speeds - phrase *Thin, Thin , Thanga | Tha Ka Thin , Thanga* in five speeds. Composed Mani. (duration 0:23) (p 76, 78) http://youtu.be/-UV7IjFyUBw

Track 12: 12/8 groupings - internal subdivision of 1, 2, 3, 4, 6 and 12 in a 12/8 West African bell pattern; groupings of 3 against 4, and 4 against 3 in a 12/8 rhythm showing the shifting of dominant accents altering the 12/8 feel; the practical application of these rhythms in conjunction with the opening melody to track 1 *The Internal Pulse*. (duration 0:51) (p 79) https://youtu.be/ePPAnQIEyt4

Track 13: 3/4, shifted into 9/8 as used in track 6 at (2:29 - 2:51). Composed Young. (duration 0:35) (p 86) http://youtu.be/hKZGl_A62RU

Track 14: Extension structures used track 1 - *The Internal Pulse* (0:34 - 0:39) and track 6 *The Eternal Pulse* (1:07-1:13). Composed Mani. (duration 0:18) (p89) http://youtu.be/MMdSa4dLPH8

Track 15: 4/6/9 - demonstrates edited sections of the *konnakkol* used in track 6 – *The Eternal Pulse*, metrically modulating the internal pulse from 4 to 6 to 9. Composed Mani. (duration 0:56) (p101) http://youtu.be/3RY9Wl50rI8

Track 16: *The Art of Konnakkol* (2013) video. (duration 2:48) (p 6) https://youtu.be/OG-AdpfWDkc

Track 17: *Lisa Young Quartet* (2013) video. (duration 4:51) (p 11) https://youtu.be/v0cuKL8-KMs

Track 18: *The Eternal Pulse* (2013) video. (duration 7:03) (p 71) https://youtu.be/pW3_-fr4Ic8

Track 19: *Tha Thin Tha* (2013) music video, LYQ. (duration 4:32) (p 71) https://youtu.be/De0fxGpoF_g

Track 20: *Misra Chappu* (2014) choral arrangement performed by The Australian Voices with Lisa Young. Filmed 16th June 2014, Brisbane, Australia. (duration 4:28) (p 107) https://youtu.be/KcqZp9Uotbc

Track 21: *Tha Thin Tha* (2014) Gondwana National Choral School Performance, 18th January 2014, Sydney, Australia. Conducted by Simon Carrington. (duration 4:02) (p 106) https://youtu.be/bf7kDDca10o

Track 22: *Tha Thin Tha* (2014) Choral arrangement, rehearsal footage with Young, Gondwana Choirs, January 2014, Sydney, Australia. (duration 4:23) (p 106) https://youtu.be/-DTSaNNC0ME

Related Audio Material: USB /YOUTUBE

Track 23: *Other Plans* (2012) composed Young, performed by The Australian Voices, conducted by Gordon Hamilton, from self-titled Warner Classics CD. (duration: 4:02) (p 55) https://youtu.be/1jFUWxkhnq4

Track 24: *Other Plans* (2014) composed Young, performed by Coco's Lunch, digital release 2015. (duration 4: 29) (p 55) https://youtu.be/bk3WnCUG9Vw

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CHAPTER ONE: Introduction to the Research

This exegesis is intended to be read alongside the reader's engagement with the accompanying audio and video material. Prior to reading the document, in order to capture the essence of the materials being discussed, it is suggested that the reader listens to the CD recording of *The Eternal Pulse* (audio tracks 1-8), (URLs for ethesis are listed on page viii). Related video demonstrations and audio excerpts are noted throughout the document.

Personal communications form the majority of the reference material cited within the exegsis. For the sake of fluency for readers, the words 'pers. comm.' are removed from the citations. All references are listed in author date form, for example, (Mani 2013), and also listed as sources under references.

Chapter one outlines the aims and the limitations of the study. It introduces the *konnakkol* art form and elements of my creative practice that relate to the research. It outlines the research questions, the methodology, the structure of the study, and provides related language delineations.

1.1 Research Outline

The inspiration for this research comes from my dedication to *konnakkol* artistry. Commonly described as a sophisticated style of vocal percussion from the *Carnatic* tradition, *konnakkol* is the performance art form of the intoned rhythmic recitation of *solkattu*,[1] the vocalised rhythmic syllables of South Indian classical music and dance. (In this exegesis *Carnatic* refers to the classical style of music and dance of South India). As a composer and an improvising singer, I am immersed in the development of an expressive vocal language. Having studied *konnakkol* since 1994, it has had a profound and continuing influence on my body of creative work.

[1] *Solkattu*, lit. bunches of syllables (Tamil).

The core outcome of this research is the creation, performance, critical analysis and documentation[2] of the composition *The Eternal Pulse*. This contemporary song cycle for my jazz quartet,[3] investigates the adaptive use of *konnakkol* in creative performance practice. In this research jazz means the performance of music which features improvisation with certain stylistic conventions. Thus performance with a large degree of improvisation generated, based on composed melody, chords and form, at times involving freer improvisation. Jazz may also be considered as a process or a mode of creativity. As Sarath writes: "the point is not to endorse jazz as a self-defining destination but as a self-transcending gateway that connects musicians with the central creative and aesthetic pulse of today's musical world" (2013: 9).

Utilising a practice-led research approach[4] the study focuses on the personal and collaborative processes of creating *The Eternal Pulse*, and on applying the tools of both the *Carnatic* and jazz traditions to create a form of musical expression that is not simply an 'East[5] meets West'[6] graft. Rather, these processes are a mode of creativity, which involve an understanding of both musical traditions in the development of a performance language and style.[7]

For this research I have introduced the term 'vocal sound-bank' to describe an array of personally preferred lingual or onomatopoeic sounds suitable for expression in wordless vocal pieces or improvisations. The *solkattu* language contributes great depth to my personal vocal sound-bank. As part of the vocal dialogue in the jazz tradition, a vocalist often uses wordless language to improvise 'scat'[8] solos, and to express melodies or rhythmic patterns in a wordless manner. Where the term scat may be thought of as non-lingual sounds or syllables, the term vocal sound-bank describes the diaspora of lingual sounds evident in *The Eternal Pulse*. This emergent improvised and composed vocal language has a strong emphasis on rhythmic

[2] Documentation in this context refers to the audio and video documentation of the music. The CD recording is the definitive audio documentation of the work. The video demonstrations document the author presenting related
[3] My jazz quartet is known as the Lisa Young Quartet, also referred to in this research as LYQ.
[4] Practice-led research approach and methodology as outlined by Clark Moustakas in *Phenomenological Research Methods*, 1994. Practice as research is also discussed in depth by the contributors in Estelle Barrett and Barbara Bolt's 2007 publication *Practice as research: approaches to creative arts enquiry*.
[5] The 'East' in this research refers broadly to the Eastern cultures of Asia, and includes India.
[6] The 'West' in this research, umbrellas Western Europe, America, Canada, Australia, and New Zealand.
[7] Western musicians' engagement with Indian music is discussed in Claman (2002) "Western Composers and India's Music: Concepts, History, and Recent Music".
[8] Scat refers to wordless lingual syllables used for vocal improvising in the jazz tradition. An example of scat is heard on Ella Fitzgerald's version of *How High The Moon*, 1960, CD *Mack The Knife: Ella In Berlin*. (1:25 onwards)

complexity, accessing and expressing my vocal sound-bank in the pre-composed structures, improvisations[9] and ensemble dialogue heard in *The Eternal Pulse.*

In 1994, I began studying *konnakkol* in Melbourne with *mridangist*[10] M. Ravichandhira. Through Ravichandhira, I became a student of his teacher, Guru Kaaraikkudi Mani[11] in Chennai. From 1997 to the present day I have visited India to study intensively with Mani.[12] The opportunity to study and be inspired by this music opened the door to a sophisticated, expressive, rhythmic vocal language and a complex system of musical metre[13] and subdivision. Since 1995 I have investigated the integration of *konnakkol* and *Carnatic* techniques[14] in my creative practice, often combining Western and *Carnatic* concepts, including *raga* - the system in Indian classical music, which employs a vast array of note-sets as the foundation for melodic composition and improvisation. Each *raga* features specific combinations of notes, with set phrases, aesthetics and ornaments that may include specific microtonal deliveries, whereas the common use of Western scales and modes usually permits any permutation or combination of notes. The steps of a *raga* are represented by phonetic sounds known as *swaras,* the *Carnatic* solmization language of musical note degrees, commonly given in their shortened form as - Sa Ri Ga Ma Pa Da Ni Sa. I continue to compose original *konnakkol* structures and also to integrate and adapt those composed by Mani, in a variety of ensemble settings.[15] Over time, the *solkattu* language has become an integral part of my vocal performance, providing an additional rhythmic-based language that augments the melodic jazz-vocal scat language.

[9] Improvisation in this research means an approach to performance where music is created in the moment augmented by the interpretive skills of the musician.
[10] A *mridangist* is a player of the *mridangam,* a doubled headed South Indian pitched drum.
[11] Kaaraikkudi Mani is an established authority in his field, being one of India's foremost *mridangam* artists. He is the founder of the Sruthi Laya Kendra School based in Chennai with many branches around the world. One of the branches is the Academy of Indian Music Australia and the Sruthi Laya Kendra (Australia), which were established in 1988 and 1992 respectively by M. and Narmatha Ravichandhira. M. Ravichandhira is the Artistic Director of the Academy of Indian Music Australia and the co-ordinator of Sruthi Laya Kendra Australia.
[12] In 1997, I studied in Mumbai and Chennai courtesy of an Asialink residency. In 1998 I returned to Chennai for a month of intensive *konnakkol* studies with Mani courtesy of Australia Council Professional Development funding, and again in 2008 for a month as part of an Australia Council Project Fellowship. In 2013 I received assistance from Monash University to visit Chennai for field research interviews for this exegesis.
[13] 'Musical metre' is the measured arrangement of time that gives rhythmic shape and outlines a repetitive pattern to suggest a musical pulse using accented or unaccented beats.
[14] Examples of *Carnatic* techniques are *laya ratna* (akin to metric modulation), *yati* (a rhythmic calculation designed to represent geometric shape).
[15] These pieces are performed by vocal group Coco's Lunch and by jazz group Lisa Young Quartet. Also I compose choral works that combine Western and *Carnatic* techniques, which have been performed by a variety of choirs worldwide.

Invitations from Mani and Ravichandhira have provided valuable opportunities for me to perform as a guest *konnakkol* artist in many *Carnatic* concerts, thus aiding the development of my performance practice in the traditional format. Concert highlights have included performing with the esteemed Indian flautist Dr. N. Ramani and A.G.A. Gnanasundaram (violin) with M Ravichandhira (*mridangam*), the late Shanker Arunasalam (*kanchira*) and Prasana Chandrakumar (*ghatam*) for The Melbourne International Festival (1997), with Guru Mani's ensemble at the George Wood Performing Arts Centre Melbourne (2000, including Suresh on *ghatam*), and various performances with M. Ravichandhira's ensemble.

As a vocalist embracing two musical cultures I wished to expand further the compositional use and influence of *konnakkol* in my work. Thus the approach of the song cycle *The Eternal Pulse* was to investigate the extensive integration of *konnakkol* and wordless lingual sounds, using varieties of metre and subdivision (common to the *Carnatic* tradition), within a jazz performance framework.

A distinctive feature of my personal practice is the incorporation of pitched *konnakkol*. Many of the works in *The Eternal Pulse* use *konnakkol* in the expression of melodies, ostinati 'riffs' and improvised vocal passages. The piece aims to exhibit the use of both intoned and pitched *konnakkol* as a fully integrated vocal and musical expression in a Western jazz context. The exegesis articulates my experience of this approach, along with subsequent investigation of the compositional process where *konnakkol* and related *Carnatic* techniques converge with a jazz performance framework. From a performance and ensemble perspective, the work is firmly placed in the contemporary jazz idiom. The harmonic and melodic material, the style of improvisation and the ensemble dialogue are strongly connected to the jazz tradition. Both the *Carnatic* and jazz approach to pulse[16] and rhythmic metre are particularly influential forces in the work.

This study led me to introduce the umbrella terms of 'eternal' and 'internal' pulse. These terms are used in the analysis of rhythmic and pulse-related material, as they indicate neither genre nor cultural specificity. They aim to assist the perception and explanation of concepts like

[16] Pulse refers to a regular repeated beat, accented or unaccented within a cycle that is perceived to represent the foundation of the musical metre. It may be audible or implied.

metric modulation, polyrhythmic[17] structure, rhythmic feel[18] and groove.[19] The terms eternal and internal pulse, are derived from personal interpretation of *Carnatic* concepts of *tala*[20] and *nadai*.[21] The eternal pulse refers to the ongoing metre or rhythmic cycle, relating to the *tala.* The internal pulse refers to the internal subdivision of the main beats[22] of the cyclic metre, relating to the *nadai,* literally meaning flow. In this research the internal pulse is seen to be embedded in the eternal pulse. This concept is further investigated in chapter 5.3.

The broader investigation of the study is 'creating with *konnakkol*'. In-depth interviews with *konnakkol* artists Kaaraikkudi Mani (India), Suresh Vaidyanathan (India) and Lori Cotler (USA), assisted me with the examination of both the creative and practical uses of *konnakkol* in their respective practices. These discussions included individual histories and lineage, experience of *konnakkol,* musical pulse, rhythmic complexity, of ensemble interconnectivity and cross-cultural performance. The research and reflective processes provided comment on the artists' uses of *konnakkol,* for example, as a framework for metred numerical calculations, as a means of learning and memorising musical structures, as a tool which enhances intuitive[23] musical imagination, as a language for facilitating improvisation and composition, as a tool for the communication of and transference of musical ideas, and as a reference point for rhythmic analysis and comprehension. The application of *konnakkol* by percussionists, vocalists and melodic instrumentalists in both *Carnatic* and cross-cultural projects was investigated. Conversations with M. Ravichandhira and Rajeswari Sainath contributed valuable insight to the research and assisted my understanding of fundamental and developmental elements of *Carnatic* music and dance. Interviews with quartet members Stephen Magnusson, Ben Robertson and Dave Beck provided insight into a variety of processes involved in creating and performing *The Eternal Pulse*.

[17] Polyrhythmic/Polyrhythm is where two or more pulses occur within the same metric space.
[18] Feel in this research refers to the coherency of rhythmic use.
[19] Groove can be a verb 'to groove', or noun 'a groove'. In this context groove means the way musicians connect to each other rhythmically. As in, being 'in the groove' thus being on a common path.
[20] *Tala* lit. clap (Sanskrit), also *talam* lit. clap (Telugu). This translates in *Carnatic* music to mean a rhythmic cycle. Also used is the spelling variation *tala,* which means.
[21] *Nadai*, lit. flow (Tamil), refers to the internal subdivision of the beats of the cyclic metre.
[22] For example there are 8 main beats in *Adi tala.*
[23] Intuition/Intuitive is an inner knowing, a perception and intelligence that leads to insight, and a sense of inner guidance. It may draw on previously acquired experience or information, but is experienced as an intelligence, which doesn't use rational process.

The material drawn from these interviews contributes to the expanding scholarly discussion regarding the creative function and use of *konnakkol* in composition and performance practice and to various elements of performativity research. As outlined by Kartomi in Davidson's 2014[24] writings "in performance situations performativity refers to persona, competence and group interaction, improvisatory practices, emotion and inter-subjectivity, entrainment or groove, and reception." Many of these elements are expanded upon in chapters four and five, where the musicians' reflections provide insight into their creative processes and practices.

The research folio comprises an exegesis and support material, which includes a CD recording and a collection of related videos. The CD is the commercially released album entitled *The Eternal Pulse*. The video demonstrations are of the author presenting related rhythmic materials. Three documentary videos entitled *The Art of Konnakkol, Lisa Young Quartet* and *The Eternal Pulse* document the quartet's approach to the creation of *The Eternal Pulse*; presenting footage from rehearsals, live performance and interviews with quartet members. Additional music video clips include *Tha Thin Tha* (LYQ), The Australian Voices performing the choral arrangement of *Misra Chappu* and Gondwana Choirs performing the choral arrangement of *Tha Thin Tha*.

1.2 Introduction to The Art of *Konnakkol*

Video track 16: ***The Art of Konnakkol*** (2013) video (duration 2:48). (WATCH)

To give context to the research, and to give the reader a broad understanding of *konnakkol* artistry, I am providing a brief overview of the art of *konnakkol* in the *Carnatic* tradition.

Whilst the historical origins of Indian classical music is the subject of scholarly debate[25], it is commonly believed and asserted by Mani and Ravichandhira, that the vocalised accenting of metre in Indian music and dance has evolved over thousands of years, with metred recitation and accentuation of language traced to the sacred Vedic chants and prayers, particularly the

[24] *Musicology Australia* is the journal of the Musicological Society of Australia. Broad scholarly discussion in the area of performativity studies can be found in the works of Margaret Kartomi and Jane W. Davidson.
[25] Lewis Rowell, 1991, *Music and Musical Thought in Early India* provides valuable discussion on music in early India. Also Dineen 2005 provides discussion in this area.

Sanskritic prosody[26] noted in the *Sama Vedas*, which are dated before 1000 B.C.[27] (Mani, Ravichandhira, Kumar Sen (1994) in Young 1998; Harris 2014).[28] Evidence for the plausible legitimacy of this Vedic origin is discussed in detail in Myranda Harris's 2014 writings: "Rhythms and Recitations: Vedic Origins of Indian Classical Music in Nationalist Discourse and Modern-day Practice". Harris outlines the metrical practices associated with Vedic recitation and examines the links between Sanskritic prosody and *Carnatic* rhythm.

Many scholars and musicians suggest the documented evidence of the origin of *solkattu* syllables is traced to the *Natya Sastra* dated in the second century[29] (Dineen 2005; Sankaran 2010: 1-2; Mani and Ravichandhira in Young 1998: 7; Harris 2014). Of interest for this research, is that in the *Carnatic* tradition, as a means of aiding invention, composition and memorisation, musical ideas and structures are represented with phonetic syllables in drum strokes, dance steps, and melodies.[30]

Konnakkol is the performance art form of the intoned rhythmic recitation of *solkattu*. It is a complex language that is embedded in rhythmic frameworks and numerical calculations, which engages the creative expression of infinite varieties of musical metre and pulse. *Konnakkol* is a recognised art form of principal study, traditionally performed within the *Carnatic* percussion section. As an integral part of the *Carnatic* training, all percussionists learn to recite the structures set to a rhythmic metre that they will play on their instrument. Within a predominantly oral tradition musicians listen, imitate and memorise rhythmic patterns in *solkattu*. The rhythmic metre (*tala*) of the music is outlined using cyclic hand gestures (handclaps, waves and finger taps). Alternatively the gestures are tapped on the thigh or the

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[26] Prosody refers to the aspects of rhythm, pattern and intonation in language.
[27] Accentuation of language (*Sanskrit)* in the *Samagana* (part of the *Sama Vedas f*rom the Vedic Chants) uses (*Druta* (fast), *Laghu* (short) *Guru* (long) and *Pluta* (lengthened) where text was stressed, lengthened, oscillated, sung, or skipped over. (Kumar Sen 2008: 2 also Sen in Young 1998: 7)(p.c. Mani, Ravichandhira in Young 1998). Mani and Ravichandhira asserted that the origins of Indian music can be traced to the four 'Vedas', which date from approximately 4,000 - 1,000B.C. They were an ancient compilation of sacred and religious texts, prayers, hymns, chants and rituals dedicated to various gods. They have been documented in *Sanskrit* the classical language of India and passed on by oral tradition. Vedic scriptures refer to percussion instruments and odd and even metre. (Mani, Ravichandhira in Young 1998: 7)
[28] Harris 2014 states: that "Indian classical music's ties to an ancient, purely Indian, scientific past were highlighted in the well-known legend that Indian music originated in the Vedas, particularly in the hymns of the Samaveda."
[29] Sankaran 2010 discusses the origin of *solkattu* stating: "The origin of solkattu syllables goes back to the *Natya Sastra* (second century) time period". Harris 2014 states that: "The legend that Indian classical music originated from the chanting of the Samaveda is documented as early as the second century CE in the Natyasastra".
[30] Indian melodies are *raga* based, where steps of the tonal system are represented by phonetic sounds known as *swaras*. *Swara*s are the solmization language for the *Carnatic* musical scale, commonly given in their shortened form as - Sa Ri Ga Ma Pa Da Ni Sa.

thumb of the hand marking the *tala.* The marking of the *tala* in this way is an integral part of the performance of *Carnatic* music.

The *solkattu* rhythmic vocal language has evolved within an oral tradition as an integral part of the overall development of Indian music and dance, where rhythmic recitations have developed alongside rhythmic patterns and percussion sounds[31] (Ravichandhira 2010). This is supported in Dineen's 2005 writings where he argues that the rhythmic language has followed its own developmental stream. It does not solely exist as an imitation of, or mnemonic device for drumming: "a solkattu phrase conforms to a distinct aesthetic when solkattu and drumming are expressing the same rhythmic idea" (44). He also highlights aspects of the function of *solkattu* for transmitting musical materials saying: "the syllables themselves are actual, idiomatically appropriate musical expressions. …solkattu functions at once as a representation of the piece, and as the actual music" (Dineen 2005: 38).

In *Carnatic* concert drumming, the *solkattu* syllables are the vocalised reference for the rhythmic materials of all *Carnatic* percussion instruments. Many of the syllables are broadly related onomatopoeically to the sounds of the *mridangam*[32] drum.[33] Sankaran states: "There are very deep aesthetic links and implications in the relationship of the solkattu to the actual drum sounds" (1994: 44). In conversations with Mani, he expressed that he hears the syllables in direct relation to the sounds produced on the *mridangam*. Specific syllables, and also a variety of interchangeable syllables, relate to each drum stroke.[34] However, *konnakkol* vocabulary and performance is a unique entity, which has had many influences, and over time has developed beyond this (Mani 2013; Ravichandhira 2010).

Solkattu syllables are used as rhythmic reference in both the *Carnatic* concert tradition and *Bharata natyam* dance.[35] A significant element of this study shows that the *konnakkol* concert language is expanded and influenced by dance *solkattu* language, also referred to as dance

[31] Detailed accounts of the history and development of *solkattu* are given in Sankaran (2010), Dineen (2005), and Young (1998).
[32] The *mridangam* drum is considered the principal percussion instrument in *Carnatic* music.
[33] Examples of syllable/drum stroke relationships are given in Dharmala Ramamurty (2nd ed., 1987, in the photos and notes that follow p. 36); A.K.Sen (2008: 69-70); Young (1998: 35-38).
[34] Examples of the interchangeable syllables used for individual *mridangam* strokes are listed in Brown (1965: 95-98) and in Young (1998: 35-38).
[35] *Bharata natyam* is the term for South Indian classical dance.

jathis.[36] There are many syllables and phrases common to both the dance and drumming traditions. Some exclusive syllables and patterns that are used in dance relate to specific rhythmic movements of the dancers' hand and footwork. Sainath and Ravichandhira both related that a more basic form of *solkattu* is used in dance rehearsals. In performance, however, to enhance the effect of the program, the *solkattu* recitation is embellished and the dance steps are accompanied by a more striking vocabulary of syllables (Ravichandhira 2010; Sainath 2014).

Some specific dance syllables have crossed into percussion based *konnakkol* vocabulary. Words like *gu-gu*, *ja nu* and *jham* originated in the dance recitations and are now integrated into percussion-based recitation.[37] Examples of this influence are heard in phrases like: | ***gu gu*** *ta re ke ta tha ka* |(instead of ***tha ka*** *tha re ke ta ta ka*) and *ja nu* or *ju nu* in |*ta ka thi mi ta ka* ***ja nu***| (Mani 2013; Ravichandhira 2010, 2014).

As noted by Mani and Ravichandhira, other elements that have shaped the development of the *solkattu* language and performance of *konnakkol* include the influences of Sanskrit and Tamil languages. They explained that Sanskrit language has designated light and heavy syllables, lending it to the rhythmic accentuation of vocalised metre. In conversations with Mani he emphasised that *konnakkol* is itself a language and that the syllables are related to Tamil language. "We can't say it's exactly Tamil or Telugu or Malayam, or Hindi: every syllable is slightly changed but it's related to Tamil and many other Dravidian languages" (Mani 2013). This research concurs with Sankaran's writings where he states, "the solkattu of the drumming tradition for the most part uses syllables and sounds of Tamil. … The combined consonant-vowels of the Tamil language…lend themselves beautifully to the art of solkattu" (Sankaran 2010: 2).

As *konnakkol* artistry continues to evolve, a diversity of styles has emerged, due in part to differences in specific lineages and music schools, and also to the personal style of significant,

[36] *Jathis* or *Jathi* patterns commonly refer to the *solkattu* rhythmic patterns in a structured form used in South Indian classical dance.
[37] Ravichandhira mentioned that in his lineage, the link to the integration of dance syllables came when his teacher A.S. Ramanathan (from Sri Lanka) spent some months with well-known *Carnatic* percussionist Palani Subramaniam Pillai in South India around the 1950s. Ravichandhira suggested that many of the Pillai percussionists incorporated influences from the tavil and dance language, which includes *gu gu* and *ja nu* (Ravichandhira 2014).

innovative *konnakkol* practitioners who have added their own expressive interpretations to the art form (Mani 2008, 2013; Ravichandhira 2010, 2013).

In classical music concerts, a *konnakkol* artist performs the *solkattu* recitations, whereas in dance performances, the *Nattuvanar* artist - usually the head teacher of the dance school - recites the *solkattu*; they also play small hand cymbals as part of the accompaniment. The vocal recitation greatly enriches the dance performance. The voice can provide syncopated and displaced vocal passages, giving an added feature to the dancers' footwork. The voice also adds enrichment to the *mridangam* accompaniment (Ravichandhira 2010).

Ravichandhira suggested that there have been many recent innovative developments in *solkattu* dance recitations. He explained that there is broad scope for the *jathi* recitations in dance, as it is a visual art form in which the recitations come and go throughout the whole performance. By contrast, in the *Carnatic* concert tradition the *konnakkol* artist is not given as much scope, as there are numerous artists who share the concert platform. Many dance schools and professional dance performers now hire the best *konnakkol* artists for the *nattuvanar* role, as they highly value the sound effects, vocal timbre and skill level brought to the performance by such musicians, leaving the head teacher to add the hand cymbals (Ravichandhira 2010).

As a musician's companion, *konnakkol (solkattu)* has a broad range of creative functions. Interviews with Mani, Suresh, Cotler and Ravichandhira, and writings by Sankaran (2012: 1-3), Nelson (2008: 3-4) and Dineen (2005: 54), all clearly expound the multi-layered use of this systematic vocalised rhythmic language. As previously outlined in chapter 1.1, *konnakkol* has merit as an individual performance art form, as an integral part of the extensive training required by *Carnatic* percussionists and dance performers, and as the language for teaching instructions in percussion lessons which provide the foundation for comprehending the complex rhythmic structures of the *Carnatic* tradition. It also has value as the musicians' language for communicating rhythmic ideas, as a tool for aiding the comprehension of complex rhythmic passages, as the basic language for percussion composition, and as a language for conceiving new musical ideas, which facilitate musical imagination, improvisation and melodic and rhythmic composition.

1.3 Introduction to the Research and the Author

Video track 17: ***Lisa Young Quartet*** (2013) video. (duration 4:51). (WATCH)

In this research I investigate the processes of creating and performing the music of *The Eternal Pulse*. Fieldwork interviews with select *konnakkol* artists examine the use of *konnakkol* as a creative tool in a variety of creative practice settings.

For many years South Indian music has been a major influence in my compositional and performance practice. *Carnatic* influences filtered into my creative practice from 1995, when I began combining Western and *Carnatic* concepts in a variety of ensemble settings.[38] These early works for vocal or jazz groups integrated traditional *konnakkol* structures (usually composed by Mani) and self-composed *konnakkol,* incorporating both traditional syllables and/or 'vocal sound-bank' syllables. The compositions often utilised Indian elements,[39] including *raga* based melodic concepts, rhythmic textures, Western harmonic structures, and vocal language that speaks from a personal 'vocal sound-bank' aesthetic[40] built over many years as an improvising singer. Such experiences provided the stimulus to create a larger work, a song cycle for my quartet, featuring *konnakkol* and sound-bank language (in place of lyrics), rhythmic cycles, and concepts commonly used in the *Carnatic* tradition.

Rhythm has always been an integral part of my musical experience, both as a practitioner and as an audience member. The jazz musicians I have performed and collaborated with are committed to exploring concepts of pulse, rhythmic subdivision and phrasing, polyrhythmic over-laying, odd time metres, and discussing the way that internal subdivision of ongoing metre contributes to overall experience of time and groove. Once introduced to *Carnatic* study, I thrived on the fundamental concepts of *tala* and *nadai* (cyclic metre and subdivision of metre), of extension and reduction structures and *yati*[41] (patterns formed in a geometric shape), along

[38] Examples of this influence in my earlier works are: *Shifting Time* performed by Coco's Lunch from circa 1995 (recorded on *A Whole New Way of Getting Dressed* CD 2002); also *Thanga* (*Blueprint* CD 2007). The Lisa Young Quartet integrated *konnakkol* and Indian elements in the albums *Speak* (1999) and *Grace* (2007).
[39] Indian elements include *Carnatic* composition techniques learned in both my *konnakkol* studies and *Carnatic* vocal lessons. My initial study in Australia in 1994 was *Carnatic* vocal, studying *ragas* with Narmatha Ravichandhira. In 1997 I studied North India *ragas* in Mumbai with Dhanashree Pandit-Rai. An Asialink residency supported this study.
[40] Aesthetic here refers to an artistic principle or set of principles that guides the work of an artist.
[41] Further discussion of *yati* and extension and reduction structures is found in Young 1998: 30-31.

with *laya rathna* (time shifting, or metric modulation). Over time, I began to think of the concepts of *tala* and *nadai* as akin to 'eternal' and 'internal' pulse.

During a study visit to Chennai in 2008, the lessons with Mani focussed on a range of his *konnakkol* compositions and we discussed which structures might be suitable for integration into my next work.[42] In a parallel study, quartet double bassist Ben Robertson also came to Chennai in 2008 to study *Carnatic* music and techniques with violinist V. S. Narasimhan.[43] Robertson's study of *Carnatic* music and techniques partly informed his collaborative role in the creation of *The Eternal Pulse.*

This trip became the genesis for an overall plan of the work, creating a blueprint of the time signatures and 'grooves' to be included, guided by the desire to express varieties of internal and eternal pulse. Although still very much in its infancy, the seed for *The Eternal Pulse* was planted in 2008.

The commencement of a PhD in music performance in 2010 provided a platform with which to develop the work and accompanying exegesis. It afforded an opportunity to create a definitive composition that engaged with the vocal sound-bank expression I had been assembling over many years.

1.4 Aims of the Study

This study has two main aims.

Firstly: to create, perform, document and analyse the music of *The Eternal Pulse* as performed by LYQ. I aim to provide an articulation from a practitioner's perspective of taking the tradition of *konnakkol* into a Western creative context, and to investigate the processes involved in the creation of the music, including the integration and influence of *konnakkol* in *The Eternal Pulse*. Conversations with quartet members aim to investigate and provide insight into the ensemble's approach and their experience of the music.

[42] The Australia Council for the Arts funded this 'Project Fellowship' study period in 2008.
[43] Ben Robertson studied in Chennai in 2008 courtesy of an Arts Victoria Development Grant.

Secondly: the aim of the fieldwork interviews is to move beyond the pedagogy of *solkattu* in the *Carnatic* tradition and to gather insight into the way musicians work creatively with *konnakkol* in traditional and cross-cultural projects. The research aims to provide a broad picture of the use of *konnakkol* in creative practice, including investigations into the use of *konnakkol* as a language that facilitates improvisation and composition. As indicated in the research outline in chapter 1.1 the aim is also to examine the role of *konnakkol* as a reference point for rhythmic analysis and comprehension, and as a tool for the communication and transference of musical ideas. To achieve this, I aim to investigate the use of *konnakkol* in the creative practice of Mani, Suresh, and Cotler, and to provide a contribution to knowledge regarding the broader practical and creative applications of *konnakkol* in contemporary performance practice.

Alongside these two mains areas, I aim to briefly assess the art form of *konnakkol* in traditional *Carnatic* practice. I also discuss the evolving nature of *solkattu* language and evident influences on the development of its artistry, and I investigate performers' experience of musical pulse and rhythmic complexity.

The audio and video documentation provide a definitive CD recording of the music along with documentary-style video footage of quartet rehearsals and live performance. The video demonstrations on tracks 9-15, aim to enhance both the contribution to knowledge and the reader's understanding of the materials, through the author's articulation of key rhythmic concepts used in the work.

1.5 *Konnakkol, Solkattu, Jathi* and *Thathakaram* Delineations

Solkattu, literally meaning 'bunches or strings' of syllables, is the correct term for referring to the vocal syllables of the *Carnatic* rhythmic language. *Konnakkol* is the performance art of reciting *solkattu* (Ravichandhira 2010). This notion is supported by Trichy Sankaran's writings where he states: "To the drummer, solkattu symbolizes the material of his art" (2010: 2). He also refers to the complex evolved art of *konnakkol* as being the "highest form of *solkattu* recitation" (2010: 1).

Jathis or *jathi* patterns are the terms commonly applied to the *solkattu* rhythmic patterns (in a structured form) used in South Indian classical dance (Ravichandhira 2010).

Ravichandhira explained to me that also *Thathakaram* is a Tamil expression used most commonly amongst *Tavil*[44] and *Nagaswaram*[45] artists when referring to a rhythmic passage of *solkattu* (that maybe referred to as *chollkattu*), which can be converted to a melodic passage. He also stated that: "the word *thathakaram* is now commonly used in university syllabi for example, at the Mahathmagandhi University India[46], and also in Illayaraja's music in the contemporary film industry" (Ravichandhira 2014).

Whilst *solkattu* is the correct word for the rhythmic language, *konnakkol* for the performance and advanced reciting of the language, and *jathi* used commonly in reference to the dance *solkattu* language, my research shows that most musicians are comfortable using *solkattu, konnakkol,* and *jathi* interchangeably when referring to the recitations.

Also, many artists opt to include the broad term 'vocal percussion'. This term is often refernced in discussions by musician Suresh (2013), along with Chandran (2007), and McLaughlin and Ganesh (2007).

1.6 Delimitations of the Research

My research focuses on creating with *konnakkol* in contemporary composition and performance, thus it limits the frame of reference from 1990 to the present day. I mention significant Western artists whose creative practice is influenced by *konnakkol*, but limit detailed discussion to the *konnakkol* artists interviewed in the field research; namely Mani, Suresh and Cotler.

The composition and performance analysis of *The Eternal Pulse* focuses on the complex rhythmic components and converging of South Indian and jazz styles. I do not aim to provide critical analysis of harmonic information used in the music, as this is not the focus of the study.

I explore the evolving nature of *konnakkol* performance that relates to the concert style *Carnatic* drumming tradition. I acknowledge that there is great innovation in the *solkattu* recitations of

[44] *Tavil* is a South Indian drum commonly used in temple music.
[45] *Nagaswaram* is a double reed wind instrument regarded as auspicious in South India.
[46] Ravichandhira provided this link to the university syllabus which shows the use of the term *thathakaram* [Online] Available http://mgu.ac.in/CBCSS/B.A%20MRITHANGAM/B.A.%20Mridangam.htm [Accessed 2014, November 8].

many *Nattuvangam*[47] artists in the dance tradition. However, there is not space here to expand on this area. In my conversations with Ravichandhira he suggested that the approach to and developments in the work of Adyar K. Lakshman, and Vazuvur Ramya Pillai would be worthy of inclusion in future research (2010).

This study does not give detailed examinations of the history of *Carnatic* concepts of *tala, nadai, laya rathna* etc., because there are many detailed published works that cover these areas. Examples are listed in the bibliography.

1.7 Introduction to the Research Questions

Since Indian rhythmic recitations were first heard in concert performances in the West in the 1950s, both the North[48] and South Indian styles of vocal percussion have been adopted abroad to influence the performance and composition practices of various Western musicians via jazz, folk, world music and fusion[49] projects.[50]

In this research I investigate the use of *konnakkol* in the creative performance practice of a select group of *Carnatic* and Western vocalists and percussionists who recite *konnakkol* in their performance practice. All of the musicians selected are known to me personally, either professionally or through my *Carnatic* studies, and are leaders in the traditional field and/or innovators in contemporary music. The fieldwork and reflective processes investigate the practical and creative uses of *konnakkol* as detailed in the research outline in chapter 1.1.

The major work created as part of the research is *The Eternal Pulse* song cycle. It is itself an investigation into 'creating with *konnakkol'*; it explores the use of intoned and pitched *konnakkol* as a fully integrated vocal and musical expression in a Western contemporary jazz context.

[47] *Nattuvangam* is the word for the dance *jathis*/*solkattu* recitations, which are recited by the *Nattuvanar* artist (Ravichandhira 2010; Ravichandhira in Young 1998: 18).
[48] The North Indian style of vocal percussion called *tabla bols* or *bols* are the intoned vocal syllables related to the *tabla* drums, the principal percussion instrument in the North Indian *Hindustani* tradition.
[49] Fusion in this research means the combining or integrating of two or more musical cultures in a single project. This term is commonly used in India to describe this kind of cross-cultural project.
[50] A range of musicians influenced by Indian rhythmic recitations is introduced in chapter three.

1.8 Research Questions

The broad area of inquiry for this research investigates 'creating with *konnakkol*'. It asks the questions: How is *konnakkol* used in creative practice? How is the language and art form continuing to evolve and be adapted on the world stage, and what are the evident influences and implications?

A major component of the research is the creation and performance of the song cycle *The Eternal Pulse*. In relation to this I ask: How is *konnakkol* integrated and adapted in *The Eternal Pulse* song cycle? What processes have been used in the creation of the music and how has the integration of *konnakkol* contributed to this process? How has the process of creating *The Eternal Pulse* influenced the development of my vocal sound-bank language and my understanding of rhythmic materials?

The fieldwork research investigates the broad uses of *konnakkol* as a creative tool: How is *konnakkol* used by the artists participating in the research and in the creation of new music? What are the ranges of experience for those reciting *konnakkol* within a) a traditional format and b) in contemporary Western vocal performance? How does *konnakkol* complement their musical comprehension and expression?

1.9 Method of Inquiry and Research Approach

The Eternal Pulse

This project began in 2008 as I continued my intensive *konnakkol* studies with Guru Kaaraikkudi Mani in Chennai. As an improvising singer and composer I used *konnakkol*, pulse-generated rhythmic materials, and jazz-based musical language as the foundation for the creation of my song cycle entitled *The Eternal Pulse*. Mani led me to focus on a range of his *konnakkol* compositions, and from here I sketched a blueprint of time signatures and grooves to be included in order to express varieties of metre and subdivisions common to the *Carnatic* and the jazz traditions.

Working cyclically through my compositional process[51], I continued to develop a distinctive style of *konnakkol*-based jazz performance appropriate for writing a large song cycle. *Konnakkol* structures composed by Mani were integrated in their original form or edited, adapted and developed within the jazz format. Collaborative compositional input from Ben Robertson assisted the definition of harmonic structures and musical forms. The resulting work was then developed and performed with my jazz quartet featuring voice/*konnakkol*, guitar, double bass and drums.

While the piece integrates *Carnatic* musical ideas, my ensemble uses jazz based musical language, including harmonic progressions and an improvisatory style that situates it in the contemporary jazz idiom. To bring the work to my current audience as a jazz vocalist, the LYQ performed the piece on numerous occasions at jazz festivals and venues in Melbourne and at Borneo Jazz Fest 2013 and Kuala Lumpur Jazz Festival 2014.

The expanding reach of two thematic ideas from *The Eternal Pulse* arose through choral arrangements, as seen in the accompanying video material on tracks 20, 21 and 22. These pieces are significant in demonstrating that this vocal approach can be passed on in choral format without years of training in the *Carnatic* tradition.

My research involved writing a brief history as well as an account of the philosophy behind *konnakkol* as a traditional South Indian art form.

The field research

To situate my work in the field of practice-led research, and to contribute to the expanding scholarly discussion regarding 'creating with *konnakkol*',[52] I examined the role and influence of *konnakkol* in the practice of a select group of contemporary musicians. I undertook interviews in the field with *konnakkol* artists: Kaaraikkudi Mani (*mridangam/konnakkol* - Chennai), Suresh Vaidyanathan (*gatham/konnakkol* - Chennai), Lori Cotler (*konnakkol*/voice - New York). The recorded interviews were held face to face in India for Mani and Suresh, and via 'Skype' audio for Cotler. The interviews provided descriptions of creative process, discussed parameters for

[51] My cyclical compositional process of creating, defining and reflecting is outlined in chapter 5.5.
[52] Scholarly writings related to creating with *konnakkol* are discussed in chap 3.3.

composing and improvising using *konnakkol,* and explored the musicians' experience of rhythmic metre, pulse and ensemble performance.[53]

Recorded interviews with quartet artists Stephen Magnusson (guitarist - Melbourne), Ben Robertson (double bassist - Melbourne) and Dave Beck (drummer - Melbourne) investigated their experience of making the music of *The Eternal Pulse*.

Personal communications with M. Ravichandhira (*mridangam/konnakkol* - Melbourne) and Mani provided valuable insight and general research on dance vocal syllables, lineages, *Carnatic* pedagogy and terms of reference. Personal communications with South Indian dancer Rajeswari Sainath[54] provided insight into related aspects of dance language and her informed reflections on Mani's creative processes.

Insight drawn from field research, personal communications, and reflective analysis of personal processes involved in creating *The Eternal Pulse* are documented here in this exegesis and in the accompanying audio and video recordings.

[53] A detailed account of the areas discussed in the field research is given in the research outline in chapter 1.1.
[54] Personal communications with Sainath were held face-to-face in Melbourne, when she was an invited guest with Mani for the 2014 Mummoorthigal Jayanthi Festival and conference, May 2014.

CHAPTER TWO: The History and Practice of *Konnakkol* in the *Carnatic* Tradition

This chapter discusses the etymology of select *Carnatic* musical terms along with methods of notation, variations in particular lineages of *konnakkol* practice and the resulting diversity of styles. It discusses *konnakkol* artistry in the *Carnatic* tradition and provides examples of significant traditional *konnakkol* practitioners.

2.1 Etymology of *Konnakkol, Solkattu* and *Jathi*

Konnakkol is a Tamil word that originated from a combination of Telugu and Tamil words. The Telugu word '*koni*' meaning 'to recite' or 'to say', was adopted into the Tamil language and combined with the Tamil word '*kol*', meaning 'to rule' or 'to reign', thus creating the word *konnakkol* (Ravichandhira 2010; Venkataram 1994; Young 1998). Ravichandhira (2015) also suggested that the word *konnakkol* may have derived from the Telugu phrase *'konu kolu'* which means a measuring rod. Viswanathan's *Bharatanatyam: The Tamil Heritage* (1991: 22) supports the link of the word *kol* to measurement stating: "The measuring unit of the age was a "Kol"."

The Tamil word '*solkattu*' comes from *'sol'*, meaning 'syllable', and '*kattu*', meaning 'bunch or group'; thus, a bunch of syllables. Also, the Tamil word *chollukattu* (similar in sound and spelling to *solkattu),* which means a string or garland of rhythmic phrases, can be used for the rhythmic syllables (Ravichandhira in Young 1998; Ravichandhira 2010, 2014).

The word *'jathi',* also heard in the expression '*jathi* patterns', is understood to mean a 'string of syllables', 'a rhythmic pattern or grouping' (recited in *solkattu* in a structured form), or a 'single phrase of syllables'. The expression *jathi* or *jathi* pattern is commonly used in relation to dance *solkattu* language and structures.

2.2 Notation, Lineages and the Resulting Diversity of Styles

The *solkattu* system has developed within a living aural tradition over many centuries.[55] Classes for percussionists and *konnakkol* artists are commonly conducted face-to-face 'aural immersion-style'. Mani, Suresh and Ravichandhira all expressed that they rarely write the structures down. Suresh stated that very occasionally he makes a note of the first line of a structure but explained that: "As a child it is conditioning that you don't write [it down] you must memorise it" (Suresh 2013). Notations are not readily handed out in lessons. More commonly the teacher recites the structure, the student listens, imitates and notates the structure in the lesson, or possibly records the class and transcribes the structure at home (this may have occured since the 1980s).

Notebooks were gradually introduced to lessons from around the 1960s. Ravichandhira asserted that around this time (1960s) *solkattu* syllabi were developed and published for use in university degrees and examinations.[56] For example, in Sri Lanka, the North Ceylon Oriental Musical Society (N.C.O.M.S.) formulated and published the syllabus for the teachers' certificate in the 1960s. Syllabi were then used in university degrees and for grade examinations of students living in India or in the UK, NZ, Sri Lanka, Australia, Canada, USA, Norway, Sweden and Switzerland who wish to pursue 'rhythmology'[57] or *Carnatic* music and dance (Ravichandhira 2014).

Thus gradually over many decades, some students have used written notation in lessons based on the language they are most comfortable with. In Mani's school in India he uses Tamil notation with local Indian students and English with foreign students. Some students make audio recordings of the teacher's recitation to assist their memory and aid transcription of the structure. Amongst the different teachers, musical lineages, regions and music schools, there are slight variations in the *solkattu* syllables used, and wide variances in the notation style of this essentially aural tradition (Mani 2013; Ravichandhira 2010; Suresh 2013).

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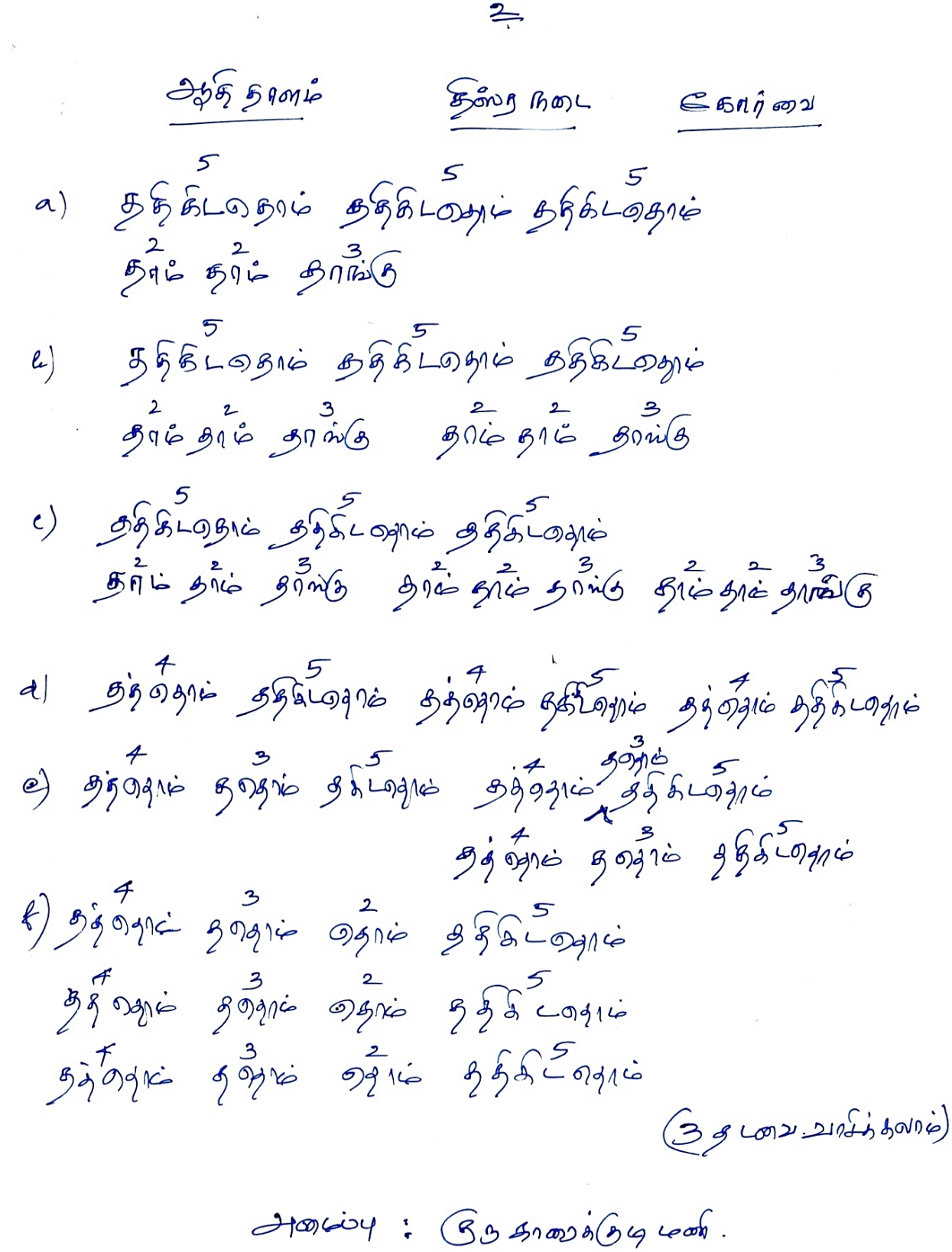
[55] Sankaran 2010 discusses the origin of *solkattu* stating: "The origin of solkattu syllables goes back to the *Natya Sastra* (second century) time period". Also see Mani and Ravichandhira in Young 1998; Harris 2014.
[56] Ravichandhira mentioned that his first guru A.S. Ramanathan drafted the syllabus (in the 1960s) for *mridangam/konnakkol* that was adopted by the Carnatic College in Chennai and used by several overseas examination bodies conducting Teachers' Cerfiticate / Diploma in music.
[57] Rhythmology is a term used at Madras University for the teaching of *Carnatic* rhythmic materials. (Ravichandhira 2014)

Traditional notation commonly shows *konnakkol* phrases written in syllables with specific markings designating *tala* beats, rhythmic subdivision and speed variations. Some systems use abbreviations. For example: David Nelson's[58] *Solkattu Manual*, uses a notation convention where the vowels are removed from the phrase, indicating the phrase is pronounced at twice the speed. Thus *ki ta ta ka* is abbreviated as *kttk* (2008: 49).

The cyclic metre (*tala)* and subdivision of beats (*nadai)* are usually indicated at the top of the notation.[59] Depending on the teacher's preference, notation of unarticulated space known as *karvai* or *matra*[60] is represented by commas, dashes, numerals, full stops or semi-colons. Suresh explained that in his notations, where a comma equals one *karvai*, a semi-colon equals two. (2013) To designate an increase of the *nadai* speed (internal sub-division), phrases are underlined or over-lined. Also a thicker or double-lined marking may represent a further increase in speed. The downbeats of the *tala* and also the accenting of particular syllables are marked in a variety of ways depending on the teachers' preference and lineage. Many schools use a series of dots, crosses or circles above the accented syllables to represent the handclaps, waves (upturned hand) and finger taps related to the *tala*. Others commonly use single or double slash symbols in between phrases to signpost significant beats of the *tala.* In some lineages *tala* and syllable accents are marked with capital letters, or thicker bolder print.[61] Ravichanhira uses a 'hat' symbol e.g. ^ placed above the syllable, to represent accentuation of the sound of the syllable or the stroke on the percussion instrument (Mani 2013; Nelson 2008; Ramamurty 1987: 41; Suresh 2013; Ravichandhira in Young 1998; Ravichandhira 2014).

The following examples show a variance in the styles of notation. This does not intend to be an exhaustive account; rather it aims to highlight the wide variance in styles.

[58] David P. Nelson is an American *mridangist,* scholar, performer and educator. Nelson has been performing and teaching South Indian drumming since 1975. He has a PhD in Ethnomusicology from Wesleyan University, Connecticut, USA.
[59] For example: *adi tala* (cycle of 8) *misram nadai* (internal subdivision of 7).
[60] *Karvai* or *matra* represents one unit of the *nadai* or one measure of the internal pulse of a beat of the *tala* cycle. Van Hulzen (2002 p. ii) describes *karvai* as a gap.
[61] Capital letters are used by Mani to denote the accented beats of the *tala.* Notation variations can be seen in Nelson (2008), Sankaran (1994, 2010) and Ramamurty (1987).



Notated example 2.2N.1: Mani's handwritten Tamil notation (Mani 2013).

Korvai Structure
Composed By Karaikudi R.Mani

Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tham Tham Thangu
(5) (5) (5) (2) (2) (3)

Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tham Tham Thangu
(5) (5) (5) (2) (2) (3)

Tham Tham Thangu
(2) (2) (3)

Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tha Thi Ki Ta Thom Tham Tham Thangu
(5) (5) (5) (2) (2) (3)

Tham Tham Thangu Tham Tham Thangu.
(2) (2) (3) (2) (2) (3)

Tha.Thom. Tha Thi Ki Ta Thom Tha. Thom. Tha Thi Ki Ta Thom Tha. Thom. Tha Thi Ki Ta Thom
(4) (5) (4) (5) (4) (5)

Tha. Thom. Tha Thom. Tha Thi Ki Ta Thom Tha. Thom. Tha Thom. Tha Thi Ki Ta Thom
(4) (3) (5) (4) (3) (5)

Tha. Thom. Tha Thom. Tha Thi Ki Ta Thom
(4) (3) (5)

Tha. Thom. Tha Thom. Thom. Tha Thi Ki Ta Thom Tha. Thom. Tha Thom. Thom.

(4) (3) (2) (5) (4) (3) (2)

Tha Thi Ki Ta Thom Tha. Thom. Tha Thom. Thom. Tha Thi Ki Ta Thom

(5) (4) (3) (2) (5)

Total Composition 32 beats in 1:3 tempo (Tisram)

Notated example 2.2N.2: Mani's English notation of example 2.2N.1 (Mani 2013).

TYPE 1

ta - - - ki - - - ṭa - - - four times

ta - ki - ṭa - eight times

ta ki ṭa sixteen times

TYPE 2

ta_4 ki_4 $ṭa_4$ four times

ta_2 ki_2 $ṭa_2$ eight times

ta ki ṭa sixteen times

Notated example 2.2N.3: Nelson (2008: 17) where subscript numbers replace the dashes.

Exercises in Rupaka tala: 3-beat cycle

X X O
clap clap wave

1) X X O
ta ki ta → slow

X X O
ta ki ta ta ki ta → medium (double time)

X X O
ta ki ta ta ki ta ta ki ta ta ki ta → fast (quadruple time)

Notated example 2.2N.4: T. Sankaran (1994: 50), where underlining denotes changes of speed, and X and O mark the handclaps and waves of the *tala*.

In some contemporary teaching situations for example, where students are undertaking *solkattu* studies in Western universities, the structures and concepts may be notated in *Carnatic* or Western style and given to students as printed materials.[62] *Solkattu* and *konnakkol* instructional manuals and DVDs often intended for Western students use a variety of notations. Sankaran's 2010 book uses both Western and traditional notation, Nelson's 2008 manual uses solely *Carnatic* style notation, and John McLaughlin and S. Ganesh Vinayakram's 2007 DVD displays Western notation on the screen as the *konnakkol* is recited. Manuals usually begin with rudimentary lessons using basic *tala* and *nadai* before proceeding to more challenging material within the general confines of the *Carnatic* tradition.

Syllable variations

Although there are many common phrases shared across lineages, variations also occur due to specific influences and the personal preferences of teachers. By way of demonstration, I am providing an example of the syllable variation that may occur when a musician from one lineage interprets a composition from another. The *konnakkol* structure notated below and recited in the video demonstration, was composed by Mani, and taught to me initially by my first guru Ravichandhira. Since 1986 Ravichandhira has been a student of Mani's and his personal style includes influences from his previous lineage[63] and also syllables that have their origin in dance *solkattu*. This example shows Mani's original composition followed by Ravichandhira's variation of the same structure, where there are many subtle language variations. Of particular interest to this research is Ravichandhira's incorporation of the dance *solkattu* syllables *thom thi gu gum* and *ja nu*. The video demonstration shows the author reciting both versions.[64]

Video track 9: the variation of syllables in different lineages. (duration 0:20) (WATCH)

[62] *Solkattu* studies are offered in music courses at some Western universities including Wesleyan University: Connecticut; York University: Toronto; NMIT (Northern Metropolitan Institute of TAFE) Fairfield Campus: Melbourne.
[63] Ravichandhira's previous lineage is from Prof. A. S. Ramanathan of Annamalai University, South India.
[64] Ravichandhira recites and plays this structure on the *mridangam* (including further variations) in the audio tracks related to my 1998 Master's research. The track is available on my website under research, track 15. [Online]. Available http://lisayoungmusic.com/research/ (Accessed 2014, November 6).

Mani's structure (*adi tala, chathusra nadai*)

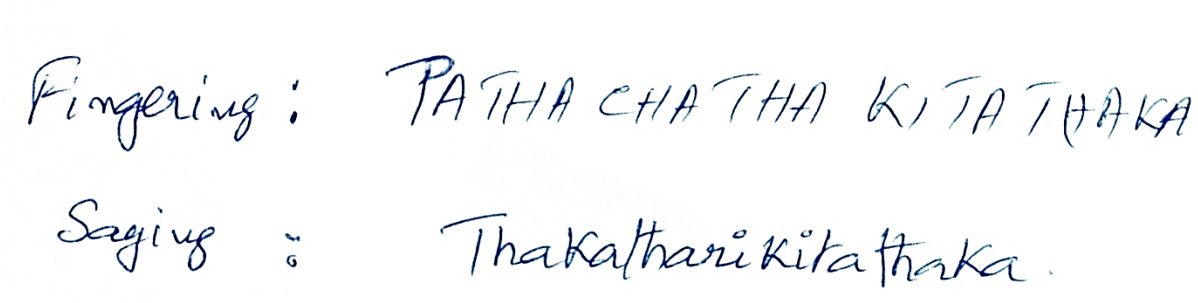
Tha , (ki) tha tha ka thin, (thin,)2 tham , ki ta tha ka
tha tha ki tha tha ka thin , (thin , tha thin ,)3
tha tha ka thi na thom , , , (or tham , , ,)

Ravichandhira's variation

Tha , (ki) tha tha ka thin, (thin,)2 ***na*** *(num) , tha re ke da*
thom thi gu gum *tha ka thin , (thin , tha thin ,) 3*
tha tha ka ***ja nu*** *thom , , ,*

Notated example 2.2N.5: Interchangeable *konnakkol* phrases across different lineages.

Mani provided another example of syllable variation, showing that with certain *konnakkol* phrases, the recited syllables are different to the fingering technique being played on the *mridangam*. He clarified that part of his lineage is from the Tanjore School;[65] in this school a particular phrase that is played on the *mridangam* is |***Pa tha cha tha*** | *ki ta tha ka* |. Mani explained that the *mridangam* syllables of ***pa tha cha tha*** are difficult to articulate and don't give great clarity; thus for ease and precision of the recitation in its practical application, the *solkattu* language is altered to become |***Tha ka tha ri*** | *ki ta tha ka*|. He suggested that similarly in other schools, teachers may recite yet another variation for this phrase, such as ***gu gu tha ri*** | *ki ta tha ka* |(Mani 2013). The following notated example 2.2N.6 shows Mani's handwritten notation of the syllables related to the fingering techniques as played on the *mridangam*, then the altered syllables used for recitation.



Notated example 2.2N.6: Mani's handwritten notation of the example of syllable variations (Mani 2013).

[65] The Tanjore School was originally led by Iyer Vaidyanatha; followed by Hari Sharma and K. M. Vaidyanatha (Mani 2013).

2.3 The Traditional *Konnakkol* Artist

Historically the *konnakkol* artist performs as part of the *Carnatic* percussion ensemble alongside the artists playing *mridangam, ghatam* (clay pot), *kanjira* (small single faced hand drum), and *morsing* (jaw harp).[66]

Traditionally *konnakkol* recitation is an intoned art form. No precise pitches are given, however the drone of the *tambura*[67] provides a tonal centre. The intoned inflections, accents and dynamics may be related to *mridangam* delivery, but are determined by the artist's interpretation. In discussions with Suresh he suggested that: "The *konnakkol* artist must be commanding and confident… [as] he designs the tempo and can fit the composition to his own *talam*" (Suresh 2012).

The chosen pitch (the SA[68] or tonic) of the *tambura* drone is nominated as the one preferred by the soloist. For example a violinist, flautist or vocalist will generally fix the chosen SA and for the duration of a performance. Percussionists usually have a selection of instruments on hand, at a variety of pitches, which enables them to choose the correctly pitched instrument to complement the drone. The pitch of the *mridangam* (or *gatham* or other *Carnatic* instrument) is represented by numerals. For example *Carnatic* Pitch 1 corresponds to C natural in the Western scale. Pitch 1.5 is C sharp and this continues up to pitch 5, which corresponds to G natural (Ravichandhira 2012).

The number of specialist *konnakkol* artists who work with this art form as their principal study has diminished over the last hundred years. Ravichandhira, Mani and Suresh all concurred on the notion that a specialist *konnakkol* artist is almost a thing of the past now and is certainly not an essential member of the percussion section. Mani described the role of *konnakkol* recitation in concert performance as the "trimming on the tree" (2013). He said there is no need for a specialist *konnakkol* performer in the percussion ensemble, as members will perform sections of *konnakkol* to show variation from their percussion instruments. Suresh agreed and further clarified that as time has gone by and with budgetary pressures, "The size of the percussion

[66] Generally speaking, *konnakkol* artists along with *mridangam* players and percussionists are male, with young boys traditionally learning these instruments. It is more common for girls to learn dance, voice and violin.
[67] *Tambura* is a *Carnatic* stringed instrument, which provides a support drone, played or sounded throughout the piece, usually sounding SA (the tonic) and PA (the perfect 5th degree of the scale). Traditionally an acoustic *tambura* is used, however many performers use an electronic *tambura*.
[68] SA is short for *Shadjam* is the first degree of the raga, and can be thought of as the tonic of the scale.

section has shrunk" (2013). A *konnakkol* specialist is viewed as being of lesser importance than the percussionists (Suresh 2013; Mani 2013; Ravichandhira 2010). Confirmation of this is seen in T. V. Iyer's 1969 writings, where listed under the percussion ensemble is; *konugolu* [read as *konnakkol*] - "the art of reciting *Jathis* in pleasant manner. The *konugolist* participates as a subsidiary tala artist in Karnataka music concerts" (1969: 90).

Given that all *Carnatic* percussionists learn the *solkattu* system, it is understandable that some percussionists choose to develop their *solkattu* skills in order to recite *konnakkol* in concert, or 'trade'[69] *konnakkol* breaks, alternating between two or more musicians (Ravichandhira 2010; Ravichandhira in Young, 1998; Mani 2013; Suresh 2013).

In relation to *konnakkol's* rich history, Pakkiria Pillai (1857-1937) (also known as Konnakkol Pakkiria Pillai) is notably identified as being the first person to take the art of *konakkol* to the concert stage.[70] There are many notable percussionists who also recite *konnakkol*. Masterful exponents of *konnakkol,* in no particular order, include: T. K. Murthy, Kaaraikkudi Mani, Suresh Vaidyanathan, Trichy Sankaran, T. H. Subash Chandran, V. Selvaganesh Vinayakarm (Ravichandhira 1988, 2012; Sankaran 2010).

Conclusion

In *konnakkol* practice, there is a diversity of styles regarding both syllable and notational choice within the *Carnatic* tradition and across different lineages. Notebooks, and published exam syllabi have gradually been introduced to lessons from around the 1960s; in addition, many students now also use recordings as a mnemonic device to assist their studies. Traditionally *konnakkol* is taught face-to-face aural immersion style. In recent years as *konnakkol* has become more popular outside India, instructional manuals and DVDs have been produced which aim to assist those wanting to learn *konnakkol,* and who may not have direct access to a traditional teacher. Printed materials are also used in some situations where *konnakkol* is taught in Western university courses. The variations in styles discussed in this chapter provide useful background materials to the art form. However in relation to the essence of this research

[69] Trade is the jazz term given to solo sections when musicians share the solo (that is often improvised), alternating in sections of even bar lengths.
[70] Pakkiri Pillai's notability is widely identified. Sources include Sankaran's 2010 dedication where Pillai is named as *Konnakkol Pakkiria Pillai,* also Venkataram in Young (1998: 18) where he is named as Mannargudi Pakkiri Pillai.

'creating with *konnakkol',* the different choices of syllable and notation styles do not appear to alter the creative uses of *konnakkol.* There is not space in this research to investigate the comprehensive differences and effectual outcomes between students learning via aural immersion, and those learning with printed materials and instructional manuals. However this would be an interesting area for future research.

CHAPTER THREE: *Konnakkol* Performance in the West, and Literature and Materials Review

This chapter briefly outlines the emergence of Indian rhythmic recitation in the West, and then provides an overview of the integration of *konnakkol* into contemporary practice in musics such as jazz, world music and fusion projects. As evidence of the adaptive and evolving nature of *konnakkol,* I present notable examples of significant *konnakkol* artists and their various projects. This serves to introduce the remainder of chapter three which examines literature and materials relating to *konnakkol* in creative practice. For notable texts regarding the broader development of Western interest in Indian music, see Gerry Farrell (1997) *Indian Music and the West*, Peter Lavezzoli (2006) *The Dawn of Indian Music in the West* and David Claman (2002) "Western composers and India's Music: Concepts, History, and Recent Music".

3.1 Pre 1990: The Emergence of Indian Rhythmic Recitation in the West

Whilst this research focuses on contemporary *konnakkol* performance from 1990 to the present day, a brief overview of selected events prior to 1990 will show the development of Western interest in Indian rhythmic recitation.[71]

Since the 1950s, Indian classical music has become a source of inspiration for many musicians in the West. Crucial to this development were performances by the legendary sitar artist Ravi Shankar, who in 1956 toured throughout Europe in classical music concert halls (Shankar 2007). The inherent rhythmic and melodic sophistication of these performances, which included *tabla* players reciting *tabla bols,* sparked an interest in Indian music amongst Western audiences. Musicians sought out Indian teachers and a crossover of musical styles began to occur. In 1966 George Harrison (from 'The Beatles' popular music group) studied with Shankar, commencing a long, rewarding musical and personal friendship. Through his connection with Harrison and 'The Beatles' music, Shankar was then rediscovered by a

[71] A broader influence of Indian music in the West exists prior to the 1950s, Claman (2002) suggests that India's music began to affect the work of certain Western composers shortly after the end of the 18th century.

younger generation, and the *sitar* was heard in popular Western music (Shankar 2007; Nelson 2008).

In the 1970s, guitarist John McLaughlin's group 'Shakti' featured North and South Indian percussionists like Zakir Hussain and T. H. 'Vikku' Vinayakram. These concerts regularly included both North and South Indian rhythmic language recitations, and over time McLaughlin's Indian collaborations brought the sound of *konnakkol* and *tabla bols* to a Western audience.[72] Generally, the vocal percussion in these concert performances was recited by percussionists within the group, as opposed to there being a specialist *bols* or *konnakkol* artist in the ensemble. A later incarnation began in the late 1990s called 'Remember Shakti' which featured McLaughlin and many of his Indian associates including V. Selvaganesh (the son of 'Vikku' Vinayakram) and mandolinist the late U. Srinivas, fusing elements of jazz with traditional Indian music.

McLaughlin's Indian music influences were also heard in the Mahavishnu Orchestra,[73] which was first formed in 1971 and incorporated complex Indian rhythms and time signatures. He also performed for many years in small ensembles with Indian born exponent of Indian and Western percussion Trilok Gurtu.[74] These jazz-fusion performances brought vocal percussion recitations, along with Indian-influenced rhythms and melodies, to Western audiences.

In 1984 English singer Sheila Chandra (English born of Indian heritage), released the *Quiet* album, which featured many pieces where she layered her voice with *tabla bol* recitations. The track *Quiet 4* (Chandra 1984) is an example of Chandra's work in this period and shows the origins of the acclaimed works she was to release in the early 1990s. On this track Chandra uses a light swing articulation in the opening *konnakkol.*

[72] An example of concert footage of 'Shakti' performing in India 1974,with John McLaughlin, and Zakir Hussain can be viewed online. Available http://www.youtube.com/watch?v=7h2uL8lk2lM [Accessed 2013, September 12]
[73] The Mashavishnu Orchestra was a jazz-rock ensemble with Indian influences led by John McLaughlin. It had two incarnations, the first in 1971 with McLaughlin, Jan Hammer, Rick Laird, Billy Cobham and Jerry Goodman. The second in 1974 included many new musicians. The music was complex but jazz-rock based and had influences of Hendrix, Indian music and European classical music. It pioneered jazz-rock crossover music through the 70's and inspired a raft of jazz-rock music in this period.
[74] An example of concert footage from 1990 featuring John McLaughlin, Trilok Gurtu and Kai Eckhardt on youtube - [Online]. Available http://www.youtube.com/watch?v=a7w8njCYZ9s [Accessed 2014, February 4]

3.2 Contemporary *Konnakkol* Vocal Performance Practice: 1990 to the Present

To demonstrate the use of *konnakkol* in contemporary performance, this study highlights some notable artists who have adapted and integrated *konnakkol* into their practice. This does not intend to be an exhaustive account; rather it aims to highlight a variety of examples.

Following on from the *Quiet* album, Sheila Chandra achieved commercial success with her subsequent recordings *Weaving my Ancestor's Voices* (1992) and *The Zen Kiss* (1994) which included the pieces *Speaking In Tongues I, II, III and IV*. These works combined *tabla bols*, *konnakkol* and Chandra's made up language, introducing many Western listeners to Indian rhythmic recitation. Chandra describes her creative process:

> I have discarded the calculation and the rigid time cycles and use the technique to achieve a purely emotive collage of sound…I have started to build in other percussive elements like elocution exercises and silly tongue twisters, snippets from advertising jingles, or an ancient Celtic imitation of bird song… It's a very playful process to chop up rhythms and stick them back together…I would class these as post-sampling compositions! (Chandra 1994: 8)

Speaking in Tongues III from the CD *The Zen Kiss (*Chandra 1994) is a fine example of this.

Mridangam and *konnakkol* artist Karraikkudi Mani is renowned for his innovative and complex rhythmic structures.[75] His Sruthi Laya Kendra School has branches in Chennai, Bangalore, London, Sydney, Melbourne, Canada, USA and Singapore. He continues to collaborate and perform with many Western musicians in fusion projects and has performed extensively abroad, including in Australia, Finland, Italy and Japan, and with the Helsinki Philharmonic Orchestra. His *konnakkol* recitations regularly form part of these performances. In 1996 Mani's ensemble collaborated with the Australian Art Orchestra to create *Into The Fire*.[76] This work premiered in New Delhi, and featured Mani's *konnakkol* recitation. *Into the Fire* has subsequently been performed in many Western countries and Mani has enjoyed many collaborative projects with the Art Orchestra's members. In 2011 American popular music artist Paul Simon incorporated Mani's rhythmic structures and *konnakkol* recitations on the track *Dazzling Blue* (Mani 2013).

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[75] Mani's innovative approach was heralded in fieldwork research interviews with Ravichandhira and Suresh.
[76] *Into The Fire* was performed on October 2009 at the Melbourne Recital Centre, a performance at which I was present. Footage of this performance can be viewed online, where Mani's *konnakkol* is featured at 6:25. Australian Art Orchestra video channel. [Online]. "Into the Fire Part 1, MRC 2009" entry posted 15th October 2009. Available http://www.youtube.com/watch?v=VZ3RN0463OU&feature=relmfu [Accessed 2010, July 5].

Ghatam and *konnakkol* specialist Suresh Vaidyanathan, has an extensive performance profile both in India and abroad, having collaborated in a varied list of cross-cultural fusion projects with jazz, African and European musicians. A regular member of Mani's percussion group, many of his musical projects are outlined and discussed in chapter 4.1.

T. H. Subash Chandran is a multi-percussionist[77] and *konnakkol* artist who has performed in crossover projects with international philharmonic orchestras, and artists such as Yehudhi Menuhin, Stephane Grappelli, Tony Williams and Max Roach (Chandran 2014). In personal conversations, Ravichandhira has mentioned that Subash Chandran's brother Vikku Vinayakram runs the Sri Jaya Ganesh Tala Vadya Vidyalaya school (Sri JGTV) in India, and that it has a well-established *konnakkol* practice (Ravichandhira 2010).

V. Selvaganesh Vinayakram - *kanjira/konnakkol, (*also known as Selva), is Vikku Vinayakram's son. Selva is a *kanjira* and *konnakkol* artist who has performed in an array of fusion projects. In particular he has shared a long collaborative relationship with John McLaughlin performing in *Remember Shakti* and co-authoring the 2007 *konnakkol* instructional DVD: *The Gateway to Rhythm: Konokol The Universal System Of Mastering Rhythm Without Drums*.

Mridangam and *konnakkol* artist Trichy Sankaran is of Indian origin and a resident of Canada. Since 1971 he has been Professor of Indian Music Studies at York University, Toronto. He has performed and composed for many crossover projects including gamelan, jazz, electronic, African music ensembles, and orchestral and world music ensembles (Sankaran, T. 2010).

New York based vocalist Lori Cotler describes herself as a 'rhythm vocalist'. Her rhythmic approach to music and *konnakkol* is highly influenced by her studies and performances with Glen Velez,[78] with whom she often performs in a duet. She has also been a student of Subash Chandran, and regularly integrates *konnakkol* in a vast array of fusion projects around the world (Cotler 2014).

Canadian singer and *konnakkol* artist Suba Sankaran - henceforth referred to as S. Sankaran - the daughter of *mridangam* maestro Trichy Sankaran, draws inspiration from her Indian and

[77] Chandran plays mridangam, ghatam, kanjira, and moorsing. (Chandran 2014)
[78] Glen Velez is an American master percussionist, vocalist and composer who specialises in frame drums from around the world and incorporates *konnakkol* language and structures in his creative practice and teachings.

Western background. Her band 'Autorickshaw', described as an 'Indo-jazz-funk fusion ensemble',[79] blends contemporary jazz with Indian music and features *konnakkol* recitation (Sankaran S. 2008).

3.3 Literature and Related Material Review

This section aims to review literature and related materials which discuss 'creating with *konnakkol*' in contemporary practice - that is, where *konnakkol* functions as a creative tool in general music practice and in the creation of new musical ideas. It also includes some textbook and media examples of pedagogical texts, usually from a particular school or guru, which contribute to the discussion of *konnakkol* as a creative musical tool. It is worth noting that this review includes select writings and relevant field research comments that contribute to the discussion of stylistic and cultural heritage in *konnakkol* performance. The review does not intend to give detailed historical information of the *Carnatic* tradition nor cover the wealth of literature and theses that discuss the 'science'[80] of the *Carnatic* system of rhythm, or *solkattu* as pedagogy for *Carnatic* drumming.[81]

Douglass Dineen's 2005 Masters thesis "At Home And Abroad: An Investigation Of Solkattu In Karnatak And Non-Karnatak Context" provides an extensive overview of *solkattu* in the scholarly literature. Dineen expands the discussion of *solkattu's* functions, suggesting that: "Contemporary Karnatak practice is pervaded by solkattu on multiple levels, including: rhythmic conceptualization, communication, performance, pedagogy, and composition" (2005: 54). He examines *solkattu's* broad function in both *Carnatic* and Western settings, providing thorough scholarly debate in an area of research that has been relatively limited, particularly in comparison to general research into the *Carnatic* tradition and *mridangam* practice. He suggests the possible reason for this limitation in both Western and Indian literature is that much of the

[79] This description is quoted from S. Sankaran's myspace blog (Sankaran, S. 2010). Indo-jazz is commonly used to describe the fusion of jazz with Indian music.
[80] Science in this context means the ordered and measurable elements, as related to the *Carnatic* system of music.
[81] Historical and/or pedagogical outlines of *solkattu* are given in Sankaran 2010, *The Art of Konnakkol*; Nelson 2008, *Solkattu Manual*; Ramamurty 2nd Ed.1987, *The Theory and practice of Mridanga*; Dineen 2005. "At Home And Abroad: An Investigation Of Solkattu In Karnatak And Non-Karnatak"; A. K. Sen, 2nd edition 2008, *Indian Concept of Rhythm*; Nelson 1991 '*Mrdangam mind: the tani avartanam in karnatak music*. Brown 1965, *The Mrdanga: A Study of Drumming in South India*, provides a detailed explanation of interchangeable *solkattu* syllables, and the linguistic elements and onomatopoeic representation that define the *solkattu* sounds and influence the choices of vocal groupings (Chapters IV and XIV). Also Young 1998 discusses the history and development of *solkattu*.

Western scholarship of *Carnatic* rhythm has been performance-oriented and has focused on the complexity of the music rather than on the broader creative functions of *solkattu*. As he states: "[This] has given rise to a body of literature remarkable for its technical focus" (2005: 9), suggesting that *solkattu* research has been predominantly associated with *mridangam* performance. He argues that although there is an awareness of the breadth of *solkattu,* Indian research has rarely investigated its creative function, stating: that "seldom do Indian scholars venture into the technical aspects of solkattu's functionality" (2005: 8). Dineen highlights B. M. Sundaram's 1995 writings, as an example of Indian research which connects *solkattu* "to composition, pedagogy, drumming, dance, communication, performance practice, musical prestige and to general aesthetic issues including the elevated role of the voice in South Indian music" (Sundaram in Dineen 2005: 8).

Dineen also acknowledges Sankaran's 1994 writings as an indication of an expanding view of *solkattu* function in literature, suggesting: "[It is Sankaran's] explicit recognition of solkattu's semi-independent nature (from drumming), that stretches the limitations of the previous scholarship" (Dineen 2005: 17).

Sankaran 1994 clarifies that as well as aiding the memory of complex structures, *solkattu* is used to formulate ideas for improvisation, to communicate rhythmic ideas, and as a medium for the conception of melodic ideas and cadences by melodic soloists (1994: 44-45). He continues this discussion in his 2010 publication devoted to *konnakkol,* where he states that:

> Many contemporary musicians across the globe have undertaken the study of konnakkol with the goal of elevating their creative and musical skills. This method has also benefited many artists in the areas of compositional technique, melodic inspiration, and improvisation. The solkattu repertoire is an invaluable tool in the study and composition of rhythmic patterns, and can serve as an effective medium for creative and musical conceptualization. (Sankaran 2010: xi)

Nelson's 2008 writings also mention the use of *solkattu* as a tool for melodic composition and rhythmic analysis, explaining that both *Carnatic* singers and instrumentalists "borrow rhythmic designs from drummers" for use in their melodic improvisations where they may use pre-formulated rhythmic material "worked out using solkattu before their melodies are set" (3). Also, "a melodic musician who finds any musical passage rhythmically challenging is likely to work it out in rhythmic syllables before attempting to sing or play it" (2008: 3).

This review finds there is limited literature that discusses the use of *konnakkol* as a tool for improvisation. The field research presented in chapter four includes individual discussions

with Mani and Suresh on this area. To summarise, Mani and Suresh both expressed that their improvisations are generally formed in *konnakkol,* and they each create improvised passages by drawing on a vast knowledge of pre-composed *Carnatic* rhythmic structures. With this approach, according to Mani "new combinations and things will come", thus innovating new rhythmic combinations and variations in spontaneous improvisation (Mani 2013; Suresh 2013).

This use of *konnakkol* as an active participant in the formulation of improvisations is supported in the writings of Sankaran: "A variety of cross-rhythmic designs and cadences are thought out in solkattu (mental preparation) with due mathematical calculations, either before-hand or on the spot in a performance" (1994: 45).

An issue that raises scholarly interest, particularly in relation to performance of *konnakkol*, is the notion of cultural heritage in performance practice. Glennis Houstin[82] discusses *konnakkol* performance in her 2009 writings, "Konnakol and Solkattu, Women in Contemporary Konnakol Performance". Introducing the recent works of *konnakkol* vocalists Cotler, S. Sankaran, and Young, along with Chandra's early works, Houstin describes the musical innovation and expression achieved by these contemporary renderings of *konnakkol.*

Houstin examines the issue of pronunciation, and outlines the differences in clarity of *konnakkol* delivery by Cotler and Young, who are of Western origin and for whom *konnakkol* is a secondary tradition. Houstin's research includes discussions with *mridangist* Trichy Sankaran, and whilst praising Cotler and Young's performances, she suggests that in both there is an exaggerated use of air in the *konnakkol* pronunciation and a traceable Western accent, leading to a delivery that lacks crispness. "Westerners typically add a puff of air after the "t" and "d" consonants, which slightly muffles the sound" (Houstin 2009: 17).

Comparatively, Houstin describes Suba Sankaran - who is Canadian and of Indian descent - as "an individual growing up in the tradition, with the language as part of her heritage" (16), and an artist whose *konnakkol* is delivered with great clarity and crispness. Houstin suggests that in the work of Chandra and Young there is the development of a hybrid vocal language, with

[82] Glennis Houstin's 2009 unpublished writings contributed to her PhD studies in jazz/ethnomusicology at York University, Toronto, Canada. Her lecturer for this element of the course 'South Indian Music' was Trichy Sankaran.

Chandra using *bols, konnakkol* and her own made up lingual syllables, and Young using *konnakkol* and her personal sound bank of wordless lingual syllables (Houstin 2009).

In her conclusion, Houstin suggests that amongst the atmosphere of dedication and respect for the *konnakkol* tradition, there are also wide varieties of contemporary *konnakkol* performance practices occurring across the globe (17). She describes the music of the four women included in her research as being innovative, a challenge to the traditional South Asian gender boundaries, and "an honest search for a new way of expression, a dedication and respect for the tradition, and a whole new music in which Indian imagery and aesthetics play an integral and complex role" (Houstin 2009: 19).

In support of Houstin's observation, Mani also suggests that foreigners often lack clarity in their *konnakkol* recitation. He happily acknowledges that *konnakkol* is being taught in Western colleges and explains there is one drawback; whereas Indian percussion players recite the *konnakkol* words very clearly (he demonstrates the clarity and intensity) many foreigners lack this precision in their recitation. Mani states of the Westerners: "They are not used to it." Whilst the way a foreigner might teach is similar to an Indian musician, it is "not exactly the original" (Mani 2013).

Sheila Chandra's approach and works are critically discussed in Timothy Taylor's 1997 book *Global Pop*: *World Music World Markets.* Taylor points to Chandra's statement from her 1992 album liner notes, that she is a musician not defined by her heritage. "I believe that my heritage comes not specifically from my own culture. I believe I am a spiritual heir to a universal form of inspiration" (Chandra 1992 in Taylor 1997: 149). Taylor discusses Chandra's work as a conscious mix of many musics - Irish, Indian, Arabic - and "one that could only have arisen in the postmodern, global ethnoscape, where traditions, styles, and practices circulate and juxtapose themselves as never before" (Taylor 1997: 151).

Taylor argues that Chandra's *Speaking in Tongues* series (1992, 1994) shows that she is attempting a type of musical 'universalisation' by using a pedagogical exercise (like *konnakkol* and *bols*) and giving them the title of a premodern religious practice (1997: 151). He suggests that Chandra can sidestep the issue of authenticity because she believes in a world musical culture (154). At times Taylor speaks pejoratively about Chandra's notions of universality in the context of the lucrative world music market. Despite this, looking diachronically, it is important to acknowledge the artistry and creative originality of Chandra's work.

Perhaps due to an increased Western interest in South Indian music this century, there are some recent pedagogical publications dedicated to teaching *konnakkol*. Examples discussed here are by Nelson (2008), Sankaran (2010), Subash Chandran (2007), and McLaughlin/Ganesh Vinayakram (2007). These publications generally present *konnakkol* lessons in a textbook, CD or a DVD format, or in a combination of these mediums. They offer various *konnakkol* syllabi, and are particularly useful for Western students who may not have regular access to a *Carnatic* teacher.

Mani said that he had no interest in textbooks; rather he maintains that the best way to learn *solkattu* or *mridangam* is face-to-face with a guru. He regards the old style *gurukulam*[83] system very highly. Mani explained to me that in his culture when there was no college music school, the student lived with the guru as a family member and that this was a disciplined life. As well as participating in music lessons, the student was expected to help the guru and contribute, for instance, to the cooking and cleaning of the house. The student would practice early in the morning when the mind was very clear and thus the learning was most productive. In this system there was no fixed lesson time. Rather, lessons were given when the guru felt it was time to teach. Many hours were spent immersed in the music and this style of learning built great character. In reference to the modern style of learning Mani stated:

> [In] the [music] colleges the periods are forty-five minutes, fifty minutes; it's okay, the job opportunities and everything it's okay, but the quality of the music is reducing. One to one, the *gurukulam* style, the older style, only the people are become shine, that's our experience. (Mani 2013)

Whilst Mani expressed that he is happy to see the *konnakkol* system being taught in universities, it is also very clear that he believes there are limits to the depth of learning that can occur in the college format of lectures or workshops. He suggests that the students who are really interested in fully understanding the *Carnatic* system will need to pursue this with a guru (Mani 2013).

The *gurukulam* aural immersion way of learning is a very different system to learning *konnakkol* from notation or DVDs. Despite this difference is it worthwhile examining some of the

[83] *Gurukulam* implies residential schooling at the teacher's house as part of the family. The term literally comes from the Sanskrit words, *guru* meaning teacher or master, and *kula* meaning family.

konnakkol manuals and publications available, highlighting their contribution to the discussion of *konnakkol* in creative practice.

In the 2007 DVD *The Gateway to Rhythm* John McLaughlin and S. Ganesh Vinayakram demonstrate a series of rhythmic structures and combinations; they argue that *konnakkol* is the simplest and clearest system for mastering rhythmic concepts. McLaughlin hopes [Western] drummers and melodic instrumentalists will use the lessons and provides Western notation for many of the structures presented on the video. He discusses and demonstrates ways that his long-term studies of *konnakkol* have had impact on his approaches to composition, improvisation and melodic invention. He specifically advises against losing oneself in mathematical calculations, stating:

> Remember, it's always gotta swing … you should feel naturally flowing, there's no point singing complex mathematics if it doesn't swing … Learning and mastering *konnakkol* gives us an insight into rhythm. It develops our intuition which allows us be at ease in every rhythmical situation, whether jazz, world, fusion, latin etc. (2007 chap. 1, 0:30; chap. 6 exp 2: 1:58)

Throughout the many examples on the DVD, McLaughlin shares the influence *konnakkol* has had on his creative practice. He demonstrates the way that these rhythms are a rich source of creative musical inspiration. He states: "You can see how these little *konnakkol* motifs really lend themselves in a compositional and a melodic capacity so easily" (2007, chap. 2, exp. 5: 1:43). He also points to the concept of learning about silence in music, stating: "Also, I hope that learning the *konnakkol* has given you an insight into the mastery of dynamic space, which is the other side of konnakkol" (2007 chap. 6, exp. 3: 0:21).

David Nelson's 2008 *Solkattu Manual: An Introduction To The Rhythmic Language Of South Indian Music* with two DVDs, is a sequential *solkattu* syllabus designed for use in a Western classroom setting. It moves from rudimentary lessons with simple *talas,* to more challenging material. Nelson describes the *Carnatic* music system as "a powerful tool for developing a strong sense of well-organized rhythm in nearly any form of music…" (4). He states clearly his preference to use a minimalistic form of Indian-style notation[84] saying its purpose is mainly to jog the memory. He clarifies that it is not wrong to use Western staff notation, but "I find it at best culturally dissonant and at worst misleading" (8). Nelson's informative introduction includes

[84] Examples of Nelson's notation style are included in chapter 2.3.

broad implications for the use of *solkattu* by *Carnatic* singers, instrumentalists and dancers. Here he describes their use of *solkattu* as a tool for general rhythmic analysis and training, particularly when composing pre-formulated improvisations, or learning a rhythmically challenging melodic passage (2008: 3-4).

T. H. Subash Chandran's 2007 DVD *The Art of Ghatam and Konnakol* is a valuable presentation of his artistic approach to *konnakkol*[85] and *ghatam*. The lessons begin simply and gradually become more complex, with *solkattu* syllables written in English appearing as sub-titles. The presentation also includes selected video footage of Subash's outstanding concert performances.

Trichy Sankaran's 2010 publication *The Art of Konnakkol* is a testament to his vast experience as an artist and as an educator. His explanations are often poetic and the book provides Indian and Western notation including CD audio examples. Whilst the focus of this publication is Sankaran's *solkattu* syllabus, his introduction provides a valuable historical perspective of *solkattu* development and its uses in music and dance. As quoted earlier in 3.3 (and throughout this exegesis), Sankaran's writing succinctly highlights the broad, effective, creative and skill based use of *konnakkol* by musicians worldwide in creative practice.

Conclusion

In the past sixty-five years, since the 1950s, there has been a gradual flourishing of interest in and respect for the *Carnatic* rhythmic language system abroad. This has led to an established dedication by a broad range of musicians for the art of *konnakkol,* which in turn has seen the *Carnatic* system introduced in many Western universities as part of the music materials curriculum and has sparked the production of a variety of *konnakkol* manuals and DVDs. There is growing scholarly research into the broad use of *konnakkol* (or *solkattu*) in creative musical practice. A variety of contemporary performers are studying *konnakkol* and integrating elements of the *Carnatic* rhythmic materials into their respective creative practices. The performative excellence enjoyed in traditional concerts, and collaborative projects between

[85] In this presentation Chandran regularly refers to *konnakkol* as vocal percussion.

Indian and Western musicians, continue to fertilise the growing global interest in this art form and demonstrate its suitability for adaptation in contemporary performance practice.

CHAPTER FOUR: Creating With *Konnakkol* - The Creative Functions of *Konnakkol* in Contemporary Practice

This chapter examines the role of *konnakkol* in creative practice of select musicians. It focuses on materials gathered from my fieldwork interviews with Kaaraikkudi Mani, Vaidyanathan Suresh and Lori Cotler.[86] I investigate the artists' personal histories and lineage; their broad use of *konnakkol* in rehearsal, performance practice, composition and improvisation. I include individual and ensemble experience of pulse, rhythmic complexity and performance process. Interviews with M. Ravichandhira and Rajeswari Sainath contribute to a broad discussion of *konnakkol* in *Carnatic* music and dance. Communications with quartet members: Stephen Magnusson, Ben Robertson and Dave Beck, expand the discussion. Also included are reflections on the use of *konnakkol* in my own creative practice.

The aim of my field research is to move beyond the pedagogy of *solkattu* in the *Carnatic* tradition, in order to gather insight into the way musicians work creatively with *konnakkol*, within traditional, Western and cross-cultural projects.

4.1 Cross-Cultural Collaborations and Rhythmic Interpretation

This section investigates creative process and rhythmic interpretation in cross-cultural performance experience. It demonstrates the use of *konnakkol* as a point of rhythmic reference and comprehension, and as a medium for communicating rhythmic ideas.

Cotler discussed the musical differences she perceives and experiences when working with Western and *Carnatic* drummers. Whilst she keenly noted that ultimately great musicianship is related to the musician rather than to the genre or to the tradition, she expanded on her experiences in this area:

> It's about pulse but it's about connection to pulse. There is a looseness that is more inherent in Western [jazz] music… Just by virtue of the intense, the profound attention that the *Carnatic* tradition has on rhythm, the system is like built on rhythm! Just by that, I mean the

[86] The list of questions used as the basis for the interviews is provided in Appendix A.XII.

> communication between the drummers to recognise the structures and be able to communicate rhythmically on the spot, but also with such virtuosity…it's really a mind-blowing experience. Great virtuoso jazz drummers they have a special feel. [With the Indian musicians] it's metronomic; it's totally metronomic that is for sure. There is a connection with the pulse, it's a precision…it is a huge difference between the traditions, for sure. [The *Carnatic* musicians] they're raised in that [the precision of 5, 7, 9 metre and subdivisions etc] they're completely immersed in that from the time that they are born, whereas to us it's so highly sophisticated mathematically. (Cotler 2013)

Mani has been involved in many successful cross-cultural projects. We discussed his experiences regarding Western and Indian drummer's approach to rhythmic metre and pulse in performance. He described the strict parameters observed by *Carnatic* musicians; this concurs with Cotler's reference to the contrast of a more relaxed approach inherent in jazz:

> In *Carnatic* music, the pulse remains steady and there is the five tempos and then a big fence and freely you can play within the fence. But always the *nadai* [internal pulse] is strictly kept. With the Western drummers, similarly the tempo [metre] remains steady but they play whatever they feel, they might drag or something and that's acceptable. It's very different to the *Carnatic* system. This does not exist in our system, we can't do like that. (Mani 2013)

His comments, framed from the perspective of a *Carnatic* master drummer, are supported by Melbourne jazz guitarist Geoff Hughes, who suggested during personal conversations in 2013 that from his observations the Indian musicians know exactly what they are playing rhythmically, (or attempting to play) at all times. Whereas he suggested that often in jazz we do not always know exactly what we are playing metrically, thus we may not precisely know what the exact rhythmic placement of our phrase is (Hughes 2013).

I would add to this comment that there are many Western jazz drummers for whom exact rhythmic metric placement has been the core of their life's work. Players such as Australian drummer Andrew Gander are masterful exponents of precise metric modulations.[87] But I agree with Hughes and would observe further that there are many elements within the jazz craft that influence rhythmic placement, and which may appear ambiguous to the *Carnatic* musician trained in complex and precise rhythmic subdivision. With the high levels of improvisation found in jazz, many phrases are intuitively reinterpreted according to a player's aesthetic, or in response to what another ensemble member plays. The technique of 'swing' or 'swung rhythms' is at the core of jazz rhythmic language. The rate of the harmonic rhythm

[87] See Andrew Gander's 2005 unpublished Masters thesis "Freedom in time: Elvin Jones' 1960's rhythm section gestalt".

expressed through the chord changes, affects the players' intuitive rhythmic decisions; the jazz tradition also incorporates polyrhythmic inter-locking (from African roots), where ensemble members may simultaneously accent or imply varied internal subdivisions of the given pulse. In performance, these elements may translate to complex rhythmic ambiguity and tension in the music.

This is not to say that the *Carnatic* system is without intricacy and depth - far from it. As discussed previously, the concepts of *tala* and *nadai* (internal subdivision) are highly complex. *Laya ratna* is a measured and calculated approach to metric modulation via rhythmic subdivision, where the internal subdivision of the metre is increased or decreased to introduce a new metric subdivision. Learning to perform these metric shifts is a fundamental element of studying the *Carnatic* tradition, and is a tool that can be used with virtuosic effect in performance.

By contrast, metric modulation is sometimes used in jazz music; however, there is an equal appreciation of polyrhythmic layering and swing. One fine example of the use of metric modulation in jazz is the Wynton Marsalis[88] group performing Jeff "Tain" Watts' arrangement of *Autumn Leaves*, from their 1986 album *Marsalis Standard Time Vol. 1.*[89] In the opening 'head'[90] they metrically modulate from 1 through to 8 as the rhythmic subdivision is taken up a step with each two bars. You can hear that it 'swings' in every tempo. The harmonic rhythm (the rate of the chord changes) and melody remain constant throughout i.e., mainly one chord per bar.

In fieldwork interviews with Suresh, we discussed his cross-cultural collaborative experiences. I asked him if to his knowledge polyrhythmic layering is used in *Carnatic* composition or improvisation. He explained that usually in *Carnatic* music there are five or six percussionists, and the group follows the one percussionist who leads. He stated that:

> In my experience the polyrhythmic thing only happens in Kerala, I would say to some extent when they play the *panchavaadyam*.[91] Because one guy keeps doing the single note [beat] and other two guys play simple grooving, and one will be improvising on top of that. The leader

[88] Wynton Marsalis is an American jazz trumpeter.
[89] Marsalis, Wynton. 1986. Marsalis Standard Time, Vol 1.
[90] Head is a jazz term meaning the originating melody and chord structure on which the improvisation is based, as used in the expression "back to the 'top' of the tune, to the 'head'".
[91] *Panchavaadyam* is a temple art form that has evolved in Kerala.

> will be improvising and he improvises in different subdivisions. When you hear all of them together, it's very beautiful as a polyrhythmic presentation. But in the African drumming I have found…they are not doing the mathematics as we do, but it's layers they make…and one [musician] doesn't get distracted or disturbed by the others. But here [in the *Carnatic* tradition] I'm not very sure if I play something crossed [a cross-rhythm /polyrhythm] that other guy [percussionist] would not be able to continue his own improvisation. So this was a revelation for me. (Suresh 2013)

Suresh further described his approach to polyrhythmic material, saying he was invited to Cologne to participate in a project called 'Shifting Grounds' with three *djembe* players led by Taffa Cissé from West Africa.[92] Following this experience where he explained "they attacked me with the sheer volume of their instruments [*djembes*]", both he and the program's sponsor realised that it would be useful to have an instrument that would be able to match the volume of the *djembes* for a similar project the following year. Thus he bought a *tavil* drum and practiced for three to four months at home in India. "I was preparing my mind how to join with the layers, I was playing some records [of the West African performers], I was trying to do cross-rhythms and prepare myself for the polyrhythms." Suresh explained their collaborative process, saying that when he went to Europe for the project, "I sat with the *djembe* players and [together] we composed fresh ideas using the *konnakkol* [based Indian rhythms] and the African layered systems" (2013). Through this coalescing of ideas and genres, they created new music including improvised passages, and he felt the project was a great success (2013).

Ravichandhira also has mentioned that as a fifteen year old he had heard polythymic beats in funeral band processions in Tamil speaking areas of Sri Lanka. He was intrigued to watch the skillful playing of drummers who improvised at least three layers of rhythm in a collaborative manner. He said that he suspects this polyrhythmic approach comes from a Keralan influence, but suggests further research would be required to establish this link.

Suresh has also performed in the duet 'Karnatik Drumfire'[93] with German drummer Carola Grey. He explained that Grey's music was influenced by *Carnatic* rhythmic systems after her meeting with Suresh's teacher - musician, composer and *mridangam* player Guruji T. V.

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[92] In pers. comm. with Suresh (2014), with regard to this project he wrote: "Taffa Cissé was the leader of the band from West Africa. He played the lead *Djembe* and *Dunun*, which he also called *"Bo ge ra Bo"* while the other members played *Balafone* and *Kora* which they also called *"kamalagoni""*.

[93] See archival footage of Carola Grey and V. Suresh. Film. (Live performance from Jazzclub Unterfahrt Munich 2011 of 'Karnatik Drumfire'). [Online]. Available http://www.youtube.com/watch?v=nSLS8Dnv3uQ [Accessed 2014, August 18].

Gopalakrishnan. Because of this influence, Grey was easily able to understand Suresh's approach to the *Carnatic* subdivision concepts, metric transitions, and *korvai*[94] construction. Thus in their duo they communicated musical ideas and materials in *konnakkol* and also explored a variety of rhythm based genres (2013, 2014).

Suresh described their cross-cultural approach to compositional and performance stating:

> We share the platform equally and we do our independent solos, and we have composed a few pieces based on ideas of both [*Carnatic* and other traditions]. Sometimes she plays a samba, she plays an African groove, we try to have a share of each genre and make it a world music piece…It cannot be one way traffic, you have to take in the concepts which are new to you and try to integrate that. (2013)

Another highlight of his cross-cultural work occurred in 2007 when Suresh was invited to Barcelona for the Percussion De Catalunia[95] to perform with Italian frame drum percussionist Paolo Cimmino.[96] Paolo had studied frame drums with Glen Velez and was familiar with *Carnatic* structures having studied *konnakkol* with Suresh since 2003. At the festival, Suresh played a variety of predominantly *Carnatic* percussion instruments and Paolo played a number of frame drums. Thus the common language between them was *konnakkol*. As Suresh explained, most pieces began with a *konnakkol* idea or structure, and each piece had a link in some way to a foundation of *konnakkol*. This project demonstrates the way a common foundation of *konnakkol* language and *Carnatic* structures provides a strong musical link for collaborative partnership, facilitating the creation of new pieces and improvisations (Suresh 2013, 2014).

Cotler observed that in her own practice, she adapts her expression of *konnakkol* to different musical settings: "When I'm playing with someone who's playing a middle eastern *riq*[97] for example, my tuning changes, my articulation wants to be as crisp [as the *riq*] and the attack is strong" (2013). She explained that these adaptations are borne of necessity as a freelance musician. It was situational; she said that sometimes she is performing with a big band, at

[94] *Korvai* is a *Carnatic* term for cadential structure or coda.
[95] See archival Footage of Paolo Cimmino and V. Suresh, Film. (Live performance in Barcelona). [Online]. Available http://www.youtube.com/watch?v=58gGWDKR3ao [Accessed 2014, March 22].
[96] Paolo Cimmino is an Italian percussionist.
[97] A *Riq* is a middle-eastern style of tambourine.

other times with just percussion and she adapts her expression to suit. She explained that all these adaptations are connected to pulse and rhythmic play stating that:

> Ultimately…I still can trace the roots back to the rhythmic play example of shapes and connecting with the pulse in that way; I think I'm much more connected in that way than the mathematics…I understand the mathematics…[however] I don't want to bring that on the stage with me at all. (Cotler 2013)

Cotler expressed that since being introduced to *konnakkol* she is more aware of putting the rhythm into her body and feeling the pulse. She explained that when learning new Western pieces, she often conceptualised the rhythmic material in *konnakkol*, translating the Western music into *konnakkol* to assist with her learning and rhythmic comprehension. She explained that she lives between both the *Carnatic* and Western musical worlds and enjoys this cross-over of traditions; often in a Western performance, she discreetly counts the *tala* with her hands and fingers on her leg as she sings (Cotler 2013).

4.2 *Konnakkol* as a Reference for Rhythmic Analysis and Comprehension

My field research suggests that once an artist grasps the language of *konnakkol*, including the mathematical groupings, common phrases and structures, techniques of metric modulation, expansion and reduction, it becomes the backbone of his/her deep rhythmic knowing and conceptualising. The musician's thoughts are then regularly occupied by *konnakkol* phrases and structures. It becomes one's default system for rhythmic comprehension and an intuitive starting point for composition.

In both *Carnatic* and cross-cultural projects, vocalists, instrumentalists and percussionists alike employ their fluency in *konnakkol* to provide a valuable reference point for rhythmic analysis and comprehension. When singers or instrumentalists encounter a complex rhythmic line they use both the *swara* and *konnakkol* systems to decipher the melody. They use the s*wara* to decipher the melodic elements of the material (*swara,* commonly used in the abbreviated form of *sa, ri, ga, ma, pa, da, ni* is the *Carnatic* system of solmization used to represent the melodic notes) and separately use *konnakkol* to decipher the rhythmic material (Mani 2013; Suresh 2013; Ravichandhira 2013).

Suresh described the role of *konnakkol* in rhythmic comprehension thus: "This is where *konnakkol* has the job of reckoner, or a disciplining aspect" (2013). He explained that if a

percussionist does not decipher and recite the rhythmic structures in *konnakkol* they may "cut a sorry figure" in concert, as they will lack precision in their performance (Suresh 2013).

When Mani first played with Western musicians he learnt to calculate the rhythmic and melodic patterns in *konnakkol,* so he could easily follow the music. Having routinely employed this process in many fusion projects, he can now easily identify any world musical culture once he transfers it back to the *Carnatic* system of *konnakkol.* He explained that it is as though the music becomes grammatically correct once he has transferred it into his system (Mani 2013).

This use of *konnakkol* as a tool of rhythmic reference, is supported in Nelson 2008 where he suggests that *solkattu* is used by melodic musicians in the *Carnatic* tradition to comprehend difficult rhythmic passages, by first converting the rhythms into *solkattu* syllables. He states that:

> …a melodic musician who finds any musical passage rhythmically challenging is likely to work it out in rhythmic syllables before attempting to sing or play it. …Musicians who use solkattu to solve problematic passages take this expressive rhythmic language out of the realm of drum and dance syllables and into the world of general rhythmic analysis and training. (Nelson 2008: 3-4)

Understandably, all musicians in cross-cultural projects have a preferred way of learning and internalising rhythmic materials. They may either intuitively or systemically transfer the rhythmic content into their preferred musical language, be this *Carnatic* or Western music. McLaughlin observes that *konnakkol* provides him with a rhythmic system that is useful in any musical situation stating: "Learning and mastering *konnakkol*, gives us an insight into rhythm. It develops our intuition which allows us be at ease in every rhythmical situation, whether jazz, world, fusion, latin etc" (McLaughlin 2007, chap 6 exp. 2, 1:58). *The Eternal Pulse* quartet members Beck, Robertson and Magnusson generally transferred *konnakkol* passages into Western rhythmic concepts, and at times used Western notation to assist with the comprehension and recall of complex *Carnatic* patterns (Beck 2012; Magnusson 2012; Robertson 2012; Mani 2013; Suresh 2013; Cotler 2013).

In Dineen's 2005 writings, with the inclusion of a quotation from Sankaran, Dineen suggests that the expanding use of *solkattu* in North American musical rhythmic training may likely have a wider impact on the language of rhythmic counting. He states that:

> Solkattu-based pedagogies have exposed large numbers of musicians to elements of Karnatak rhythm training. The continuing spread of these trainings will likely impact the character of

> rhythmic solmization in North American pedagogy. As Sankaran notes, "I think it is going to have a long life…it has [already] gone to high schools; the people have stopped counting in '1 e & a | 2 e & a' and are now using 'ta ka di mi|ta ka di mi'"(p.c. 4/17/04). (Dineen, 2005; Sankaran in Dineen 2005: 157)

Suresh explained that whenever he is learning new musical material for either a *Carnatic* or cross-cultural project, he notices that what happens first is that he experiences the feeling of the phrase. He clarified that it is the feel of the phrase that occupies and engrosses him. From this point, he intuitively moves the rhythms of the phrase into *konnakkol*. "The mathematical cross verification comes much later, perfecting it comes next, and then comes my adaption into my instrument [*gatham*], that's the last thing" (Suresh 2013). He hastened to add:

> But everywhere the *konnakkol* is the one that helps me. Again I would like to establish and underline that you might be able to compose something sitting in a practice room, especially percussion players like me who always prefer to keep the instrument on your lap, anytime you want to play, but when that doesn't happen, the best way is to perfect your compositions by *konnakkol* [recitation]. (Suresh 2013)

Both Cotler and I, whilst living on different continents, have grown up with Western musical training and have studied *konnakkol* for many years. As practitioners of Western and *Carnatic* traditions we each predominantly use *konnakkol* for intuiting and comprehending rhythmic phrases and structures. As vocalists we have each found a separate way to this rhythmic language, which as a systematic approach to rhythmic materials is generally absent in Western music pedagogy.

4.3 *Konnakkol* Language in Contemporary Creative Practice

This section discusses the way *konnakkol* language continues to evolve and be adapted within contemporary practice, as noted by the research participants. It shows these adaptations occurring across a range of areas, and by Western and non-Western artists.

The sound and timbre of *konnakkol*

Mani, Suresh and Cotler all emphasise the importance of tonal quality and clarity of sound within *konnakkol* delivery, as does Robert Brown (1965) when he states: "it [*konnakkol*] is entirely concerned with beauty of sound" (136). Mani commented that *konnakkol* recitation must never be monotone; rather, it must be crisp, clear and well articulated. He emphasised

that in all percussion performances (both instrumental and *konnakkol*) one of his highest priorities is to produce good sound.

Regarding *konnakkol* recitation, Mani stressed the aesthetic importance of the vocal resonance and intonation, and also of the rhythmic material; the voice will automatically modulate and sound good if the rhythmic material is excellent. He compared the way the voice follows the *konnakkol* structure to water flowing along the pathway of a river. He said that when the surface of the river water is correctly flowing, it is moving along nicely. Then, maybe there is a small *pallam*[98] - a drop or dip - in the path of the river. "You cannot say [to the water] 'do not go there!'" the water will naturally follow the dip in the path, just like the voice does when the intonation drops down for the deeper variations in the *konnakkol* language (Mani 2013, 2014).

Suresh stated that: "With *konnakkol* what matters is the tone, [and] the choice of syllables, but it's the groove of the phrases that sets the mood, this matters the most as it makes it to swing" (Suresh 2013). Cotler articulated that she aims to deliver crisp, clear syllables and phrases, and that she hears and sees every syllable going by slowly with clarity (Cotler 2013).

Mani explained that as a language, *konnakkol* syllables provide a wide variety of expression, either as vocal recitation or in percussion performance. He suggested that just as the vocal delivery of a singer is influenced by the expression of lyrics, the language of *konnakkol* directly influences the quality of the percussion sound. He explained that where a singer has song lyrics and the notes in the form of a melody, those who are good melodic instrumentalists will first learn to sing the song by heart and then play it on their instrument. While they play the melody they will sing the lyrics, in their mind, to themselves. Similarly the lyrics and melody also influence the percussionist's emotional expression for performance. Additionally for the percussionist, "instead of lyrics, the words is there," as they have the language of *konnakkol* as a reference both for the rhythmic materials and for the sounds being produced on the instrument (Mani 2013).

Mani insisted that his students "must be able to say what they are going to play" (2013). In conversation he explained that any percussionist can say the *konnakkol* of the structure they are

[98] *Pallam*, lit. 'drop' or 'dip' (Tamil).

playing, but he insists that his students recite the *konnakkol* with great expression and feeling, as this will add to their performance of the materials (Mani 2013, 2014).

Mani described another connection between the language of *konnakkol* and the lyrics, noting that this is in relation to the language used in his school, which comes from the Tanjore style. He suggested that like the seven basic notes of melody *sa, ri, ga, ma, pa, da, ni,* the percussionist has the basic seven strokes *tha, thi,*[99] *thom, nam, ta, thin, cha (chappu)*. "From these basic strokes [and with some additional strokes like *gumuki*, sliced *chappu*, and also *tham* which is *nam* and *thom* together] we are doing thousands of combinations…and it depends on the [musician's] thinking capacity, and their quality of thinking, so the structure will come" (Mani 2013, 2014).

Atypical syllables

One evolving element of *konnakkol* artistry is the development of interpretative recitations using introduced atypical syllables. I found that both traditional and Western artists incorporate atypical syllables into *konnakkol* language. For example, syllables may develop from scat sounds in an artists' vocal sound-bank vocabulary, be introduced as cross-over syllables from dance *jathi* language, or arise from an aesthetic or onomatopoeic influence.

Cotler suggested that her teacher Subash Chandran incorporates unique syllables in his recitations, which demonstrate a personal element in his *konnakkol* language. She explained that Chandran uses *frrom*[100] and *tri* in phrases like *frrom di ki ta tri* and *ah* in phrases like *ah ta ri ki ta ta ka*. Cotler added that she proudly uses both of these atypical syllables in her own recitations and commented that particularly with the breathy gesture of *ah* in *ah ta ri ki ta ta ka*, the *ah* really makes it swing. She stated: "When I'm approaching phrases or new phrases, doing the [breathy] *ah*, it actually prepares you, it actually loosens up the space and the breath". We discussed that the *frrom* sound may possibly relate onomatopoetically to a drum roll or flam (Cotler 2013).

Cotler explained this adaptation of syllables in her work: "I'll invent sounds in order to make the most elegant fit with a certain phrase or a melody… If I need to fit like a phrase in a non-

[99] *Thi (di)* may also be called *ke (ki)* or *ka.*
[100] *Frrom* here is spelt with a double r to denote the slightly rolled r when spoken as *konnakkol* language.

traditional piece…I'll just try to fit it as elegantly as possible…to also blend in with the sonic field of what's happening" (2013).

For example, she explained that in Jacob Ter Veldhuis's[101] *THE NEWS: a reality opera,* where the backdrop for the music performance is big band set to a film, Jacob created music out of speech grooves from news clips. As part of her performance in this work, Cotler composed her *konnakkol* solo in *Bounce or Decline* integrating words, *konnakkol* and scat sounds.[102] At the time of writing, a live performance clip of this collage of vocal sound-bank is available online.[103] At 0:10 - 0:15 we hear "*frrom ki ta*, *three* (pronounced tri) *ka dum,*[104] *three ka da, three zah*", as part of a vocal riff. In particular, the syllables *frrom*, *three* and *zah* may be considered to be atypical *konnakkol* syllables or introduced scat sounds (Cotler 2013). In her teachings, Cotler uses this composition to explore the use of non-traditional syllables and structures outside of the Carnatic tradition. Her notation for *Bounce or Decline* is provided on the next page.

Mani explained that the language crossover from dance *jathis* to *konnakkol* occurs, as often the same *mridangists* play for both classical dance and music concerts. They hear the *nattuvanar* artist reciting different phrases in the dance *jathi* language and they bring these phrases into their *konnakkol* language. For example, with dance syllables and phrases like *jham, prrram, ta na ta jham, gu gu,* and *ja nu* there are no actual new stroke placements on the drum for the dance language; however these syllables expand the language and timbral varieties available to the percussionist (Mani 2013).

Mani is regarded highly in *Carnatic* circles for his innovative artistry. Whilst many of his compositions combine dance *solkattu* and *konnakkol* language, Mani explained that in his own creative practice, he has focused on adding new combinations of sounds and rhythms rather than actual new syllables. Aside from his well-documented cross-cultural collaborative projects, Mani's adaptive use of *konnakkol* language is heard regularly in *Carnatic* performances with his niece, dancer Rajeswari Sainath.

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[101] Jacob Ter Veldhuis is also known as Jacob TV.
[102] Cotler has also performed this *konnakkol* composition in new arrangements without the Jacob TV *Bounce or Decline* score or title.
[103] A performance video of *Bounce or Decline* (listed in this online reference as *Bounce and Decline*) from *THE NEWS: a reality opera* by JacobTV, is available online. Available http://vimeo.com/68848092 [Accessed 2014 August, 26].
[104] Cotler clarified that she usually notated *dum* as D (pronounced as *dum*)(Cotler 2014).

BOUNCE OR DECLINE

‖ T K T DIN - T DIN - T R K T T K DIN - ‖

- T K T T K T - - T K T T R K T T K - // **2X**

‖ - T K T D - T T - T T - FR - K T ‖

- THREE - KA D - - THREE - KA DA - THREE ZAH // **2X**

‖ T K P - T K P - T R K T T K THOM ‖

- T K T T K P - - T K T T R K T T K - // **2X**

DUM - K T T K **DA** - K T TK **DI** - K T T K **TAN** - K T T K ‖

DI - K T T K **T** - K T T K **NOM** - K T T K **NA** - K T TK ‖

DI - K T T K **DA** - K T TK **DI** - K T T K **DUM** - K T T K ‖

DI - K T T K **DA** - K T TK **NOM** - K T T K **NA** - K T T K ‖

THOM ___ __ __ ‖

‖ - T K T D - T T - T T - FR - K T ‖

- THREE - KA D - - THREE - KA DA - THREE ZAH // **2X**

‖ T K T DIN - T DIN - T R K T T K DIN ‖

- T K T T K T - - T K T T R K T T K - // **2X**

TAN - K T T K **DI** - K T TK **DA** - K T T K **TA** - K T T K ‖

DI - K T T K **TA** - K T T K **TAN** - K T T K **TA** - K T TK ‖

ZAHHHHHHHHHH __ __ __ ‖

Musical notation 4.3N.1: Cotler's score for *Bounce or Decline* (Cotler 2014).

For over fifteen years Mani and Sainath have collaborated to perform works that demonstrate the integration of dance *solkattu* with *konnakkol* as their inspiration for new rhythmic compositions. In this setting Mani has combined his knowledge of dance *solkattu* with the percussion based *konnakkol* language to compose many new rhythmic patterns. He integrates the dance language into his calculations and adopts them into his *konnakkol* structures. In conversation, Mani provided examples of interchangeable words and phrases and explained that where the dancers use the word *dingu* he will use *thanga* on the *mridangam.* Also where the percussionist will play *tha ki ta* | *thi ki ta* | *thom ki ta* | *num ki ta* | the dancers may use *tha tha ri* | *tha dha na* | *tha ja nu* | *tha thi mi.* He often conveys his rhythmic materials to Sainath in

konnakkol and she will convert some of the phrases into dance language. For example *tha ka tham* will become *di di thai* in dance language. This helps inspire new concepts and also suits the dance audience who are more familiar with the dance language. Sainath explained further that Mani will often begin by playing a fifty or sixty year old existing traditional dance structure, then use improvisation and inspiration to adapt it through his own creative aesthetic, adding layers and bringing new complexities and tonal colours to become something new. Then she will assist by inserting the dance words with a new colour. "It's like only with the existing ingredients you are preparing a new dish, but a more…exotic [flavour]" (Sainath 2014), (Mani 2013, May 2014; Ravichandhira 2010; Sainath 2014; Suresh 2013).

Suresh explained that: "*Jham* is one term which very few people use"; it is one of his favoured syllables. Whilst *jham* originated in dance *solkattu,* he traces his own use of *jham* back to hearing a performance of a composition by Pillai Subramania[105] and the distinctive open sound being played on the *mridangam*. Suresh explained that he was listening to a certain phrase that could be expressed in *konnakkol* as *tha* ***thim*** or *tha* ***tham…***" but I preferred *tha* ***jham*** because it had this kind of elephant's stamp" which represents the sound and relates well to how the phrase was being played in the performance (Suresh 2013). These examples of atypical syllables in *konnakkol* recitation, demonstrate the way an artist's aesthetic preference influences the evolving adaptations of *konnakkol* language.

Foreign accents and interpretation in *konnakkol* recitations

In contemporary *konnakkol* recitation, particularly with musicians from a non-Indian background, the timbral delivery of the recitation may be affected by foreign accents and applied Western vocal techniques.[106] For example, I as a practitioner's consciously adapt the recitation timbre, intonation and aspiration[107] for aesthetic effect. I intentionally use a more aspirated (breathy) vocal technique that may be classified as non-traditional, aiming to create an intimate and fully rounded vocal sound. Cotler commented that her control and placement of the breath are very important; the phrasing and musicality benefit when the breath is well placed. For example, "like a catch breath where you are rhythmically breathing the syllable";

[105] Pillai Subramania was a *mridangist, kanjira* player, and composer 1908 - 1962. Ravichandhira refers to him as Palani Subramaniam Pillai.
[106] Foreign accents and pronunciation in *konnakkol* recitation are discussed in chapter 3.3 with reference to Houstin's 2009 writings.
[107] Aspiration in this research refers to both the inhalation and the expulsion of breath in speech and singing.

this becomes a practiced vocal technique and gives musicality to the delivery (Cotler 2013). Examples of vocal techniques in *konnakkol* interpretation related to *The Eternal Pulse* are provided in chapter five.

Cotler commented that whilst people may think of *konnakkol* as a fixed *Carnatic* classical tradition, she has been encouraged by Chandran (her teacher) to utilise her own word choice in *konnakkol* expression. In Cotler's approach of manipulating the voice by using syllables rather than words, she sees *konnakkol* as an extension of scat singing. She suggested the main big difference from scat is the strong focus on the *tala* in the *Carnatic* tradition, where she enjoys "getting into being your own rhythm section with a constant focus on the *tala*" (Cotler 2013).

An example of applied vocal techniques in *konnakkol* delivery is heard in *Other Plans* (composed Young 2009) as performed by 'The Australian Voices' choir, conducted by Gordon Hamilton. This piece integrates *konnakkol* and vocal sound-bank language in SATB[108] format. The choir's distinct approach to vocal articulation includes explosive consonants, particularly with the attack of *thom* and *tha.* Their high-energy delivery of certain syllables, combined with the use of textural dynamics, provides a distinct atypical interpretation of *konnakkol* delivery throughout the work. This work is heard on track 23.

Audio track 23: *Other Plans* composed Young, commissioned and performed by The Australian Voices conducted by Gordon Hamilton (2012). (duration 4:02) (LISTEN)

Australian female vocal group Coco's Lunch also performs a version of *Other Plans*. This SSAAA arrangement provides a punchy, textural rendering of the work. These singers all have a background in jazz and scat singing, where an aspirated vocal technique is common; thus their percussive, breathy delivery of the *konnakkol* and sound-bank lines present a unique interpretation of the art form. This work is heard on track 24.

Audio track 24: *Other Plans* composed Young, performed by Coco's Lunch[109] (2014). (duration 4:29) (LISTEN)

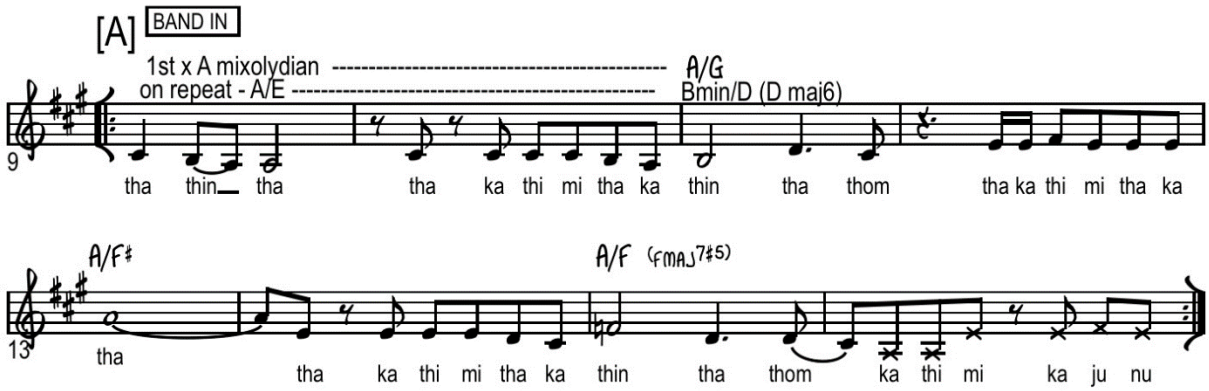
[108] SATB represents soprano, alto, tenor, bass voices, which is a common format used in a choral arrangement.
[109] Vocal group Coco's Lunch is based in Melbourne, featuring vocalists Nicola Eveleigh, Jacqueline Gawler, Emma Gilmartin, Gabrielle MacGregor and Lisa Young. Coco's Lunch premiered their arrangement of *Other Plans* on their 2013 tour of India for the Hindu November Fest, at concerts in Chennai, Kochi, and Hyderabad.

The use of pitched *konnakkol*

The use of pitched *konnakkol* introduces an adaption of the traditional intoned recitation. Pitched *konnakkol* is both an example of the art form's evolution and a distinctive element of my personal creative practice. In *The Eternal Pulse* pitched *konnakkol* language is expressed as melodies, ostinati 'riffs', and improvised vocal passages. When composing *The Eternal Pulse*, the *konnakkol* structures were often the foundation upon which the pieces were built, with *konnakkol* melodies and riffs providing layers and structures to shape the work. Three examples are provided from *The Eternal Pulse* to demonstrate pitched *konnakkol* expressed variously as melody, as an ostinato (riff) and as an improvised passage.

Audio track 3: *Tha Thin Tha* (0:21 - 0:42) (LISTEN)

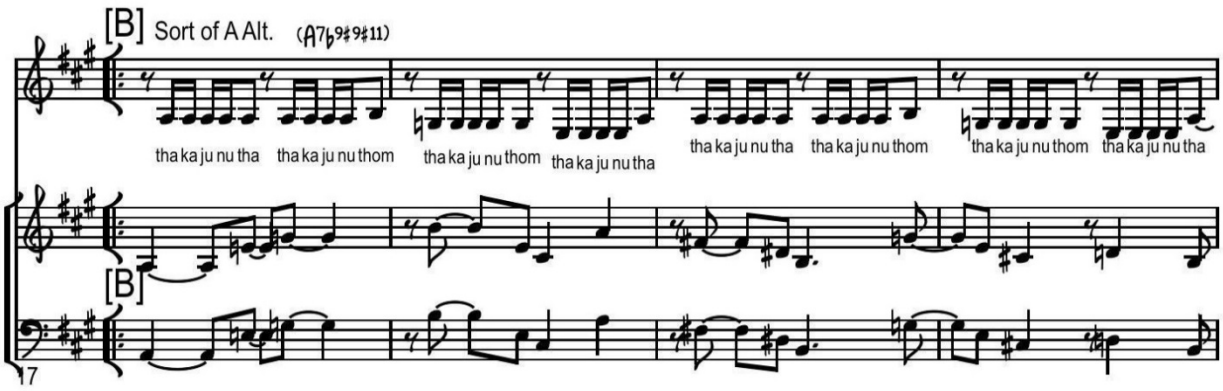
In this example the *konnakkol* language *Tha thin tha | tha ka thi mi | tha ka thin tha thom* etc is expressed as melodic vocal language.



Notated example 4.3N.2*: Konnakkol* language used in a vocal melody from track 3 *Tha Thin Tha* (0:21 - 0:42).

Audio track 3: *Tha Thin Tha* (0:43 - 1:04) (LISTEN)

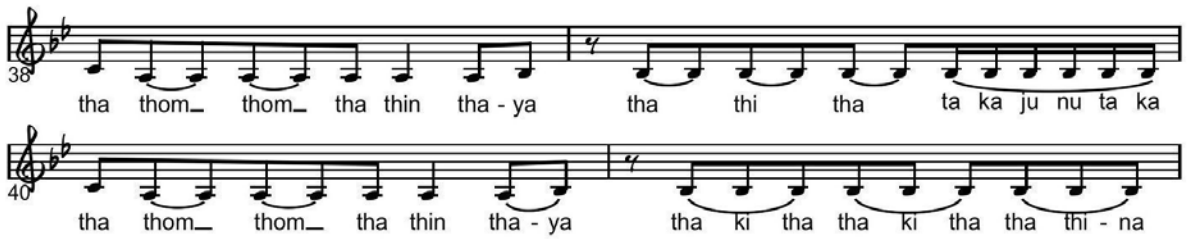
In the B Section of track 3, the double bass and guitar play a repeated 4 bar unison line, while the voice provides a 2 bar melodic (pitched) *konnakkol* riff. The vocal line is initially sung more sparsely - then delivered similarly to the notated example below.



Notated example 4.3N.3: *Konnakkol* language used in a pitched vocal ostinato riff from track 3 *Tha Thin Tha* (0:43 - 1:04).

Audio track 7: *The Exchange* (2:05 - 2:19) (LISTEN)

Track 7 has an open improvised section where the voice contributes ideas to the ensemble dialogue. At 2:05 the voice uses a semi-improvised *konnakkol* rhythmic figure, improvising the pitches to blend into the harmonic direction of the ensemble.



Notated example 4.3N.4: *Konnakkol* language used in the rhythmic structure as the basis of a melodic vocal improvisation from track 7 *The Exchange* (2:05 - 2:19).

Variations in the intoned contour of *konnakkol* recitation

Mani, Suresh and Cotler all suggested there is adequate room for personal expression and improvisation in the intoned contour of *konnakkol* recitation. Cotler clarified this, saying that a lot of musicality is expressed in contour "I practice it [intoned contours], but then I leave room for the stage…for the unexpected to happen"(2013). Cotler also mentioned that in many cadential rhythmic sections, or in a particular *korvai,* there maybe a set contour that is slightly melodic. She practices this contour, but again allows for variation in performance. During our conversation Cotler recalled a specific memory of her studies that influenced her approach. She explained that when she had some lessons with *mridangist* V. R. Venkataraman he encouraged her to develop musical accents and contour within the metre for example, in *adi*

tala there may be a weighted accent on beats 1, 5 and 7. Here, Venkataraman encouraged her to raise the recitation pitch on beat 5 to increase the musical contour. Cotler summarised her approach to recitation delivery as one of thinking about shape, pulse and intoned contour, and of adapting her expressive presentation in different performance settings (Cotler 2013).

4.4 Improvising and Composing with *Konnakkol*

This section discusses the use of *konnakkol* as a tool that facilitates the creation of new music, examining the role of *konnakkol* in the process of composition and improvisation practice.

Improvising with *konnakkol*

A fundamental element in *Carnatic* music is that it allows a flexible, adaptive approach to rhythmic combinations in performance. *Carnatic* compositional structures invite this improvisatory approach because many of the rhythmic phrases are interchangeable. As the percussionist is always conceptualising the rhythmic combinations in *konnakkol*, this assists the musician's comprehension of the rhythmic manipulation of phrases (Mani 2013; Suresh 2013; Ravichandhira 2012).

My research suggests that in *Carnatic* percussion music, the improvisational content is at times quite formulaic; artists draw on their vast knowledge of structures, then rearrange and adapt them in so-called improvised passages. Also presented in the discussion was the idea of intricate improvisational balance, where artists respond spontaneously in the moment of performance.

Mani explained that there are basic performance structures that you can improvise with, and that in performance the music is being altered and may change slightly; all the while you are conceptualising in *konnakkol*. He clarified that there are also many 'on the spot' improvised sections which are completely spontaneous. In these moments, immediately whatever you are feeling or thinking must come directly under your hand to be played, and that musicians must get used to doing this (Mani 2013).

Sainath described her experience of both dance and percussion practice, in which you must train your body and mind to be equipped to synchronise and to correspond in order to represent what you feel and hear. She suggested that striking the balance to convert a thought

process or knowledge into physical action or technique, takes an artist of great capacity (Mani 2013; Sainath 2014).

Dineen (2005) describes an intentional flexibility in the *Carnatic* rhythmic system, which allows for fluidity in performance of compositions, by stating: "Thus a composition, far from being a static musical idea, embodies a broad range of possibilities for manipulation." Similarly Nelson in Dineen (2005) describes *Carnatic* rhythmic structure as "almost infinitely expandable or contractible" (39). Van Hulzen (2002) proposes that many improvised aspects of South Indian classical music are preset or prepared, and that improvisation may be thought of as a unity of composition and improvisation where "improvisation is not an independent phenomenon but is always related to some kind of guiding principle" (73).

Suresh provided an example of the common stages of improvising in performance. He explained that because he is aware of keeping the audience's attention, he intentionally creates interesting improvised sections, interweaving layers, which refer to the musical theme. He explained that at first the composition is introduced. The next section features improvisation with pre-formulated ideas, where he uses variations on the original theme; it is here that adapted or interchangeable phrases are used. Lastly a spontaneous improvisation draws on his knowledge of the *Carnatic* tradition. Suresh added that he is always conceptualising the rhythmic phrases in *konnakkol*, explaining that: "*konnakkol* is the one that helps us perfect it, perfect your concept or whatever idea you did" (Suresh 2013).

Suresh described in detail his approach, stating:

> When I was doing the improvisation, I made myself conscious of the logical links I should give, and also the phrasings have to be rich enough to satisfy my level of imagination. It's not just grooving some idea to fill the time. So the improvisation has a logic in it. It's not that I really pre-plan to do that improvisation. Improvising means you have to be a spontaneous musician. So there is necessarily some point of time where you'd forget yourself and go into the arena of improvisation. Where…the *tala* that guides you; you keep that in the back of your mind, you forget who's sitting here, who's the audience, and you go to the next level. The only thing that brings you back is the time constraint…that you have to do your round within three or four minutes. 'Cause the other guy will have done a similar amount of time, so you cannot be disproportionate. To make it proportionate you have to come back to the next level, for me, the reality level. (Suresh 2013)

Quartet bassist Robertson explained his approach by stating: "I love thinking about improvisation as to do with 'intention' in music - more than I do 'getting it all right'. So that's a big part of it for me" (Robertson 2012).

Both Mani and Suresh mentioned the effect that the sound of the instruments and the venue's acoustics has on creative outcomes in performance. Suresh explained the significant effect that the instrument's sound and acoustics have on his improvisation skills and energy levels in performance. He stated:

> The most important thing that should be with you is the proper acoustics, you should be able to hear your instrument's tone the way you want it; you should feel the comfort. Once you feel the comfort of the tone in your ear, your energy level gets doubled, even if you're sick, even if you're tired, your energy level is much above than the expected level 'cause you're able to hear yourself. It is reassuring to you, come on go ahead play more…so the improvisation is ignited by the creative thought that comes to you. It's not like yes I'm going to improvise now and you start. You have to be basically a creative person. (Suresh 2013)

Whilst Cotler is renowned for her cross-cultural musical invention and adaptations of compositions, she said that for the most part, she doesn't make a conscious attempt to improvise in her *konnakkol* recitation. Rather, she prepares her pieces and adapts them in different ensemble settings; she predominantly interprets what she already knows, and added that she intends to explore *konnakkol* improvisation more in the future. Through her training in jazz improvisation, Cotler improvises melodically as a scat singer; however, as her creative practice now is dedicated to concepts of *tala*, her approach to scat improvisation shows her inherent connection to pulse-based rhythmic concepts from *Carnatic* studies. "My whole approach to improvisation now has borrowed the idea of *tala*… When I approach music now, I only approach it through *tala*…I put the pulse in my body…through clapping it, even sometimes through stepping the pulse…it's just my foundation now…there's just no turning back" (Cotler 2013).

Composing with *konnakkol*

All *konnakkol* artists interviewed for this research expressed the fact that *konnakkol* phrases and structures regularly occupy their thoughts. In conversations with Mani and Suresh they described in detail their compositional process and their experience of new phrases and ideas coming to them spontaneously in *konnakkol*, igniting the creation of new music.

Mani's approach to composition is that he believes we are actually discoverers of new music rather than being innovators or creators. He suggested that the compositions are already present in the universe, and that rather than composing them we are simply revealing them:

> I am always saying music already exists. We are all discoverers, not innovators; I am so strong on this. When new something comes in your mind, new things, it already is there. 'Always I'm doing! I'm doing!' I'm not saying like this. It's something some superpower gives through you… Because everything is there. We are not just thinking… We are searching for that, you search, you will get. (Mani 2013)

Mani explained this concept further by saying that if you go diving deep you will uncover the rare things. For Mani, the process of revealing is never a planned exercise. An idea may arrive at any time, and whenever he feels one coming, he pays attention (Mani 2013). Here is Mani's description of the arrival of a spontaneous *konnakkol* phrase:

> Maybe while walking, or cooking, while taking a bath, or driving… First of all I am thinking [the *konnakkol*], and then I say that [*konnakkol*] and keep the *talam,* and doing the *konnakkol* what I am composing, then only going to the instrument… When I play the same thing on the *mridangam,* sometimes some of the phrase is not correct, I can change that… So how it comes, is a flow, I'm not thinking about it. It's a flow, it comes, then I will find out if the calculation is okay or not… First of all I won't think mathematically…I think [intuitively and] in the order [of the phrases in the patterns as in 3, 4, 5, 6, 7 etc].[110] (Mani 2013)

Sainath hastened to add that Mani's work as a composer is of a very high level; Mani is not thinking about the maths, rather he is focussing on the aesthetics and the intuition of the music as he creates. She explained that through this process his intellect and intuitive aesthetic are interconnected, and that Mani regularly composes new works that arrive perfectly formed. She stated:

> Legends like Mani Sir when he composes at this point what happens is it just comes, aesthetically he constructs one particular sequence of construction. Without even thinking about the…grammatical progression which is so important for rhythmic grammar. He doesn't think on those lines, he just thinks on the aesthetic…how it constructs, and then just for the sake of verifying whether it is mathematically correct, because it has to fit into the grammar, when he actually does that it's perfect. So both [intellectual and intuitive] are interconnected at this point, that he doesn't have to first say ok, I am fixing 3, then I give a gap, then I fix 4. It's not forcibly assembled, it's just…the brain just works a particular construction in a way that shows his experience and when you actually decode that, it falls in its place at the micro number level. That's the amazing beauty of this! (Sainath 2014)

Mani explained that he regularly carries an audio recording device in his bag to document new ideas as they appear. If it is not possible to record the idea he will quickly notate the *konnakkol* in Tamil. If it is a melodic phrase, he notates in *swara.* When he composes a new piece it goes

[110] At this point in the interview Mani demonstrated the *misra* phrase using a numerical sequence of 3, 4, 5, 6, 7.

through many changes along the way. In development sessions and rehearsals minor adjustments are made, and in performance it may change again. He records most of his performances and listens back to his composition to make further adjustments. He said that from this process of listening back to concert recordings, "new ideas will come". There may be some improvised sections he likes that may in the future become a new fixed composition (Mani 2013).

During my conversations with Suresh, he paid tribute to Mani as being the most creative musician and composer of the current age. Suresh described his own compositional process, saying the inspiration for a new musical idea may come at any time. He explained that he never sits down to compose, rather, intuitively a phrase comes, which then is developed into a nice structure either in *konnakkol,* or on *ghatam* with the *konnakkol* recitation:

> The thought process comes very naturally. For me there are some specific places where I get more inspired. For example: here if I sit and play [in my lounge room] all my deities are here and I kind of communicate with them. This is what I play for you and you bring the best out of [me], kind of. For me, it is like I'm communicating with God through my music. (Suresh 2103)

He articulated that *konnakkol* is of immense help to his compositional process, and that he also enjoys using the different *laya* speeds (metric modulation) to great effect in the structures (Suresh 2103).

Suresh provided a clear example of constructing and developing a piece. He described how he might sit to play a warm up session, not really focusing on composing something new, and he will catch hold of a phrase from the atmosphere that he will work with. He stated, "[I use] the phrase that first inspires me to compose a sentence[111] or a groove."[112] He then develops the structure both intuitively and intellectually to form the composition. He often uses the compositional technique of *yati* to calculate a *konnakkol* structure that represents a geometric shape. The phrases are extended and reduced accordingly so the patterns of the phrases will visually represent for example: a basket shape or a diamond or cow's horn. He emphasised that the composition must have an arresting phrase. "The head of my composition should have my stamp. 'This is Suresh!', that's how the people should think… I would like people to

[111] Sentence is used here to imply a *konnakkol* sentence, which represents a rhythmic phrase.
[112] Groove here relates to a rhythmic feel that sets the mood of the composition.

be surprised with the very first phrase and then as my performance goes on they should focus their entire attention on me to grasp my idea in total" (Suresh 2013).

Suresh explained that he rarely writes his compositions down. These days he records them or sometimes writes just the first line of each section as a reminder of the structure. Suresh also spoke about his desire for compositional ideas to be inspired, stating: "The point I wanted to make was, you cannot compose something keeping in mind just numbers. Numbers can never make it. I won't call it a creative idea at all. You are considered creative only when you have a unique phrase for yourself. You should have your own stamp on the phrase" (Suresh 2013).

I asked Suresh about the importance of the mathematics of the compositional structures. He stated that what he believes to be of great importance is:

> The tone, the choice of syllables, the phrases and actually the grooves. The groove sets the mood, they matter more than anything else; it makes it to swing, that's very important… But after some time it [the groove] becomes monotonous… The best way to break the monotony is to introduce structures… Logical structures are very important [they] convey meaning and also it helps you to form a structure within your ability…[so] for logical structures you go to mathematics. Sometimes we do arithmetic progressions, sometime we do geometric progression, and once you get a taste of the mathematical concepts in *konnakkol*, I would say you would fall in love with that… Mathematics in *konnakkol* is good as long as we also keep in our mind the aesthetic touch or the polish we have to give for any composition. (Suresh 2013)

As mentioned in chapter 3.3, guitarist John McLaughlin (2007) discusses the way his long-term study of *konnakkol* has impacted upon his approach to composition, improvisation and melodic invention. He notes the potential for the *Carnatic* system to influence all musicians, suggesting that the *konnakkol* rhythms easily lend themselves to be adapted and assimilated into an individual's style of playing. He articulates how they also provide inspiration for melodic invention:

> Certain [*konnakkol*] rhythms lend themselves to melody really quickly. In fact rhythms are an in exhaustible supply of melodic material if you know how to use it. (McLaughlin 2007, chap. 2, 1:48)

Mani articulated that his vast knowledge of the numerical calculations used in the *Carnatic* rhythmic system assist him both intuitively and intellectually when composing, and also when playing music based in other world systems. He explained that because he is used to calculating the numerical lengths of phrases and patterns, he can very quickly grasp a new structure, even when it is not founded on common *Carnatic* calculations (Mani 2013).

For both Mani and Suresh *konnakkol* is at the core of their musical imagination. They each regularly conceive new ideas and structures in configurations of *konnakkol.* It is their language of rhythmic invention, analysis and comprehension. New ideas are set to the appropriate *tala* and adapted using both intuition and numerical calculations until they are deemed complete. The process of altering or reworking rhythmic structures on the percussion instrument is always linked to the language of *konnakkol* in the mind. For both musicians *konnakkol* is the foundation for rhythmic composition and it also steers the rhythmic construction in melodic composition (Mani 2013; Suresh 2013).

The *Carnatic* tradition in composition

I asked both Mani and Suresh if they are bound by the parameters of the *Carnatic* tradition with their compositions. Did they perceive their compositions as an expression of a personal musical aesthetic or of the *Carnatic* tradition?

Mani explained that his compositions are based on the musical elements of the *Carnatic* tradition. He explained that he has composed for a variety of cross-cultural collaborations and that he systematically relates all rhythmic concepts to the *konnakkol* language. He regularly listens to a wide variety of music and his compositions are influenced by the many musics he hears from around the world, as well as the Indian tradition and Indian film music. He said he believed all musicians should listen widely and not restrict their listening, saying that from listening to a broad selection of music we find new ideas. "Identify that rhythm! Rhythm section what is going on? Melody section what is going on?" (Mani 2013). He said that he once drew inspiration from hearing a film score chase scene with an interesting drumming pattern. This captured his imagination and led him to create a new *korvai* composition (Mani 2013, 2014).

Suresh described his compositional approach as a combination of both the *Carnatic* tradition and his personal aesthetic. He believes tradition itself evolves with every generation. He always attempts to vary his style of playing, not wanting it to be predictable. He stated:

> I never intend to go beyond the tradition, but again in my humble opinion tradition itself gets set in by every generation. It evolves and it gets a transformation, it's not a static one. What we believe as tradition is the one which is handed over to us by the previous generation. So I always respect that…in the sense that I don't want to go away from their thought processes… [However,] there are certain aspects…from previous generations that I leave out. In terms of the composition of technique and the phrases, I try to go by the tradition; at the same time, I am aware of my style of playing, so I would like my style also to get into the composition. (Suresh 2013)

4.5 The Experience of Pulse and Rhythmic Placement

Mani explained that his experience of pulse and metre is both an intellectual and intuitive process; he thinks intellectually about the rhythmic combinations, but consistently focuses on the sound being produced. Firstly he learns the patterns and structures and then he intuitively changes them as he listens to the sounds they are creating on the *mridangam*. He also focuses on the presentation of the music as part of this process. He is very much guided by his experience of the sound, and intuitively alters the patterns many times before they are ready for performance. "So many times I have to change [the patterns and structures] as the focus is always on the sound" (Mani 2013).

Suresh stated that his experience of pulse and metre is a combination of both intellectual and intuitive processes. He added that: "A phrase is one that I never purposefully sit to conceive; any idea to conceive is not done purposefully or by force, it comes intuitively"(2013). He explained that when listening to music, he is often immersed in the feeling of a particular rhythmic structure. "I was totally engrossed with the feel of the phrase; the feel of the phrase has occupied me so much, that I never thought of 'What is he doing?' But I was able to recite [the phrases in *konnakkol*] because I have grasped the entire composition as a wholesome piece" (Suresh 2013).

Concepts of pulse and subdivision feature throughout *The Eternal Pulse*. These elements include the convergence of South Indian, contemporary jazz and African rhythmic influences. Guitarist Stephen Magnusson commented that:

> I think the word the eternal pulse…it's something that we all kind of have within us…we have a heart beat, so there's always a pulse…and we live in time… Time is something that exists in our consciousness and our universe so we are always dealing with pulse to some extent. The music that we all play, the four of us in this ensemble and all the other ensembles [we play in]…is pulse generated… We all play music that's influenced by Afro-American music, jazz, soul, funk and all of that is pulse driven, and I think the idea of this ensemble is incorporating the pulse concepts from some of the Indian classical subdivisions and then incorporating them into our own sound. So I think that pulse is something that you can't do without, it just part of being a human being. (Magnusson 2012)

Drummer, Dave Beck discussed his experience of pulse in relation to the music as follows:

> I feel like there's lots of different pulses going on all the time. Maybe a slow pulse, a double time one, then another member implying another pulse or polyrhythmic idea. The over-all feeling is that all the pulses interact and join up within the music. It's the effect in the way they

> come in and out of joining up with each other that makes the music very special. Initially some of these pulses and rhythms I've had to learn, but I like to feel that a lot of them are intuitive once I've learnt them. (Beck 2012)

Bassist Ben Robertson expressed the desire to achieve a more intuitive response to pulse:

> When I think about internal pulse and how it relates to the music, there's two aspects. One is intellectual, is a way of thinking about how you intellectually divide the beat, and the other part is how it feels in the body. I suppose that's the part that I would most like to get to when I play… One can get closer to the intention in the music once one 'feels' the subdivisions and the rhythms rather than intellectualises them… I need to understand what's going on as in what's the division or overriding time signature…[but] at some point in one's artistic process you forget about thinking like that and it just becomes a natural thing… There's a definite [unconscious] transition. (Robertson 2012)

These descriptions from the artist's point of view show that in creative practice, each combines an intellectual understanding with an intuitive response.

Experiencing rhythm as shape

Cotler received an introduction to vocal scat from her first jazz mentor, trumpeter Dave Burns Senior.[113] He communicated musical ideas vocally without using words or notation, which completely altered her approach to and understanding of vocal expression. This introduction took her out of her thinking musical brain to a place of great invention. Cotler, who was always attracted to drumming and rhythm, began to uncover her own distinctive style of vocal rhythmic play as she started experimenting with scat singing and rhythmic interpretation. (2013) The rhythm was often the muse for Cotler; she described her memories of vocal rhythmic play:

> My earliest memories of improvisation, or any kind of rhythmic play is shapes…visualising shapes based on the walking bass line for example, visualising the shape of what the drummer was doing…for me the rhythmic play came from connecting with the rhythm section rather than the harmonic movement. (Cotler 2013)

She suggested that in jazz and in Western music, both music and song are generated by the harmonic structure and movement, and also by the song form; rather than being created because of or through the structure of the drum part. She explained that she was always interested in what the drummer was doing and the shape of the pulse:

[113] Dave Burns Senior was Cotler's teacher at high school.

> I would hook myself into experiencing what the drummer was doing, not analytically but much more through a feeling state, and also through visualising the rhythmic material, the shape of the pulse even… I would see for example…a walking bass line. I would see the steps of it, like an ascending line…like a wave…as if you were looking at acoustical waveforms…totally from a creative standpoint, it wasn't that I had been introduced yet to acoustics. (Cotler 2013)

Cotler explained that to experience the polyrhythms of the music, at times she imagined sounds as colours; "sometimes [by using] colours…I would separate the two parts…I would play in my mind that the bass line would be blue and the drum set would be red…in order to create a separation" (2013). She added that it wouldn't be fair to express this notion without also bringing in the idea of being introduced to Bach early on in her life, and the similar split that she experienced when trying to hear both parts of the counterpoint of the fugue simultaneously. Currently in regard to her creative practice, and with her experience of pulse and rhythmic materials, she aims to "be inside the pulse as much as possible…that's my life's work…it is about devotion to the pulse" (Cotler 2013).

In Cotler's teaching, if students experience difficulty with a phrase or structure, she may suggest breaking it down and learning it in stages; but ultimately she will encourage them to visualise the shape of the whole phrase, in a waveform. According to Cotler she has had good success with this method. The idea of the wave visualisation is "to remove even the idea of syllables and language and thought of pulse or rhythm…but seeing the shape and experiencing the feeling of the phrase as a whole" (Cotler 2013, 2014).

4.6 Intention in Performance

Field research conversations included the artists' comments regarding their intent when they perform and their aspirations for their future musical endeavours. I believe the following excerpts give breadth to our understanding of the artists' process and performance experience.

Cotler discussed her intention in performance as being a connection to sound and pulse:

> For me, it's connecting with the sound, the purest sound that I can possibly connect with. And the vehicle for that is the pulse, and getting as profoundly connected to that as possible. And the idea that every gesture of it has a sort of sacred quality… When I'm mindful of that, the expression is much more of a pure offering. So my intent then, is really about expressing the love that I have of it [the music] and it being the purest sound possible and as far away from the thinking as possible. (Cotler 2013)

Mani also spoke at length about the importance of his desire to play pure music. He explained that his general approach to performance is informed by his spiritual practice being an element of his creative art. He stated that:

> First of all you have to play very pure music, no compromise in our playing…because…the great art we have…we cannot dilute or spoil that one. So we [also] have to be like that. When you do like that, your character also will change…when you think about correctly, strictly principles like that…so a way of living is also going for a principled life…little bit related to - the music and the man. (Mani 2013)

He explained that in Indian culture there is a strong spiritual element to playing music; it is a form of worship, and essentially all the music is spiritually oriented. Performance is an act of sanctity, for the gods are handling the musical instruments. The Indian musicians always remembered this (Mani 2013).

Mani relayed a story of his cross-cultural experiences when he added: "Some of the Western musicians [he has played with] say, 'No, no it is not like that, the music is in our body, we are giving through the instrument,' they will say and then they will treat it [the instrument] like a toy" (2013). After sharing this anecdote, Mani smiled and gave an example of a Western musician he played with who completely shocked him. A musician who carried cigarettes and food items in his instrument case, and would also sit and put his boots on top of the case. Mani was completely astonished by this behaviour, as it was such a surprise to him. He explained that in his culture it is believed that some of the divine instruments were played by the gods, for example the *mridangam* was once played by and is related to the gods *Nandi, Shiva* and sometimes *Vishnu*. He stated repeatedly that "We respect the instrument like a god" and he would certainly never put his boots on his *mridangam* case! (Mani 2013, 2014).

Suresh discussed his intention in performance and the desire to connect with the listener on many levels. "The intent is very clear. Do something very complex which can be understood, but should be most difficult to repeat" (2013). He explained that as a performer you want to show your intelligence, be impressive and connect with the listener tonally, technically and content-wise. You want to turn people towards you and to make the listener think that this performance is special - This is the one! Suresh explained that he is always pursuing a unique approach to performance and stated: "I've always tried to take an extra leap…I was probably branded as a person who does something new…this is always set in my mind" (Suresh 2013).

Suresh and Mani each expressed a great desire to educate Indian and foreign audiences to understand and appreciate their *Carnatic* system. Suresh explained that part of his future vision is to take his instrument the *gatham* to Western audiences. He stated, "I would like my instrument *gatham* to be recognised and appreciated by people who live in the regions where this has never gone" (Suresh 2013). He explained that when most Indian musicians perform concerts in North America, they play predominantly to the Indian audiences there. He would like to see Indian music concerts attended by a more mainstream audience in America and Europe. He clarified that it is such a rich music system, both with melody and rhythm that it needs to be appreciated more by Western audiences (Suresh 2013). He sees that the means for this to occur might lie in taking inroads into the Western music circles where he plays world music and jazz music. He said:

> Jazz music is one which is flexible enough to accept the other format, which is again turning out into world music or fusion music. In fact there are some dedicated jazz clubs, which never would like to listen to a *ghatam* or *mridangam* or a *konnakkol* entering that arena. I've seen resistance in some European clubs; they say 'maybe he is a great artist in his [tradition], but what business he has to do in a jazz club'. That was very surprising, because the concept of jazz is set in their mind. They think that an alien instrument cannot enter in the circle of jazz music… It's a big challenge to take inroads into the Western audience hard-core jazz listeners, which is my dream, to convince, and make a permanent footing in the Western music circle. [Then] the next level is to explain to the listeners the concepts of *talam* etc. (Suresh 2013)

Mani stated that he is focused on a life devoted to the art of music. He believes it is a corrupt mind when an artist focuses on earning money and fame, and seeking publicity. He suggested that alternatively, if a musician thinks only about music and art, the earning money and fame will come; it may take some time, but definitely it will come. Part of his future plan is to slowly educate the general public about the rhythm section of *Carnatic* music. His ambition is to educate people about the breadth of *Carnatic* rhythms and the riches of the *Carnatic* percussion section, teaching them about the complex rhythmic elements of *tala* and *nadai* (Mani 2013).

Conclusion

Many of the artists interviewed described combining an intellectual and intuitive approach to rhythmic comprehension with its implementation in performance practice. *Konnakkol* plays a broad role in the musicianship of Mani, Suresh and Cotler, appearing as a companion to their creative musical undertakings. Personal accounts show that *konnakkol* is ever-present in these artists' thoughts. It is the foundation of their rhythmic experience and knowledge, assisting their rhythmic analysis and comprehension in both *Carnatic* and cross-cultural projects. Also the variations of *konnakkol* language influence the timbral variations played on the *mridangam.* The research demonstrates that where there is a common foundation of *konnakkol*, it provides a strong musical link in collaborative projects. Examples of atypical syllables, applied vocal techniques and personal interpretation in *konnakkol* recitation, demonstrate the way these artists' aesthetic preferences influence the evolving adaptations of *konnakkol* language. These findings suggest that the language will continue to evolve and be adapted by both *Carnatic* and Western practitioners.

CHAPTER FIVE: Creating *The Eternal Pulse*

Video track 18: ***The Eternal Pulse*** (2013) video. (duration 7:03) (WATCH)

This chapter examines the processes undertaken in creating the music *The Eternal Pulse*. Through reflective analysis I examine the aims of the work, the ensemble and collaborative process, and choices of metred notation. This analysis also explores my approach to composition and performance including the use of vocal techniques and the development of a vocal sound-bank language. Field research interviews contribute to the discussion of the musicians' experience of pulse and ensemble interconnectivity. The terms 'eternal' and 'internal' pulse are introduced to assist the analysis of rhythmic and pulse-related materials. Selected audio passages are used to focus on complex rhythmic components, on the integration of specific *konnakkol* passages, and on *Carnatic* techniques employed in the work resulting in the converging of South Indian and jazz styles. Video demonstrations of key rhythmic concepts are noted. Related musical audio-examples are given. The musical notations include the use of Western and *Carnatic* style notation.

5.1 The Intention and Aims of the Work

Video track 19: ***Tha Thin Tha*** (2013) music video, LYQ. (duration 4:32) (WATCH)

My intention for *The Eternal Pulse* was to create a contemporary song cycle for my quartet, where I compose melodically and rhythmically from a foundation of *konnakkol*. I wished to investigate the potential of *konnakkol's* expanding compositional influence on my work. The aim was to create a comfortable marriage between the *Carnatic* rhythmic system (based on metred cycles and related internal subdivisions) and jazz materials, including elements of African polyrhythm.

This chapter investigates this process, showing my adaptation of *konnakkol* in the work. It also chronicles the creative process in which I developed the music. The work demonstrates *konnakkol* functioning as: a foundation for intellectual reference of rhythmic knowledge; and providing a rich resource for an intuitive approach to improvisation and composition. The piece uses intoned and pitched *konnakkol* as fully integrated vocal musical expression in a Western contemporary jazz context; the intent being to embed *konnakkol* and wordless lingual sounds within this context, creating a unique vocal sound-bank as the basis for vocal expression. The music also

demonstrates the use of *konnakkol* as an artistic tool for the expression of pulse in musical metre. *The Eternal Pulse* shows that *solkattu* syllables are themselves a musical expression providing a foundation for the composition, both linguistically and rhythmically.

The compositional structure of the music was driven by my desire to include a wide variety of rhythmic metre and subdivisions common to the *Carnatic* tradition and adaptable to the jazz framework - namely, the common *Carnatic* cycles[114] and the 12/8 jazz rhythm. Alongside the selected metred frameworks, I intended that the *konnakkol* language would generate melodic and structural materials in the music. Throughout this chapter the discussion provides examples of these elements and of *konnakkol's* expanded compositional influence on my work.

The Eternal Pulse music is positioned between the South Indian and jazz traditions. The work aims to express, in good faith, a relationship to both musical styles. The music is intended to be a vehicle for improvisation, inviting expressive interpretation by the performers. In discussions with Ben Robertson, he described the process of composing for improvisers stating:

> As you write music for improvisers, you in-build into the music the idea that it will change, it's almost an essential part of the way you write it…not just thinking about a written piece as being a 'set' piece, but being a vehicle for improvisation. Once you all play together you have to accept whatever happens between you all as musicians, which is usually unique to [the] meeting of the musicians rather than the writing of the music. It's balancing those two things that I think creates the magic in the music. It's not all about the writing and it's not all about the interpretation, it's how these two things meet. It's particularly successful in *The Eternal Pulse* because of the way these two aspects balance themselves. (Robertson 2012)

In line with Robertson's articulation, the clear intention of the performers of *The Eternal Pulse* is to marry the impulses of composition and improvisation, as they are key themes for creating with *konnakkol*.

5.2 Ensemble Interconnectivity

As jazz involves high levels of musical interactivity, I chose ensemble members for their skills in this genre. *The Eternal Pulse* is composed specifically for my quartet, comprised of Stephen

[114] Common *Carnatic* metres are named in cycles where, 8 beats is *adi tala,* 3 beats is *rupaka tala,* 5 beats is *kanda chappu tala,* and 7 beats is *misra chappu tala.*

Magnusson on guitar, Ben Robertson on double bass, Dave Beck on drum kit and cajón and myself (Lisa Young) on voice, *konnakkol* and *aslatuas*. This group enjoys a rich collaborative performance history,[115] having previously explored many original compositions integrating South Indian concepts.[116] The highly developed harmonic and rhythmic language of the jazz tradition guides our collaborative and creative process. The group values both the unique voice of ensemble members and ensemble connectivity in its creative practice. Australian bassist and composer Anita Hustas describes the essence of ensemble connection when she states:

> Each individual's sound is meeting somewhere in the space, as is each individual's intention. There must be an awareness and openness to interaction and reaction; where exactly this occurs is as yet unknown to me, but it is precisely these points of conjunction that form the essence of ensemble. I think it is occurring simultaneously, both internally and externally, and when these two forces are in balance, then the result is pure ensemble. (Hustas 2008: 4)

All musicians interviewed for this research expressed the observation that the depth of friendship within the performance ensemble positively affected musical outcomes. In interviews with Magnusson, Beck and Robertson they individually commented on how the quartet's friendships are pivotal to the development of the work and musical outcomes. Dave Beck discussed the effect on the music of his long-standing friendships with the ensemble members, saying:

> The other thing that makes it special is we're doing challenging music but it's with my friends. The depth of relationship comes out in the music. It's that combination of the depth of relationship with the exploring of the music that makes it very interesting for me. That's what it's about for me; if you don't have a depth of relationship you can't have a depth of music. (Beck 2012)

Also, Mani said that in his experience, the musical outcome is definitely a reflection of the friendship. He stated:

> The friendship [is] more important, when you play together, it's a clear understanding, [of] not only the music but also the personal side…they [are] helping each other…when I play sometimes and I feel it is tiring, when I play the *korvai* or something, they will join and support me, and when they are tired I will support them, that's the unity of this and the feelings…with friendship there is support for each other…it's a combined effort. This brings good sound, and good music…personally when we are not very comfortable, the concert also does not come out well. (Mani 2013)

[115] LYQ was formed in the early 1990s, with Ben Robertson being a founding member. Dave Beck joined circa 1995 and Stephen Magnusson joined circa 2006.
[116] Pieces that integrate South Indian concepts are found on previous quartet albums Grace (2006) and Speak (1999).

Suresh explained that the musical friendship begins with mutual respect, saying:

> The very first thing required here is the belief and understanding and the admittance that the other musician is also equally knowledgeable, talented and experienced…So I should respect the form of his music first…his genre of music I should respect [as it may be from a different tradition]. At that level, with the mutual respect the friendship starts. (Suresh 2013)

When I asked Cotler about the effect that friendship has on the musical outcomes, she expressed that she loves to spend time with the musicians she works with, sharing a meal or a glass of wine, saying in many ways this becomes a kind of tuning prior to making the music. She suggested that when you have a sense of kinship it is evident in the music, and conversely sometimes it is because of the music you share that friendship develops (Cotler 2013).

From a practitioner's perspective, the depth of friendship, shared history and musical understanding present in our quartet informs the interpretation of *The Eternal Pulse*. The musical outcomes show evidence of these unique qualities working as an interactive ensemble.

5.3 Eternal Pulse and Internal Pulse

I have introduced the umbrella terms 'eternal' and 'internal' pulse to assist the reader in conceptualising the rhythmic and pulse related materials incorporated in the work. These terms are not intended to indicate genre or cultural specificity; rather they aim to explain and provide an experiential component to the concepts of metric modulation, polyrhythmic structures, rhythmic feel, and groove. This is important, as it is the experience of layered rhythmic complexity that often creates a sense rhythmic depth in the music. In most pulse generated music there is usually an ongoing eternal pulse outlining the given metre; this is 'felt' or experienced in conjunction with at least one internal pulse layer sub-dividing the beats. This suggests there is also a fundamental relationship between a musician's instinctive ability to internally subdivide a given metre, and their ability to explore and interpret rhythmic complexity and 'groove' in performance.

The terms eternal and internal pulse, were initially derived from my interpretation and experience of the *Carnatic* concepts of *tala* and *nadai*.[117] The eternal pulse refers to the music's ongoing metre or rhythmic cycle - relating to the *tala*. The internal pulse refers to the internal subdivision of the main beats of the cyclic metre - relating to the *nadai,* literally meaning flow in Tamil. The internal pulse is seen to be embedded in the eternal pulse.

In the *Carnatic* system there is an additional third rhythmic layer,[118] as the *solkattu* syllables themselves include a variety of rhythmic groupings and combinations. For example, the internal subdivision of 7 may be recited as: 3 + 4 *tha ke da* + *tha ka thi mi,* or as 4 + 3 *tha , thin,* + *ke na thom*. Similarly a subdivision of 9 could be thought of as 2+2+2+3 and recited as *tha ka* + *tha ka* + *tha ka* + *tha ki ta* or 4 + 5 as *tha ka thi mi* + *tha ka tha ki ta*. Thus a subdivision of 7 or 9 is not simply 7 individual septuplets or 9 nonuplets. The interior language imprints an independent layer of sub-groupings placing many of the beats in groups, usually in 2's, 3's 4's or 5's.

In most Western jazz music, the metre or eternal pulse is given as a time signature, for example 6/8 or 4/4. The internal subdivision - if required - is either written descriptively as, for example: 'swung quavers' or 'straight 16ths', triplets etc, or described as a musical 'feel', such as 'swing' or 'shuffle'.

Laya Ratna

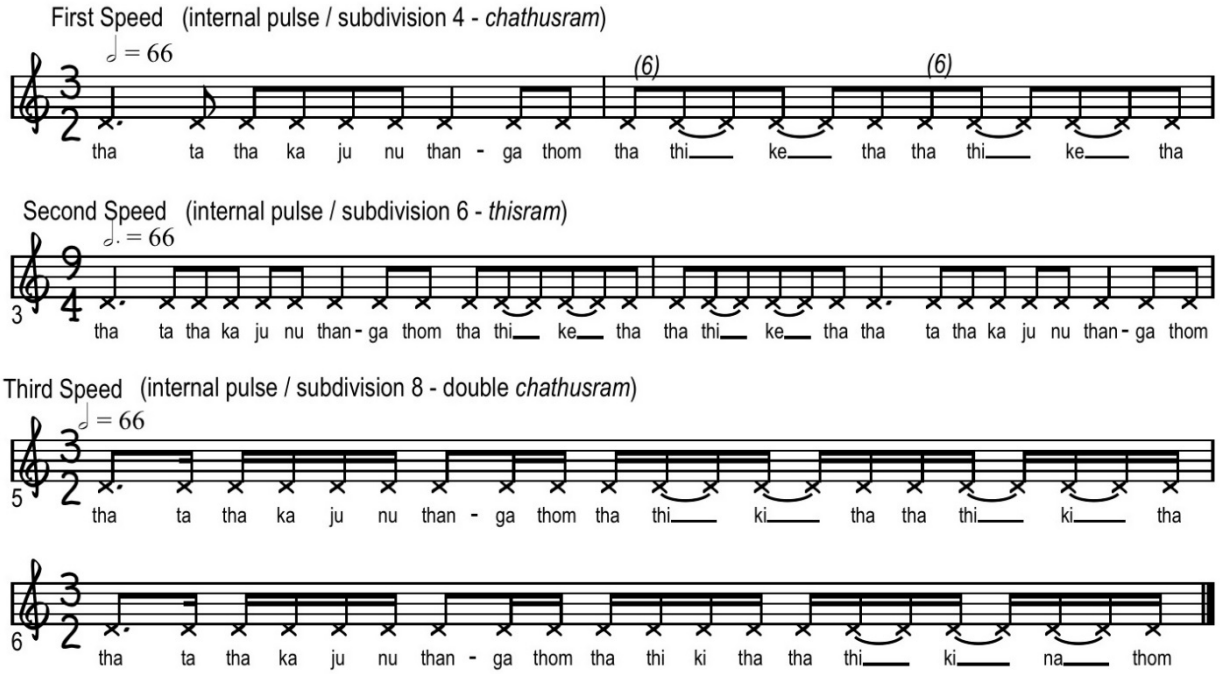
Switching the internal pulse of a given metre is used to great effect in *Carnatic* music. The technique is known as *laya ratna,* which literally means 'time' or 'speed shifting' in Tamil. *Laya ratna* is used in many works in *The Eternal Pulse* and is akin to metric modulation in Western music. When switching the internal pulse of the metre, the *tala* (or eternal pulse) remains steady, but the *nadai* (internal pulse) changes speed. Proficiency with this technique is an important part of a *Carnatic* musician's craft. A common *laya ratna* shifts from a subdivision of 4 to 6 to 8. Performing these metric shifts is a fundamental element of the *Carnatic* tradition; it

[117] *Tala* examples are *adi tala* - cycle of 8, *misra chappu* - cycle of 7. The *nadai* are named as *thisram* (3) or double *thisram* (6), *chathusram* (4), *kandam* (5), *misram* (7), double *chathusram* (8), *sangeernam* (9) and are similar to triplets, semi-quavers, quintuplets, septuplets, demi-semi quavers and nonuplets in Western music. However, this simple explanation can be misleading, because Western tuplets are commonly grouped as quavers, crotchets or semi-quavers etc., whereas with the *Carnatic nadai* groupings and metric shifts, each subdivision group occurs within the same metric space or within one beat of the cycle.

[118] A third rhythmic layer may also be evident in other music systems not being discussed in this research.

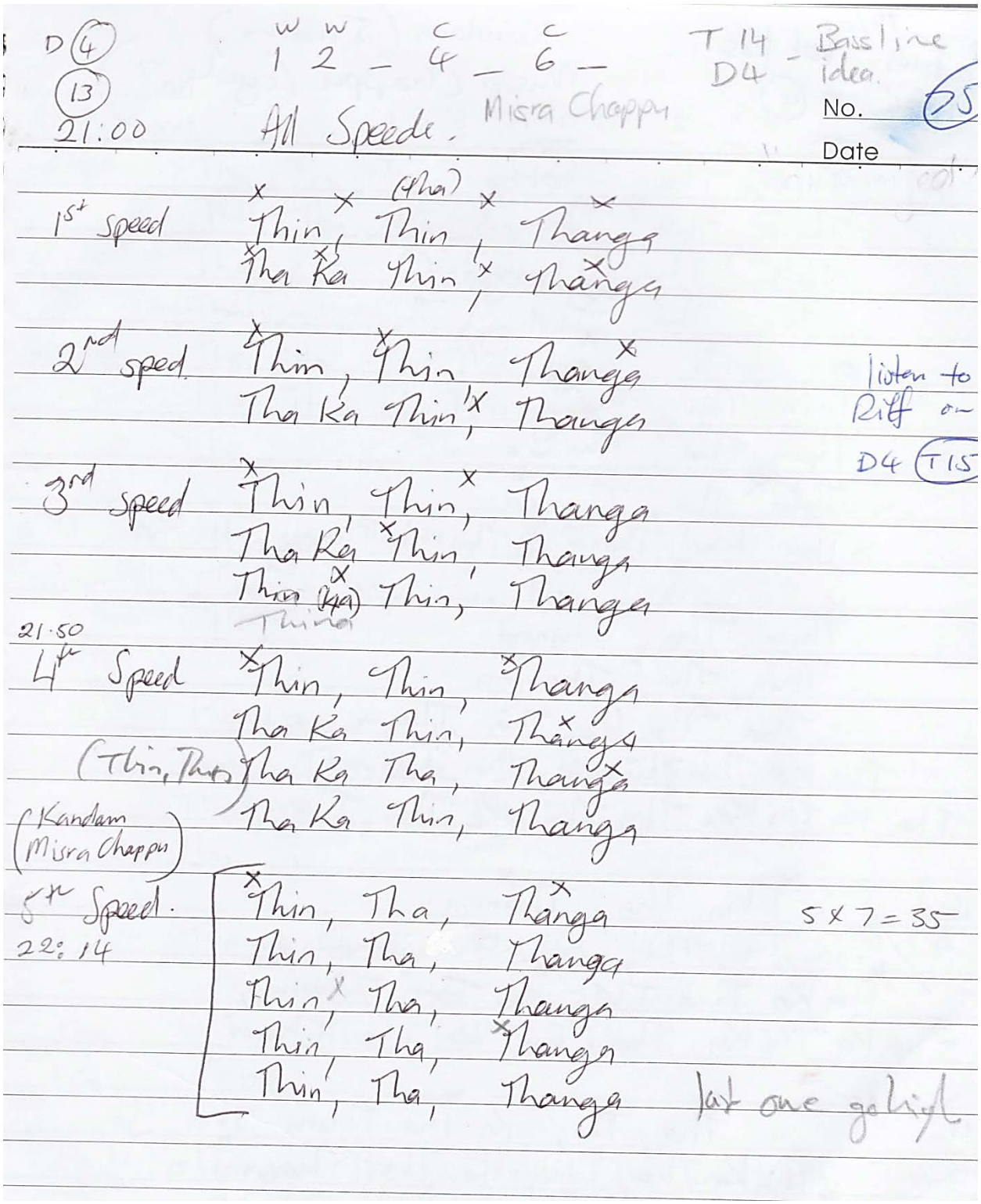
is a tool, which is used to virtuosic effect in performance. *Laya Ratna* or time shifting is clearly heard in *The Eternal Pulse* in the compositional structures of tracks 2, 6 and 8. Two demonstrations of *laya ratna* are provided in video tracks 10 and 11.

Video track 10: *Laya Ratna* 4 /6 /8 (duration 0:30) - demonstrates *laya ratna* (in *rupaka tala)* with a shifting internal pulse of 4 to 6 to 8. Western notation is provided below. (This example draws on the *konnakkol* heard in CD track 7 *Rupaka).* (WATCH)

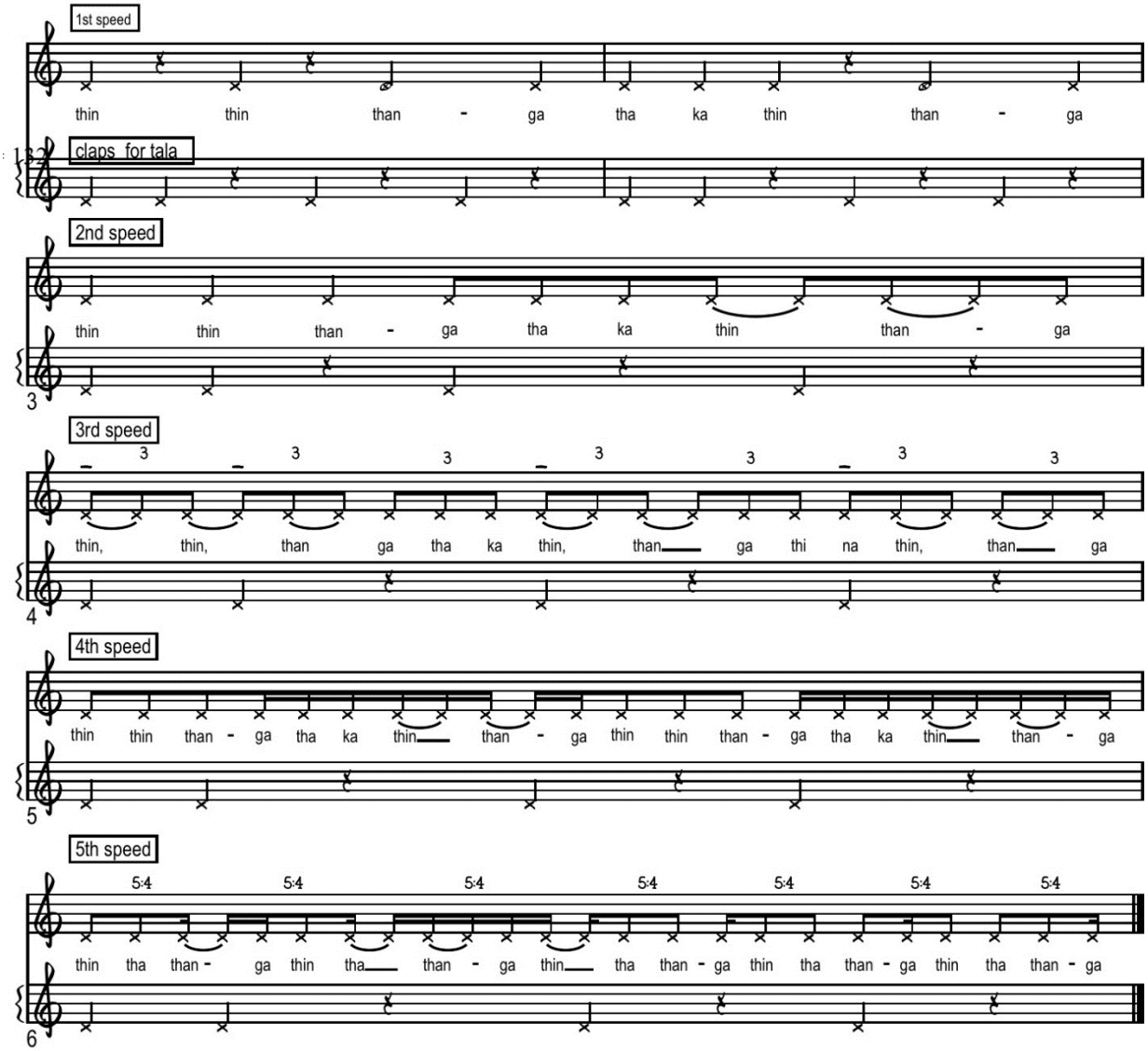


Notated example 5.3N.1: *Laya Ratna - Rupaka* structure, internal pulse (*nadai)* 4, 6, 8, as demonstrated on video track 10.

Video track 11: *Misra Chappu* 5 speeds (duration 0:23) - demonstrates a cycle of 7 beats using the *misra chappu* phrase *Thin, Thin , Thanga | Tha Ka Thin , Thanga* in five speeds. Of interest is that the claps of the cycle of 7 beats are sub-grouped as 1, 2, 3, - 1, 2 - 1, 2 thus 3 - 2 - 2 beats, whereas the *konnakkol* phrase is the reverse being recited as 2 - 2 - 3 *thin , (2) thin , (2) thanga (3) - tha ka (2) thin , (2) thanga (3).* Indian and Western style notations are provided below. This phrase in 2nd speed, is the core of the riff used in track 2 *Misra Chappu*. (WATCH)



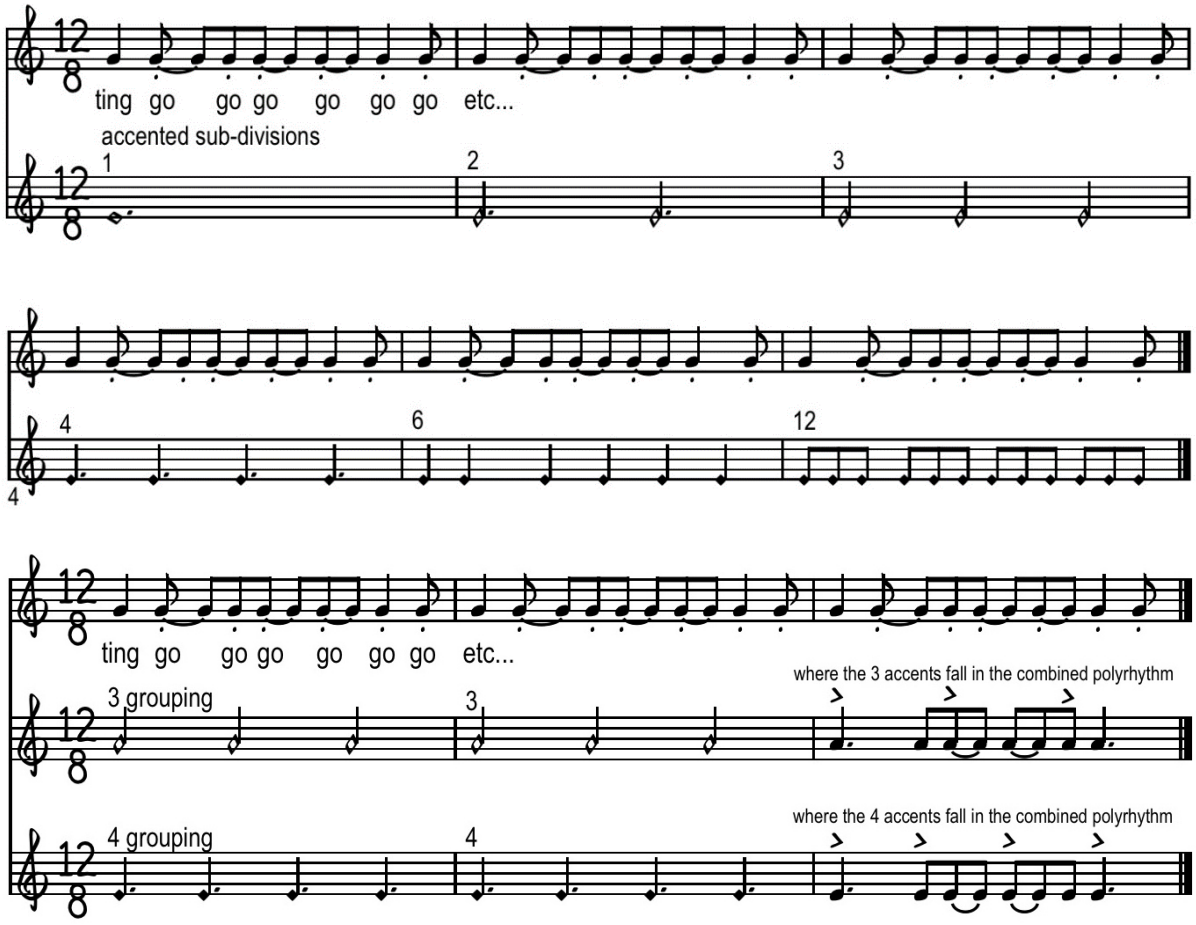
Notated example: 5.3N.2: Young's Chennai Notebooks 2008 - the 5 speeds of *misra chappu* phrase - *Thin , Thin , Thanga | Tha Ka Thin , Thanga* as demonstrated on video track 11.



Notated example: 5.3N.3: Western notation of 5.3N.2, the 5 speeds of *misra chappu* phrase *Thin , Thin , Thanga | Tha Ka Thin , Thanga* as demonstrated on video track 11.

Another definitive example of the concept of eternal and internal pulse is provided here in relation to a 12/8 metre. 12/8 is a complex rhythm as it can be internally subdivided or accented (grouped) in various ways. The video demonstration shows these groupings, and how this concept relates to the compositional approach of track 1 - *The Internal Pulse*. The rhythmic structure of track 1 is analysed in greater detail in chapter 5.7.

Video track 12: 12/8 groupings (duration 0:51) - demonstrates the juxtaposition of handclaps and the recitation of a 12/8 West African[119] bell pattern to show the accented 12/8 internal subdivided groupings of 1, 2, 3, 4, 6 and 12. Each of the internal accented groupings implies a new interpretation to the feel of the 12/8 rhythm. These shifts can be named as a 2-feel, 3-feel and 4-feel etc. The second half of this video demonstrates how different 12/8 subdivisions can be accented simultaneously to give an interlocking polyrhythmic effect, for example: when we combine the internal pulses of 3 and 4, or if we allow the 3 or the 4 grouping to be the dominant accent, the feel of the 12/8 rhythm is altered. The demonstration finishes with the practical application of these rhythms in conjunction with the opening melody to track 1 *The Internal Pulse*. (WATCH) The accents demonstrated are seen in the notations given below.



Notated examples 5.3N.4: Notation of 12/8 internal groupings 1, 2, 3, 4, 6 and 12, which alter the implied feel of the 12/8 rhythm, as demonstrated in video track 12. The second sections shows the groupings of 3 against 4 and the combined accents in a 12/8 rhythm as demonstrated in the latter part of video track 12, and as explored in the composition of track 1 *The Internal Pulse*.

[119] This recited pattern has numerous names and is used in many Afro derived styles. As clarified by percussionist Alex Pertout (2012), it can be thought of as 12/8 or as 2 measures of 6/8. It has Ghanain and Yoriba Nigerian connections and therefore can be called a West African pattern (Pertout 2012).

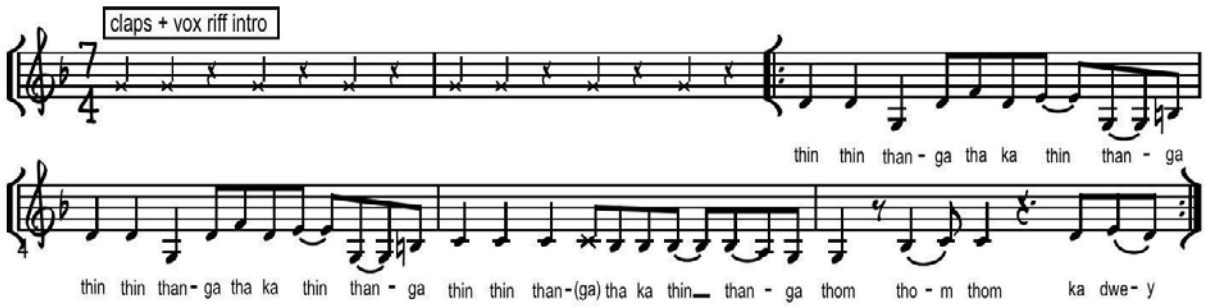
5.4 Personal Approach: Language Development - Vocal Sound-Bank

Assembling a unique vocal expression

The focus of my compositional and performance approach has been the development of a unique vocal style.[120] Ran Blake discusses the idea of such a personal style as being related to the accumulation of one's experiences when he states: "Style must necessarily be selective; it is your distillation of reality" (2010: 2). He also suggests that the key to developing a personal style begins with focusing with your ears, rather than focussing on a theory or technique, when he states: "Putting the ear, rather than the fingers (technique) or the brain (theory), at the center of your musical learning is the key to forming a truly personal style" (Blake, 2010:2).

As an improvising vocalist I have developed a vocal sound-bank that includes a variety of wordless lingual 'scat' sounds as vocal expression. *Konnakkol* (*solkattu*) language has been integrated into this sound-bank adding a rich fabric of rhythmic syllables and structures, and an additional rhythmic-based language that augments the melodic jazz vocal scat language. This extended vocal sound-bank provides a vast lingual stream; it encourages the voice to be an articulate melodic and percussive member of the ensemble, expressing this language in pre-composed structures, improvisations and ensemble dialogue throughout the work. Track 2 *Misra Chappu,* shows the voice participating as both an articulate member of the rhythm section, and an articulation of vocal sound-bank language.

Audio track 2: *Misra Chappu* (0:00− 5:36) Throughout the piece using this vocal cue and the handclaps of the *tala,* the role of the voice is to state and restate the featured rhythmic phrase (riff), which outlines the groove of the 7/4 metre notated in 5.4N.1. (LISTEN)



Notated example 5.4N.1: Riff/ostinato from track 2 *Misra Chappu.*

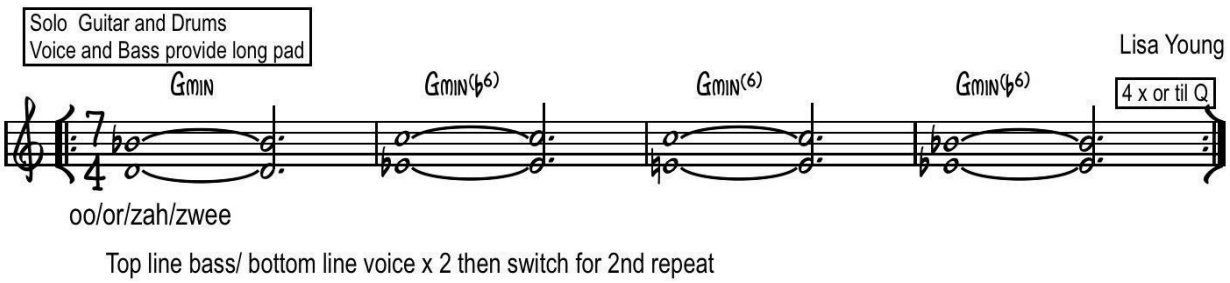
[120] Over many years, I have undertaken valuable in-depth study of traditions such as: jazz, Bulgarian vocal music, Western classical voice technique, South Indian and African music. I have carried these influences through the development of my own practice. These areas of study have consequently influenced the music I create.

The vocal sound-bank approach explored in the vocal language of *The Eternal Pulse* also encourages the use of the voice as a colour in the sonic blend, as opposed to the voice sitting quite apart from the rhythm section.[121] With this blended approach the voice may play supportive roles; for example, to hold legato lines supporting the harmony underneath another member's featured solo, or to provide a percussive riff supporting a melodic theme. I provide three audio examples that demonstrate the voice using sound-bank language in supportive roles and as part of the ensemble's sonic blend.

Example One:

Audio track 2: ***Misra Chappu*** (2:06 - 2:52) (LISTEN)

In this section of track 2, the voice links with the double bass to provide a supportive chordal pad for the combined guitar and drums improvised solo. The voice uses improvised open vowel sounds of *oo, or, zah, zwee* and *yah* to blend in harmony with the long *arco*[122] bass notes in 6ths. These supportive lines build in volume and intensity as the solo progresses. The voice repeats this idea as support for the bass solo at (3:21 - 4:21).



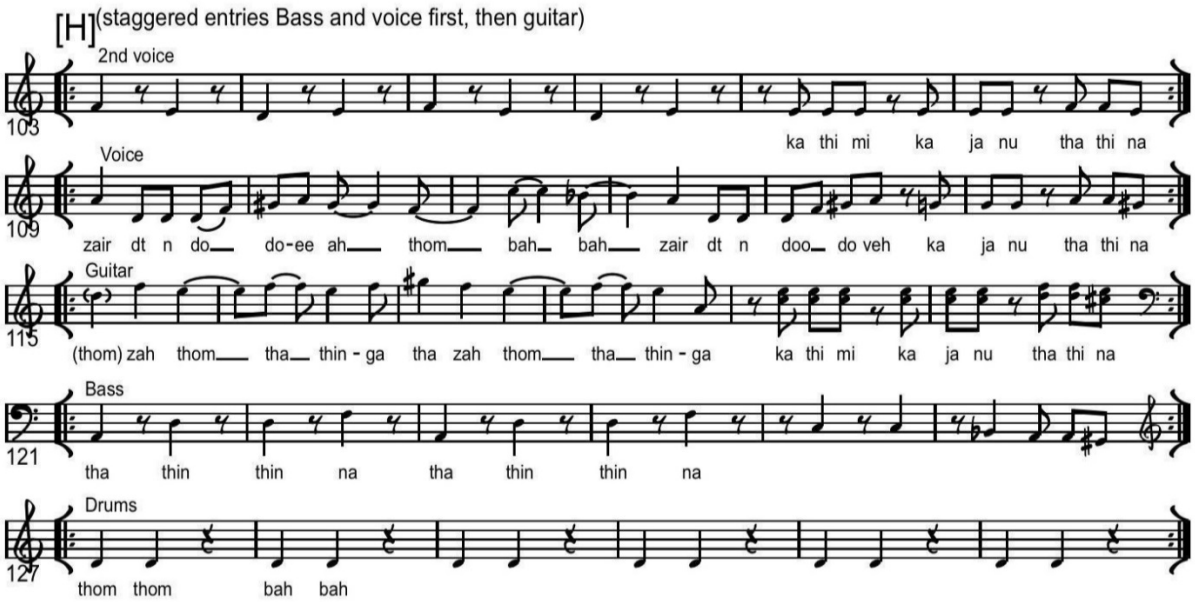
Notated example 5.4N.2: Track 2 ***Misra Chappu*** **(2:06 - 2:52) the voice using legato sound-bank language functioning in a supportive role.**

Example Two:

Audio track 6: ***The Eternal Pulse*** (2:52 - 6:26) (LISTEN)

[121] The rhythm section is commonly drums, bass, and guitar or piano. The section is comprised of these instruments that lay the foundation of the rhythm.
[122] *Arco* is the Italian musical term for bowed, as opposed to *pizzicato* (plucked).

In the second half of track 6 the voice contributes to the ensemble's sonic blend as each instrument takes an independent melodic line, which weaves in counterpoint. As notated below, this segment was composed using predominantly *konnakkol* language; it began as a polyrhythmic layering of five vocal parts, and was then translated onto the quartet instruments. In the quartet's recorded version, the voice uses an improvised mix of *konnakkol* and lingual scat sounds. At 2:52 the voice is heard introducing the bass and guitar lines; by 3:31 it becomes part of the ensemble blend, as quartet members select the lines they choose to play in what becomes a vehicle for ensemble improvisation. With an improvised approach and a desire to engage with the ensemble sound, over time the vocal language has evolved from the original notated version to become an integrated selection of sound-bank language. This sound-bank language is then reinterpreted in every performance, and adapted spontaneously in response to the aesthetic of the ensemble sound on the day. The notated example below shows the independent lines and the vocal sound-bank language, which were the seed of the idea.



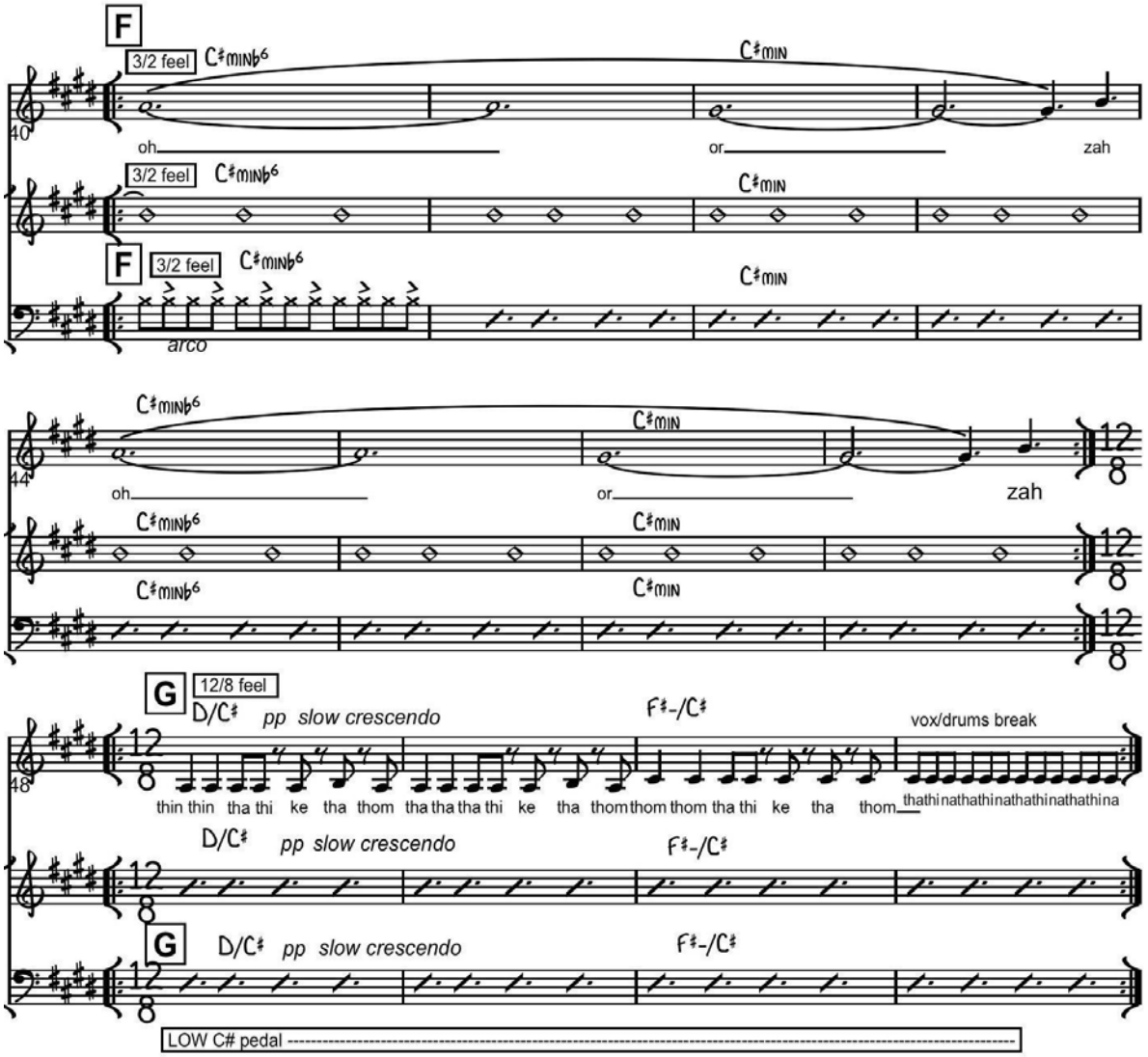
Notated example 5.4N.3: Track 6 *The Eternal Pulse* (2:52 onwards) shows the voice using sound-bank language, functioning as part of the sonic blend of a polyrhythmic, layered ensemble section.

Example Three:

Audio track 1: *The Internal Pulse* (2:48 − 4:14) (LISTEN)

To begin the voice employs sound-bank language in a supportive role; it then moves to a more active melodic and rhythmic role connected to the drums. At 2:48 (Letter F) we hear the

sustained high vocal tones of *zah-oh* as accompaniment to the rapid double bass *arco* feature lines. At 3:16 (Letter G) the bass continues its energetic *arco* lines and the voice moves to pitched *konnakkol* lines gradually rising in pitch. The voice and drums connect rhythmically throughout this section, building intensity in the ensemble's performance. At 4:00 the vocal line begins to fall and wind down to lead into the final section at 4:14.



Notated example 5.4N.4: A section of the notation for track 1 *The Internal Pulse,* highlighting Letter F (2:48) and Letter G (3:16) as discussed in example three. The full notation is given in Appendix A.II.

5.5 Personal Approach: Composition - Creating, Defining, Reflecting

My approach to composition is a voyage of discovery using sound and rhythm. It involves working with the gradual development of ideas and themes, predominantly using an instinctive aural sense guided by what resonates with my aesthetic vision for the overall piece.

For me, composing is a cyclic process of creating, defining and reflecting. These are essentially elements of the one process as they overlap and intertwine but each component is described separately below.

Creating invites an element of play: creating shapes, sounds and structures, improvising, composing and integrating ideas. It is a time of gathering materials, for example; collating the *konnakkol* structures, early sketches of notation and audio recordings of thematic ideas. Creating involves an inquiring intimacy and sensitivity towards ideas being explored, then compiling a collection of ideas for further development.

I offer an example of this improvised approach to composition. In the early stage of composing track 1 *The Internal Pulse,* I explored the different accented groupings of the 12/8 metre (as demonstrated on video track 12: 12/8 groupings and referred to in 5.3). The melody was developed as I played two shakers; this enabled me to switch the accent of the shaker patterns to outline the different groupings of 2, 3 and 4 within the 12/8 rhythm. This improvised approach affected the compositional creation of the melodic phrases and rhythmic structures. The piece was developed by recording my improvised sessions, and then by refining the melodic and structural outline.

Defining involves making selective decisions about harmonic, melodic and rhythmic content; dynamics, tempi; instrumental lines, riffs, and musical forms. This stage included specific notation and editing of the charts,[123] revisiting *konnakkol* texts, refining inflections, adapting existing structures and themes. Development sessions with Robertson helped refine the harmonic and structural shapes. Melodic and harmonic structures were defined in notation, as the order and flow of the overall work became apparent.

Reflecting gives space for the intent of the piece to be realised, enabling the music to breathe and evolve. It is a time for stepping back, allowing a distillation of ideas. Many insightful moments about the music were had when I was away from my studio. Reflection assisted the overview, revealing to me the order and flow of the work. The process allowed for gradual insight or sudden realisation about a particular element. It included reflective assessment of elements such as time signatures, keys signatures, contours and the placement of improvised sections.

[123] Chart is the common name used in jazz for music notation. Discussed in detail in chapter 5.6.

The initial vision

The vision for *The Eternal Pulse* began during an intensive *konnakkol* study period in Chennai in 2008. During this period Mani and I discussed how some of the *konnakkol* structures he was sharing might be integrated, interpreted or adapted into my next work. Throughout 2009 I revised these new structures, using my notations and recordings as reference for specific inflections and accents. Whilst I would eventually deliver my own interpretations, I used this period to absorb the structures faithfully as per Mani's lessons. As part of this process I looked for *konnakkol* language and particular rhythmic features that I was inspired to sing and carry forward into the new song cycle. For example: the metric modulation of moving from 4 to 6 to 9 was new to me. It is used in track 6 and is an unusual configuration, as it is more common to switch from 4 to 6 to 8. Mani's use of this switch into 9 *(sangeernam*) was challenging to recite and interesting to listen to, thus I was keen to master and incorporate this structure in the new work. Notation and demonstration of this 4 to 6 to 9 metric modulation is provided in chapter 5.7 as part of the analysis of track 6.

In the compositional process, I often used *konnakkol* as a tool to enhance intuitive musical meanderings, allowing it to suggest melodies and structures. For example: in **audio track 2: *Misra Chappu* at 0:01 -** the opening riff - and recurring theme - incorporates the phrases *Thin, thin, thanga | tha ka thin, thanga* pitched in second speed, and augmented with additional vocal sound-bank syllables. The sound-bank syllables are underlined in the example below. (Western notation of this riff was previously given in 5.4N.1)

Sung at 2nd speed. Each line = 1 cycle of 7 (7 beats)

Thin, thin, thanga | tha ka thin, thanga (14)
Thin, thin, thanga | tha ka thin, thanga
Thin, thin, than(ga) | tha ka thin, thanga
Dhom ,, dho - om dhom ,, ,, <u>k- dwey - ah</u>

Notated example 5.5N.1: *Carnatic* style notation of motivic idea used in track 2 *Misra Chappu.*

In 2010, at the commencement of this PhD at Monash University, I began formally creating *The Eternal Pulse* song cycle. I worked cyclically through my compositional process; gradually the inherent mood of each piece became clear. This process was guided by a creative aesthetic developed over many years alongside an alert vision for the potential of the work; it allowed the best pieces to emerge and be placed into the overall plan.

Evolving *konnakkol* structures

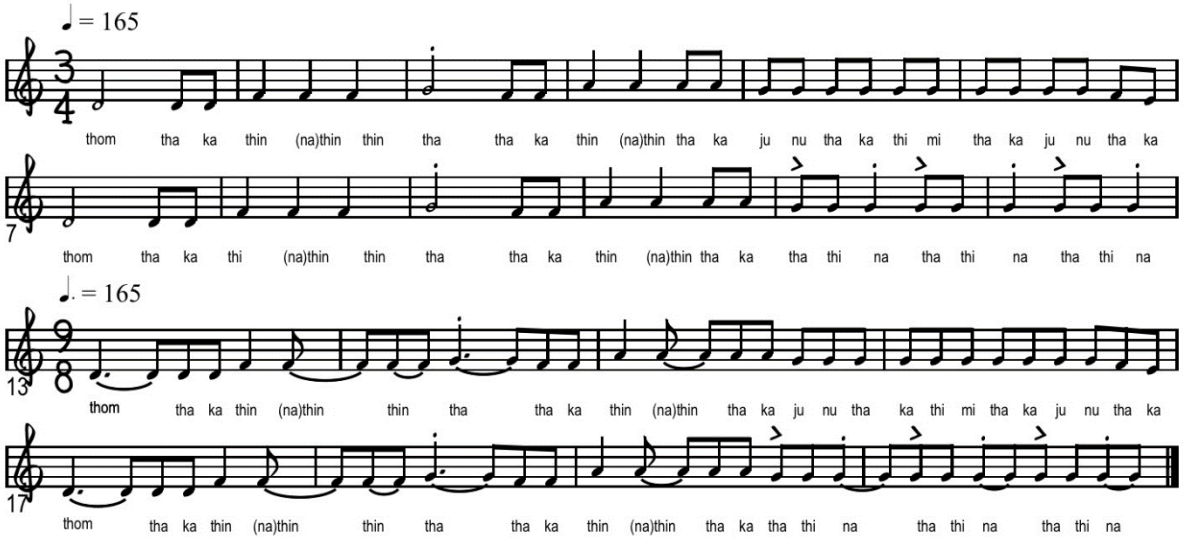
Konnakkol structures composed by Mani were selected by the particular appeal of their *konnakkol* language, and their specific rhythmic components. Both Mani's structures and self-composed *konnakkol* structures were used as a foundation or point of inspiration for many of the pieces. I explored and adapted these pieces using both pitched and intoned expression. I worked with the timbre of the voice translated into musical expression, using rhythmic, melodic and harmonic structures to link themes, and create varied intensities. I investigated many complex numerical rhythmic calculations and aimed to use structures and interpretations that resonated with the musical aesthetic of the overall song cycle.

New *konnakkol* sections were composed without necessarily knowing where they would fit within the work. For example; in **audio track 6*: The Eternal Pulse* at 2:29** (LISTEN) the *konnakkol* structure - which effectively winds down the opening section - came from an original passage set in a 3/4 metre and was adapted into the 9/8 metre used in track 6; this shift is demonstrated in video track 13. The notations below show the phrases in *konnakkol* (5.3N.4) and Western format (5.3N.5).

Video track 13: 3/4 to 9/8 (duration 0:35) demonstrates an intoned recitation of the original *konnakkol* passage in 3/4, then shifted into 9/8 as used in track 6 *The Eternal Pulse* at (2:29 − 2:51), and as notated below. (WATCH)

Thom , tha ka thin na thin tha , tha ka thin thin tha ka*
ja nu | tha ka thi mi | tha ka ja nu | tha ka
Thom , tha ka thin na thin tha , tha ka thin thin tha ka*
Tha thi na , tha thi na , tha thi na ,

Notated example 5.5N.2: 3/4 to 9/8 structure demonstrated in video track 13 and also heard as pitched *konnakkol* in track 6 *The Eternal Pulse* (2:29 - 2:51). * denotes that in performance the *na* may be replaced with *thin* for aesthetic effect.



Notated example 5.5N.3: Western notation of 5.5N2 - 3/4 to 9/8 structure demonstrated in video track 13 and heard as pitched *konnakkol* in track 6 *The Eternal Pulse* (2:29 - 2:51).

In one instance in 2008, Mani played a piece on the *mridangam*, followed by a virtuosic recitation of the *konnakkol*. He pointed out that with some of the phrases he had not yet fixed the *konnakkol,* and suggested I make my own interpretation in those sections, guided by what he had just recited. This is an example of the interpretive, evolving nature of *konnakkol.* The resulting section of *konnakkol* is heard as an interactive section between drums and voice in **audio track 3: *Tha Thin Tha* (1:26 - 2:04)**. (LISTEN)

Vocal tone and techniques in *konnakkol* expression

Vocal techniques such as tonal shape, aspiration and vocal placement, were incorporated to create particular aesthetic effects. With intoned *konnakkol* recitation, I used varied intensities of an aspirated and modulated *konnakkol* timbre. Breath control and intoned pitch were integral to both the sound and rhythm of the phrases. I am providing two examples to demonstrate these effects on the recitation expression.

Example One:

Audio track 1: *The Internal Pulse* (0:00 − 0:56) (LISTEN)

In the opening *konnakkol* section of track 1, the voice is heard in conversation with Beck on the *cajón.* To engage sonically with the resonance of the wooden *cajón* I used an aspirated, grainy vocal timbre. The syllables *tham, thin* and *thom* are given extra breath and thus depth in this

way. When employing these vocal techniques I consciously used postural support to keep the vocal sound rounded and warm but lifted in the mouth so as not to tax or damage the larynx. The dynamics, which are partly improvised interactively, and the falling intoned lines heard at **0:40-0:43** and **0:53-0:56** all add varied intensities to the work.

Example Two:

Audio track 5: ***The Glide*** (0:01 - 0:29) (LISTEN)

In this concise *konnakkol* introduction, the sound of the inhalation becomes part of the percussive phrase where it assists the rhythmic outline. For example, we hear the aspiration of the inward breath marking many of the beats in between the *konnakkol* syllables. Also, in this opening passage, the release of breath is used to affect the expression of certain syllables, particularly with words like *thom, dhonga* and *jham* that represent the deeper bass sounds of the drum.[124] These syllables are given an extra push of breath combined with a deeper pitch, adding to the effect of the voice emulating a drum sound and giving contour to the phrase. This slower, aspirated and deeply intoned approach, allows the pace of the *konnakkol* to introduce the gliding melody at 0:29. Here the pitched voice switches to use a light aspirated tone, in this instance evoking a sense of gliding above the rhythm section.

Pitched *konnakkol*

In the *Carnatic* tradition and in most contemporary performance settings, *konnakkol* is delivered as 'intoned' recitation. In addition to the intoned recitation, a distinctive feature of my personal practice is the incorporation of pitched *konnakkol* as part of melodic structures, rhythmic motifs, and rhythmic and melodic improvisations. Many examples of this distinctive

[124] Ravichandhira explained that: "The deeper bass sounds are produced on the mridangam bass head [and] can be either a single stroke on the bass head or a modulating stroke namely *Gumuki,* where the portion of palm below the thumb (after pecking the base head skin with middle two fingers to produce the primary sound) is used to modulate it by gliding skilfully over the centre skin of the bass head to sustain the sound to produce a snaring tone preferably one octave below the sound of the right head to enhance the listening pleasure. The two types of deeper sounds produced on the bass head can be stand-alone sounds or combined with strokes on the opposite head. Paradoxically, the centre skin of this bass head is also skilfully used to enhance 'thin' by muting it with sound produced by fingers folded and struck on "tha" skin. I call it a 'folded tha'. Such strokes are essentially used to enthrall audience with 'val linam' and 'mel linam' which is an important aspect in music to show how a phrase can be delivered alternately with bass and treble modulations in a contrasting manner to suit the melody (as close as possible) similar to what a konakol artist would emulate the same modulations in a pleasing manner with his or her voice" (Ravichandhira 2014).

use of pitched *konnakkol* are heard throughout the song cycle. Three examples which were provided and notated in chapter 5.3 are listed here as a reference.

Audio track 3: *Tha Thin Tha* (0:20 - 0:42) *konnakkol* as language for a vocal melody. (LISTEN)
Audio track 3: *Tha Thin Tha* (0:43 - 1:05) *konnakkol* as language for a rhythmic motif.
Audio track 7: *The Exchange* (2:05 - 2:19) *konnakkol* as language incorporated in a vocal improvisation. (LISTEN)

***Carnatic* techniques**

Many *Carnatic* techniques learned as part of my study of *konnakkol* influenced my compositional processes in *The Eternal Pulse*. Some *Carnatic* elements were incorporated in the compositional style, and others pre-existed in *konnakkol* sections composed by Mani. Examples of these techniques are explained in detail in the analysis and video components in chapter six. As a practitioner it is often difficult for me to define where the *Carnatic* rhythmic influence begins and ends, and where the jazz and African rhythmic influences intersect with the *Carnatic*. My approach is grounded in both the jazz[125] and *Carnatic* traditions; many of the pieces incorporate a convergence of styles, and both traditions inform my musicality. However, there are three common *Carnatic* techniques worthy of mention, as they are clearly identified in *The Eternal Pulse*.

Firstly: ***Laya ratna*** (metric modulation) - is featured in the compositions of tracks 2, 6 and 8 and explained and analysed in detail in chapter 5.3.

Secondly: **Extension and reduction structures -** are patterns where the structure of a repeated phrase is increased or decreased usually by one syllable or space per phrase. Over a series of repeated lines, this technique engages rhythmic variation or displacement and is heard in *The Eternal Pulse* in the following video and audio examples.

Video track 14: extension structures (duration 0:18) - demonstrates two extension structures used in *The Eternal Pulse.* (WATCH)

As notated below, in this example the extension is the addition of one *karvai* (one unit of space represented by a comma) per line, place after the second *ka* syllable in the phrase. The final

[125] The jazz tradition for instance includes the use of: functional harmony, chord scale relationships, voice leading and melodic invention.

Thanga marks the seventh beat of the cycle of eight. This structure is incorporated in **audio track 1: *The Internal Pulse* (0:34– 0:39)** (*Adi tala, thisra nadai)*. (LISTEN)

Tha ka thina | tha ki ta | tha ka thanga	4+3+5 = 12
Tha ka thina | tha ki ta | tha ka , thanga	4 + 3 + 6 = 13
Tha ka thina | tha ki ta | tha ka , , thanga	4 + 3 + 7 = 14

In the second half of the demonstration - as notated below - the extension uses the addition of 3 units per line; the first repeat adds 3 units of space, the second repeat adds 3 syllables, extending the original line from 9 to 12 to 15. This structure is incorporated in **audio track 6: *The Eternal Pulse* (1:07-1:13).** (LISTEN)

Thom thom ke tha tha ka thinga	(9)
Thom thom , ke tha , tha ka , thinga	(12)
*Thom thon**ga** ke tha , **ka** tha ka , **ka** thinga*	(15)

Thirdly: **Numerical Variation -** *Carnatic* musicians learn to calculate phrases as numeric systems and groupings; they often use consecutive numerical groupings for example 3, 4, 5 or 4, 5, 6. It is common to reinterpret simple rhythmic structures using a numerical approach. Two examples are provided to demonstrate this type of numeric phrase variation.

Example One:

The notation below shows variations of a 3 beat phrase where each beat is subdivided by 4. The numerical groupings provide rhythmic variation. The demonstration uses *rupaka tala* - a cycle of 3 beats.

Example one: the phrase consists of
4 + 4 + 4 = 12 recited as | *tha ka thi na* | *tha ka thi na* | *tha ka thi na* |
Example two: the phrase reinterpreted as
5 + 4 + 3 =12 recited as | *tha ka thi na ,* | *tha ki ta ,* | *tha ka ,* |
Example three: the phrase reinterpreted as
3 + 4 + 5 = 12 recited as | *tha ki ta* | *tha ka thi na* | *tha thi ki tha thom* |

Notated example 5.5N.4: Variations of numerical groupings.

Example Two:

Audio track 1: *The Internal Pulse* (3:17– 4:00) (LISTEN)

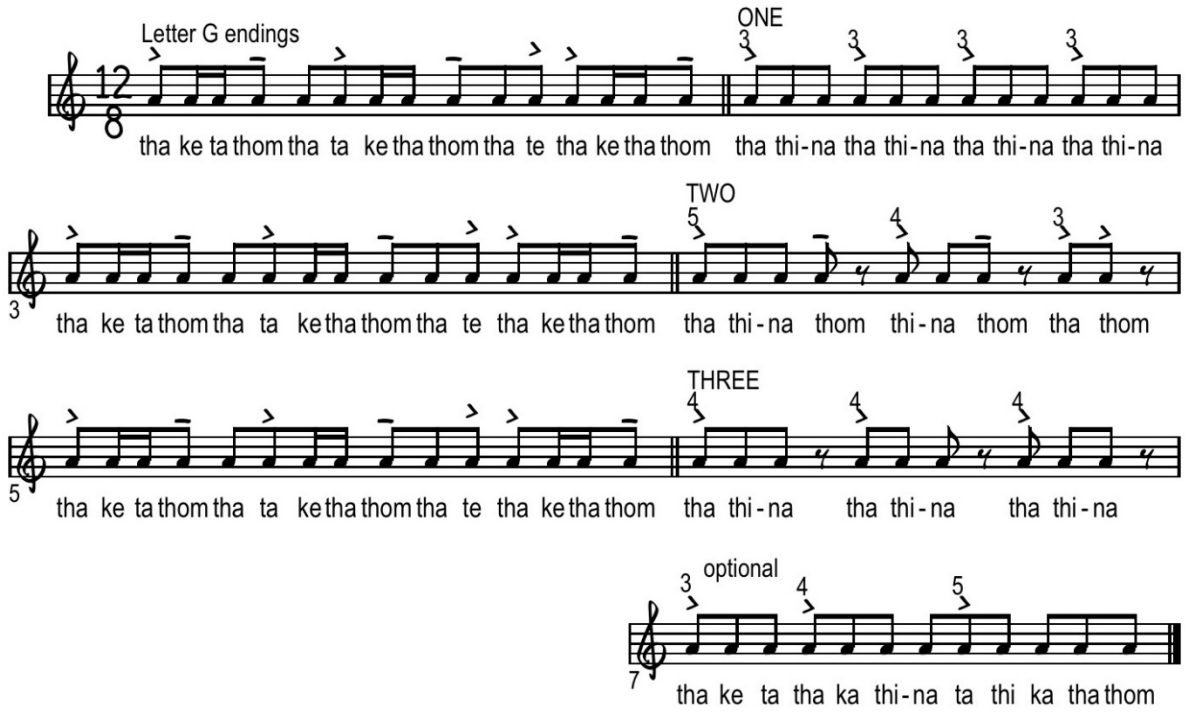
Here the endings of three phrases are altered; the varied numerical groupings add intensity and provide accented rhythmic variation. The numerical variation is shown in notation 5.5N5

below. Then in 5.5N6 the Western notation shows the phrase variations as notated in the band chart appendix.

Adi tala (cycle of 8), *thisra nadai* (subdivision or 3 or 6).

(1) 3+3+3+3=12 recited as |*tha thi na*|*tha thi na*|*tha thi na*|*tha thi na*|
(2) 5+4+3=12 recited as |*tha thi na thom* , | *thi na thom* , |*tha thom* , |
(3) 4+4 +4=12 recited as |*tha thi na* ,|*tha thi na* ,| *tha thi na* ,|

Notated example 5.5N.5: Variations of numerical groupings.



Notated example 5.5N.6: Western notation of the *konnakkol* breaks with variations of numerical groupings, heard in track 1 *The Internal Pulse* (3:17 - 4:00).

Text

Initially I envisaged that *The Eternal Pulse* would include prose, alongside *konnakkol* and vocal sound-bank language. Throughout 2010 I experimented with text in two or three of the pieces. By early 2011, it became apparent to me that the text altered my expressive options and experience of the melodies; it imposed a more literal context to the songs, distracting me from the imageless expression I sought. By contrast, I experimented with vocal expression, varying vocal timbre, sounds and shapes, and expressive intensity. As the sound-bank language developed, my syllables felt more suitably expressive, more conducive to interpretation, and

not bound to a particular tradition or genre. In the quartet rehearsals and development sessions, the sound-bank language allowed me to participate more directly in the ensemble dialogue. To quote Rainer Maria Rilke's 1903 writings - I found a satisfying existence in the 'unsayable'. Here Rilke says:

> Things aren't all so tangible and sayable as people would usually have us believe; most experiences are unsayable, they happen in a space that no word has ever entered, and more unsayable than all other things are works of art, those mysterious existences, whose life endures beside our own small, transitory life. (Rilke, R. ed.1996)

Gradually certain vocal syllables began to settle into each song. Some sound-bank phrases were notated by hand onto the vocal chart as cues.[126] In February 2011 I relinquished all text expression. The newly emerged titles of the works now provided signposts, clarifying the various stages of the song cycle; within the music there was a direction and a flow. It was enough. Over the next few months I wrote a poem as a connection to the sensibility of the piece; it is printed on the CD cover:

The Eternal Pulse

I rub my eyes
there is no search for proof
nor wishing for something else
this rhythmic indication
this ancient
recurring
pounding
is surging

I touch my heart
this dive thru sacred chambers
of unmetered strength
this prayer an invitation
to seek the sacred
to lean into the divine

this hidden pulse
slips thru

[126] For example; in track 5 where the main theme enters at 2:54 in *The Turning*, vocal sound-bank syllables were written for the melody as '*zai ah dt n d dah gong ga gwair dah doh*'.

Development sessions with Robertson and the quartet

Throughout the compositional process I met regularly with quartet double bassist Ben Robertson. During these core development sessions we worked with a shared vision and aesthetic regarding creative process and product. We had approximately ten sessions prior to the quartet's first rehearsal.

Typically in these sessions I brought rough charts of the pieces I was working on, and we explored them using voice, double bass, piano and percussion. At times we worked with scores and notation, at others we recorded improvisations as sketches to be developed. These sessions moved between shaping, improvising, notating, and recording. We also devoted time to the featured double bass passages and *arco* sections. Knowing we would have limited rehearsal time with Magnusson and Beck, we aimed to have the shapes and structures of the pieces well crafted prior to the first quartet development session. The notations, recordings and memorised elements from these sessions provided references for the next draft of the band charts and the continued exploration of the broader shape of the music.

Over an eighteen-month period the quartet had six development sessions and then a final 'run' before the premiere, in June 2011. The ensemble development sessions were spread out to allow time for compositional refinement and reflection between the sessions. Over time the best ideas held their place in the overall plan and others fell away.

The emerging plan

Leonard Bernstein is often quoted to have said: "To achieve great things, two things are needed; a plan, and not quite enough time."[127]

To track the evolving work, I created a plan that listed potential compositions and their particular features for inclusion. Each piece was listed with a working title, time signature, the particular *tala* and *nadai* used, the harmonic framework and a description of the feel or groove. Where relevant featured elements were listed as intoned or pitched *konnakkol*, interactive *konnakkol* - where the *konnakkol* would be the framework for drums and voice trades - plus

[127] This quote is not sourced to a Bernstein text rather it is frequently quoted online as attributed to Bernstein. At the time of writing it is found in the following sources. [Online]. BrainyQuote.com Available http://www.brainyquote.com/quotes/quotes/l/leonardber140536.html [Acessed 2012, April 3]. Also,[Online]. Available http://www.goodreads.com/author/quotes/41906.Leonard_Bernstein [Accessed 2014,October 17].

featured passages of *aslatuas*,[128] *cajón*,[129] double bass, drums and guitar. Over time this plan was refined, allowing a blueprint to be revealed and eventually eight pieces remained.

The plan is listed below.

The Eternal Pulse –

1. **The Internal Pulse**
a. *tham , , tha ke tha tham*… Interpretation of Mani's structure (*Adi tala, thisra gathi*)
b. 12/8 with internal sub divisions of 2 (6/4), 3 (3/2), 4 (12/8) in sequential sections.
c. E dorian moves thru multiple harmonic centres

2. **Misra Chappu** (open G riff - maj min blues)
a. (7/4) riff open G
b. uses 3 different *nadai* -

3. **Tha Thin Tha** 4/4 major A major (modal)
fast 4/4 *konnakkol*
a. Opening *konnakkol* into A section melodic *konnakkol*
b. B section, independent bass and voice lines.
Drum/voice trades *dhonga dhonga tha ke tha tha ka*…
c. Melody modulates last time

4. **The Turning** A 6/8 opens in D (major Lydian) moves to A for song.
a. starts with *alap* bass follows voice in D
b. moves into time with *aslatuas* D lydian
c. 6/8 word less song A major finishes with reprieve of the opening section with aslatuas

5. **The Glide** (modal 2 shifts)
a. G drone 4/4 Lydian melody

6. **The Eternal Pulse**
a. A– *chat/thisram/sangernam* 4 , 6, 9 written as 2 to 3
Thom , ke tha num , ke tha etc
b. Starts in G then moves up thru various tonalities
c. + A/G then G/C then F/A/G then Eb sus/Bb then Cminor/Bb then Bb minor/major
d. The B Section comes from the vocal arrangement - sound bank and *konnakkol*
– 6/8 *[tha , ,thin ,, thin , , na , ,]2 , ka thi mi , ka ju nu , tha thina*

7. **The Exchange** 5/4 (modal F mixolydian)
a. 5/4 groove / with *konnakkol* in melodic moments, use original *konnakkol* pitched into the melodic chant
b. use the 3 melodic sections in a canon (voice/bass/guitar)
c. shift of harmony for the B section

8. **Rupaka** original *konnakkol* with cajón
a. *Rupaka Tala, chathusra, thisra,* double *chathusra nadai/gathi*

Table 5.5T.1: Young's notebook plan of *The Eternal Pulse*

[128] *Aslatua*s are Ghanaian hand percussion.
[129] *Cajón*, lit. 'box' or 'crate' (Spanish) is a wooden box-like percussion instrument.

5.6 Notation Process

The term 'musical score' implies a fully notated composition, where parts for different instruments or voices usually appear on separate staves. In the jazz tradition the term 'chart' is more commonly used for the notated form. As the name suggests, a 'chart' is a map or outline of the music on which specific information is plotted and is an apt description of this style of notation. The 'chart' by its sparseness encourages and allows scope for interpretation. It immediately engages the players 'ears' or active listening, inviting both an interpretation of the written form and an engaged response to the music offered by other members of the group. Also by its sparseness it encourages the musicians to move away from the chart, and where possible to play from memory.

The charts for *The Eternal Pulse* were written with the quartet players in mind, and assume an inherent knowledge of style and an immense harmonic and rhythmic vocabulary. Occasional specific chord voicings are given, but much of the assumed interpretation is based on inherent jazz sensibilities. The chart notations supplied as examples, have not been 'tidied up' for inclusion in the appendix. For example: colloquial or invented words like 'clunge' and 'sort of' are used to describe chord voicings. These terms are indicative of the quartet's approach to notation, where it is accepted to use humorous descriptive words for interpretive suggestion, rather than more formal musical language.

In my experience as a practitioner, an overly pedantic arrangement may have a negative influence on creative performance. Players in this genre do not require, nor enjoy being over-directed. Rather they need well-crafted compositions; clear charts designed for stylistic representation and improvisation, that invite their interpretive powers into the music.

The Eternal Pulse charts are 'sketches' plotting form, description, harmonic content, rhythmic subdivision and accents, and vocal sound-bank language. I made all notation decisions in relation to ease of learning and expediency of passing my compositional intent to the musicians. I refined the charts over the development period and limited each final chart to three pages to eliminate page turning. Most pieces required a common band chart best described as a lead sheet, containing melody, chords and basic rhythms and dynamics. The opening piece *The Internal Pulse* required independent lines for voice, guitar and double bass; thus individual instrumental parts were scored to keep the visual information for each musician as clear as possible. By the first performance the musicians had partly memorised the

music; the charts were no longer used as a sight-reading vehicle, rather they served as a reminder of the work's outline.

Konnakkol notation

The *konnakkol* notations came from my personal notebooks; they began as intoned recitations notated in the *Carnatic* style, which I then filed as appendices to the relevant charts. I adapted and integrated passages as language for pitched *konnakkol* lines, melodies or riffs, transcribing them into Western notation where necessary. I recorded complex *konnakkol* passages, rhythmic breaks or interactive sections for drums and voice and gave them to drummer Dave Beck for study prior to the first quartet development session. I developed the arrangements and defined the notation; complex *konnakkol* sections were added as Western notation appendices for the drum and vocal charts. Occasionally Beck referred to the notations but he preferred to learn them aurally and perform them from memory. I preferred to use the *Carnatic* style notations as a mnemonic reference in rehearsal or prior to a concert. In the final charts the *konnakkol* notations used a combination of Western and *Carnatic* notation. Appendix A shows notated charts and related *konnakkol* appendix notations for track 1 *The Internal Pulse*, track 2 *Misra Chappu*, track 3 *Tha Thin Tha*, track 6 *The Eternal Pulse* and track 8 *Rupaka*.

Notating metric modulations

My notation style for *laya ratna* or metric modulation was based on ease of reading for the musicians. For example; in Appendix A.IX., track 6 - *The Eternal Pulse* band chart - the chart uses a consistent bar length to represent an even eternal pulse or measurement of metre. The time signature and metronomic marks show the metric shift occurring internally within the bar.

In Appendix A.I - track 1 *The Internal Pulse* full chart. The chart uses a 12/8 time signature throughout, implying a common metre. Text notes added at Bars 3, 40, 48, and 68 describe the required internal pulse 'feel' of the metre as 6/4, 3/2, 12/8.

5.7 Analysis of rhythmic techniques used in *The Eternal Pulse*

Concepts of pulse and subdivision are a dominant feature of *The Eternal Pulse*. This section investigates the convergence of South Indian, contemporary jazz and African rhythmic influences in the music. Sections from tracks 1, 2, 6 and 8 are used for rhythmic analysis.

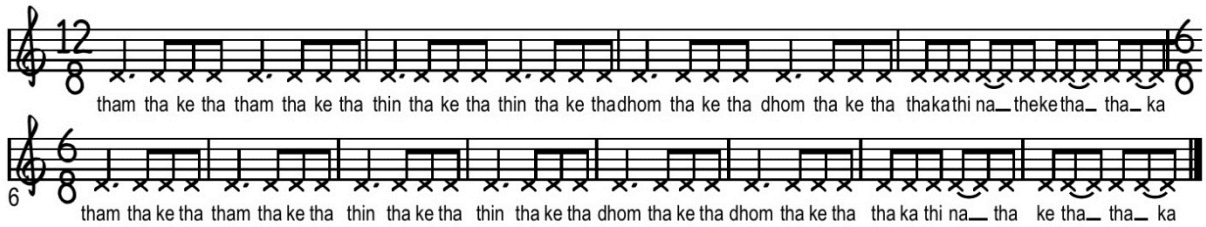
Compositional techniques are discussed and key audio and video track listening points are noted.

Audio Track 1: *The Internal Pulse* (duration 4:58) (LISTEN)

The aim of this piece was to explore a shifting internal pulse of the 12/8 metre by accenting different subdivision groupings, particularly with the idea of shifting between the 2, 3 and 4 groupings or feels of the 12/8 - as demonstrated in **Video track 12: 12/8 groupings.** Certain sections of the piece are felt in different ways and at times instruments independently imply different internal subdivisions of the 12/8 metre creating a polyrhythmic effect. (WATCH)

Highlighted rhythmic elements

The opening *konnakkol* structure composed by Mani is performed with voice and *cajón*. This structure is set in *adi tala* - double *thisra nadai* - eternal pulse 8, internal pulse 6. Each beat of the *tala* implies a 6-feel - 6 groups of two quavers, or recited as 2 strings of 3 syllables for example; *tha ke ta | tha ke ta*. The *konnakkol* heard in the opening recitation is *tham , , tha ke ta | tham , , tha ke ta | thin , , tha ke ta | thin , , tha ke ta* | etc. Thus 2 beats of the *adi tala* cycle links well with the 12/8 rhythm as notated below.

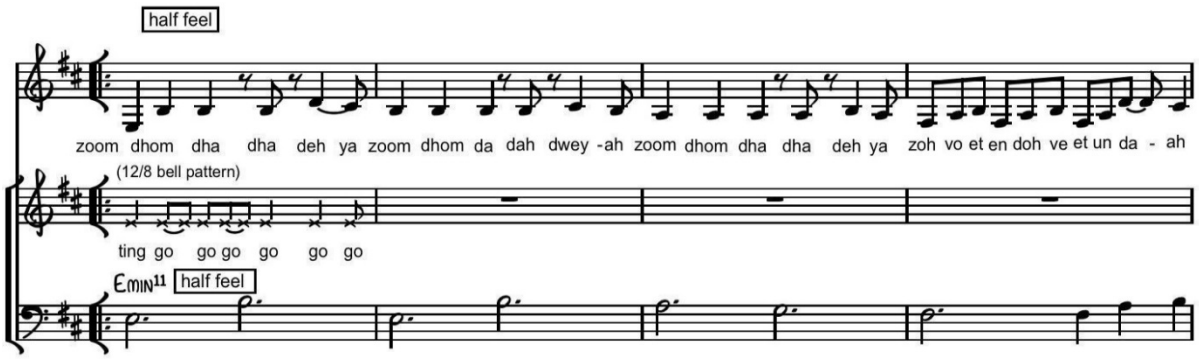


Notated example 5.7N.1: The opening *konnakkol* phrase from track 1 *The Internal Pulse* in Western notation. Firstly in 12/8 which is the metre of the composition, and then in 6/8 which is closer to the way it is felt in the *Carnatic* system (*Adi tala,* double *thisra nadai,* cycle of 8 internal subdivision 6). In the 6/8 notation each bar equals one beat of the cycle of *Adi tala.*

This piece intended to feature different subdivision groupings of the 12/8. The idea was to move from a 2-feel, to a 3-feel and then a 4-feel. There are many times when different instruments are improvising and move between the subdivisions implying different cross-rhythms creating a polyrhythmic effect. The following key listening points, notations and video demonstration direct the listening to some of the intentional and spontaneous rhythmic points of interest in track 1.

Key listening points for track 1: *The Internal Pulse* (LISTEN)

At 0:58 - The vocal melody begins and the double bass outlines the 2-feel as shown in 4 bars of the notation below. The rhythm of the melody (unintentionally) relates to the 12/8 West African bell pattern sung as *zoom doom dah (dah) dah deh ya.*

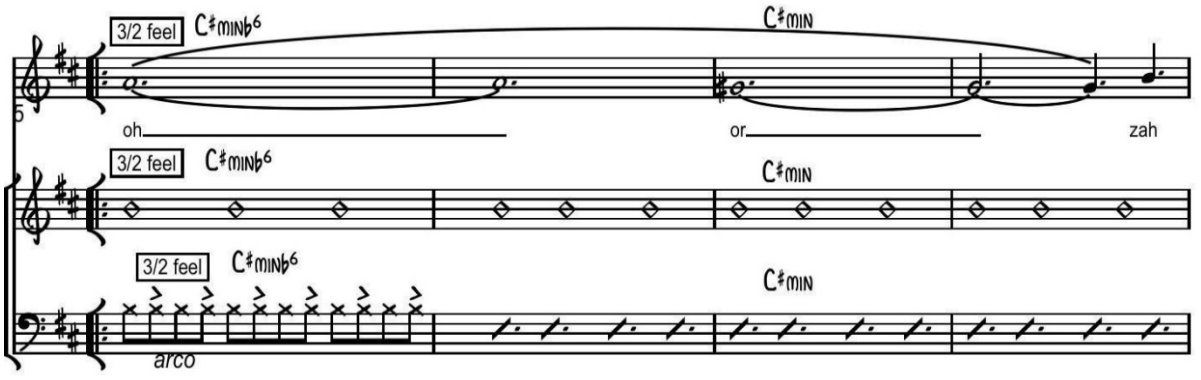


Notated example 5.7N.2: The opening melody of track 1 *The Internal Pulse* where the bass outlines the half or 2-feel.

At 1:24 - The voice repeats the opening melody and the double bass moves to the 3-feel (3 groups of 4 quavers or 3 beats per bar)

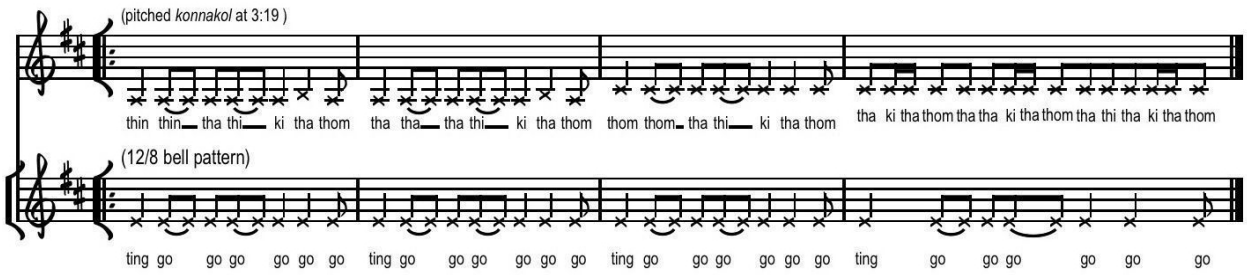
At 2:35 - The bass line implies the 12/8 bell pattern and the guitar partially implies the 4-feel with higher plucked notes.

At 2:48 - As notated below, the voice moves to the high held line of *zah-or* the drums imply the pulse of the 3-feel, while the bass plays 12 8th notes per bar accenting the 6-feel.



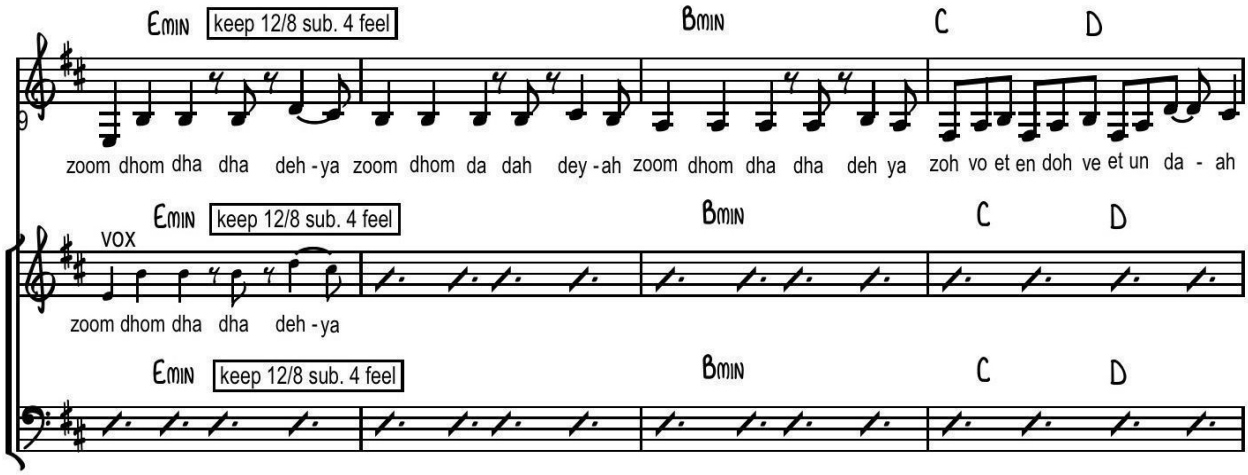
Notated example 5.7N.3: Track 1 *The Internal Pulse* (2:48 - 3:19) the voice moves to long notes, the drums imply the 3-feel and the bass moves to rapid *arco*.

At 3:19 - As notated below, the vocal pitched *konnakkol* of *thin , thin , tha thi , ki , tha , thom* reflects the West African rhythm *ting go go go go go go*. The drums and the bass also imply the bell pattern.



Notated example 5.7N.4: The rhythmic similarity of the vocal pitched *konnakkol* phrase and the 12/8 West African bell pattern.

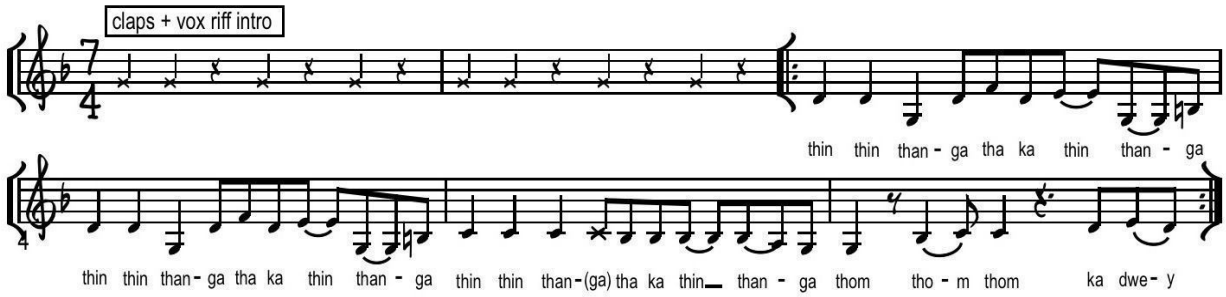
At 4:13 - The voice pulses the 4-feel (4 groups of 3 quavers) with *thom,, thom,, thom,, thom,,* into the final section where the opening melody is repositioned in a 4-feel. The rhythmic notation of the melody here is the same as in the opening section, but it feels altered as it is weighted now in a 4-feel and has more of a galloping groove outlined by the band. The final section, which is notated below, has a definite 4-feel more like a jazz 12/8. There are numerous rhythmic references to the Afro derived bell pattern throughout the piece, some of which were intentional and many of which were discovered during analysis.



Notated example 5.7N.5: The final section at 4:15, which has a definite 4-feel more like a jazz 12/8. This galloping groove outlined by the whole band.

Audio Track 2: *Misra Chappu* (LISTEN)

This piece is conceived in a cycle of 7 (*misra chappu).* The core of the composition is the basic *misra* (7) *solkattu* phrase - *Thin , Thin , Thanga | Ta Ka Thin ,Thanga.* The *solkattu* language speaks the seven as 2 , 2, 3 = 7 where *Thin*, = 2, *Tha Ka* = 2, and *Thanga* = 3. The opening motif notated below, is heard from (0:00 - 0:45), and recurs throughout the piece. It is in 2nd speed, stating 2 rounds of the riff for each single cycle of the *tala*. Interestingly the handclaps outlining the *tala* indicate the reverse numerical arrangement; they are grouped as 3, 2, 2 as demonstrated in video track 11.



Notated example 5.7N.6: *Misra Chappu* riff/ostinato from track 2.

Misra Chappu demonstrates two pitched *konnakkol* vocal solos which use *laya ratna* shifting the *konnakkol* into triplets and then 16ths or semi-quavers. They are noted in the key listening points below.

Key listening points for track 2: *Misra Chappu* (LISTEN)

At 0:00 - The riff phrase is introduced as pitched *konnakkol*.
At 1:44 - The pitched *konnakkol* vocal solo uses *laya ratna* shifting the *konnakkol* into triplets - *thisram nadai* (internal pulse 3).
At 2:57 - The pitched *konnakkol* vocal solo uses *laya ratna* shifting the *konnakkol* into 16ths - *chathusram* (internal pulse 4).
At 5:05 - For the coda, the vocal subdivision features *thisram* (internal pulse 3).

Audio Track 6: *The Eternal Pulse* (LISTEN)

Track 6 incorporates both metric modulation and polyrhythmic techniques. The piece is constructed and analysed in two halves. The full-length notated band chart with bar numbers

is provided in Appendix A.IX. The notated band chart - Appendix A.IX, uses a 2/4 metre for the sections subdivided by 4, and a 3/4 metre for the subdivisions of 6 and 9.

The first half of this piece from 0:00 - 2:51, is an adaptation of a structure composed by Mani set in a cycle of 8 where the internal pulse metrically modulates from 4 (*chathusram)* to 6 *(thisram)* to 9 *(sangeernam)*.

Video track 15: 4/6/9 (duration 0:56) (notated below) demonstrates a short recitation of sample sections from the 4, 6, 9 subdivision incorporated in track 6. Composed by Mani, adapted Young. (WATCH)

Chathusram (subdivision of 4)
Dhom , ke tha num , ke tha | (Tha) tha ke tha num , ke tha
Dhom , ke tha num , ke tha |(Dhom Dhom) , tha ka thi mi tha ka ju nu tha ka

Thisram (subdivision of 6)
Dhom , ke tha num , ke tha | (Tha) tha ke tha num , ke tha
Dhom , ke tha num , ke tha | (Tha) tha ke tha num , ke tha
Dhom , ke tha num , ke tha | Dhom Dhom ke tha tha ka dhom ,

Thisram (subdivision of 6)
Dhin , dhin , tha thi , ke , tha , thom
Tha , tha , tha thi , ke , tha , thom
Dhom , dhom , tha thi , ke , tha , thom
Tha , ke tha thom | tha Tha , ke tha thom | tha thi Tha , ke tha thom
1st x || tha ke tha | tha ka thina | that thi ke tha thom ||
2nd x || tha thina , | tha thina , | tha thina , ||

Sangeernam (subdivision of 9) sung twice
Dhin , dhin , tha thi , ke , tha , thom
Tha , tha , tha thi , ke , tha , thom
Dhom , dhom , tha thi , ke , tha , thom

Thisram (subdivision of 6)
Dhin , dhin , tha thi , ke , tha , thom
Tha , tha , tha thi , ke , tha , thom
Dhom , dhom , tha thi , ke , tha , thom
| tha ke tha | tha ka thina | that thi ke tha thom ||

Notated example 5.7N.7: Edited sections of the structure heard in video track 15. This structure is expanded in track 6 *The Eternal Pulse.*

Key listening points for the first half of track 6: *The Eternal Pulse* (0:01 - 2:51) (LISTEN)

At 0:00 – (Letter A) the phrase *Thom , ke ta | nam, ke ta | , tha ke ta | nam, ke ta |* is introduced using a variety of endings. On the repeat at 0:17 the voice alternates *konnakkol* language with vocal sound-bank phrases for example; *zwey vah day ah dor tn day*. These sound-bank phrases supply variation in the melodic and rhythmic vocal contour; the elongated notes stretch the phrases and evoke a sense of vocal meandering.

At 0:34 - (bar 17) We hear the same basic phrase and the metric switch of the internal pulse from 4 to 6. The chart notation moves to 3/4 metre.
At 0:50 - (bar 33) The phrase switches back to an internal pulse of 4.

At 1:07 - (bar 41 Letter C) The internal pulse switches to 6 with the next section of *konnakkol* language. These two extension structures fit together over 2 cycles of 8.[130]

1:07 - 1:13

(9) Thom thom ke tha tha ka thinga
(12) Thom thom , ke tha , tha ka , thinga
(15) Thom thonga ke tha , ka tha ka , ka thinga

The second three lines are sung three times in succession and are heard at Letter D.[131]
1:13 - 1:23

(4) Tha , ke tha thom ,
(7) Tha , ke tha thom Tha , ke tha thom ,
(9) Tha , ke tha thom Tha , ke tha thom Tha , ke tha thom ,

At 1:24 - 1:55 (Letter E) - we hear the following structure sung four times in a subdivision of 6 with numerical variations in the ending as notated below.

Thin , Thin , tha ti , ke , ta, thom
Tha , Tha, tha ti , ke , ta , thom
Thom , Thom , tha ti , ke , ta, thom
Tha ke tha | tha ka thi ni | tha thi ke tha thom | first ending 3+4+5
Tha thi na | tha thi na | tha thi na | tha thi na | second/third ending 3+3+3+3
Tha thi na , | tha thi na , | tha thi na , | tha thi na , | fourth ending 4+4+4

[130] The first three lines are sung once using 6 beats of the cycle. Each beat of the cycle is subdivided by 6, thus 6 beats have an allocation of 36 internal beats. (9 + 12 + 15 = 36 internal beats divided by 6 = 6 main beats of the cycle)
[131] Each round uses 20 internal beats, totalling 60 beats for 3 rounds, which divided by 6 equals 10 main beats of the cycle. When the two sections are added together they equal 16 cycle beats or 16 bars of the musical chart.

At 1:56 - (Letter F bar 73) The first three phrases are shifted into a subdivision of 9 (the feel is like 9/8 metre).

Thin , Thin , tha ti , ke , ta, thom
Tha , Tha, tha ti , ke , ta , thom
Thom , Thom , tha ti , ke , ta, thom

It is of musical and compositional interest that the *Carnatic* figure *Thin , Thin , tha ti , ke , tha , thom*, which swings in 6 at 1:23 and is overlaid in 9 at 1:56, is the same rhythm as the West African 12/8 bell pattern *ting go go go go go go* discussed in chapter 5.3. In rehearsal the drums and voice used this familiar 12/8 reference to help comprehend and perform this complex section.

At 2:12 - The final section continues in *sangeernam* with a three line extension structure at the end of the section.

Tha, thin, tha thin, tha ya (tha, thing ke na thom)
Tha ka thin, tha thi, tha , ya, (tha, thing ke na thom)
Tha, thin, tha thin, tha ya tha, thing ke na thom
Thin, thanga (5)
Tha thin, thanga (6)
Tha ka thin, thanga (7)

At 2:29 - 2:51 - (Letter G bar 89) I composed the final section of *konnakkol* as a link to the second half of the piece. The origin of this section is discussed in chapter 5.5 and demonstrated on Video track 13: 3/4, shifted into 9/8. The first 6 lines are sung twice then a more spacious coda is added as a 'cool down'. I intentionally began the 3rd line with *ja nu* rather than the more traditional *ta ka ja nu,* to displace the rhythmic placement of the phrase. The *na** has been altered along the way, to become a repeated *thin*.

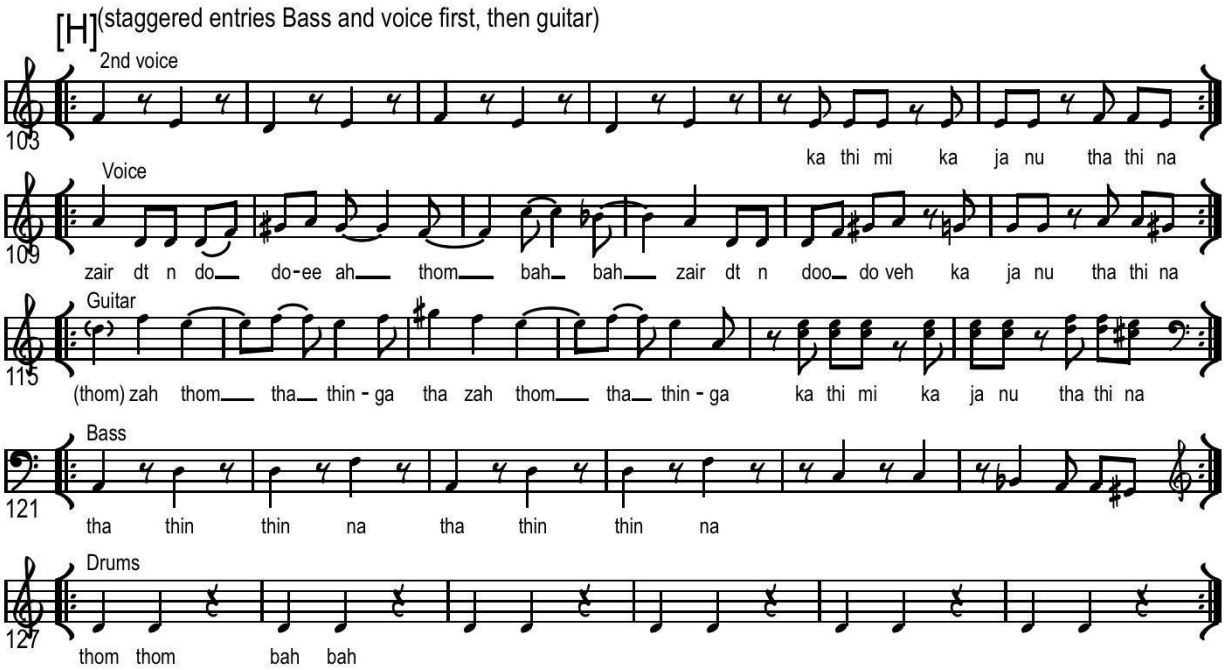
Thom , , , tha ka thin , na, (thin) thin, (12)*
tha , , , tha ka thin , thin, tha ka (12)
Ja nu | tha ka thi mi | ta ka ja nu | ta ka (12)

Thom , , , tha ka thin , na, (thin) thin,*
tha , , , tha ka thin , thin, tha ka
Tha thi na , tha thi na, tha thi na ,

Thom , , , , ,
Ja nu | tha ka thi mi | ta ka ja nu | ta ka
Thom , , , , ,
Tha thi na , tha thi na, tha thi na ,
Thom ,, ,,, ,,, ,,, ,,, ,,, ,,,

The second half of track 6: (2:52 - 6:26)

At 2:52 - (Bar 103 Letter H) The second half of the piece remains in a 3/4 metre; it uses a polyrhythmic approach where five independent melodic lines provide rhythmic layers accenting different groupings of the 3/4. A vocal cue of 'Oi!' is called by Beck for the ensemble to take the 2nd time ending; here it breaks into a half feel for 4 bars and then returns to Letter H. With the repeat of Letter H ensemble members spontaneously select any of the notated lines to weave a polyrhythmic texture. In the first rendering these lines are allocated to specific instruments, as shown in the notation below; with repeated sections, players spontaneously select lines inter-locking layers of the polyrhythmic arrangement.



Musical notation 5.7N.8: Letter H of the band chart for track 6 *The Eternal Pulse*.

When viewed as a whole, the metric modulation and polyrhythmic layering used in this piece provide the music with a sense of 'shifting time', whether in the first half where the internal pulse is altered by the composer or chosen spontaneously by the improviser in the second half of the track.

Audio track 8: *Rupaka* (duration 1:08) (LISTEN)

The final track is set in *rupaka tala* (cycle of 3 beats) with the *nadai* (internal pulse) of 4, 6 and 8 (*chathusram, thisram, double chathusram).* The cycle of 3 is outlined by the handclaps; the internal shifts raise the rhythmic intensity moving from 4 to 6 to 8 and return briefly to 6 and 4.

In the recorded version, which is a duet with Beck on *cajón,* there are no claps outlining the *rupaka tala* (3); we opted to leave them out, allowing a more ambiguous indication of the pulse. Interestingly, the piece is set in a cycle of 3 and begins with an internal pulse of 4. This translates easily into 3/4 metre, however Beck's *cajón* introduction starts with a 6/8 or 12/8 feel across the cycle of 3, showing his interpretive approach to metre. In live performance the handclaps are an integral part of the performance as they drive the rhythm and connect the duet performance.

Key listening points for track 8 *Rupaka*: (LISTEN)

At 0:00 - Beck implies 6/8 on *cajón.*
At 0:07 - The voice enters the cycle of 3 with an internal subdivision of 4.
At 0:30 - The internal pulse switches to a subdivision of 6.
At 0:55 - The internal pulse switches to a subdivision of 8.
At 0:59 - The internal pulse switches back to a subdivision of 6.
At 1:01 - The internal pulse switches back to a subdivision of 4.

5.8 Performance Approach and Ongoing Adaptations of the Music

My approach to performance commences with a desire to connect with the music, the musicians and the audience. I aim to enter the performance space with a physical aliveness and preparedness to sing, and a sensitivity to connect and respond to the ensemble's fresh rendering of the music. Prior to walking onto the stage, I slow down my thoughts and deepen my breathing. I pay attention to both my physical and aural sense of openness, preparing to listen and respond to the music whilst having an alert attention to the pre-composed melodies and structures. In the performance I welcome the way the music shifts and sways with new improvised content, and sense the subtle resonances and sparks that occur between the ensemble members, building the energy and connection as the performance progresses. My approach invites the core of my being to experience, respond and express, and to extend that expression outwards into the performance space.

Performances and ongoing adaptations with different ensembles

The Eternal Pulse has had an expanded ongoing development, and continues to be adapted into a variety of ensembles and choral formats.

As performed with the Lisa Young Quartet, *The Eternal Pulse* was premiered at The Melbourne International Jazz Festival, June 12th 2011, at The Forum upstairs. Subsequent performances have occurred, in chronological order, at Manningham Gallery Music Series 2011, Kew 'Music at the Courthouse' Series 2012, Borneo Jazz Fest 2013, Bennetts Lane Jazz Club for the Melbourne Women's Jazz Festival December 13th 2013 and Kuala Lumpur International Jazz Festival 17th May 2014.

The commercial release of the CD *The Eternal Pulse* was completed by late 2011, nominated as a finalist in the 'BELL' Awards for 'Best Australian Jazz Vocal Album 2012' then re-released worldwide on STEM in 2014. The music video clip by the quartet *Tha Thin Tha*, and the series of three documentaries about *The Eternal Pulse* music were made in 2013.

There have been additional opportunities to perform some of the works in varied ensemble settings. In February 2012, I performed some of the more modal pieces including *Tha Thin Tha, The Eternal Pulse,* along with *Grace* and *The Moon Has Made Other Plans* (from earlier quartet repertoire) with M. Ravichandhira and his ensemble in a concert for the 'Talented Young Musicians Ensemble' (TYME) hosted by The Academy of Indian Music Australia. We used electronic *tambura* as a drone for pitch, with Ravi on *mridangam* and a percussion section of *ghatam, moorsing, tabla* and *kanjira.* The five-piece percussion groove was excellent and provided an inspirational collaboration.

Two pieces from *The Eternal Pulse* have been developed into choral a cappella works. A commission from Gondwana Choirs saw their massed choir present the SATB version of *Tha Thin Tha* in January 2014, at their National Choral School. Footage from the rehearsal and performance of this piece are provided here:

Video track 21: *Tha Thin Tha* (2014) Gondwana Choirs, in concert at the Gondwana National Choral School Concert, 18th January 2014, Sydney. Conducted by Simon Carrington (duration 4:02). (WATCH)

Video track 22: *Tha Thin Tha* - rehearsal footage of Young with Gondwana Choirs 9th January 2014, Sydney. (duration 4:23) (WATCH)

In 2014 a commission from The Australian Voices produced the SATB arrangement of *Misra Chappu*. New themes were composed and integrated alongside those from the quartet's

version. The work was recorded and filmed in June 2014, and I was invited to appear as guest *konnakkol* artist. The film clip is provided here:

Video track 20: *Misra Chappu* (2014) Choral arrangement performed by The Australian Voices choir with Lisa Young. Filmed 16th June 2014, Brisbane, Australia. (duration 4:28) (WATCH)

The definitive recorded version of *The Eternal Pulse* (**audio tracks 1 – 8)** provides a foundation for reflection and analysis in this exegesis. It also provides a blueprint of the work for general listening and a resource for future performances of the work by new quartet members, or for other ensembles performing the music.

Conclusion

Through analysis and reflection I have highlighted some of the processes involved in creating *The Eternal Pulse*. Key concepts of eternal and internal pulse were demonstrated, along with reflections of my cyclic approach to composition. Analysis showed the use of intoned and pitched *konnakkol* as an integrated vocal and musical expression in a contemporary jazz context. By using *konnakkol* structures as the foundation, *The Eternal Pulse* involved the development of my personal vocal sound-bank. By augmenting my scat-based language with the highly rhythmic language of *konnakkol,* my vocal sound-bank became a lingual, rhythmic improvisatory tool that influenced my vocal expression. My use of *konnakkol* allowed the voice to be engaged in the music as a rhythmic percussive participant. The vocal sound-bank approach encouraged the use of the voice as a colour in the sonic blend. Throughout the work the timbre of the voice translated into musical expression, using rhythmic, melodic and harmonic structures to link themes, and create varied intensities. The choral arrangements of themes from *The Eternal Pulse* show the ongoing potential for adaptations of the work.

CONCLUSION

This investigation into 'creating with *konnakkol*' offers new knowledge regarding the use of *konnakkol* in creative practice; it also highlights how the language and art form continue to evolve and be adapted on the world stage. *The Eternal Pulse*, the related reflective analysis, and the insights drawn from fieldwork interviews all contribute to a deeper understanding of the use of *konnakkol* in contemporary performance practice. My field research demonstrates the way in which artists fluent in *konnakkol* move beyond its pedagogical role to use it as a highly creative tool. *Konnakkol* provides a conceptual framework for metred calculations, improvisation, composition, rhythmic comprehension, transference of musical ideas, and expression of musical pulse. The new knowledge is a documented articulation of a practitioner's perspective acquired by taking the tradition of *konnakkol* into a Western creative context. This also represents a contribution to the knowledge of broader practical and creative applications of *konnakkol* in contemporary performance practice.

The outputs of the research are as follows:

The creation of the *The Eternal Pulse* music, a wordless song cycle for quartet. The piece, set in a jazz format, integrates and adapts *konnakkol* through my own creative prism. The exegesis provides reflection and analysis of the creation and performance of the music. The choral adaptation of two themes from *The Eternal Pulse*, demonstrates the broad adaptability and reach of the work.

Materials drawn from fieldwork interviews with Mani, Suresh and Cotler provide insight and new knowledge regarding the multiple uses of konnakkol in their creative practices.

Personal communications with M. Ravchandhira and R. Sainath provide new knowledge regarding general Carnatic practice, and related historical information.

The introduction of the term 'vocal sound-bank' extends the understanding of 'scat' to encapsulate the broad array of sounds a vocalist may use in wordless expression. The introduction of the terms 'eternal' and 'internal' pulse aid discussion of musicians' experience and perception of rhythmic layers and groove in performance practice.

The research folio includes a CD recording and a collection of related videos. The CD is the commercially released album entitled *The Eternal Pulse*. The album was nominated as a finalist in the 'BELL' Awards for 'Best Australian Jazz Vocal Album 2012' then re-released worldwide on the German label STEM in 2014. The video demonstrations are of the author presenting related rhythmic materials. Three videos entitled *The Art of Konnakkol*, *Lisa Young Quartet* and *The Eternal Pulse* document the quartet's approach to the creation of *The Eternal Pulse*; presenting footage from rehearsals, live performance and interviews with quartet members.[132] Music video clips include *Tha Thin Tha* (LYQ), The Australian Voices choir performing the choral arrangement of *Misra Chappu* and Gondwana Choirs performing the choral arrangement of *Tha Thin Tha*. These audio-visual components have enabled wide visibility of the music in a variety of forms, furthering the reach of my distinct compositional and performance approach to the *konnakkol* art form.

Included in the folio are two audio recordings of *Other Plans* as performed by The Australian Voices choir and Coco's Lunch a cappella ensemble. These recordings demonstrate contemporary *konnakkol* interpretations. The Australian Voices have performed this piece worldwide, and it is included on their 2012 self-titled Warner Classics release. Coco's Lunch premiered their arrangement of *Other Plans* to critical acclaim in concerts for the Hindu November Fest in Chennai, Kochi and Hyderabad in 2013.

The outcomes of the research are as follows:

The Eternal Pulse demonstrates a unique approach to the contemporary use of *konnakkol*. The exegesis provides reflection and analysis of the creation and performance of music; it highlights key compositional and performance techniques employed in the work. Amongst the examples demonstrated are: the layers of rhythmic complexity employed, that draw from both the *Carnatic* and jazz traditions; concepts of eternal and internal pulse; reflections of my cyclic approach to composition; the development of a vocal sound-bank and its use in creative practice; the use of intoned and pitched *konnakkol* as an integrated vocal and musical expression.

[132] This series of three documentaries features quartet members Stephen Magnusson guitar, Ben Robertson double bass, Dave Beck drums/*cajón*, and Lisa Young voice/*konnakkol*. Also Daniel Farrugia is featured on drums.

In *konnakkol* practice, there is a diversity of styles regarding both syllable and notation choice within the *Carnatic* tradition and across different lineages. Also the variations of *konnakkol* language influence the timbral variations played on the *mridangam*. Traditionally *konnakkol* is taught face-to-face aural immersion style. Printed materials are also used in some situations.

The *Carnatic* system of *solkattu/konnakkol* has a broad range of practical and creative functions. The fieldwork interviews with Mani, Suresh and Cotler demonstrate the broad creative uses of *konnakkol* in these artists' work. Their contributions show that in creative practice *konnakkol* is a highly influential artistic tool where it provides: a conceptual framework for metred numerical calculations; and enhanced musical imagination by facilitating improvisation and composition; and where it also remains a tool for rhythmic analysis, comprehension and the transference of musical ideas in both traditional and cross-cultural settings.

The research reveals that whilst these musicians use *konnakkol* initially to learn the *Carnatic* rhythmic system and materials, *konnakkol* is itself a language. Once a musician has grasped the fullness of this language including the groupings, the phrases, structures and techniques of numerical calculation, metric modulation, expansion and reduction, it becomes the backbone of one's deep rhythmic knowing and conceptualising. The artists observed that their thoughts are regularly occupied by *solkattu* phrases and structures. *Konnakkol* is their default system for rhythmic comprehension and their intuitive starting point for composition and improvisation.

There is a growing interest in scholarly research into the broad use of *konnakkol* (or *solkattu*) in creative musical practice, expanding upon the existing discussion in this area by Dineen, Nelson and T. Sankaran. A variety of contemporary performers are studying *konnakkol* and integrating elements of the *Carnatic* rhythmic materials into their creative practice. The excellence enjoyed in traditional concerts, and collaborative projects between Indian and Western musicians continue to fertilise the growing global interest in this art form and demonstrate its suitability for adaptation in contemporary performance practice.

Over the last thirty years we have seen the influence of *konnakkol* (and also *tabla bols*) in the creative practice of a range of contemporary vocalists, beginning with Chandra (who first demonstrated this influence on her 1984 release *Quiet*), and achieved acclaim with her early 90's releases, which included the *Speaking in Tongues* tracks. There is now a range of vocal artists incorporating *konnakkol* as part of their vocal performance practice. Lori Cotler, Suba Sankaran and myself have each contributed a body of work in this direction, demonstrating

the way the *konnakkol* art form continues to evolve and be adapted by a variety of Western and non-Western artists. Examples of this were amply demonstrated by: the use of atypical syllables; variational use of timbre and aspiration; the influence of South Indian dance language; and examples of adaptations in collaborative projects. Also in my own work, the incorporation of pitched *konnakkol* language demonstrates its ongoing adaptivity.

Clearly the art of *konnakkol* and the *Carnatic* rhythmic system, based on metred cycles and related internal subdivisions, profoundly informs the music of *The Eternal Pulse* song cycle, and creates a comfortable marriage with the jazz materials and a polyrhythmic, African influenced approach. *Konnakkol* informs the foundation of *The Eternal Pulse*, influences the development of my vocal sound-bank language, and alters my perception of the role of the voice in an ensemble by expanding it to be a rhythmic participant in the music. The integration of *konnakkol* into my work informs both my knowledge and experience of eternal and internal pulse, as well as my approach to composition and performance. It inspires a unique compositional style where I compose melodically and rhythmically from a foundation of *konnakkol.* The *konnakkol* art form has been easily adapted into a pitched medium, where the rhythmic language is used in vocal melodies, riffs and improvisations. Chapter five articulates my approach to the integration of *konnakkol* into a Western creative context, demonstrating *konnakkol* functioning as: a foundation for intellectual reference of rhythmic knowledge; and providing a rich resource for an intuitive and aesthetic approach to improvisation and composition.

In this research the term 'vocal sound-bank' is introduced to describe the vast array of lingual sounds expressed in *The Eternal Pulse.* The *solkattu* language contributes great depth to my personal vocal sound-bank, adding a rich fabric of rhythmic syllables and structures, and an additional rhythmic-based language that augments the melodic jazz vocal scat language.

In pulse-generated music (as opposed to rubato or *alapana*[133] sections) there is usually an ongoing eternal pulse outlining the given metre. This is 'felt' or experienced in conjunction with at least one internal pulse layer sub-dividing the beats. The internal pulse may be altered in certain sections within a composition, or adjusted spontaneously by the improvisor. The artist's experience of rhythmic complexity combines an intellectual understanding with an

[133] *Alapana*- the opening rubato section in a *Carnatic* piece, which introduces the *raga.*

intuitive response inside their creative practice. Additionally in the *Carnatic* system (and possibly evident in other music systems not discussed here), subtly embedded within the internal pulse, is a third rhythmic layer dictated by sub-groupings the *solkattu* language itself. The *solkattu* language places the beats into groups, usually in 2's, 3's and 4's for example as - *tha ka | tha ki da | tha ka thi mi* adding an independent layer of rhythmic sub-grouping, integral to understanding the *Carnatic* system. Thus a subdivision of 7 or 9 is not simply 7 individual septuplets or 9 nonuplets, as the interior language imposes a distinct rhythmic grouping system.

In the music of *The Eternal Pulse*, different instruments apply or accent varied internal pulses at different moments, thus expressing multiple internal subdivisions that may result in a polyrhythmic outcome. This layering of rhythmic complexity often creates rhythmic ambiguity and tension and gives a sense of complex rhythmic depth to the music. From a practitioner's perspective, the 'feel' or 'groove' explored and experienced in the performance of the music very often relates to the internal and eternal pulse of the composition, suggesting that there is a fundamental relationship between a musician's instinctive ability to internally subdivide a given metre, and their ability to explore and interpret rhythmic complexity and 'groove' in performance. When this instinctive sense and the layered experience of internal pulse are present, the musician's rhythmic connection to the other members of the ensemble may also be heightened. Performance of *The Eternal Pulse* music requires an escalated presence to engage in an instinctive sense of rhythmic subdivision and a layered rhythmic approach. This then translates to profound ensemble rhythmic connection, allowing a vast and interactive conversation and expression of internal and eternal pulse.

Finally, *solkattu* is recognised worldwide as a system for mastering rhythmic materials and concepts, useful for all musicians wishing to make advancements in this area. Particular to the *Carnatic* system is the breadth of attention given to detailed rhythmic structures and sub-divisions in a wide variety of odd and even metres or metred cycles. This detailed systematic approach to rhythmic materials is generally absent in western music pedagogy. Many of the artists interviewed for this research described that they combined an intellectual and intuitive approach to rhythmic comprehension and its implementation in performance practice. As a musician's companion, *solkattu* has a broad range of creative functions. Significantly it develops rhythmic intuition, which can be easily transferred into any musical situation, aiding comprehension and transference of pre-composed ideas and concepts, and engaging the invention of new music with improvisation and composition.

AREAS FOR FUTURE RESEARCH

This study acknowledges that there is a high degree of innovation in the *solkattu/konnakkol* recitations of many *Nattuvangam* artists in the dance tradition. Ravichandhira suggested in conversation that the work of the late Adyar K. Lakshman and the late Vazhuvoor Ramaiah Pillai would be worthy of inclusion in future research (Ravichandhira 2010).

Also worthy of future research is a deeper investigation into musicians' experience of pulse and polyrhythmic layering, including a comparative examination of *Carnatic* rhythmic layers (including those implied by the *solkattu* syllable groupings), West African vocal rhythmic language and West African polyrhythmic layering. This could include a deeper investigation into musicians' processes and experience of combining an intellectual and intuitive approach to their rhythmic comprehension and music-making in their performance practice.

Consideration may be given to an investigation of the comprehensive differences and the effectual outcomes between students learning *konnakkol* via aural immersion and those learning with printed materials and instructional manuals.

GLOSSARY OF TERMS

Where possible this glossary of terms gives the relative meaning of the Indian word, not always the literal one. In some cases terms are defined in a sense related to my observation, for example, fusion.

Akshara - the fundamental beats of the *tala* cycle.

Aspiration - in this research refers to both the inhalation and the expulsion of breath in speech and singing. It relates to the use of breath to affect the vocal sound, particularly the initial release of breath with the commencement of sound.

Bols/tabla bols - the vocal recitations related to the *tabla* rhythms in the North Indian Hindustani tradition.

Carnatic/Karnatic - refers to the classical style/tradition of music and dance of South India.

Chollukattu – a string or garland of rhythmic phrases.

Contemporary - 1990 to present day.

Cycle - a repeated rhythmic metre.

Feel - in this research refers to the coherency of rhythmic use.

Fusion - in this research fusion means the combining or integrating of two or more musical cultures in a single project. This term is commonly used in India to describe this kind of cross-cultural project.

Gathi see ***Nadai***

Ghatam – a clay pot percussion instrument.

Groove - groove can be a verb 'to groove', or noun 'a groove'. In this context groove means the way musicians connect to each other rhythmically; as in; being 'in the groove', thus being on a common path.

Improvisation - in this research improvisation means an interpretive approach to performance where the music is augmented by the preferred aesthetic and skills of the musician. It encourages a spontaneous and interactive approach within certain stylistic constraints of a jazz performance framework. (Based on composed melody, chords and form, at times involving freer improvisation.)

Intuition/Intuitive - an inner knowing, a perception and intelligence, that leads to insight and a sense of inner guidance. It may draw on previously acquired experience or information, but is experienced as an intelligence, which doesn't use rational process.

Jathi/s /Jathi patterns – a string or strings of syllables. *Solkattu* rhythmic pattern or grouping in a structured form. This term is commonly used in relation to dance language and structures.

Jazz - in this research jazz means the performance of music which features improvisation with certain stylistic conventions. Thus performance with a large degree of improvisation generated, based on composed melody, chords and form, at times involving freer improvisation. Jazz may also be considered as a process or a mode of creativity. Generally this research refers to jazz post 1950s but is informed by the jazz tradition originated in America (New Orleans) around the beginning of the 20th century/1900s, with the integration of African based music and European harmony and form. The style includes the integration of African rhythms, forms like blues form, standard song form, 32-bar form, and European harmony. Features of jazz music are - complex harmonic and rhythmic structures, the blues, swing, improvisation and ensemble dialogue. Over time, the music has spread around the world and been influenced by many other musical cultures. A comprehensive discussion of 'jazz' may be found in *The New Grove Dictionary of Jazz* by Kernfeld, 2003.

Jazz performance framework - in this research this means the performance of music which features improvisation with certain stylistic conventions - performance with a large degree of improvisation generated, based on composed melody, chords and form and at times involving freer improvisation.

Kaala piramanam **–** the speed of a *tala* or rate at which the *tala* is executed. (Ravichandhira, 2014 personal email)

Kanjira **–** a small frame drum played by hand.

Karnatic see ***Carnatic***

Karvai – also known as *matra,* represents one unit of the *nadai* or one measure of the internal pulse of a beat of the *tala* cycle. It is generally thought of as unarticulated space or a gap.

Konnakkol **–** the art form of the intoned recitation of *solkattu,* the *Carnatic* style of vocal percussion from South India.

Korvai **–** a *Carnatic* term for a cadential structure or coda. (Also known as *mora*)

Laya - speed, in relation to tempo.

Laya rathna - time or speed (*laya*) shifting (*rathna/ratna*), similar to metric modulation.

Matra **-** one matra represents one unit of the sub-division of a beat (*akshara)*. A *matra* is generally used to designate space and is notated as a comma or a dot.

Metre - the measured arrangement of time that gives rhythmic shape and outlines a repetitive pattern, to suggest a musical pulse, using accented or unaccented beats.

Morsing **-** mouth harp, like a Jaw's harp.

Mridangam **–** double-headed barrel shaped pitched drum, considered the principal percussion instrument in *Carnatic* music. Played across the musician's lap in a sitting position.

Nadai **-** lit. flow in Tamil, and relates to tempo. The *nadai* is the internal subdivision of the beats of the *tala*. The inner beats. For example: in *tisra nadai* each beat is subdivided by 3 (or 6 when doubled). Also known as *gathi.*

Polyrhythm - two or more pulses occurring within the same metric space.

Principal study - the musician's main focus of instrumental (or vocal) study: also known as their first instrument focus.

Pulse - a regular repeated beat, accented or unaccented within a cycle that is perceived to represent the foundation of the musical metre. It may be audible or implied.

Raga - The system in Indian classical music, which employs a vast array of note-sets as the foundation for melodic composition and improvisation. Each *raga* features specific combinations of notes, with set phrases, aesthetics and ornaments that may include specific microtonal deliveries, whereas the common use of Western scales and modes usually permits any permutation or combination of notes. The steps of a *raga* are represented by phonetic sounds known as *swaras,* the *Carnatic* solmization language of musical note degrees, commonly given in their shortened form as - Sa Ri Ga Ma Pa Da Ni Sa.

Scat - wordless lingual syllables used for vocal improvising in the jazz tradition.

Solkattu - lit. bunches of syllables. The groups or strings of spoken rhythmic syllables in South Indian music and dance.

Sound-bank see **Vocal sound-bank**

S*wara/swaras* - are the solmization language for the *Carnatic* musical scale. They are the phonetic sounds, which represent the melodic notes and are commonly used in the abbreviated form of *sa, ri, ga, ma, pa, da, ni*.

Tabla - a pair of hand drums (*tabla* and *bayan,* which together are considered the principal percussion instrument in the North Indian *Hindustani* tradition.

Tala - (***Talam/Thalam***) - rhythmic cycle. Lit. *talam* means 'clap' in Tamil. Lit. *tala* means 'clap' in Sanskrit. In *Carnatic* music both are used to mean a rhythmic cycle. Each composition has a nominated *tala* and *nadai* (or *gathi*). The *tala* determines the number of full beats or pulses per cycle (per bar), and the *nadai* meaning flow determines the internal subdivision of each pulse.

Trade - the jazz term used when musicians share the improvised solo alternating in sections that are usually of equal bar lengths.

Vocal Sound-bank - an array of personally preferred lingual or onomatopoeic sounds suitable for expression in wordless vocal pieces or improvisations. In this research I have introduced the term 'sound-bank' to describe the array of language an improvising singer may build over time. The *solkattu* language contributes great depth to my personal sound-bank. Where the term scat may be thought of as jazz specific sounds or syllables, the term sound-bank more adequately describes the vast array of lingual sounds expressed in *The Eternal Pulse*. The vocal sound-bank description includes the language of the syllables used, and does not intend to examine the harmonic and melodic implications of the language.

West/Western - in this research 'the West' umbrellas Western Europe, America, Canada, Australia and New Zealand.

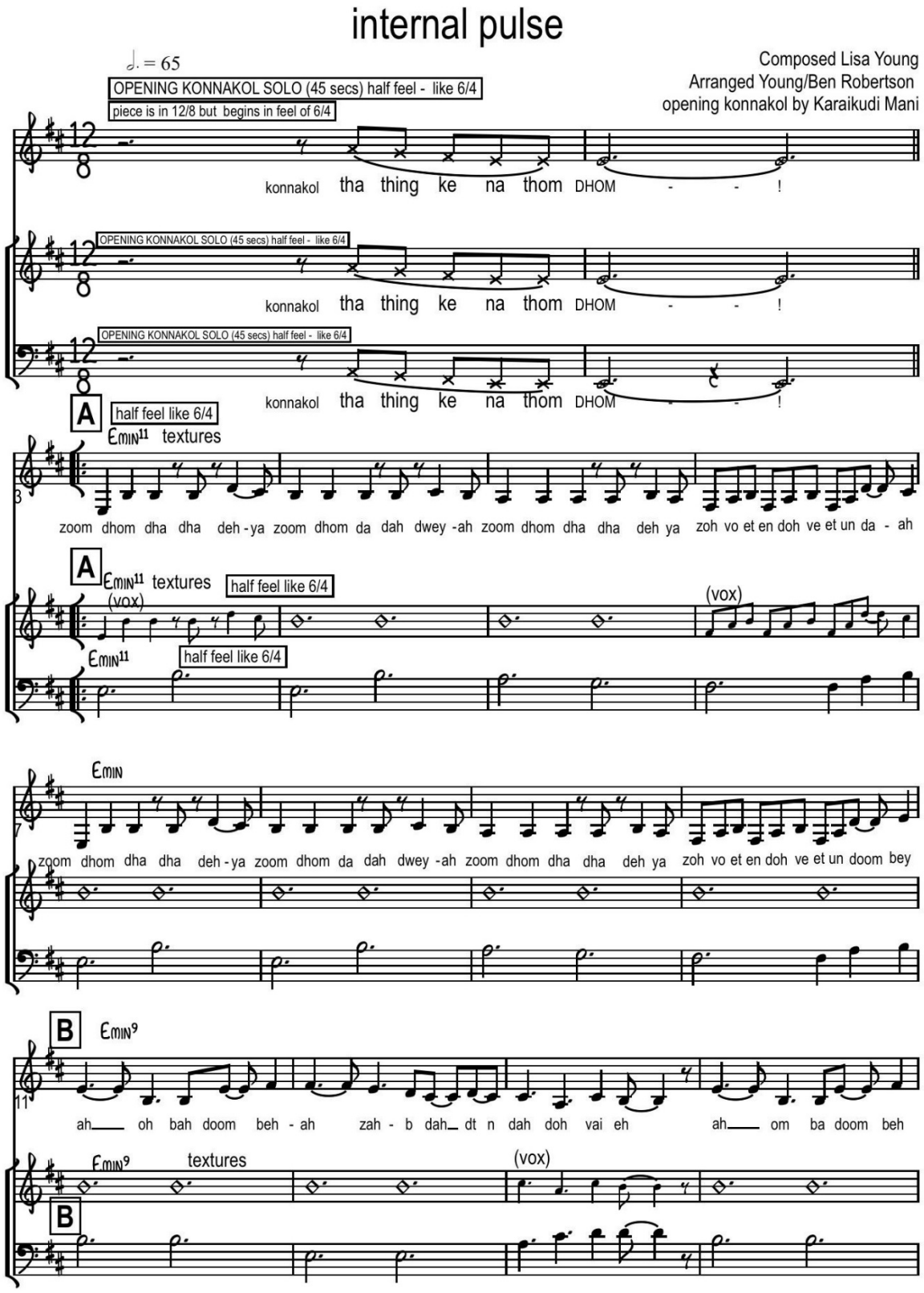
World music - a modern commercial term to encapsulate music involving cross-cultural elements.

Yati - a rhythmic calculation/pattern designed to represent geometric shape (when notated).

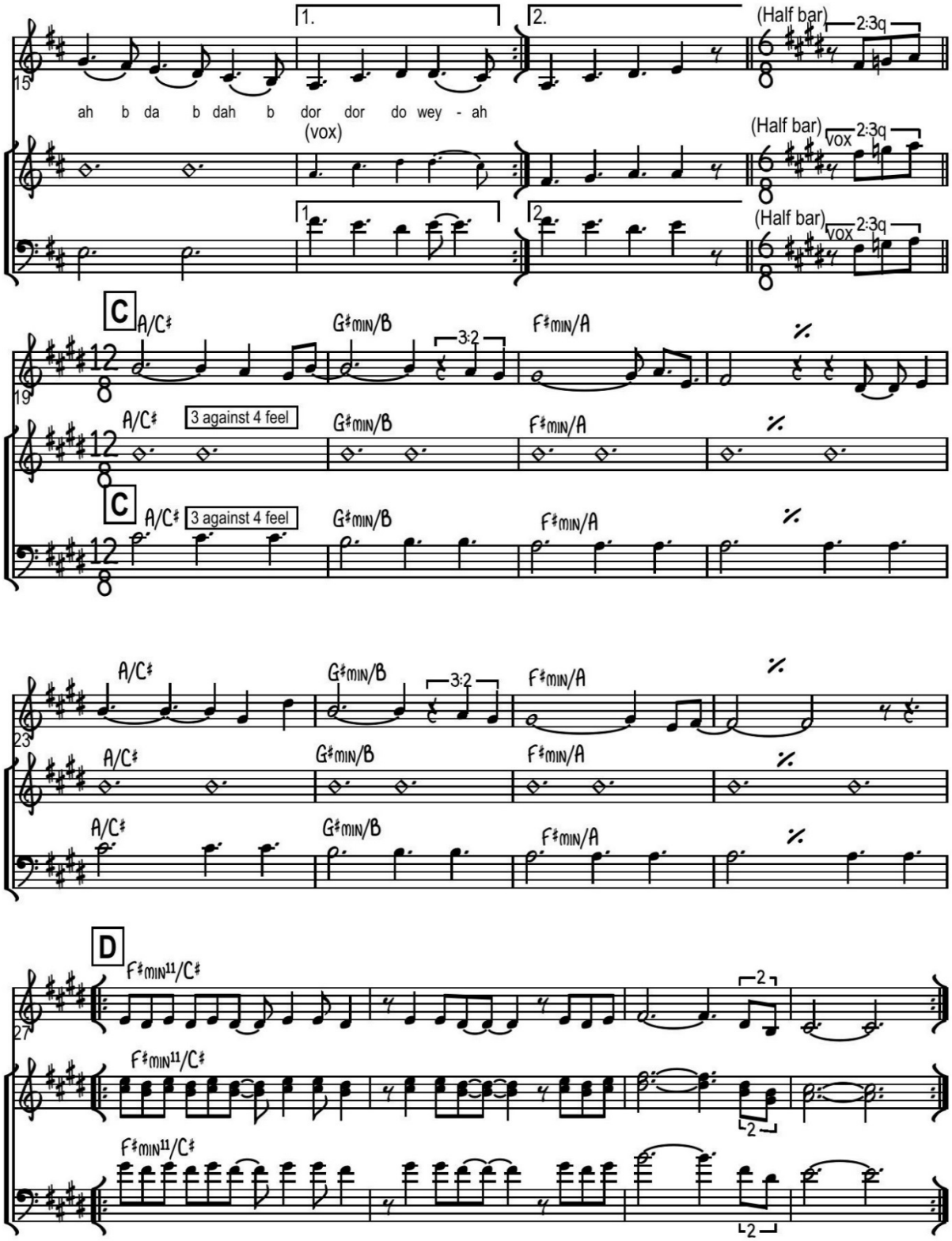
APPENDICES

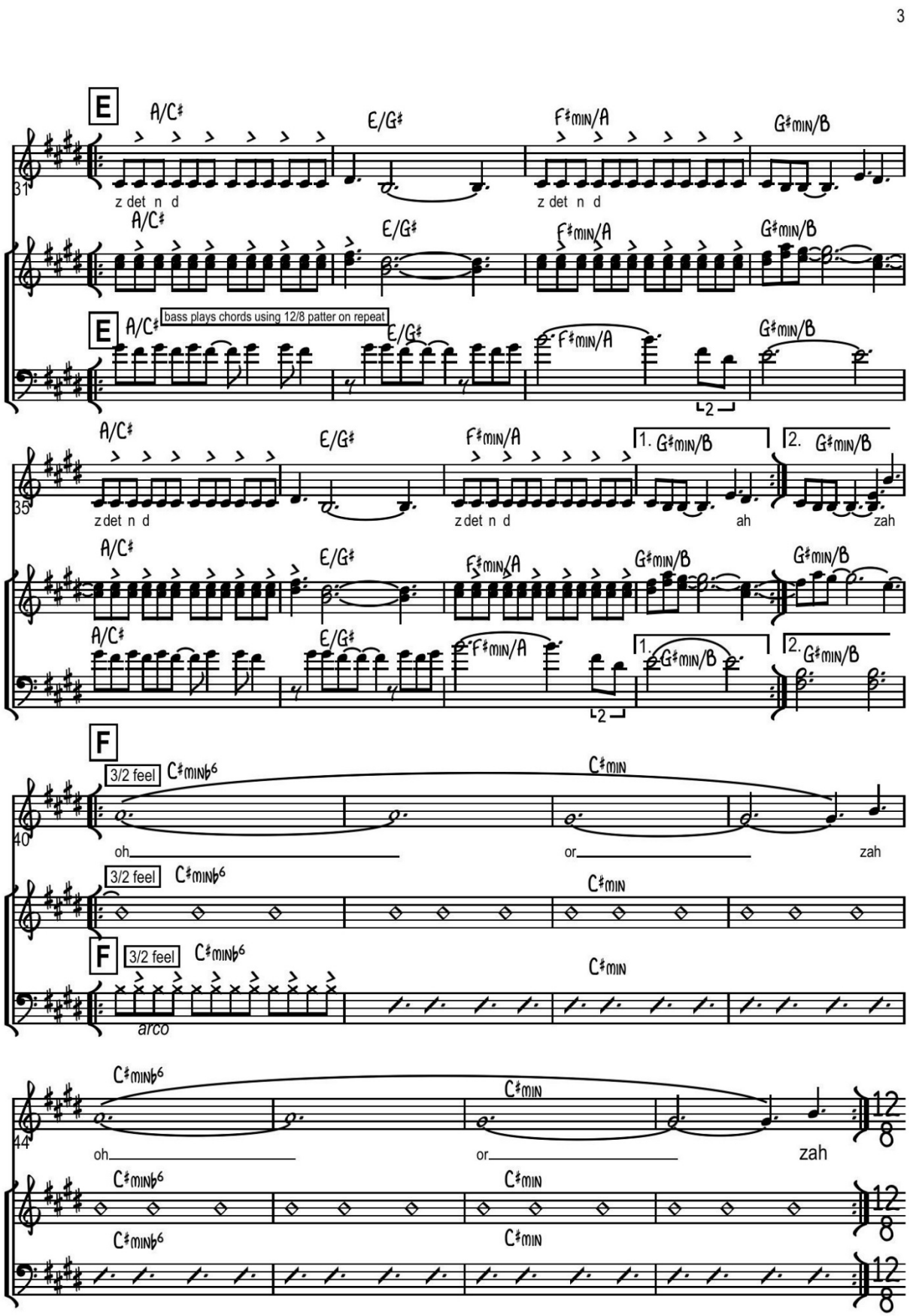
APPENDIX A: Musical Notations and Printed Materials

Appendix A.I: Full band chart for track 1, *The Internal Pulse.* (6 pages)

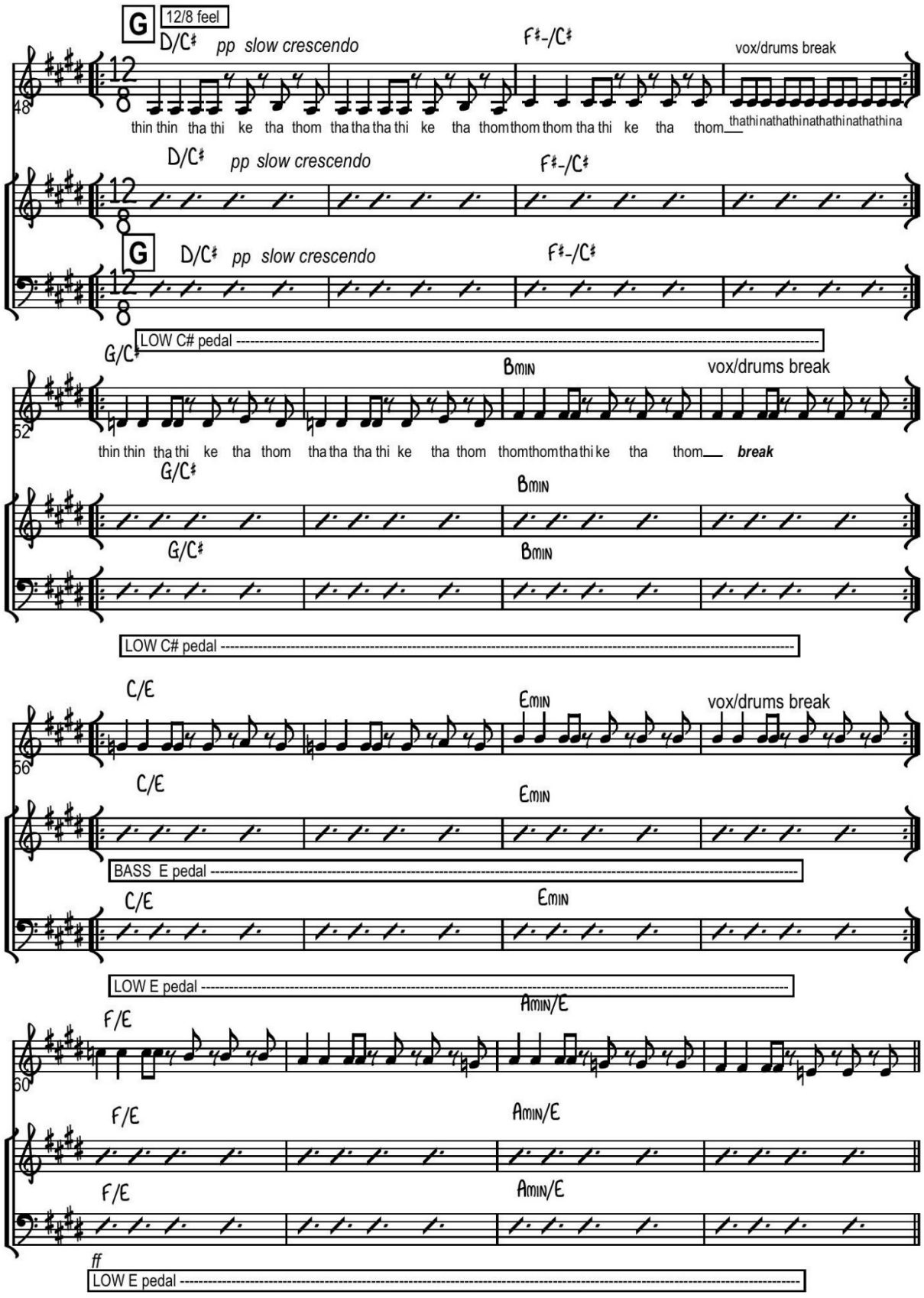


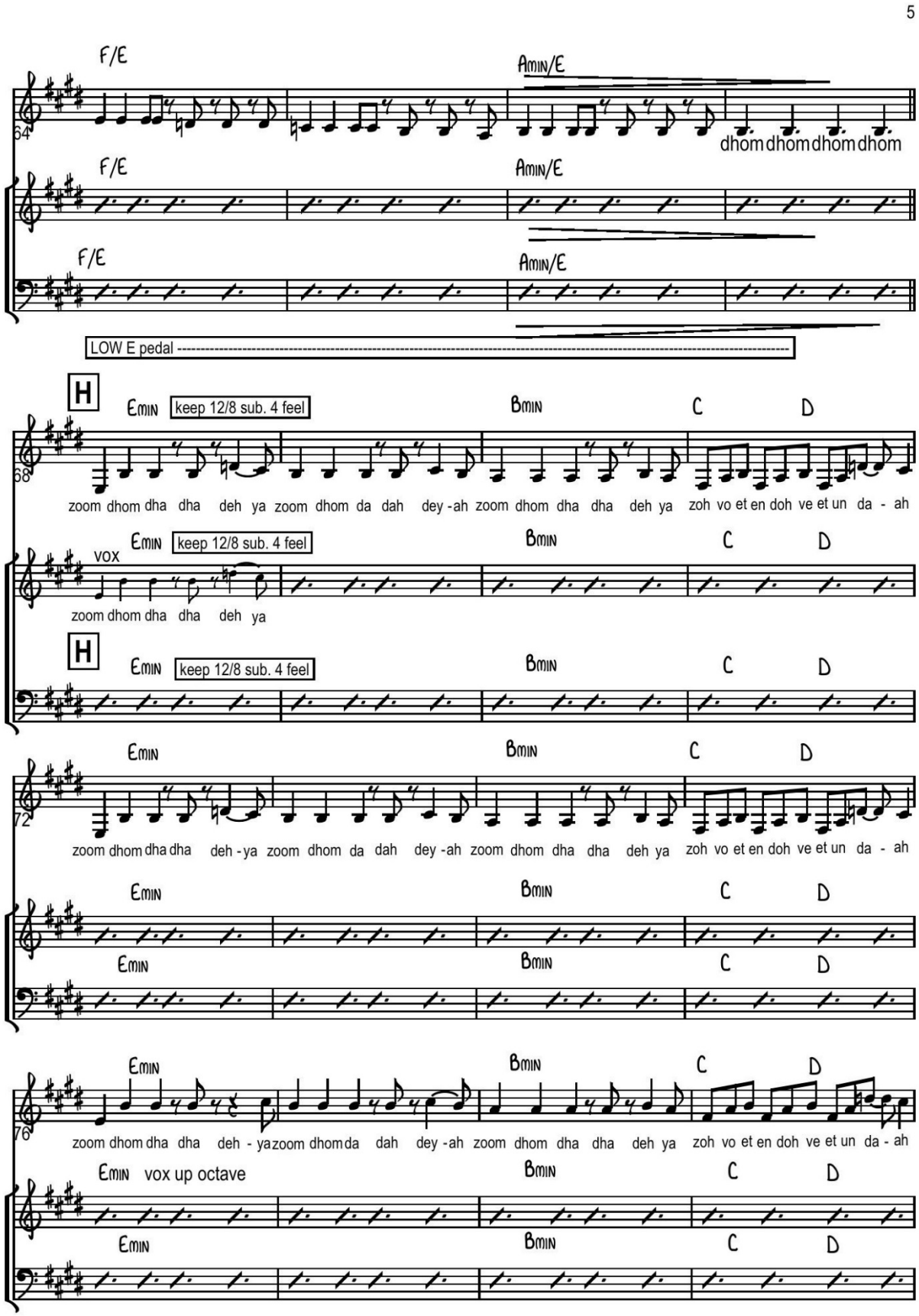
2

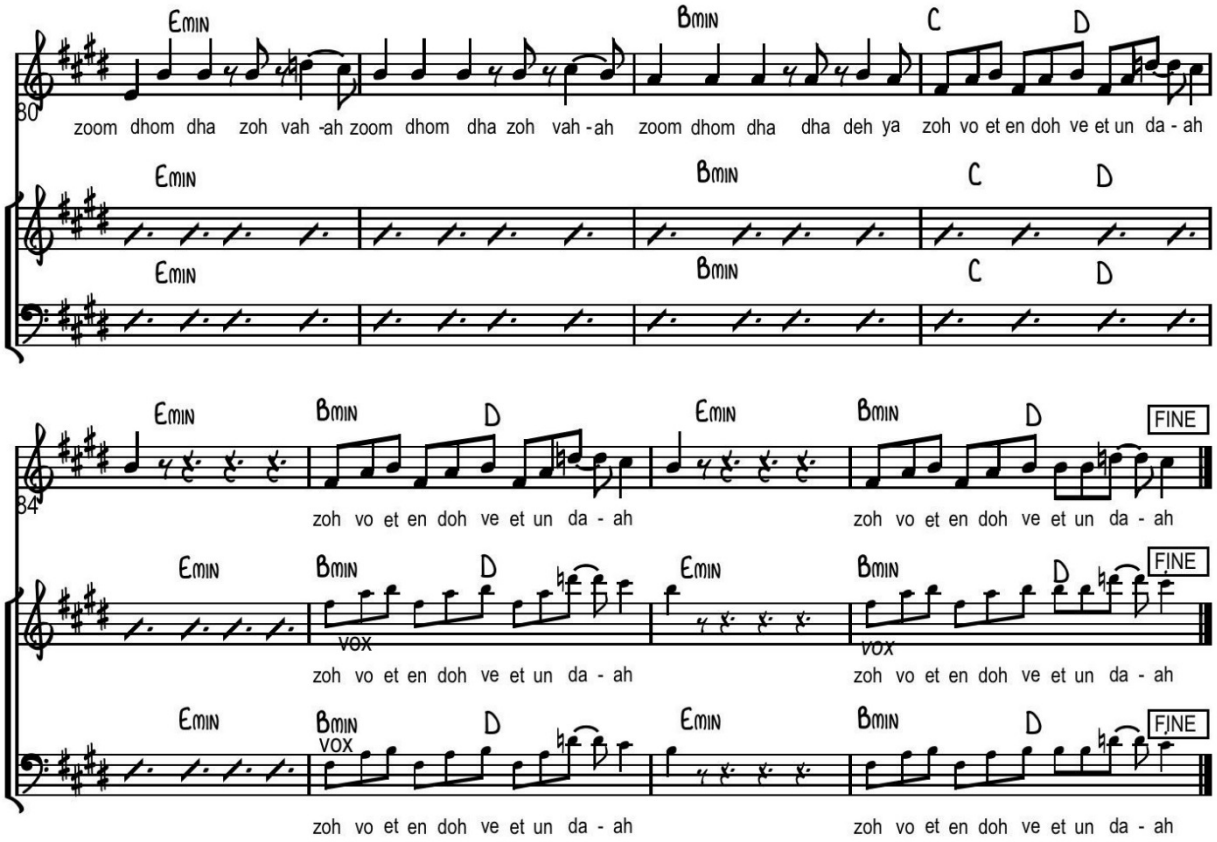

1.
2.
(Half bar)
2:3q
15
ah b da b dah b dor dor do wey - ah
(vox)
vox
C
A/C♯
G♯MIN/B
3:2
F♯MIN/A
19
3 against 4 feel
23
D
F♯MIN11/C♯
27


3
E
A/C♯
E/G♯
F♯min/A
G♯min/B
31
z det n d
z det n d
bass plays chords using 12/8 patter on repeat
35
1. G♯min/B
2. G♯min/B
ah
zah
F
3/2 feel
C♯minb6
C♯min
40
oh
or
zah
arco
44

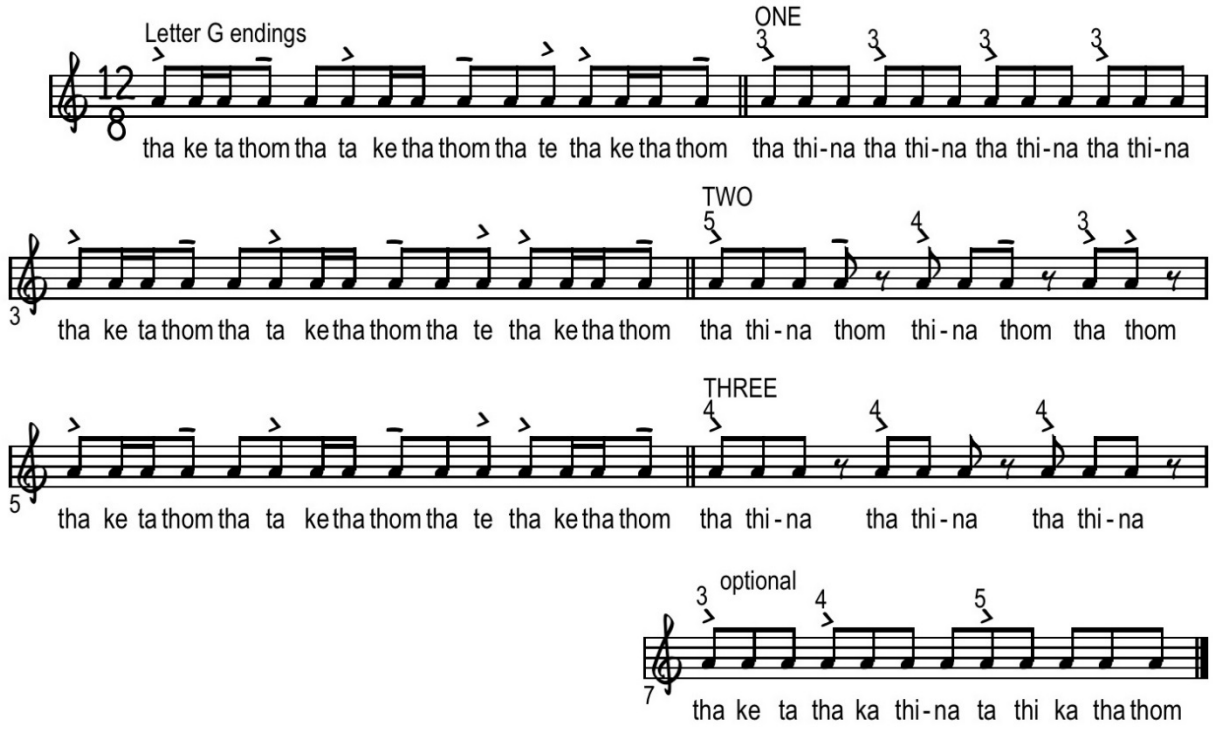
4


G
12/8 feel
D/C♯
pp slow crescendo
F♯-/C♯
vox/drums break
48
thin thin tha thi ke tha thom tha tha tha thi ke tha thom thom thom tha thi ke tha thom
thathinathathinathathinathathina
D/C♯
pp slow crescendo
F♯-/C♯
G
D/C♯
pp slow crescendo
F♯-/C♯
LOW C# pedal
G/C♯
Bmin
vox/drums break
52
thin thin tha thi ke tha thom tha tha tha thi ke tha thom thom thom tha thi ke tha thom
break
G/C♯
Bmin
G/C♯
Bmin
LOW C# pedal
C/E
Emin
vox/drums break
56
C/E
Emin
BASS E pedal
C/E
Emin
LOW E pedal
F/E
Amin/E
60
F/E
Amin/E
F/E
Amin/E
ff
LOW E pedal

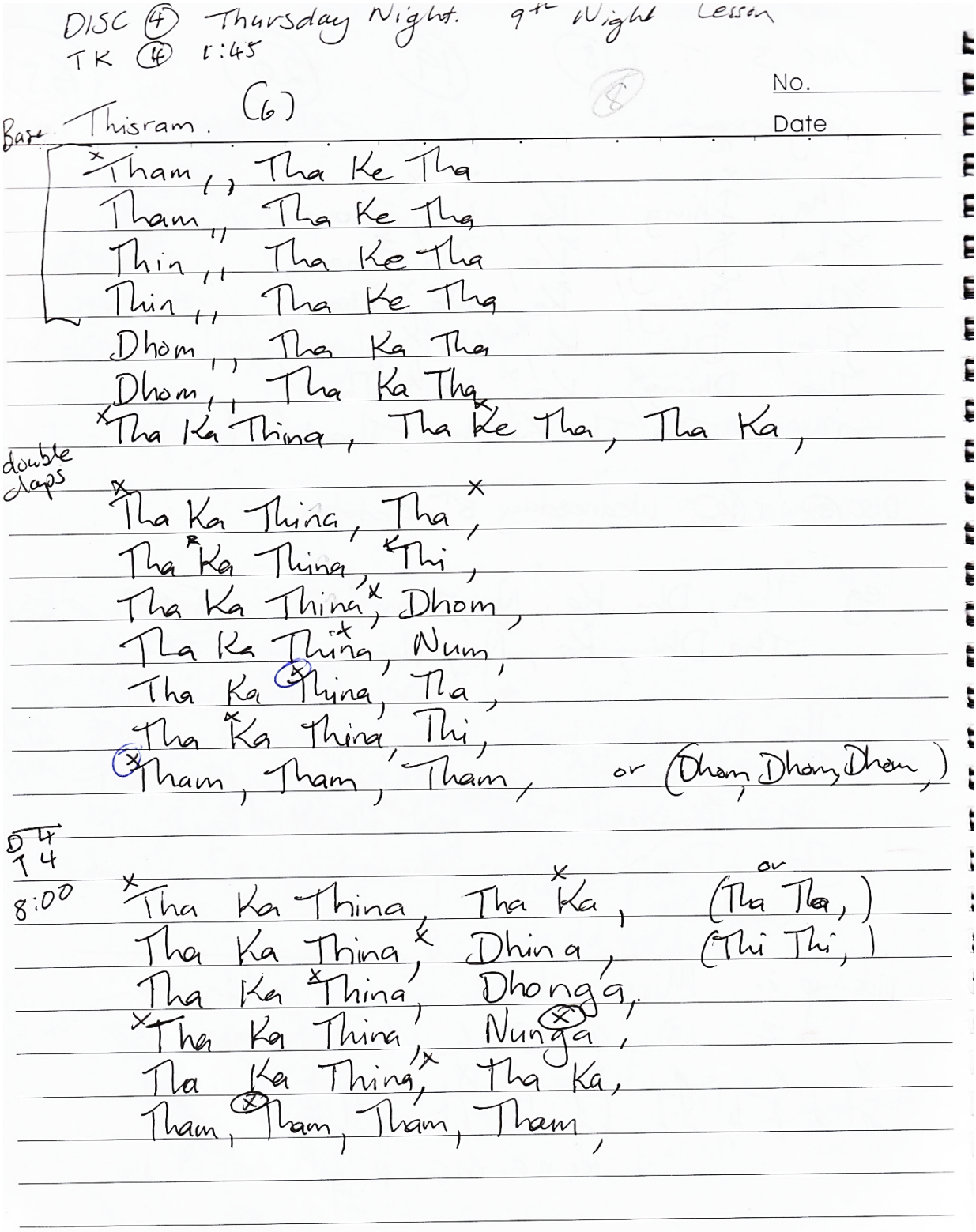

5
F/E
Amin/E
64
dhom dhom dhom dhom
LOW E pedal
H
Emin
keep 12/8 sub. 4 feel
Bmin
C
D
68
zoom dhom dha dha deh ya zoom dhom da dah dey -ah zoom dhom dha dha deh ya zoh vo et en doh ve et un da - ah
VOX
zoom dhom dha dha deh ya
72
zoom dhom dha dha deh - ya zoom dhom da dah dey -ah zoom dhom dha dha deh ya zoh vo et en doh ve et un da - ah
76
zoom dhom dha dha deh - ya zoom dhom da dah dey -ah zoom dhom dha dha deh ya zoh vo et en doh ve et un da - ah
vox up octave


6
80
Emin
Bmin
C
D
zoom dhom dha zoh vah -ah zoom dhom dha zoh vah -ah
zoom dhom dha dha deh ya zoh vo et en doh ve et un da - ah
84
FINE
zoh vo et en doh ve et un da - ah
VOX

Appendix A.II: Notation for voice/drums - *konnakkol* breaks heard at Letter G (Bars 48 − 67) in track 1 *The Internal Pulse*, given as appendix for voice and drum charts.



Appendix A.III: Notation of opening *konnakkol* from track 1 *The Internal Pulse,* from Young's 2008 Chennai notebooks. Composed Mani. (2 pages)



DISC ④ Thursday Night. 9th Night Lesson
TK ④ 1:45

No.
Date

Base Thisram. (6)

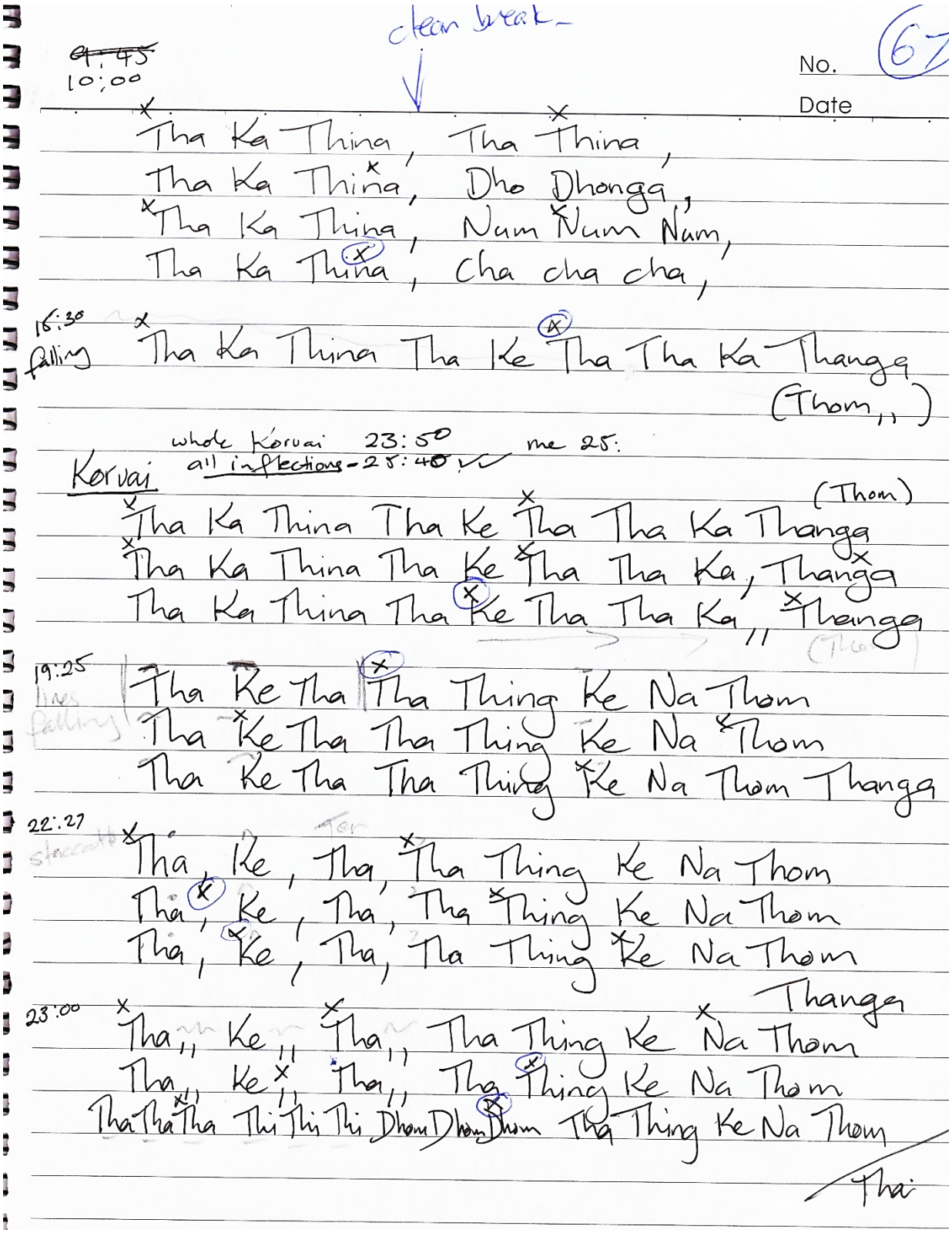
Tham, Tha Ke Tha
Tham, Tha Ke Tha
Thin, Tha Ke Tha
Thin, Tha Ke Tha
Dhom, Tha Ka Tha
Dhom, Tha Ka Tha
Tha Ka Thina, Tha Ke Tha, Tha Ka,

double laps

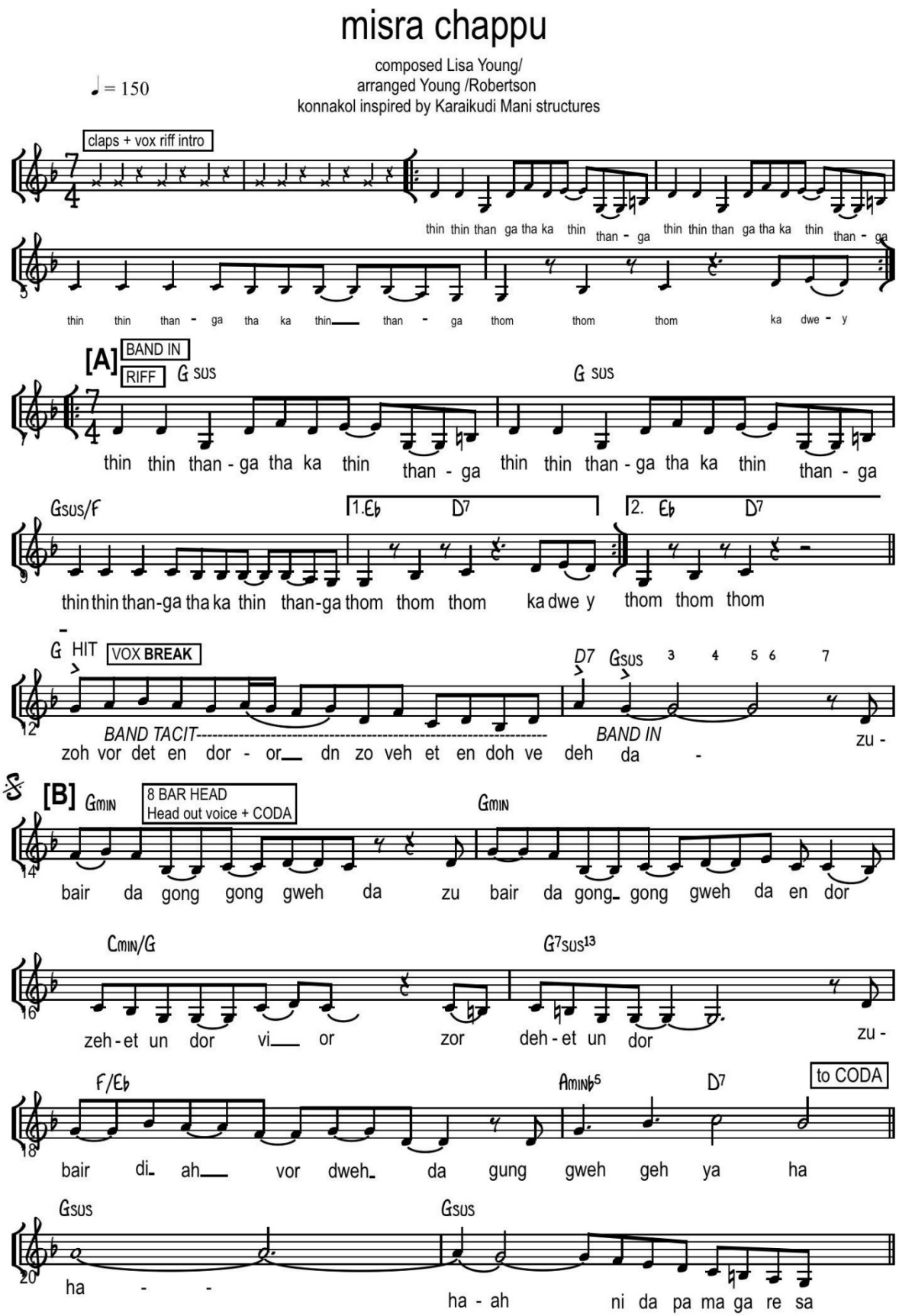
Tha Ka Thina, Tha,
Tha Ka Thina, Thi,
Tha Ka Thina, Dhom,
Tha Ka Thina, Num,
Tha Ka Thina, Tha,
Tha Ka Thina, Thi,
Tham, Tham, Tham, or (Dhom, Dhom, Dhom,)

D 4
T 4
8:00

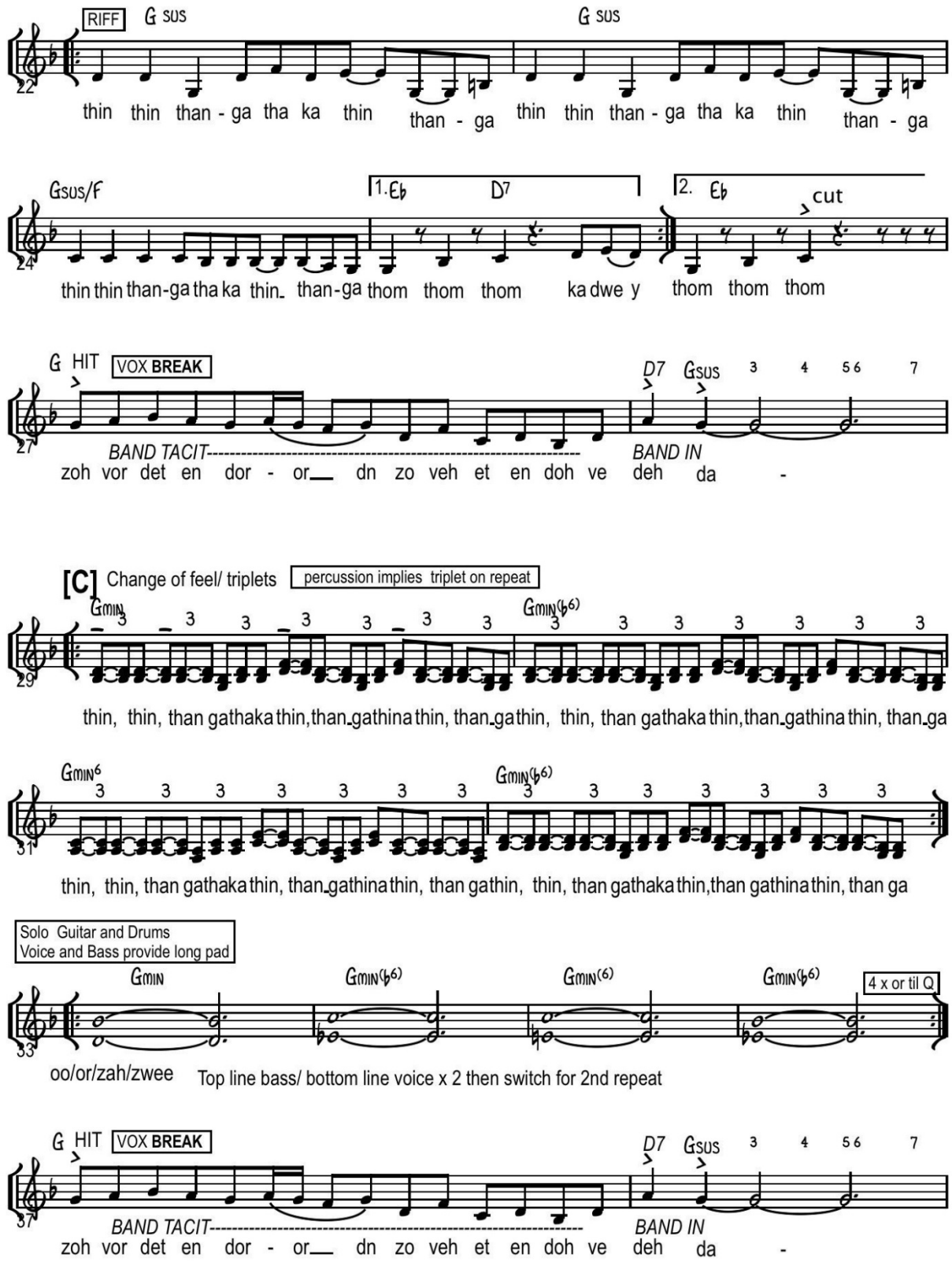
Tha Ka Thina, Tha Ka, or (Tha Tha,)
Tha Ka Thina, Dhina, (Thi Thi,)
Tha Ka Thina, Dhonga,
Tha Ka Thina, Nunga,
Tha Ka Thina, Tha Ka,
Tham, Tham, Tham, Tham,

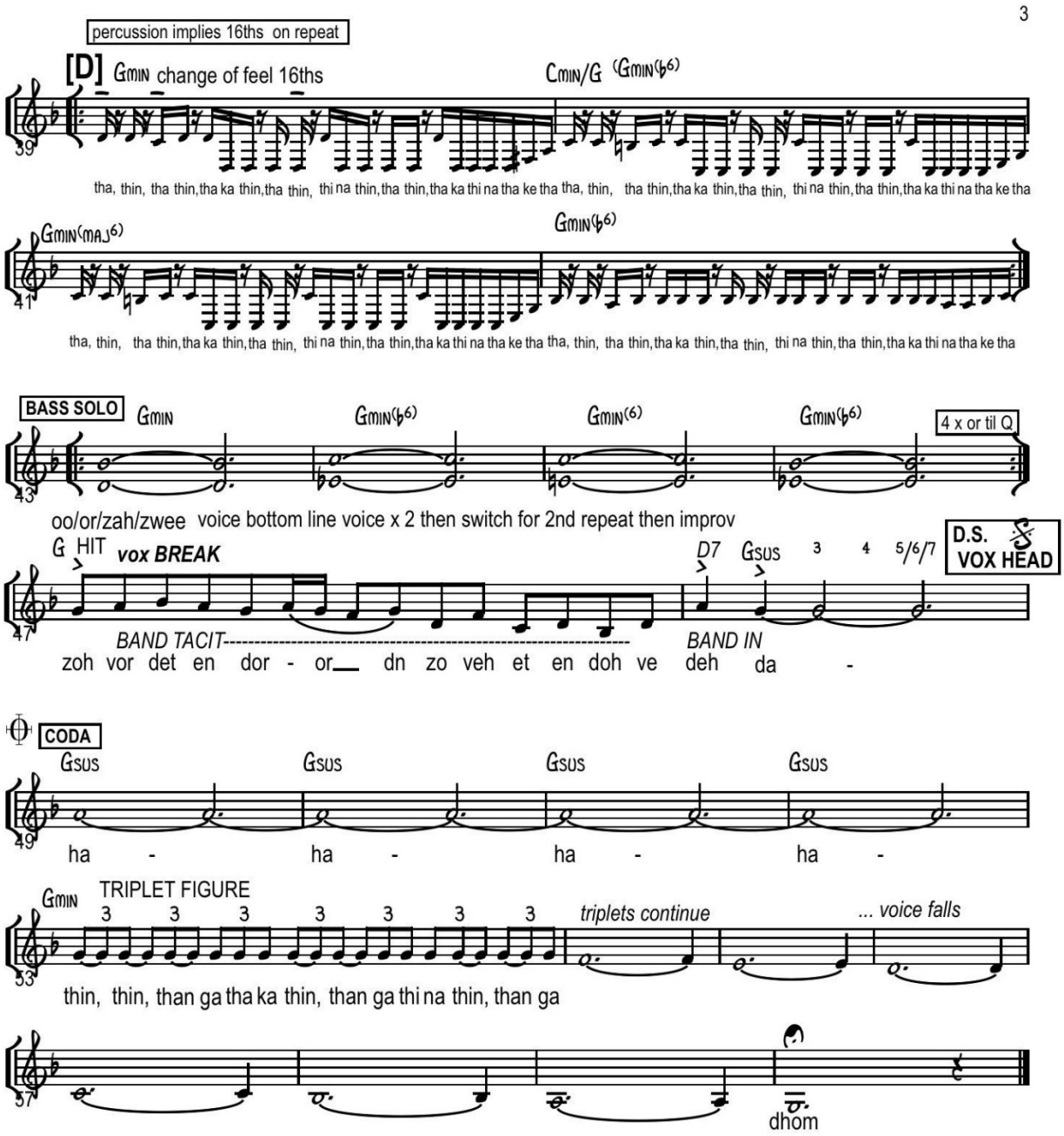

clean break
~~9:45~~
10:00
No. 67
Date
Tha Ka Thina, Tha Thina,
Tha Ka Thina, Dho Dhonga,
Tha Ka Thina, Num Num Num,
Tha Ka Thina, Cha cha cha,
16:30
falling
Tha Ka Thina Tha Ke Tha Tha Ka Thanga
(Thom,,)
whole Korvai 23:50
all inflections - 25:40
me 25:
Korvai
(Thom)
Tha Ka Thina Tha Ke Tha Tha Ka Thanga
Tha Ka Thina Tha Ke Tha Tha Ka, Thanga
Tha Ka Thina Tha Ke Tha Tha Ka,, Thanga
19:25
Tha Ke Tha Tha Thing Ke Na Thom
Tha Ke Tha Tha Thing Ke Na Thom
Tha Ke Tha Tha Thing Ke Na Thom Thanga
22:27
Tha, Ke, Tha, Tha Thing Ke Na Thom
Tha, Ke, Tha, Tha Thing Ke Na Thom
Tha, Ke, Tha, Tha Thing Ke Na Thom
Thanga
23:00
Tha,, Ke,, Tha,, Tha Thing Ke Na Thom
Tha,, Ke,, Tha,, Tha Thing Ke Na Thom
ThaThaTha Thi Thi Thi Dhom Dhom Dhom Tha Thing Ke Na Thom
Thai

Appendix A.IV: Band chart for track 2 *Misra Chappu* (3 pages)

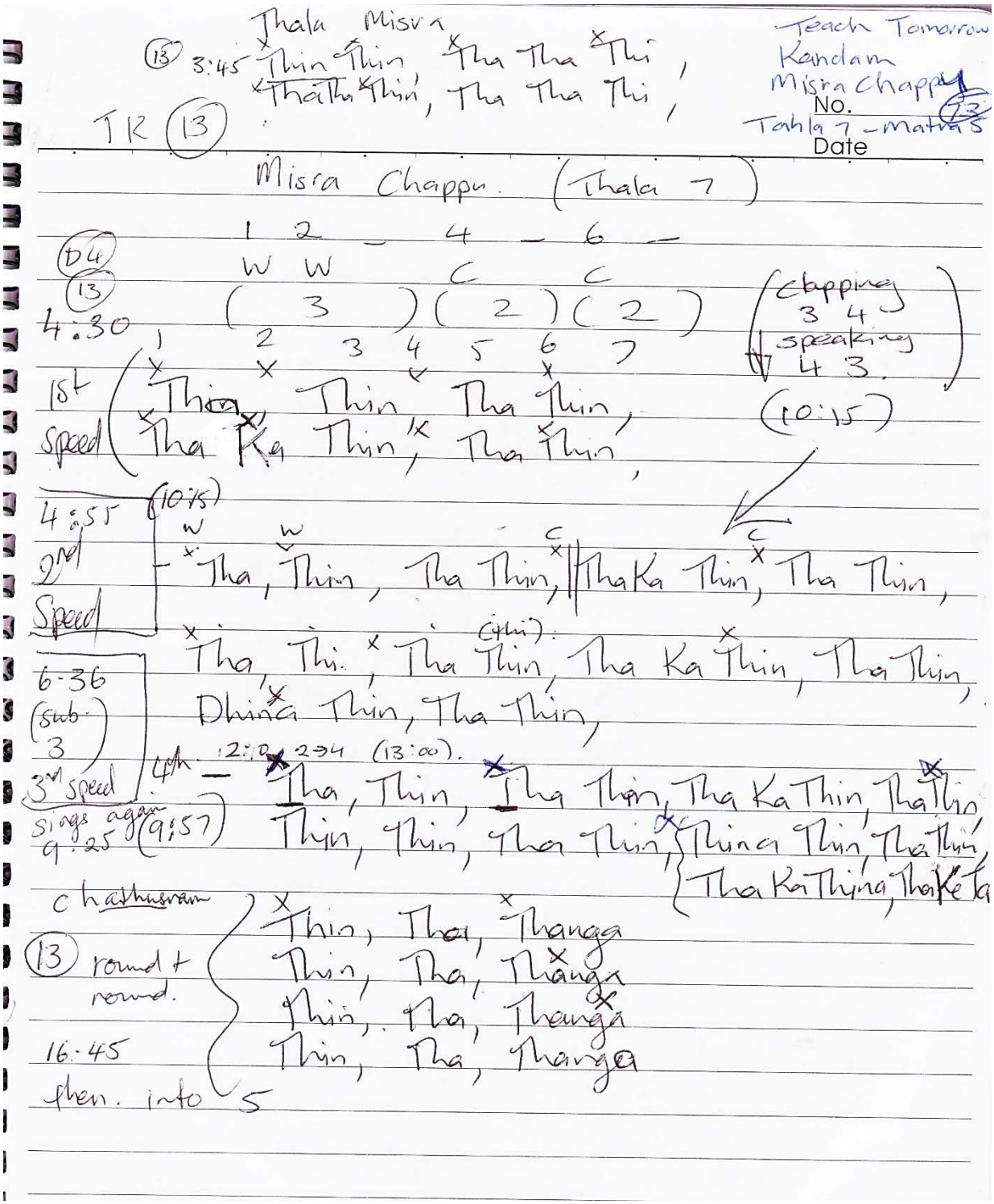


2


RIFF
G sus
G sus
thin thin than - ga tha ka thin than - ga thin thin than - ga tha ka thin than - ga
Gsus/F
1. Eb
D7
2. Eb
cut
thin thin than-ga tha ka thin_ than-ga thom thom thom ka dwe y thom thom thom
G HIT
VOX BREAK
D7
Gsus
BAND TACIT
BAND IN
zoh vor det en dor - or__ dn zo veh et en doh ve deh da -
[C] Change of feel/ triplets
percussion implies triplet on repeat
Gmin
Gmin(b6)
thin, thin, than gathaka thin, than_gathina thin, than_ga thin, thin, than gathaka thin, than_gathina thin, than_ga
Gmin6
Gmin(b6)
thin, thin, than gathaka thin, than_gathina thin, than gathin, thin, than gathaka thin, than gathina thin, than ga
Solo Guitar and Drums
Voice and Bass provide long pad
Gmin
Gmin(b6)
Gmin(6)
Gmin(b6)
4 x or til Q
oo/or/zah/zwee
Top line bass/ bottom line voice x 2 then switch for 2nd repeat
G HIT
VOX BREAK
D7
Gsus
BAND TACIT
BAND IN
zoh vor det en dor - or__ dn zo veh et en doh ve deh da -

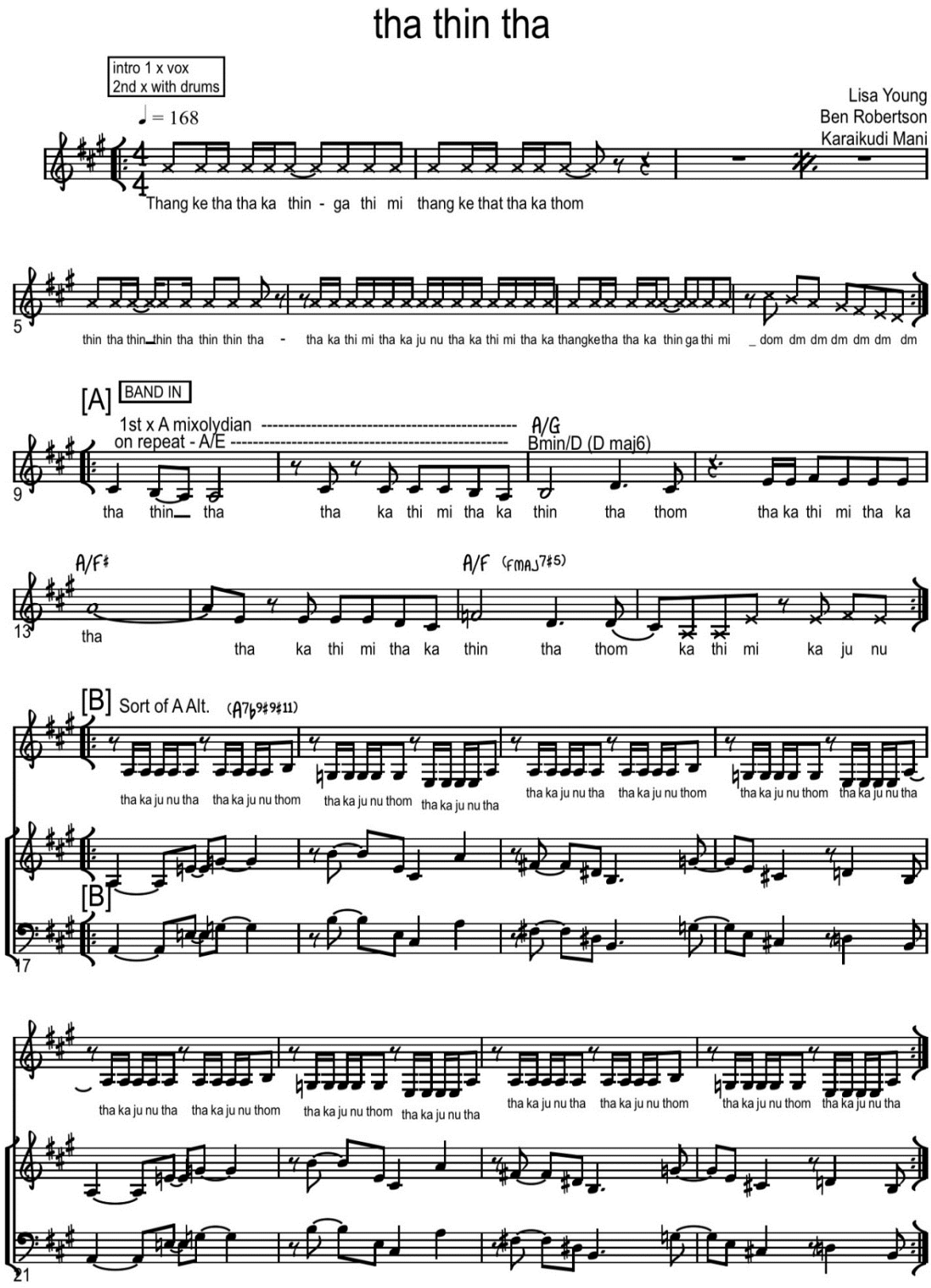

3
percussion implies 16ths on repeat
[D] Gmin change of feel 16ths
Cmin/G (Gmin(b6)
39
tha, thin, tha thin,tha ka thin,tha thin, thi na thin,tha thin,tha ka thi na tha ke tha tha, thin, tha thin,tha ka thin,tha thin, thi na thin,tha thin,tha ka thi na tha ke tha
Gmin(maj6)
Gmin(b6)
41
tha, thin, tha thin,tha ka thin,tha thin, thi na thin,tha thin,tha ka thi na tha ke tha tha, thin, tha thin,tha ka thin,tha thin, thi na thin,tha thin,tha ka thi na tha ke tha
BASS SOLO
Gmin
Gmin(b6)
Gmin(6)
Gmin(b6)
4 x or til Q
43
oo/or/zah/zwee voice bottom line voice x 2 then switch for 2nd repeat then improv
G HIT
vox BREAK
D7
Gsus
3
4
5/6/7
D.S.
VOX HEAD
47
BAND TACIT----------
BAND IN
zoh vor det en dor - or dn zo veh et en doh ve deh da -
CODA
Gsus
Gsus
Gsus
Gsus
49
ha - ha - ha - ha -
Gmin
TRIPLET FIGURE
3 3 3 3 3 3 3
triplets continue
... voice falls
53
thin, thin, than ga tha ka thin, than ga thi na thin, than ga
57
dhom

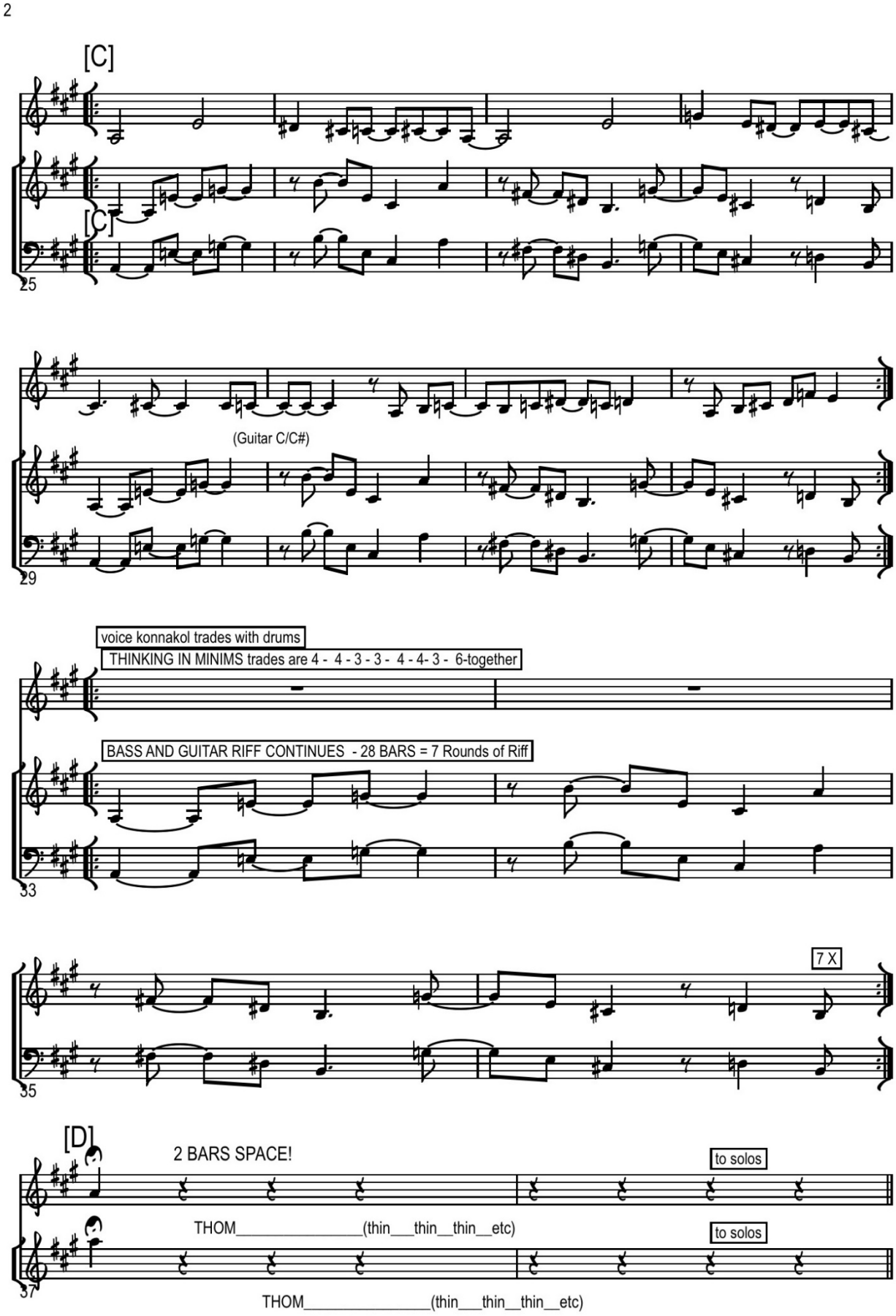
Appendix A.V: Notation of *konnakkol* lesson for *misra chappu* from Young's 2008 Chennai notebooks. Composed Mani.

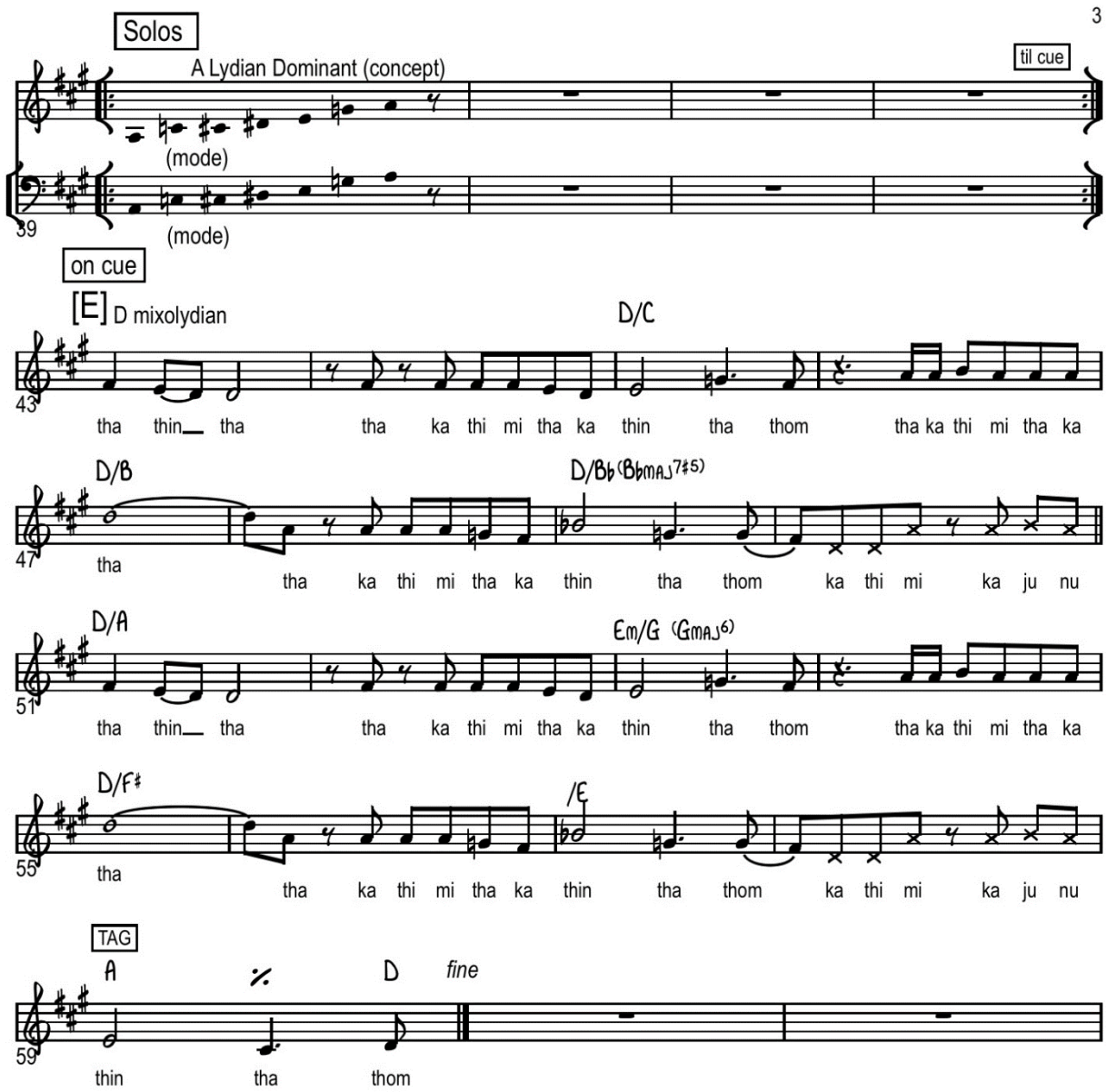


Appendix A.VI: Band chart - track 3 *Tha Thin Tha* (3 pages)

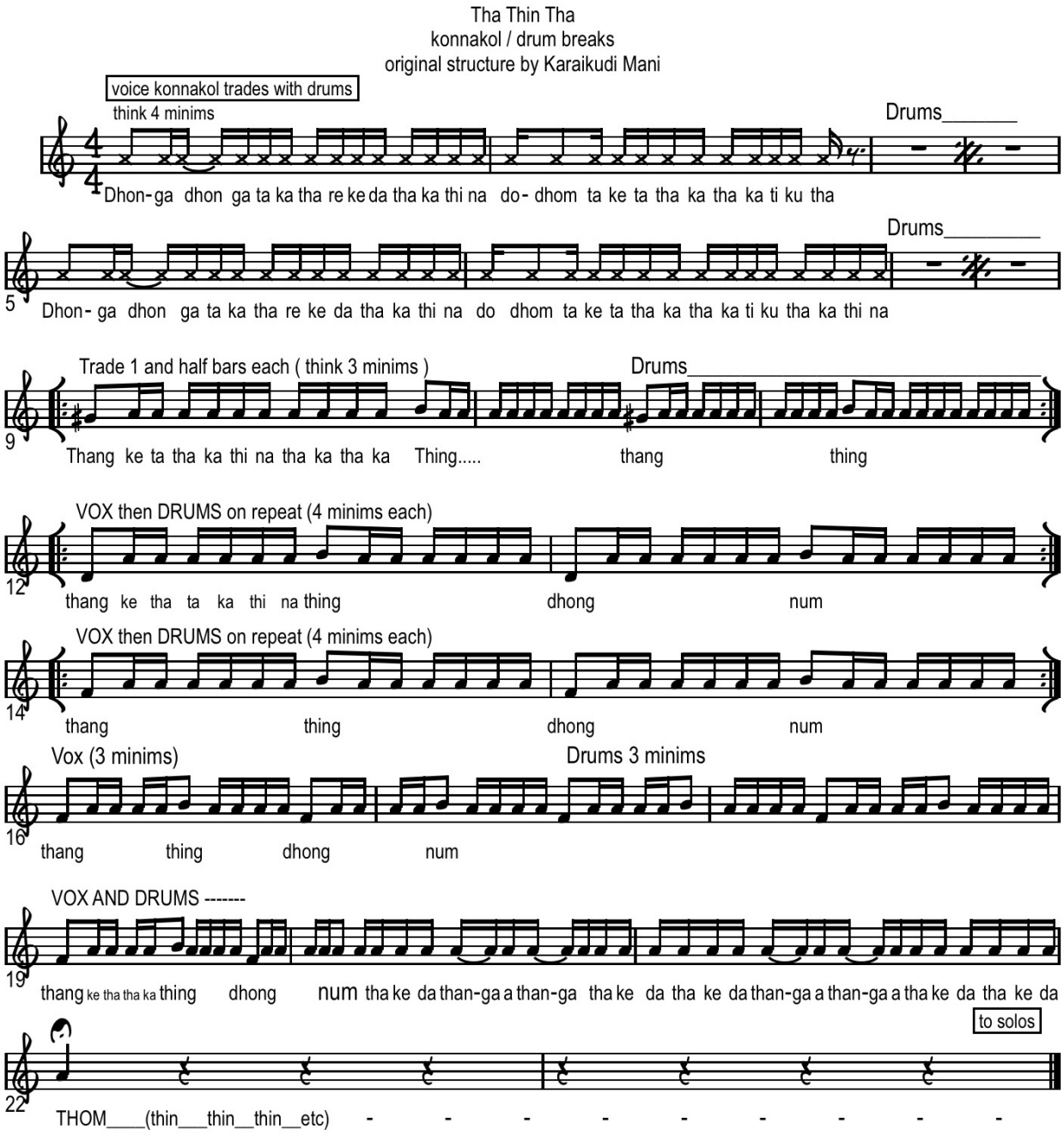
Compositional notes: Bar 1 - 8: Western notation of opening konnakkol for voice and drums. Bar 9 - 16: notation of pitched konnakkol language as a melody. Bar 17: pitched konnakkol as an ostinato riff. Bar 33 - 37: konnakkol rhythmic trades between voice and drums are referred to here as trade sections counted in minims - 'Thinking in minims, trades are 4 4 3 3 4 4 3 6 together'.



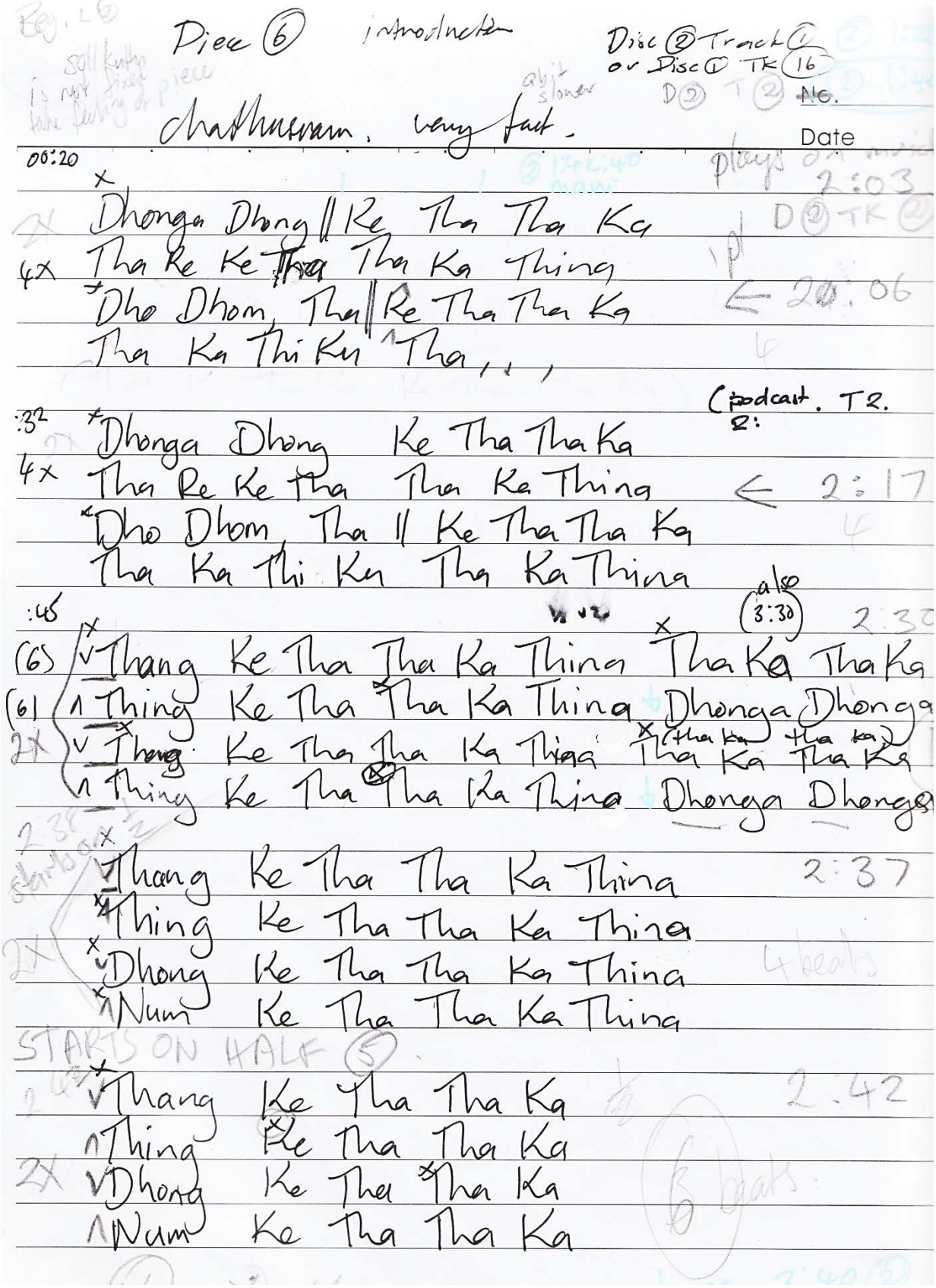

2
[C]
[C]
25
(Guitar C/C#)
29
voice konnakol trades with drums
THINKING IN MINIMS trades are 4 - 4 - 3 - 3 - 4 - 4- 3 - 6-together
BASS AND GUITAR RIFF CONTINUES - 28 BARS = 7 Rounds of Riff
33
7 X
35
[D]
2 BARS SPACE!
to solos
THOM_____(thin___thin__thin__etc)
to solos
37
THOM_____(thin___thin__thin__etc)

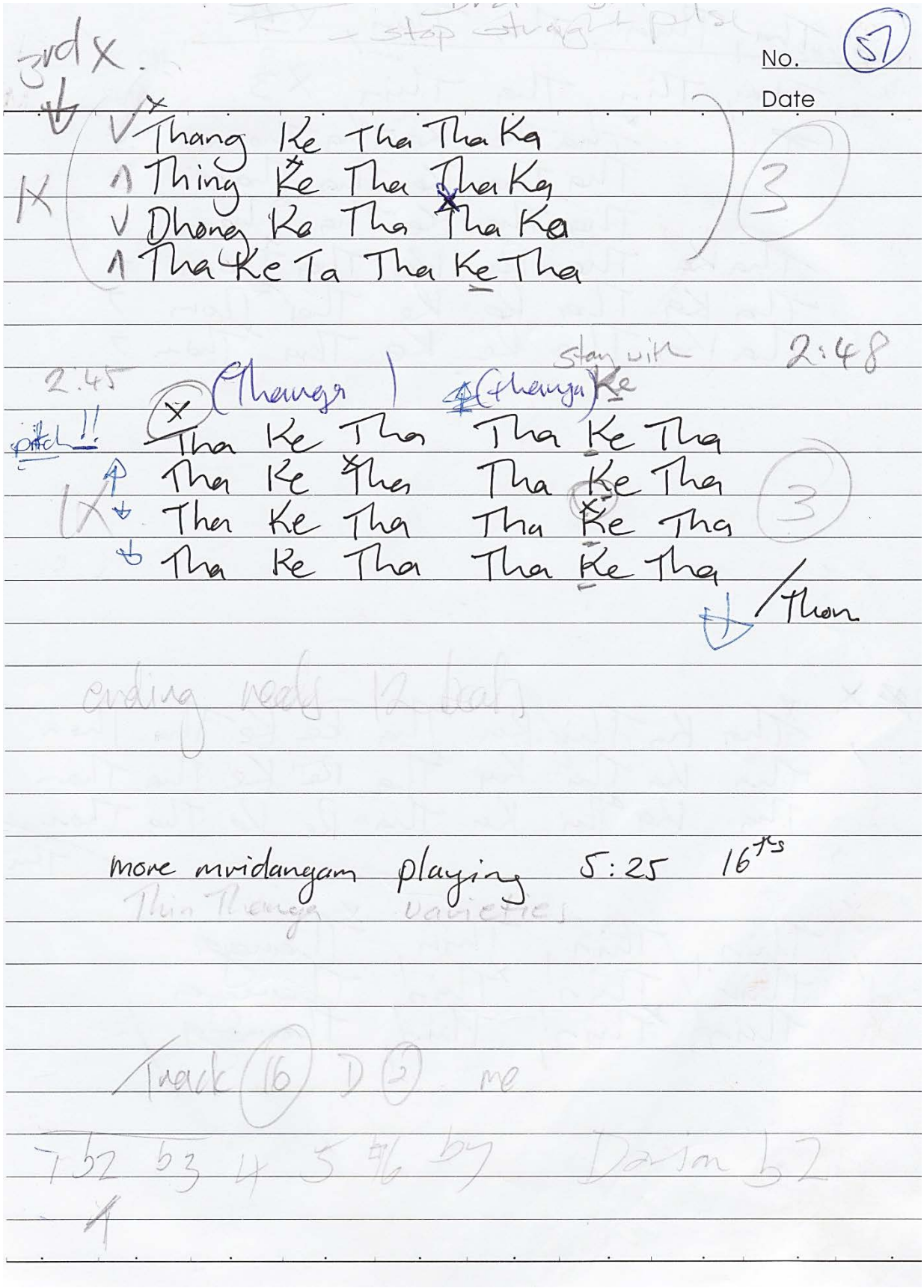

Solos
A Lydian Dominant (concept)
(mode)
(mode)
til cue
3
39
on cue
[E] D mixolydian
D/C
43
tha thin tha tha ka thi mi tha ka thin tha thom tha ka thi mi tha ka
D/B
D/B♭ (B♭maj7♯5)
47
tha tha ka thi mi tha ka thin tha thom ka thi mi ka ju nu
D/A
Em/G (Gmaj6)
51
tha thin tha tha ka thi mi tha ka thin tha thom tha ka thi mi tha ka
D/F♯
/E
55
tha tha ka thi mi tha ka thin tha thom ka thi mi ka ju nu
TAG
A
D
fine
59
thin tha thom

Appendix A.VII: Notation for Bars 33- 37 - voice/drum breaks in track 3 *Tha Thin Tha,* given as appendix for voice and drums.

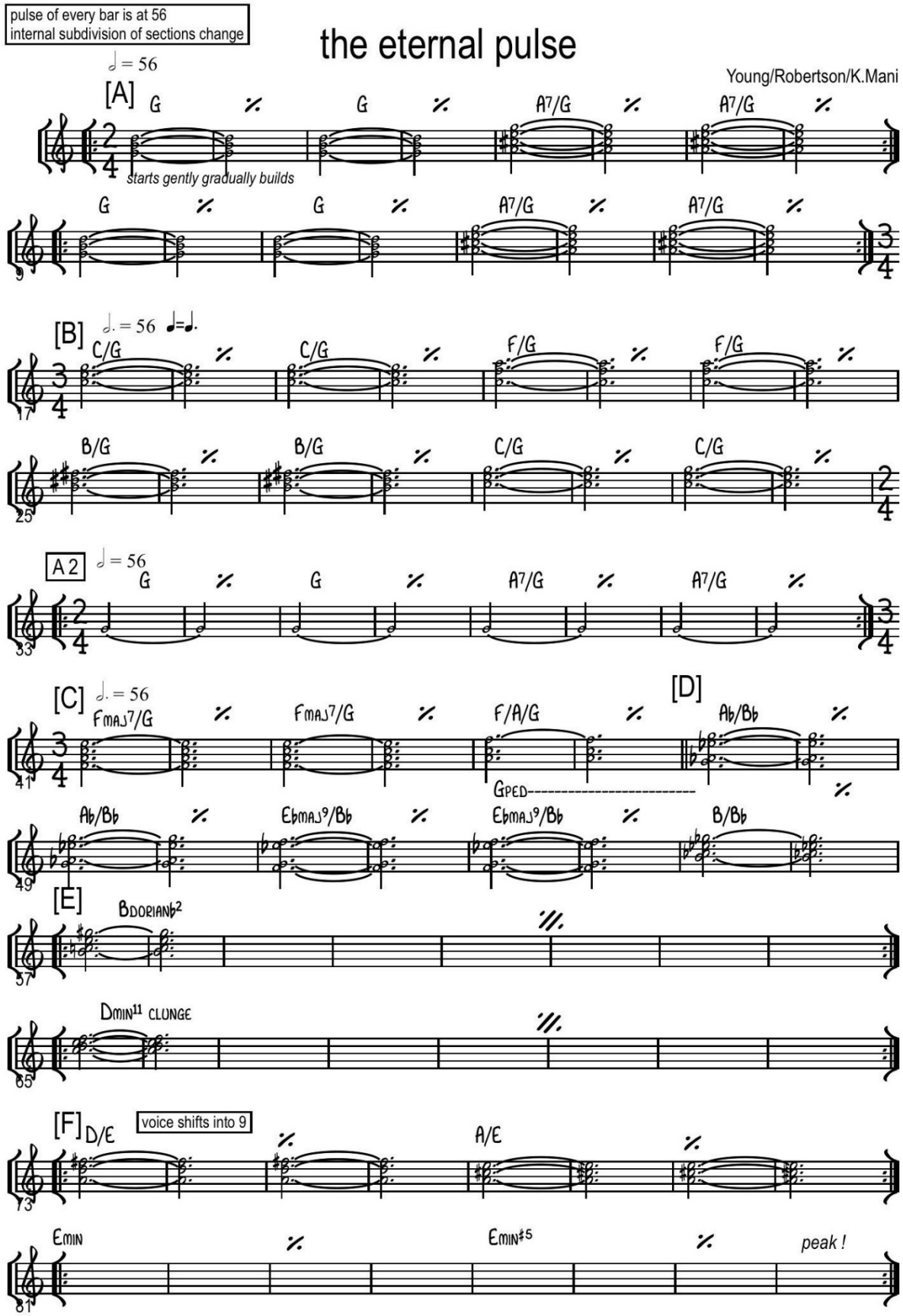


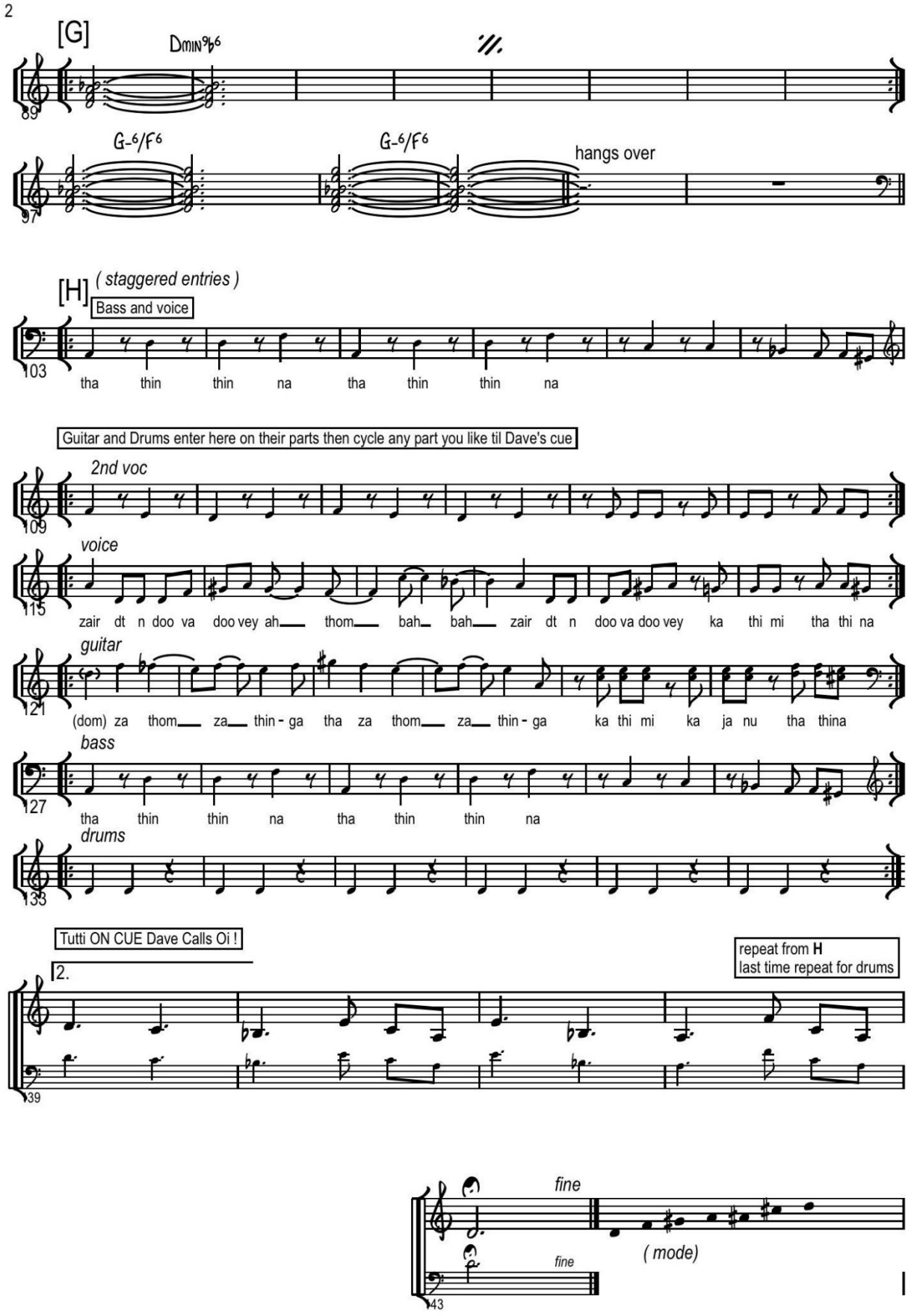
Appendix A.VIII *Konnakkol* notation of Bar 33-37 breaks track 4 *Tha Thin Tha* from Young's 2008 Chennai notebooks. Composed Mani. (2 pages)



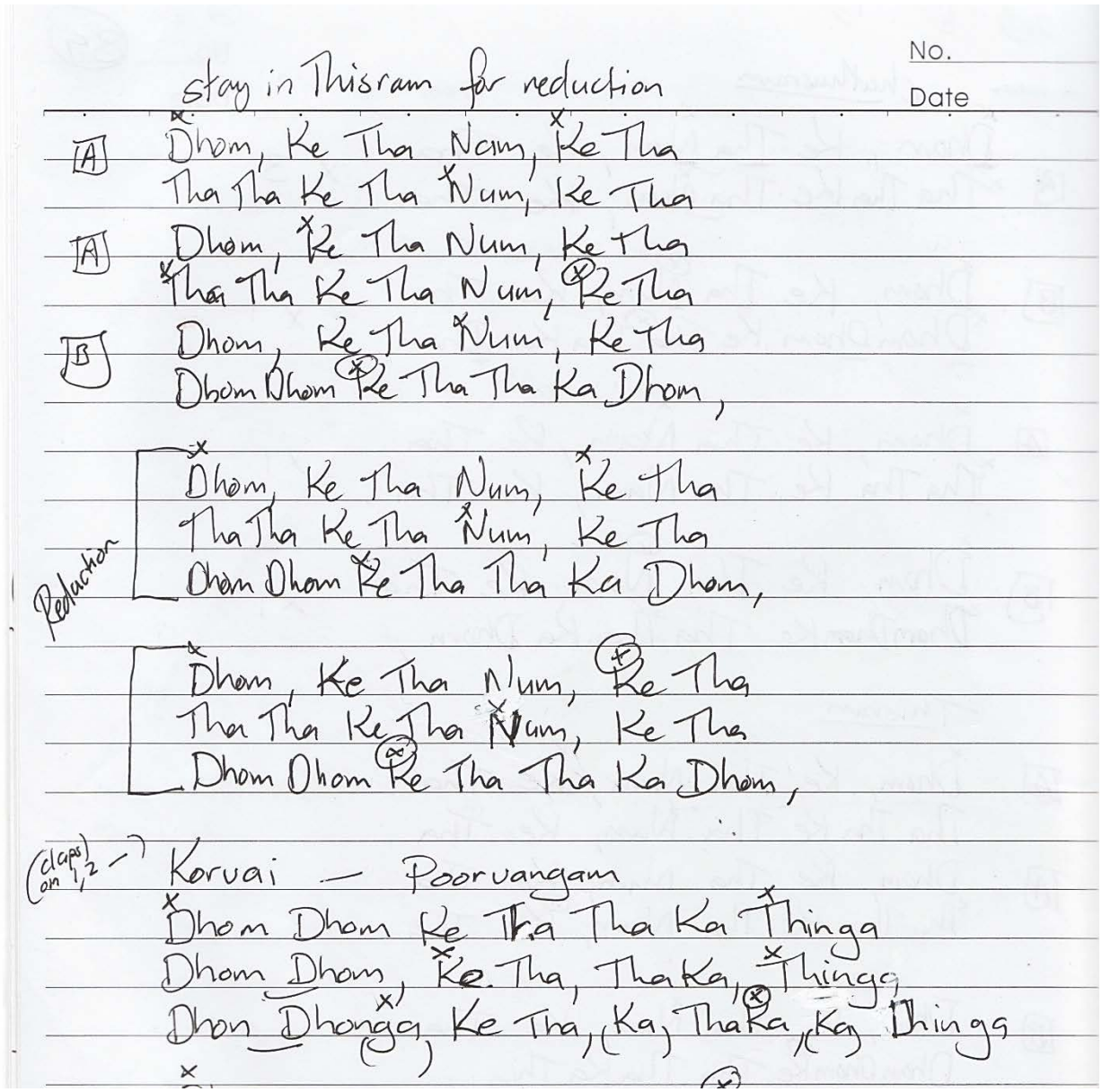

3rd x.
No. 57
Date
Thang Ke Tha Tha Ka
Thing Ke Tha Tha Ka
Dhong Ka Tha Tha Ka
Tha Ke Ta Tha Ke Tha
3
2:45
stay with
2:48
pitch !!
(Thenga) (Thenga) Ke
Tha Ke Tha Tha Ke Tha
Tha Ke Tha Tha Ke Tha
Tha Ke Tha Tha Ke Tha
Tha Ke Tha Tha Ke Tha
3
Thom
more mridangam playing 5:25 16ths
Track (16) D (2) me
by Darin

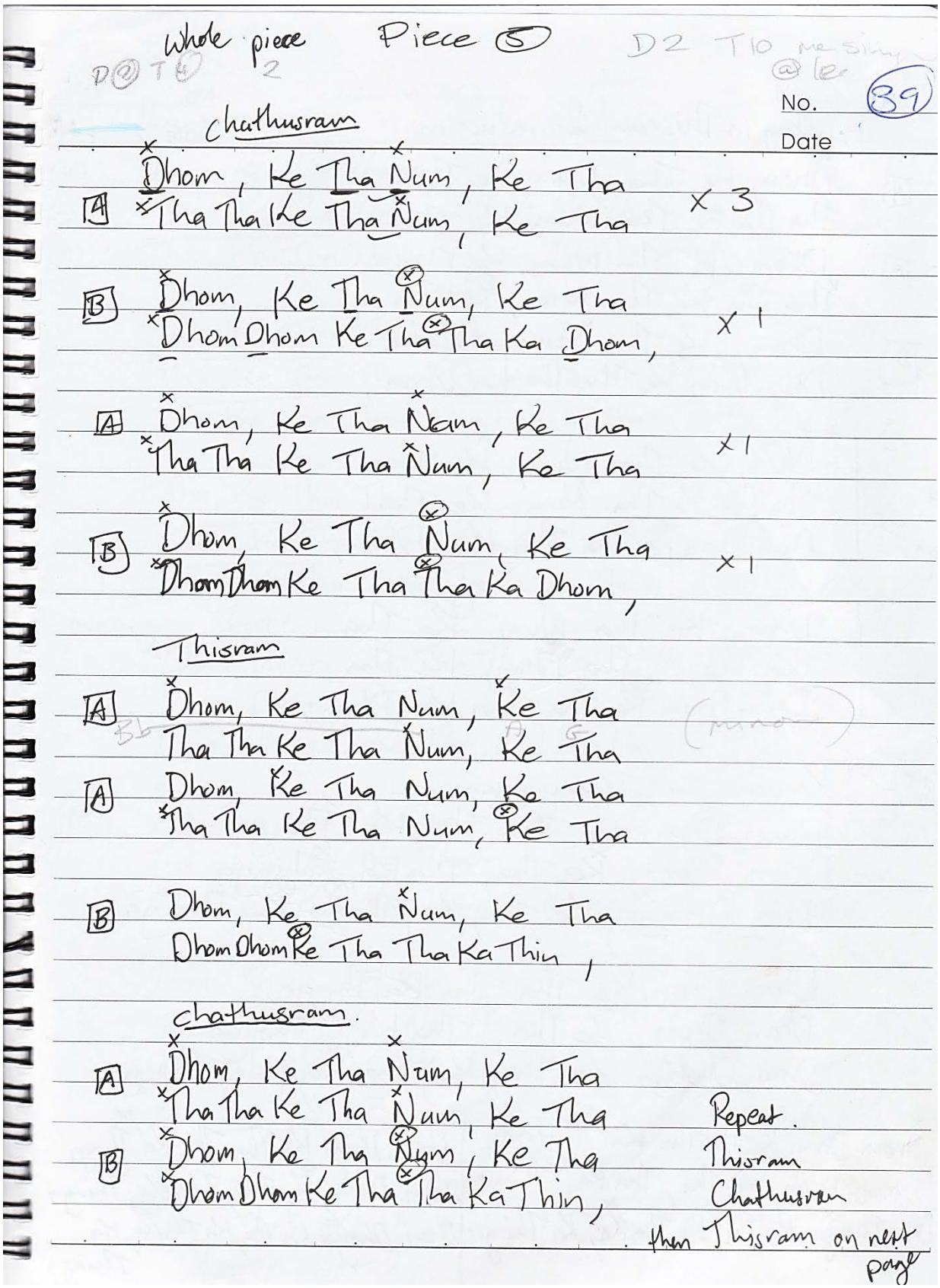
Appendix A.IX: Band chart for track 6 *The Eternal Pulse.* (2 pages)




2
[G]
Dmin9b6
89
G-6/F6
G-6/F6
hangs over
97
[H]
(staggered entries)
Bass and voice
103
tha thin thin na tha thin thin na
Guitar and Drums enter here on their parts then cycle any part you like til Dave's cue
2nd voc
109
voice
115
zair dt n doo va doo vey ah thom bah bah zair dt n doo va doo vey ka thi mi tha thi na
guitar
121
(dom) za thom za thin - ga tha za thom za thin - ga ka thi mi ka ja nu tha thina
bass
127
tha thin thin na tha thin thin na
drums
133
Tutti ON CUE Dave Calls Oi !
2.
repeat from H
last time repeat for drums
139
fine
fine
(mode)
143

Appendix A.X: Excerpts of the *konnakkol* notation used in track 6 *The Eternal Pulse,* from Young's 2008 Chennai notebooks. Composed Mani adapted Young. (3 pages)





Whole piece Piece (5)

No. (39)

Date

Chathusram

[A] Dhom, Ke Tha Num, Ke Tha
Tha Tha Ke Tha Num, Ke Tha x 3

[B] Dhom, Ke Tha Num, Ke Tha
Dhom Dhom Ke Tha Tha Ka Dhom, x 1

[A] Dhom, Ke Tha Num, Ke Tha
Tha Tha Ke Tha Num, Ke Tha x 1

[B] Dhom, Ke Tha Num, Ke Tha
Dhom Dhom Ke Tha Tha Ka Dhom, x 1

Thisram

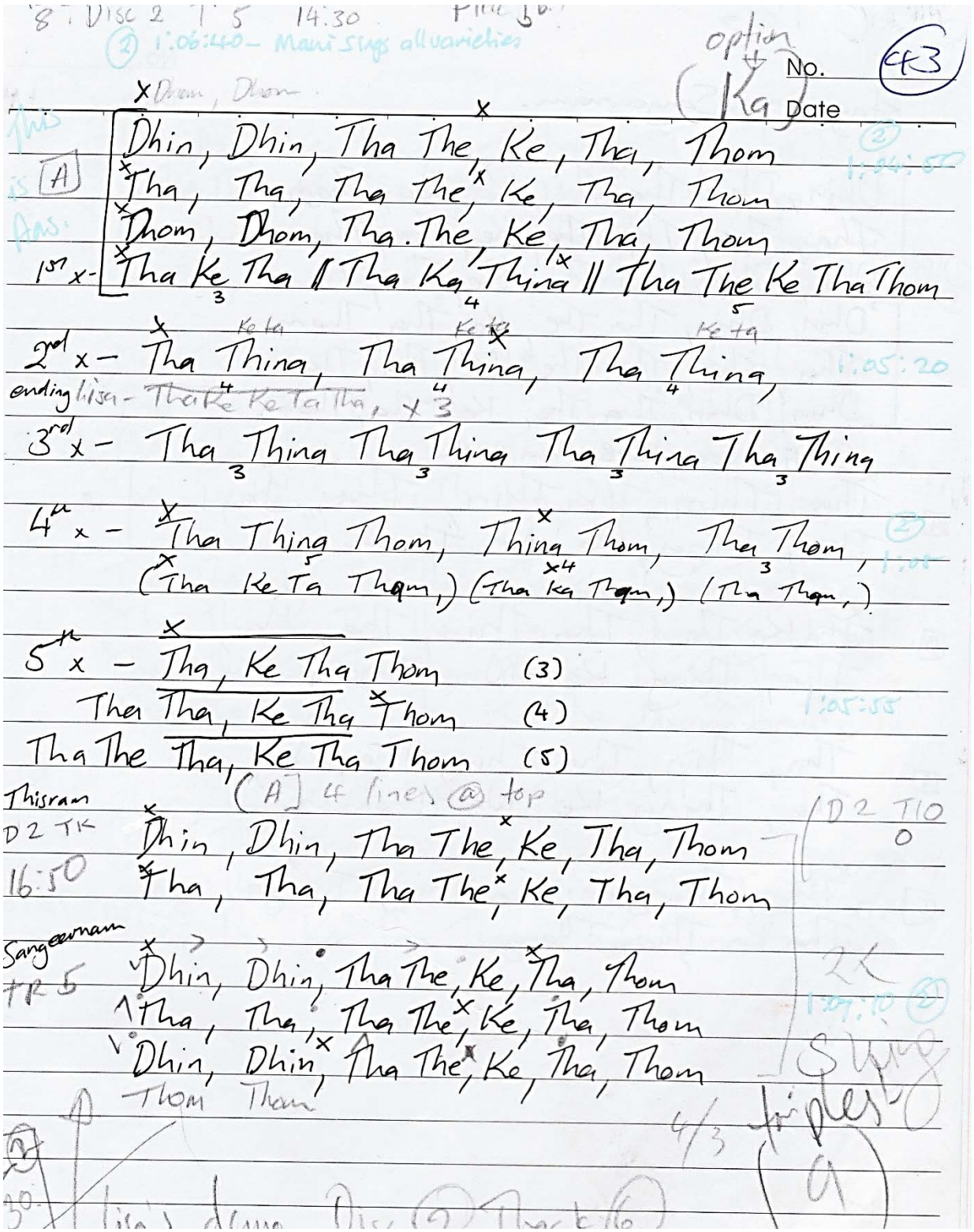
[A] Dhom, Ke Tha Num, Ke Tha
Tha Tha Ke Tha Num, Ke Tha
[A] Dhom, Ke Tha Num, Ke Tha
Tha Tha Ke Tha Num, Ke Tha

[B] Dhom, Ke Tha Num, Ke Tha
Dhom Dhom Ke Tha Tha Ka Thin,

Chathusram.

[A] Dhom, Ke Tha Num, Ke Tha
Tha Tha Ke Tha Num, Ke Tha
[B] Dhom, Ke Tha Num, Ke Tha
Dhom Dhom Ke Tha Tha Ka Thin,

Repeat.
Thisram
Chathusram
then Thisram on next page


No. 43
Date
option
(Ka)
Dhin, Dhin, Tha The, Ke, Tha, Thom
Tha, Tha, Tha The, Ke, Tha, Thom
Thom, Thom, Tha The, Ke, Tha, Thom
1st x - Tha Ke Tha // Tha Ka Thina // Tha The Ke Tha Thom
2nd x - Tha Thina, Tha Thina, Tha Thina,
ending line - Tha Ke Ta Tha, x3
3rd x - Tha Thina Tha Thina Tha Thina Tha Thina
4th x - Tha Thing Thom, Thina Thom, Tha Thom,
(Tha Ke Ta Thom,) (Tha Ka Thom,) (Tha Thom,)
5th x - Tha, Ke Tha Thom (3)
Tha Tha, Ke Tha Thom (4)
Tha The Tha, Ke Tha Thom (5)
(A) 4 lines @ top
Thisram
D2 T1K
16:50
Dhin, Dhin, Tha The, Ke, Tha, Thom
Tha, Tha, Tha The, Ke, Tha, Thom
Sangeernam
TR 5
Dhin, Dhin, Tha The, Ke, Tha, Thom
Tha, Tha, Tha The, Ke, Tha, Thom
Dhin, Dhin, Tha The, Ke, Tha, Thom
Thom Thom
D2 T10
0
4/3 triples

Appendix A. XI: *Rupaka - konnakkol* notation. Composed Young.

Konnakkol for ***Rupaka*** *Thalam* (cycle of 3)

Chathusram (4), Thisram (6), Double Chathusram (8)

CHATHUSRAM (4)
Tha , , Ta Tha Ka Ja-Nu Thanga Thom
Tha Thi , Ke , Ta | Tha Thi , Ke , Tha

Tha , , Ta Tha Ka Ja-Nu Thanga Thom
Tha Thi Ke Ta | Tha Thi , Ke , Na , Thom

Tha , , Ta , Ka Ja-Nu Thanga Thom
Ta Re Ke Da Tha , , Thi , Ke , Na , Thom

(Ta Re Ke Da) (3) Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke , Na , Thom

Dhi , (Ta Re Ke Da) 2 Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke , Na , Thom

Dhi , Dhi , (Ta Re Ke Da) Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke , Na , Thom

THISRAM (6)
Tha , , , , , , , Tha Ka Thi Mi | Tha Ka Ja Nu
Tha Ka Thi Mi | Tha Ka Ja Nu |

Thi , , , , , , , Tha Ka Thi Mi | Tha Ka Ja Nu
Tha Ka Thi Mi | Tha Ka Ja Nu |

Thom , , , , , , , Tha Ka Thi Mi | Tha Ka Ja Nu
Tha Ka Thi Mi | Tha Ka Ja Nu |

Tha , , Ta Tha Ka Ja-Nu Thanga Thom
Tha Thi , Ki , Ta | Tha Thi , Ka , Tha

Tha , , Ta Tha Ka Ja-Nu Thanga Thom
Tha Thi Ki Ta | Tha Ti, Ke , Na , Thom

Tha , , Ta , Ka Ja-Nu Thanga Thom
Ta Re Ke Da Tha , , Thi , Ke , Na , Thom

(Ta Re Ke Da) (3) Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke , Na , Thom

Dhi , (Ta Re Ke Da) 2 Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke, Na , Thom

Dhi , Dhi , (Ta Re Ke Da) Thom Thanga Tha Ka
Thi Mi Tha Ka | Tha Thi , Ke, Na , Thom

DOUBLE CHATHUSRAM (8)
Tha , , , , , , , , ,Tha Ka Thi Mi | Tha Ka Ja Nu
Tha Ka Thi Mi | Tha Ka Ja Nu | Tha Ka Thi Mi | Tha Ka

Thisram (6)
Thi , , , , , , ,Tha Ka Thi Mi | Tha Ka Ja Nu
Tha Ka Thi Mi | Tha Ka Ja Nu |

Chathusram (4)
Thom , , , , Ka Thi Mi , Ka Ju Nu , Tha Thi Na
Dhom !

Appendix A. XII: List of Field Research Questions for *Konnakkol* Artists

INTERVIEW QUESTIONS - PhD Fieldwork Research by Lisa Young

This document outlines the pre-constructed questions I used for interviews with Mani, Suresh and Cotler. Questions for each interview were selected from the following list depending on the musician's background, principal instrument and performance genre. Further questions relating to areas of special interest were improvised during the interviews. This list is taken from my personal notes, thus italics are not used with foreign words.

The Eternal Pulse - Konnakkol in Creative Practice and Performance in Contemporary Voice

1. Personal history and lineage

- Could you tell me about your background, which lineage you come from, your teachers, where you studied and for how long?
- Did you study any other instruments or traditions?
- Do you notate konnakkol? (English/Tamil/Western notation)
- What konnakkol sounds, structures or phrases are definitive of your lineage?
- Do you use only the traditional sounds, or have you added specific sounds from other lineages or invented any of your own?
- When you play with musicians from other lineages are you able to comprehend the language variations?

2. The sound and timbre of konnakkol

- Do you hear the konnakkol syllables as an onomatopoeic representation of your instrument, or as a reference to the mridangam?
- Are there certain sounds you believe emulate your particular instrument?
- What are your early memories of hearing konnakkol?
- How did you respond to the sound of it?
- Does the vocal timbre affect the aesthetic of konnakkol?
- Do you think of konnakkol as one common language, a pedagogy for learning your instrument, or are there distinct traits in different artists you hear reciting konnakkol?
- Do you have different experiences of konnakkol with different teachers?
- Can you describe how you manipulate your vocal timbre to present your personal expression of konnakkol?
- How important are numerical calculations in the structures?

3. Use of konnakkol in rehearsal/performance practice

- Do you see konnakkol as an art form in its own right, or can the percussionist double as a konnakkol artist?
- Is there room for personal expression in the konnakkol tradition?
- Tell me about your own personal expression in this art form?
- What processes have you used to integrate konnakkol into your contemporary vocal style?
- Do you have any favourite konnakkol artists?

- What is your intent when you perform and improvise?
- In collaborative works and projects does the depth of friendship affect the depth of the musical outcome?

4. Cross-cultural experiences

- What are your other musical influences?
- Have you explored cross-cultural fusion projects/musical relationships?
- If so, what was your experience of integrating genres?

5. Composing and improvising with konnakkol

- Do you compose new works?
- Do you use konnakkol as a compositional tool for rhythmic structures?
- What are your parameters for creating new works? (are you guided/bound by a tradition and/or your own personal aesthetic)
- Do you improvise in performance?
- Describe your experience of improvising.
- Do you conceptualise in konnakkol when improvising?
- Is tradition important to you when composing, performing and improvising?

6. Experience of rhythmic metre and numerical structure

- How would you describe your experience of rhythmic metre?
- Do you relate to rhythm as a numerical structure/calculation, an intuitive physical sense/experience, a rhythmical shape?
- What are the differences you experience in the nature of Western rhythmic metre or 'pulse' verses Indian musical rhythmic metre?
- What do you hear/experience to be different when you compare Western drummers and Indian drummers?
- What do you perceive to be the meaning of rhythmic metre in each of those traditions?
- How do you think about concepts of pulse? Is it an intellectual process or intuitive?

APPENDIX B

Spelling Variations of select *Carnatic* musical terms

In the transliteration from Tamil, Sanskrit, Telugu (and other Dravidian languages) into the English language, many key words in the *Carnatic* tradition have acquired a variety of acceptable spellings. Different regions and lineages have adopted their own preferences, and as a result many variations are accepted. There is a recent trend towards simplifying the spelling of many words, often omitting the 'h', for example *sruthi* is often spelt *sruti*. Similarly the words *thisram* and *khandam* are sometimes seen as *tisram* and *kandam*. The spelling choices used in this exegesis are noted in the Orthography. A table is given here to show some of the commonly accepted spellings found in a variety of texts listed in the references.

Carnatic	Karnatic	Karnatak	Karnatik	Karnataka	
Konnakkol	Konnakol	Konugol	Konugolu	Konokol	Konakkol
Solkattu	Sollu katu	Solkatu	Sollukattu		
Mridangam	Mrdangam	Mridangham	Mridang	Mrudangam	
Talam	Tala	Thalam			

APPENDIX C

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