Musical-lingual Interplay in a Papua New Guinea Sung Story

Submitted by Michael Sollis

October 2007

A thesis submitted in partial fulfilment of the requirements for the degree of Bachelor of Arts (Honours) in the School of Archaeology and Anthropology and School of Music, Faculty of Arts, Australian National University

……………………………………………………….

Dedicated to the memory of Richard Alo who was loved by many

Abstract

In this thesis I am to show that investigation into musical-lingual interplay is an essential, but overlooked, aspect of vocal music as part of broader cultural and social contexts, with particular respect to the *pikono* genre of Duna, Papua New Guinea. Based on musical-lingual overlaps identified through a textual analysis of a *pikono* performance, and drawing in part on Jakobson's account of parallelism, I develop a general model of musical-lingual overlap. This model of musical-lingual overlap suggests a degree of interchangability between music and language, explains both the process and realisation of musical-lingual overlap in song, and has the potential to place the performance of music in a broad cultural and social context.

Table of Contents

Table of Figures

Acknowledgements

Introduction

In this thesis I aim to show that investigation into musical-lingual interplay is essential in understanding how vocal music is part of broader cultural and social contexts. My argument to that effect is developed through an analysis of a performance of a sung story from Duna in the Southern Highlands of Papua New Guinea, in a genre called *pikono*. The performance is by a man names Kiale Yokono, is roughly three hours in length, and shows a high degree of musical-lingual interplay. From the musical-lingual overlaps identified in Kiale's *pikono* I propose the introduction of a general theory of musical-lingual overlap. I believe musical-lingual overlap requires two necessary conditions to be fulfilled: firstly that parallelism operates both among musical elements and among lingual elements, and secondly that there are shared features between musical elements and lingual elements. When these conditions are met, musical-lingual overlap occurs in two different ways: firstly, through the projection of a unit within a song which refers to both a musical element and a lingual element; and secondly, through the way in which the operation of parallelism with respect to musical elements creates relations of equivalence between lingual elements, and vice versa. This theory suggests a degree of interchangability between music and language, explains both the process and realisation of musical-lingual overlap in song, and has the potential to place the performance of music in a broad cultural and social context.

But what exactly do I mean by musical-lingual overlap? As far as I am aware, mine is the first use of the term, although a relationship of this kind has been alluded to in

previous studies, as will be discussed in Chapter 1. By musical-lingual interplay I am referring to the interaction between musical elements and lingual elements that can occur in genres of music or language. The existence of musical-lingual interplay can be confirmed simply through the phenomenon of vocal music – for example, try and imagine the tune of 'Three Blind Mice' to different words, without any evocation of the original text. Similarly, try and imagine the words of 'Three Blind Mice' sung to a different melody. The musical elements and lingual elements combine to form the singular unit of the song, and this is only possible through musical-lingual interplay.[1] The difference between musical elements and lingual elements is more by degree than distinct separation, and it will be shown how all genres of music and language may involve musical-lingual interplay.[2]

Essentially this approach comes from my perspective as both a composer and a researcher. As a composer I have often attempted to explore the relationship between speech and music. The first vocal piece I wrote featured a score where a sung text was written below curves to indicate the melodic-contour, evoking and manipulating the intonation of the linguistic phrases. Composers of all genres and cultures seem to have been fascinated by musical-lingual overlap in both vocal and instrumental music. In Western art music composers such as Balakirev, Janáček, Bartók, Schoenberg, Partch and Bernstein have all explored the relationship between music and language in their music. It is no accident that 18th century philosopher Jean-Jacques Rousseau, whose belief that language and music had similar structures, was himself a composer.[3] Despite this, little research has investigated musical-lingual overlap. It is true that much has been written about the relationship between language and music, and interesting case studies have examined instances of language affecting music (and vice versa). However in most

---

[1] A striking example of this combined unity can be seen on a segment of the ABC TV game show *Spicks and Specks*, where a well known melody is sung to a different lingual text provided by the host. The difficulty that contestants have in identifying the song (sung to a different text) exemplifies the unity that has been achieved by musical-lingual interplay.

[2] For example, wolf-whistling, sprechstimme, rap, beat poetry, onomatopoeia, and most (if not all) vocal music, all involve a degree of musical-lingual interplay.

[3] Interestingly, Rousseau's work was one of the fundamental influences of Lévi-Strauss' structuralism (Luhrmann 1990). Two literal examples of Lévi-Strauss' use of musical analogy are his analogy of an orchestral score to the structure of myth (1963: 212), and his dedication "to music" and chapter headings based on musical form in *The Raw and the Cooked* (1969[1964]).

cases, the musical text and lingual text have been treated as independent structures,[4] and are not seen as acting in a process manifested as musical-lingual interplay.

This thesis is based around the analysis of one performance of Duna *pikono* by Kiale Yokono, and musical-lingual overlap that is identified in his work. From a close analysis, I have not only been mentally stimulated as a theoretician and researcher, but also as a composer. In thinking about such processes, I believe that the connection between music and language is a fundamental part of vocal music, and possibly an important part of instrumental music.

This thesis thus, at its core, is concerned with the tangible. As a practitioner of music, it is the tangible which I find important – the actual elements that make up a musical performance, and in this case, exhibit musical-lingual interplay. As a researcher, I find it impossible to escape the importance of the tangible in any cultural theory. This thesis comes from the perspective of analysing 'text as culture', instead of analysing 'culture as text', which seems to have dominated the discipline of anthropology and ethnomusicology since the mid 1960s. In this respect my approach perhaps instances a return to a Boasian tradition of anthropology. Whether it is an instance of a more general academic paradigm shift towards the 'tangible' is uncertain, although there seems to be a growing body of work, notable in folklore studies and linguistic anthropology, that is looking towards tangible relationships to culture as will be alluded to in Chapter 1.

In this thesis I am presenting a method and an introduction to a theory of musical-lingual interplay. This analysis strongly looks back to the works of George Herzog and George List, who began to examine musical-lingual interplay as part of a broader process in the early-to-mid 20th century. In the first chapter, I will detail the achievements of Herzog and List, and show how such investigation was stymied by emerging academic trends of the 1960s. I propose that an anthropological-musicological-linguistic perspective is essential in approaching the issue of musical-lingual overlap as part of a broader cultural

---

[4] The musical text is defined as the constitutive musical elements of a performance, which may include melody, rhythm, timbre and tempo.

and social context, and in explaining both the process and realisation of musical-lingual overlap.[5] In the second chapter, through a textual analysis of Kiale's *pikono*,[6] I identify the different ways that musical-lingual interplay occurs within it, and show how this is an essential part of his performance. In the third chapter, I introduce a general theory of musical-lingual interplay, which provides future possibilities for placing vocal music within broader cultural and social contexts.

Two things need to be emphasised in this thesis: Firstly, that this work is firmly indebted to the work of the Russian linguist Roman Jakobson, and to a lesser extent, suggests analogies to the work of his fellow Russian Mikhail Bakhtin. As a relative newcomer to linguistic theory, my own thinking of musical-lingual overlap has been enormously stimulated by the theories of these two luminaries. I firmly believe their work can be extended to create a path forward, (re)establishing an anthropological-musical-linguistic approach to the study of performance.

Secondly, that I have a strong belief that detailed musical transcription is an essential tool for understanding musical phenomena. As a musician, I found that an understanding of Kiale's *pikono* could only be gained through the hours of listening and transcribing his voice in detail. Whether my transcription is culturally reflective or not is to some degree (but not entirely) unimportant, as the actual process of creating a representation in a tangible form was essential in acquiring an understanding of Kiale's music.

Let us then proceed, and begin to describe the process and realisation of musical-lingual interplay.

---

[5] The process being the structures involved in the delivery of a performance; the realisation being the tangible manifestation delivered through a performance.
[6] By 'textual' I am referring to both the musical text and lingual text of the performed vocal music.

Chapter 1 – Studying the Song:

Redressing the question of musical-lingual interplay

The interplay between musical elements and lingual elements is an essential feature of vocal music. However, there has been little academic investigation into the dynamics of this interplay and its relationship to broader cultural and social processes (henceforth referred to as *musical-lingual interplay*). This chapter first explains the scarcity of research into musical-lingual interplay in the literature, and secondly suggests how such study can proceed through a textual analysis of a performance. The absence of research into musical-lingual interplay can in part be explained by the literature's multidisciplinary focus, as its study encompasses perspectives from anthropology, musicology, and linguistics. Early ethnomusicology came from such combined perspectives and offers valuable investigations into musical-lingual interplay particularly in the works of George Herzog and George List. However, such research was discontinued in the 1960s when the literature was divided by three academic lineages: an anthropological-musicological approach focussed on the phenomena, context, and realisation of musical performance; a musicological-linguistic approach adopted linguistic analogies to explain the process of musical cognition; and a linguistic-anthropological approach focussed on textual (in a linguistic sense) analysis of poetics in performance, and on occurrences of parallelism.[7] In my view, the three divergent

---

[7] Feld and Fox (1994) in their *Music and language* review similarly make a distinction between an anthropological-musicological approach (which they define as phenomenological) and a musicological-linguistic approach (which they define as cognitive), as detailed below. A linguistic-anthropological perspective is outside the scope of their review, as it does not pertain to music. However, Feld and Fox do

lineages need to recombine in order to redress the question of musical-lingual interplay –
both the process and realisation of a sung performance can be explained through
identifying instances of parallelism between its musical elements and lingual elements.
This approach is an appropriate way to resume investigation into musical-lingual
interplay.

1. Early Contributions

George Herzog and George List, from an Indiana-based school of ethnomusicology,
provide the most fruitful contributions to the study of musical-lingual interplay. Herzog
was a direct academic descendent of Béla Bartók and Franz Boas, who provided a rich
anthropological, musicological and linguistic tradition which he drew on.[8] In *Speech-
melody and primitive music* (1934), Herzog first investigated the influence of tonal
languages upon music, and he framed this phenomenon as part of a broader cultural and
social nexus. Herzog surveys a range of musical-lingual phenomena such as tune-tone
correspondences,[9] as well as speech surrogates (1934: 455),[10]. He writes that such study:

> is rewarding not only for the variety of musical forms it reveals, but also
> because it leads us to realise the many possibilities in processes of musical
> growth, the many possible sources of musical material, the different kinds of
> possible integration of music with other elements in the æsthetic experience.
> (Herzog 1934: 466).

Herzog's systematic approach of comparing different types of musical-lingual overlaps as
part of broader cultural contexts was continued by George List, his successor at Indiana
University. List was particularly concerned with music affected by tune-tone
correspondences (see List 1961), and later compared such instances with other genres of
speech and song (1963) in a systematic classification illustrated in Figure 1.

identify Roman Jakobson as important in developing semiotic approaches to ethnomusicology, which were
popular in the 1970's and 1980's.
[8] Bruno Nettl (2002: 90-92) gives a detailed account of the achievements and importance of Herzog within
ethnomusicology.
[9] Tune-tone correspondence refers to the correlation between tonal variation in a spoken text (within a tonal
language) and tonal variation in the melody of the same text when sung. The term seems to have been used
only in 1985 by W.R. Leben, but I believe it is the most apt description of the analysis of such
phenomenon.
[10] Speech surrogates refer to instrumental music conveying linguistic information through rhythmic and
tonal variation. A well known example is the phenomenon of African 'talking drums'. The term speech
surrogates was not used by Herzog himself, and seems to be introduced by Theodore Stern (1957).

30   20   10   SPEECH   10   20   30

30   30

Intonational   EXPANSION OF INTONATION   NEGATION OF INTONATION   Recitation
20 Recitation   20

10   10

SPRECHSTIMME   MONOTONE

10   10

STABILITY OF PITCH   EXPANSION OF SCALAR STRUCTURE

20 Intonational   Chant   20
    Chant

30   30

30   20   10   SONG   10   20   30
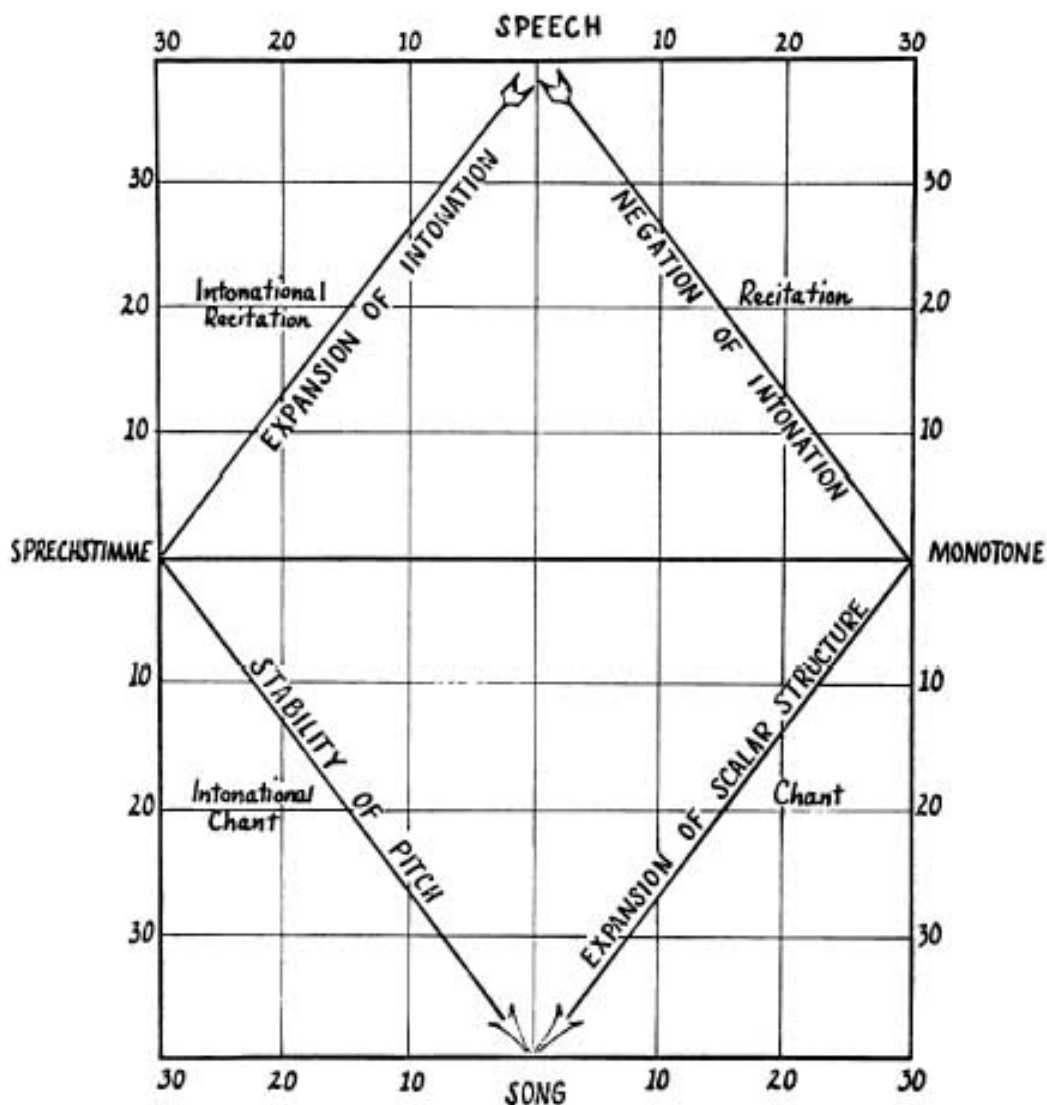
Figure 1. Chart for classifying forms intermediate to speech and song. List 1963:9.

The vertical axis maps the stability of fixed pitches between pure speech and pure song, and the horizontal axis maps the intonation of pitch between *sprechstimme* and monotone.[11] For example, List places normal speech at the 'north pole', and melodic song at the 'south pole'. Songs that involve some limited vocal intonation but based around a monotone, such as skipping-rope rhymes, lie on the diagonal from 'south to

---

[11] *Sprechstimme* literally means 'spoken-voice', however, in music it is used interchangeably with the word *sprechgesang* which means 'spoken-song'. *Sprechstimme* is a compositional tool in Western art music where singers approximate notated pitches in a speaking voice. It is most famously used in Arnold Schoenberg's *Pierrot Lunaire*, premiered in 1912.

east'. The Maori haka, exaggerates spoken intonation to a high degree, and is placed on the 'west' pole. List's model has shortcomings, such as a disregard for metrical factors (e.g. rhythm and pulse), but his approach can be broadened to identify several dimensions of overlap between musical and lingual elements. This identification is important in eliciting how musical-lingual interplay operates, as will later be shown with respect to Kiale's *pikono*.

Systematic investigations into musical-lingual overlaps by Herzog and List amongst others (e.g. Bright 1963, Schneider 1961) analysed specific cases of musical-lingual overlap and placed such phenomena into comparative models of a general nature. This lucid style of analysis, which attempts to account for both the realisation and process of musical performance, was discontinued due to emerging academic trends which marginalised their research.

2. Disciplinary Divisions

The absence of further systematic research into musical-lingual interplay after the 1960s seems to have resulted from the concurrent development of three distinct academic lineages. Within ethnomusicology and musicology there were two lineages – a musicological-linguistic approach, and an anthropological-musicological approach. Feld and Fox describe how these two lineages dealt differently with the problem of 'music and language': a musicological-linguistic approach focused on "suggestive analogies directed from linguistic structures to musical ones… where musical sound is viewed as an autonomous formal domain, abstractable as hierarchical structure or cognitive process"(1994: 26). On the other hand an anthropological-musicological approach focussed on the "phenomenological intertwining of language and music in verbal art, song texts, and musical performance" (ibid.:27).[12] This cognitive-phenomenal division in the literature stymied the broader investigations into musical-lingual interplay promoted

---

[12] Feld and Fox use the term 'phenomenological' differently to its usual meaning in anthropology as the experience of cultural phenomena from the perspective of an individual. Instead, Feld and Fox define 'phenomenological' as referring to the investigation of tangible phenomena, as opposed to theoretical abstract cognitive approaches to music and language. To avoid unnecessary confusion, I will use the term 'phenomenal' in this thesis to describe such an approach.

by Herzog and List. There was also a third lineage – a linguistic-anthropological approach – which examined the realisation and process of the performance of poetics, and the lingual texts of musical performances. Analytical tools from this latter lineage can be used to rejoin the cognitive-phenomenal divide to move forward with an explanation of musical-lingual interplay, and resume the type of research promoted by Herzog and List.

2.1 A Musicological-Linguistic Lineage

A musicological-linguistic lineage developed out of perspectives that emerged earlier in the 20th century through the works of Roman Jakobson (1987[1932]) and George Springer (1956), who outlined possibilities of linguistic models to describe the cognitive process of musical structure.[13] Springer, for instance, suggested the formulation of a musical grammar describing the tones of a musical scale as analogous to linguistic phonemes whose sequences can be mapped through formulae such as Markov chains.[14] In the mid 1960s the structural linguistics of Lévi-Strauss (1963) and the transformational-generative linguistics of Chomsky (1957, 1965) provided further influence to such research, overwhelming the systematic approach that had begun to develop in the works of Herzog and List. For example, Durbin drew on Chomsky's transformational linguistics to postulate a single process to explain normal speech, poetry, and song-texts (1971). Such studies attempted to postulate universal cognitive processes of music, similar to what Chomsky had achieved for linguistics. Later important works include the composer and music theorist Fred Lerdahl,[15] and linguist

---

[13] The cognitive process relates to what in linguistics is described as 'competence' (Chomsky 1965: 4). With respect to music, this thesis suggests that musical 'competence' may be part of the process of composing, performing, and perceiving a musical performance, analogous to 'competence' in linguistics as the comprehension and production of language.

[14] A Markov chain is a stochastic process where every possible outcome has an affixed probability of occurring for every state. Markov chains describe the sequence of different states that occur over time.

[15] Several composers have examined relationships between music and language from a theoretical perspective. The most influential include Béla Bartók's contribution to ethnomusicology generally, and the work of philosopher-composer Rousseau (1966[1781]), which is claimed to be the first modern investigation into music and language. Other interesting contributions include Leonard Bernstein's Norton lectures exploring compositional applications of interpreting music through a universal grammar (1992[1973]), Harry Partch's ideal of 'corporeal music' as coinciding with natural speech inflections and its cultural implications (1949), and 19th century operatic ideals of heightening natural speech (for e.g. see Hogarth 1969[1848]: 99, McAlpin 1917: 247).

Ray Jackendoff's *Generative Theory of Tonal Music* (1983), in which they derive four components of 'musical intuition' based on Chomsky's celebrated research into 'grammatical intuition'. These components, such as 'grouping structure', and 'metrical structure' are described by Lerdahl and Jackendoff as universal processes of tonal music, and are a prime example of a structural attempt to derive generalities of musical competence.

2.2 An Anthropological-Musicological Lineage

These musical analogies of linguistic structure generally marginalised the realisation of musical performance, and ignored cultural dimensions of the models they proposed (Feld 1974: 210). Also, sensible use of a structural approach relating to tangible musical phenomenon seems to have been bypassed.[16] This can in part be attributed to the emergence of an anthropological-musicological lineage in the ethnomusicological works of Merriam (1964) and Blacking (1973).[17] The idea of an 'Anthropology of Music' (Merriam 1964) moving to a 'Musical Anthropology' (Seeger 1980) became pervasive within ethnomusicology. Such academic paradigms polarised the discipline, into abstract descriptions of musical process as illustrated in the above generative theories on one hand, and cultural-ethnographic descriptions of musical phenomena on the other. The latter seemed to become directed mainly or entirely towards performance and cultural contexts of music, which unintentionally created an absence of detailed musical transcriptions and deep analysis of the musical text itself.[18]

The musical transcriptions and analysis that did occur present valuable insights into the tangible intertwining of musical and lingual elements. Occasional investigation was conducted into tune-tone correspondences (the most valuable of these includes Agawu 1984, Chapman 2001, Pugh-Kitingan 1981, Tanese-Ito 1988, andYung 1983), vocables

---

[16] Similarly, Lévi-Strauss science of mythology (1969[1964]) describes the structure and narratives of a series of South-American myths, but does not give any close consideration of the actual language used in the myths.

[17] Also important are the later works of Anthony Seeger (1980) and Steven Feld (1990[1982]).

[18] Stephen Wild suggests that an alternative stream of ethnomusicology developed in Australia with a focus on detailed musical transcriptions (Wild 2006).

(e.g. Frisbie 1980),[19] and speech surrogates (e.g. Pugh-Kitingan 1979, Umiker 1974) – all requiring close textual analysis of musical transcriptions, and usually identifying a relationship between tangible musical elements and linguistic elements.[20] However, this research avoids placing such phenomena into broader contexts, as any structural analysis was monopolised by the powerful influence of Chomsky through a musicological-linguistic lineage[21]. Harold Powers criticises Feld for only having a 'cultural' phenomenal perspective:

> But Feld seems not to have noticed the real insights available to musicology from a knowledge of the study of languages, or at any rate not to have valued them very much, because of his own strong theoretical bias against any consideration of "music sound" outside of its cultural context. This bias comes from Merriam and Blacking … and given the kind of parochial notions they were reacting against, the bias is a healthy one. But they overreact. It is of course true that (like language) no music can exist without people who make it. It is also true that (like some uses of language) some music may sometimes be more efficiently interpreted by discussing it as thought it did have a life of its own. (Powers 1980: 7-8)[22]

It is the two truisms that Powers identifies in the last two sentences above that, in combination, seem to have been ignored. Minimal significant research into musical-lingual overlaps has thus occurred since the 1960s. There is a division between universal structuralist models of cognition explaining musical process on the one hand, and phenomenal descriptions within a culture explaining the realisation of musical performance on the other hand. This has resulted in a general absence of investigation into how musical phenomena, as related in part through detailed analysis of musical transcription, are part of social and cultural structure broadly.

---

[19] Vocables refer to non-lexical utterances such as the singing of 'ah' or 'oo'.
[20] This literature was generally analytical, juxtaposed against the more descriptive and theoretical works influenced by the dominance of cultural ethnomusicology.
[21] Two notable exceptions, which both provide interesting cognitive and phenomenal accounts of musical performance include Vida Chenoweth's analysis of Usarufa melodic composition (1979) (who interestingly had background in anthropology, musicology, and linguistics), and John Blacking's identification of deep and surface structures in Venda music (1971).
[22] The debate in ethnomusicology parallels a similar division that occurred in linguistics between anthropological linguistics (or ethnolinguistics) and structural linguistics (particularly associated with Chomsky).

2.3 A Linguistic-Anthropological Lineage

In searching for a model to rejoin this cognitive-phenomenal divide, and explain both process and realisation of musical performance, we can turn to a third academic lineage which traverses across several disciplines. This perspective, like the musicological-anthropological perspective, drew on the traditions of Bartók and Boas, but instead focussed on lingual text rather than musical text. Bartók's work on South Slavic epics paved the way for Albert Lord to produce his magnum opus *The Singer of Tales* (1960). Lord used Bartók's transcriptions as well as contributions from Jakobson (Parry 1954) to develop a theory of oral-formulaic composition-in-performance, where a performer drew from a stock of phrases to combine them in a formulaic-type sequence to compose spontaneous epic poetry. Lord's work influenced investigations of sung performances in which the process of the linguistic textual composition was analysed in a cultural context (e.g. Finnegan 1977, Hill 1993, Ong 1982). Such analysis was particularly taken up by the American linguistic anthropological tradition of Franz Boas which put stress on analysing texts, particularly in North American indigenous songs, to identify cultural processes.[23] This linguistic-anthropological lineage keenly absorbed the work of Lord and other important influences such as the ethnography of speaking (Hymes 1962), ethnopoetics (e.g. Rothenberg, Tarn 1991), folklore studies (Bauman 1975) and to a lesser extent, the anthropology of performance (Turner 1986). Taken *in toto*, this literature achieved what had been lacking in ethnomusicology – a systematic approach to a close textual analysis as part of broader social and cultural processes.[24]

In particular, through identifying parallelism in verbal genres, linguistic anthropologists and folklorists have been able to show both the general process and realisation of the performance of poetics. It is later suggested that this method can be developed to identify the parallelism that occurs between musical and lingual elements of a text, which could allow the same type of explanation for musical-lingual interplay.

---

[23] Boas encouraged the collection of aural texts, as exemplified in his *Kwakiutl Tales* (1969[1910]).

[24] It is unsurprising (as mentioned above) that one of the early proponents of this approach in ethnomusicology – George Herzog – shared a common academic father in Franz Boas to this linguistic-anthropological investigation into performance.

3. Rejoining the Disciplinary Strands

The three lineages identified above must rejoin for valuable research into musical-lingual interplay to resume. Investigation into musical phenomena through the textual analysis of a performance needs to recombine with systematic approaches of a comparative nature in order to show how such phenomena are part of broader cultural and social processes.

What needs to be acknowledged is that neither cognitive nor phenomenal explanations of musical performance alone can fully encompass the complexity of musical-lingual interplay. Essentially, the former provides insights into the general process of composing, performing, and perceiving music; and the latter provides insights to the realisation of text in a specific musical performance. The cognitive approach often applies the fundamental linguistic concepts of the *axis of selection (paradigmatic axis)* and *combination (syntagmatic axis)* to musical competence.[25] At a cognitive level, paradigmatic units at various levels of musical organisation are selected, and combined with other paradigmatic units of the same level to comprise syntagmatic units. A cognitive approach tries to model musical competence in an analogous way to linguistic competence, but disregards musical-lingual interplay within an actual performance. Lerdahl and Jackendoff exemplify this:

> These [musical] factors and their interactions form intricate structures quite different from, but no less complex than, those of linguistic structure. If we have adopted some of the theoretical framework and methodology of linguistics it is because this approach has suggested a fruitful way of thinking about music itself. If substantive parallels between language and music emerge … this is an unexpected bonus but not necessarily a desideration. (Lerdahl and Jackendoff 1983: 6)[26]

This ignoring of tangible musical-lingual interplay is unfortunate. Any structural similarities between music and language clearly relate to the tangible interplay between

---

[25] In linguistics and semiotics, the paradigmatic axis pertains to selection, whilst the syntagmatic axis pertains to combination. For instance, in the phrase 'he went swimming', the paradigmatic axis is the alternative forms each unit could take (he/she, swimming/running/jumping), whilst the syntagmatic axis is the combination of the units (he + went + swimming).

[26] Interestingly, Lerdahl later explores one aspect of these 'substantive parallels' in his analysis of text-setting with John Halle (Halle and Lerdahl 1993), which suggest the importance of both cognitive and phenomenal features in eliciting a model of music and language.

musical and lingual elements of a given text, as will be shown in the subsequent analysis of Kiale's *pikono*.

We can identify tangible dimensions of overlap between musical elements and lingual elements where interplay between them is manifested: the *phonetic* dimension maps similarities/differences in the pitch, rhythm, dynamic, and timbre between speech and music; the *syntactic* dimension maps similarities/differences in the organisation of spoken utterances and musical phrases; and the *semantic* dimension maps similarities/differences of the emotive interpretation of music and a linguistic text.[27] The three dimensions are not independent of each other and need to be considered as overlapping and interrelated.

It is important not to be misled in thinking that the above is an analogy of a linguistic model applied to musical form – for it is not. Instead it defines the dimensions of similarities and differences between language and music,[28] and thus identifies three domains of musical-lingual overlap.

Phenomenal explanations for musical-lingual interplay are also insufficient in explaining the complexity of the relationship. Insights into the process of musical cognition are helpful in explaining how music is perceived. Lerdahl and Jackendoff point out, for instance:

> it is evident that a listener perceives music as much more than a sequence of notes with different pitches and durations: one hears music in organised patterns. (Lerdahl and Jackendoff 1983: xii)

Investigation into the process of perception, or musical 'competence', as relating to linguistic competence is integral to models of musical-lingual interplay. This approach has been ignored by most phenomenal descriptions of musical-lingual overlaps. Such literature usually identifies a musical-lingual relationship, but doesn't explore how such relationships are part of broader cultural and social systems.

---

[27] The semantic dimension has been a hotly contested issue in ethnomusicology (e.g. Feld 1974: 206), and I am only recognizing its existence as a possibility. The existence of a semantic dimension is not a necessary condition for this thesis to proceed, yet this thesis accommodates such possibilities.

[28] This definition effectively broadens the boundaries identified by George List (1963).

4. The Concept of Parallelism as an Analytical Tool

Roman Jakobson's formulisation of the poetic function and description of parallelism in linguistics (1960) represents a powerful tool for bridging the gap between musical and linguistic aspects of song.[29] Jakobson describes the poetic function as directed towards the message of a speech act (ibid.:356) and that it "*projects the principle of equivalence from the axis of selection into the axis of combination*" (ibid.: 358, italics original). The poetic function allows a speaker to select a paradigmatic unit such as a word, (the linguistic principle of selection), and place it into combination with other linguistic elements (the linguistic principle of combination) which are drawn from the same paradigmatic set, thus displaying their paradigmatic relatedness (or in Jakobson's terms, their 'equivalence') along the syntagmatic axis. For example, Jakobson considers Caesar's victory message '*Veni, vidi, vici*' (come, see, conquer). Words are selected which are paradigmatically related in that all are verb forms of the same grammatical class: first person singular past indicative. Furthermore, the three words are phonetically very similar, all starting with 'v', having two syllables, and ending with the vowel 'i'. The concept of poetic function explains the process of creating Caesar's victory message (through the projection of paradigmatic units), and explains the realisation of Caesar's victory message as a poetic form. Jakobson broadens the concept and suggests:

> Rhyme is only a particular, condensed case of a much more general, we may even say the fundamental problem of poetry, namely *parallelism* … equivalence in sound, projected into the sequence as its constitutive principle, inevitably involves semantic equivalence, and on any linguistic level any constituent of such a sequence prompts one of the two correlative experiences which Hopkins neatly defines as "comparison for likeness' sake" and "comparison for unlikeness' sake. (ibid.: 368, italics original)

In the case of song, the way musical elements are projected into recurring combination may create phonetic, syntactic, or semantic 'likeness' or 'unlikeness' among linguistic elements and vice versa. This is an extension of Jakobson's thesis that parallelism makes sense of the interaction between meter and meaning in poetry (ibid.:369), but in this case applied to song, as will be discussed in detail below in Chapter 3.

---

[29] Ruwet (1987) also evokes Jakobson in a musical analysis, but only in regards to semiotics. Feld also list Jakobson in a summary of perspectives on style which can be applied to music (1988: 75).

Not only can parallelism be seen to operate within language and music, but also in the interaction between them. Jakobson's formulation of the poetic function thus offers a powerful tool with great potential to elucidate musical-lingual overlaps in ethnomusicology. The elements of poetic form that intuitively manifest parallelism in a fundamental way are also present in music. The musicologist Leonard Meyer remarks that "*style is a replication of patterning, whether in human behaviour or in the artefacts produced by human behaviour, that results from a series of choices made within some constraints*" (Meyer 1989: 3, italics original). Meyer's insight evokes Jakobson's thesis regarding selection and combination, suggesting that parallelism is a fundamental part of musical composition and perception. Through identifying the parallelism that operates within tangible relationships between music and language (such as those researched by Herzog and List) it may be possible to reveal some of the cultural dynamics that produce and are produced by musical-lingual overlaps.

Ethnomusicology is in a unique position to identify how parallelism as a cultural process organises musical-lingual interplay as realised in performance. This approach has been used within the analysis of poetics, for instance in the analysis of texts in central Australia (Strehlow 1971), but has been relatively unused in ethnomusicology.[30] Jakobson's own work on poetics highlights the importance of parallelism in organising meter as a musical feature of poetry, and this can be expanded to include broader phonetic, syntactic, and semantic dimensions of musical-lingual interplay. It is the tangible relationships and interactions between written language, spoken discourse, poetry, song, and instrumental music which may assist in illustrating how cognitive processes, such as parallelism, relate and are part of cultural phenomena. Detailed textual analysis of a performance is an essential method for exploring the relationships between texts and context – a feature disappointingly absent from much contemporary ethnomusicology.[31]

---

[30] Exceptions include Mulder (1994) who looks at structural properties of Tsimshian songs, and Clunies Ross and Wild (1984), who approach Arnhem Land clan songs as a process of musical, textual, and dance elements.

[31] Such relationships are discussed in linguistic-anthropology, particularly by Charles Briggs and Richard Bauman in their research on intertextuality (Bauman and Briggs 1990, Briggs and Bauman 1992).

5. *Textual Analysis of a Performance*

The next chapter of this thesis begins to apply a 'bottom up' analysis of music and language, beginning with detailed analysis of a musical genre which exhibit a tangible interplay between musical and lingual elements – that belonging to sung texts, or song. This thesis will exemplify how a close textual analysis of a sung story from the New Guinea highlands can begin to shed light on musical-lingual overlaps in a broader cultural and social context. This neatly corresponds to Bruno Nettl's classification of the music-language literature into four strata (Nettl 1993: 109):

> Level 1: Broad general relationships between music/language in physiology, psychology, linguistics, sociolinguistics, and anthropology.

> Level 2: Identifying similarities in the structure of the two systems, identifying grammatical and phonetic features of music.

> Level 3: Exploring relationships of artworks as systems of communication (e.g. the symphony to the novel; strophic forms in ballads)

> Level 4: "We come to the 4th stratum in my pyramid, and thus move down further, to a more down to earth kind of subject, the one with which we are most concerned here – the relationship of music and words in vocal music".

Through analysing detailed musical transcriptions in their social context, it is possible to extrapolate from this and derive cognitive processes of music in a broader sense. Such investigation of musical-lingual overlap may also demonstrate that the phenomenon of sung texts are not a special case of musical-lingual overlap, but simply exhibit more recognisable relationships that may also be present in instrumental music. Nettl remarks of the 'music and language' literature that:

> instead of being in the centre of ethnomusicological concerns it has usually been on the sidelines. This last critical comment may be laid at the door of disciplinary specialization, as literary scholars and folklorists eschew grappling with the technicalities of musical analysis while historical musicologists and ethnomusicologists possibly buttressed by the Western conception of music as quintessentially instrumental, leave the study of text to others. (Nettl 1993: 116)

To resume thorough investigation into musical-lingual interplay, we must overcome such disciplinary divisions and draw from a rich pool of diverse academic perspectives – in turn resurrecting the investigations of Herzog and List, who were searching for the

boundaries and systematic relationships between verbal and musical form. The division which occurred between cognitive and phenomenal accounts of musical phenomena thus need to be thus reconciled. The concept of parallelism as used in the analysis of poetics offers a vehicle to do so, as it can explain both the process and realisation of musical performance. This can best be done through a textual analysis of a performance identifying the interplay between musical and linguistic elements. In summarising, it is useful to see this research as a blend of the three academic lineages hence described, so that a systematic model of musical-lingual interplay as part of broader cultural and social processes can develop. It is hoped that such investigation can provide insights into the boundaries of music and language; how music and language relate to each other; and how such relationships are part of broader cultural and social processes.

Chapter 2 – Parallelism and Poetics in the *Pikono*:

Identifying musical-lingual interplay in a sung story

The importance of an anthropological-musicological-linguistic approach to musical-lingual interplay was suggested in Chapter 1. This Chapter presents an example of such an approach, where a performance of *pikono*, found in Duna in the Southern Highlands of Papua New Guinea, is textually analysed. Duna *pikono* exhibits extensive interplay between musical and lingual elements. This chapter examines five different categories of musical-lingual interplay that occurs in Kiale's *pikono*.

1) Musical-lingual interplay within a word: certain notes and words either sung as aural representations of events occurring in the story, sung in a particular way due to their structural importance, or sung in a particular way because of the tone-melody implied by the spoken text.

2) Musical-lingual interplay within a word-group: constant interplay between the melodic and rhythmic qualities of the linguistic and musical elements when words are set to music.

3) Musical-lingual interplay of higher-order units: parallelism occurring between phrases, lines, and sections, resulting in the manifestation of musical-lingual interplay.

4) Musical-lingual interplay as characterising different sub-genres of Kiale's *pikono*.

5) Musical-lingual interplay as marking reported speech.

Musical-lingual interplay is an integral part of Kiale's *pikono*, and needs to be analysed in order to broadly understand the genre of *pikono*. This study is primarily based on musical analysis, and future ethnographic research is required to clarify and enrich the understanding of musical-lingual interplay in Duna *pikono*.[32] The identification of musical-lingual interplay in a performance is also important in articulating general relationships between music and language, and placing these in relation to broader cultural and social processes as manifested through song.

Pikono is a genre of fictitious stories that can be sung, describing the adventures of bachelor cult heroes. The genre seems to have been first described by Nicholas Modjeska (1977: 107, 332), but not analysed until later in the work of Pamela Stewart and Andrew Strathern (Stewart and Strathern 2002b: 41-44, Strathern and Stewart 2004: 49) and Nicole Haley (2002: 132-137). Haley describes *pikono* as epic-like stories which, when performed by men, are sung through the night in men's houses. Performers of renowned ability are highly respected in Duna society. In particular, Haley describes the use of praise names within *pikono*. Praise names are series of special words used to describe landscape, animals, feathers, hair, and other significant features.[33] These praise names are not used in everyday speech, may be secret, and are recited in series within the *pikono*. An indigenous description of *pikono* and the function it plays in society is provided by Kenny Kendoli, a Duna man (forthcoming). He states how listing praise names convey important and detailed information on landscape features, and that *pikono* more generally shows how to live 'traditional' life.

---

[32] This analysis avoids critical judgment of Kiale's use of musical-lingual interplay in the *pikono* pertaining to the quality of his performance, excepting the comments of Duna informants below. Identifying musical-lingual interplay is a critical starting point which may lead to future fieldwork research in determining a musical aesthetic based on musical-lingual interplay, as suggested at the end of Chapter 3.

[33] Haley's definition of praise names is generally restricted to landscape, flora, and fauna. Special words for hair and feathers are defined by Haley as 'honorific' (2002: 149). Within Kiale's *pikono*, as will be shown, praise names and honorific names are used in an equivalent way, so the general title of praise names will be used to describe both.

Since 2003 *pikono* has attracted close analysis through the Chanted Tales project at the Research School of Pacific and Asian Studies, Australian National University.[34] Ethnomusicologist Kirsty Gillespie and linguist Lila San Roque have analysed *pikono*, most extensively in one performance by Kiale Yokono, which they recorded in 2005. This recording of Kiale's *pikono* has been the source for my present analysis. The linguistic text of the performance has been transcribed and translated by San Roque, Kendoli, and fellow Duna man Richard Alo. Kiale's *pikono* is shorter than many, being roughly three hours in length.[35] However, it is representative of the genre according to informants, and an example of a high quality performance.[36] Kiale's *pikono* tells the story of the bachelor Yeripi Pake, who finds romance, fights battles, and meets mysterious characters in his adventures. This current study expands on the work done by Gillespie and San Roque by identifying the dynamics and forms of musical-lingual interplay that take place in *pikono* through a textual analysis of this performance.[37]

This investigation began with a preliminary analysis of the audio recording and linguistic transcript (which is in four volumes).[38] From this, I transcribed several extracts of music throughout Kiale's *pikono* that seemed to me to be representative of the whole performance, as well as containing interesting aspects of musical-lingual interplay. I transcribed 11 minutes of music which constitutes over 6% of the entire performance. The analysis of these extracts is what follows. First is a general description of the form of the *pikono*, followed by an analysis of how musical-lingual interplay occurs within different levels of the song: individual words, combinations of words, higher-order units, sub-genres within the song, and reported speech.

---

[34] The project focuses on genres of sung stories in several language groups in the Papua New Guinea highlands, including Duna *pikono*. See http://rspas.anu.edu.au/anthropology/chantedtales.

[35] It is reported that *pikono* are often sung throughout an entire night.

[36] Personal correspondence with Kirsty Gillespie and Lila San Roque, 2006-07.

[37] The only other analysis of Duna music apart from Gillespie's current work seems to be by Chenoweth (1969), who analyses a series of recordings taken in the field.

[38] The volume that musical extracts comes from is indicated by parentheses, followed by the time of the extract within that volume (e.g. (1)2:00 indicates the second minute of the first volume).

1. General Form

Kiale's *pikono* consists of a series of melodies which generally begin at the top of Kiale's typical pitch-range for singing *pikono*, and gradually descend to a tonic note. When the tonic is approached, Kiale usually continues to sing between the tonic and its neighbouring tones. These two contrasting features have been coined the *descent* and *ground* respectively by Gillespie and San Roque, who describe Kiale's *pikono* as representative of the genre (Gillespie and San Roque forthcoming). Kiale's arrangements of descents and grounds are quite diverse and complex, and it is therefore helpful to describe the general melodic contours that characterise a sung phrase. Here, I am defining a *phrase* as a basic melodic contour sung by Kiale, usually marked at the end by a pause (rest) or a transition to a different melodic contour.[39] These phrases often correlate to grammatical units in the sung text, which indicate that phrases are a, perhaps *the*, basic structural unit of Kiale's *pikono*.[40] These phrases often combine with one another to produce an overall descent to the tonic, which I define as a *line*. Lines combine to form a higher-order unit which I define as a *section*.

In general, there are five types of melodic contours Kiale sings which usually constitute a phrase. The first and most characteristic phrase of *pikono* is a stepwise-descent as shown in Figure 2.
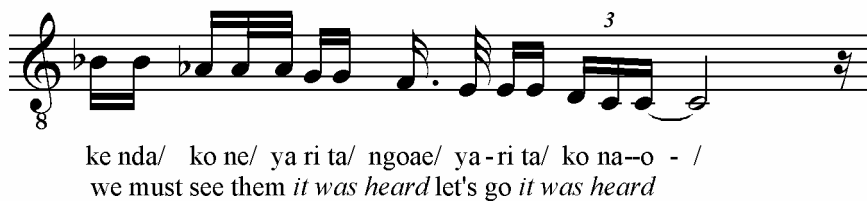

ke nda/   ko ne/ ya ri ta/ ngoae/ ya-ri ta/ ko na--o - /
we must see them *it was heard* let's go *it was heard*

Figure 2. Musical Example (3)0:59 - Phrase 1: Stepwise descent

---

[39] This differs from Gillespie and San Roque use of the term 'phrase', which they define as the combination of a descent and a ground. Since the patterns of descent and ground are diverse and do not necessarily occur in combination, I am defining a phrase more generally as a contained melodic contour, such as a descent *or* a ground.

[40] Here, phrase is not being used in a linguistic sense, and refers to a composite unit made up by the alignment of musical phrases (melodic contours) and textual clauses or clause sequences.

The melody usually descends the distance of a musical major/minor 3rd, perfect 5th or major/minor 6th, although occasionally wider. There seems to be an absence of descents based on a 4th. The descent may end on the tonic, but often ends on a higher note, with subsequent phrases of the line eventually reaching the tonic. Generally, descents constitute the first phrase(s) of a line, and are often marked by Kiale when he sings word *yarita*. *Yarita* literally means 'is heard', but is used in a way that doesn't make sense in everyday speech, when *yarita* is always be attached to a verb-root.[41] This word is of great importance in Kiale's singing, as it indicates the musical-lingual structure of the *pikono* by frequently being sung at the beginning and end of descending phrases. Kiale's use of *yarita* also gives a general impression that he is relating a story he heard somewhere else. Gillespie and San Roque report that such marking words are universal amongst sung *pikono*, although the word(s) used differs among performers. The organising words are indicated in the translation in italics, along with praise names, and are discussed in further detail below, and in section 2.3.1 'Marking Words' of this Chapter.

The second phrase-type is a variation of the stepwise-descent, as it contains an outlying note, which is usually a 3rd above the top note of the descent, as shown in Figure 3. During these outlying-descents, the outlying note may be returned to.
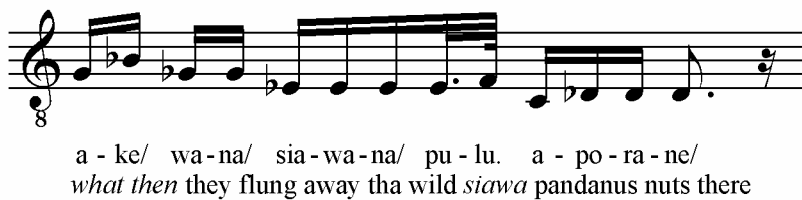

a - ke/ wa - na/ sia - wa - na/ pu - lu. a - po - ra - ne/
what then they flung away tha wild *siawa* pandanus nuts there

Figure 3. Musical Example (4)37:27 - Phrase 2: Outlying-descent

---

[41] *Yarita* exhibits features of an evidential bound-morpheme, which are used extensively in Duna as discussed by San Roque (San Roque forthcoming).

The third phrase-type is another variation of a stepwise-descent, which moves up and down the descending scale and often correlates to rhythmic patterning. An example of this zigzag-descent can be seen in Figure 4:
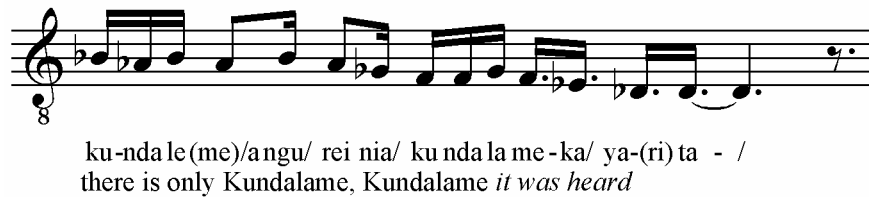

ku-nda le (me)/a ngu/ rei nia/ ku nda la me -ka/ ya-(ri) ta - /
there is only Kundalame, Kundalame *it was heard*

Figure 4. Musical Example (2)71:27 - Phrase 3: Zigzag-descent

The fourth phrase type is a melodic contour which returns to and departs from a specific pitch I define as a pedal note.[42] This pedal-phrase is similar to a ground, but differs in that it usually returns to a note higher than the tonic, and contains more melodic movement. This pedal-phrase often occurs in reported speech or in the middle of a line,[43] and is exemplified in Figure 5, which has an E♭ pedal note:

a - yu/   ya - ri - ta/ wa-(ta)/ha-nga-ra-ta/   ka - ro - ko - /
now *it was heard* they gathered together standing there
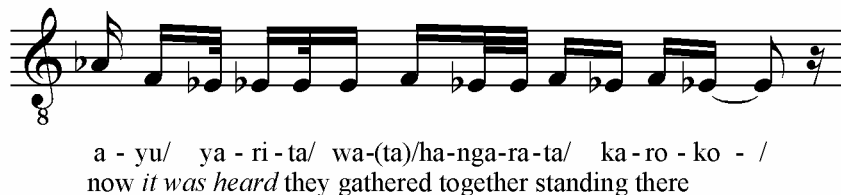
Figure 5. Musical Example (4)37:27 - Phrase 4: Pedal-phrase

The fifth and final phrase-type is a ground-phrase which revolves around a tonic note, such as C in Figure 6. Ground-phrases usually occur at the end of a line, and are often sung to lists of praise names (indicated in italics in the translation), which elaborate the narrative material which often precedes it.

---

[42] In Western musical theory, a pedal-point is a sustained note (usually in the bass) that occurs across changing harmonies. I am using it in a different, but not entirely dissimilar, way to describe a pedal-phrase.

[43] Reported speech is the representation or projection by a given speaker of the speech of another, such as a quotation.

romana/ yokolo/ ruku/ a-li-na/ ruku/ a-nda-lo/ ruku/ pandu/ raye/ rao tia/ wa/ reiniania - -o/
above see the ones who lay traps for the *yokolo* Pawua mountain *ruku* birds, *alina* Pawua mountain *ruku* birds, *andalu* Pawua mountain *ruku* birds they are sitting there
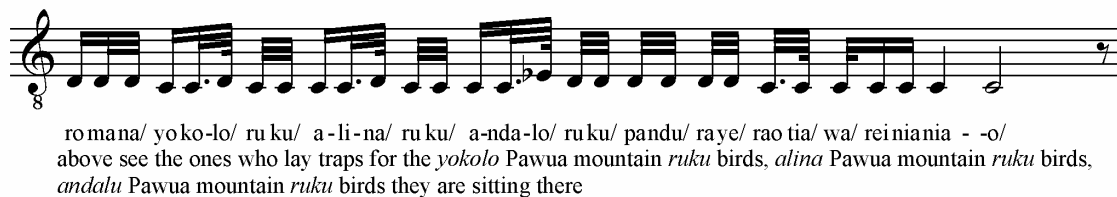
Figure 6. Musical Example (2)2:46 - Phrase 5: Ground-phrase

Various combinations of these five phrase-types may combine into a line (although sometimes a single phrase may be a line). For example, there are two lines in Figure 7. The first line features three pedal-phrases separated by rests. The second line features a step-descent, followed by a ground around the tonic, followed by a smaller step-descent which ends on the tonic.

ho-na/ ya-ri-ta/   na-ne-ka/ ya ri-(ta)/ho-na/   nga-ta/ ki-ka/ ri-tu-ra-ne/ ya-ri-ta/
this one *it's heard*   the boy [i.e Pukulu Andalu] *it's heard* he went to him and grasped him firmly

a-e/ no/ pi-ta/ su-wei--o/   ma-nda-ta/ su-wei--o/   ko-mia-ta/ su-wei--o/
hey do hold me by my *pi* hair   do not hold me by   do not hold me by my *komia* hair
                                     my *manda* hair

Figure 7. Musical Example (1)5:34 - Phrases, lines, and sections

The two lines above form a higher-order unit, which I am defining as a *section*. Figure 7 is an example of a relatively short section. Sections often correlate to changing thematic material within the lingual-text. Generally, the last line of a section ends on a long held note after a ground. On rarer occasions a section will end after a descent as shown in Figure 8 below. Lines within a section may also finish on a long held note, but usually of a shorter duration. We therefore have three strata of structure in the *pikono* – the phrase, the line, and the section.

25

re - ke/   e - pa/   ko - na/ si - nga - ta/   ke - ya - ro - ko - -o - -m/
they reach an outcrop and look around
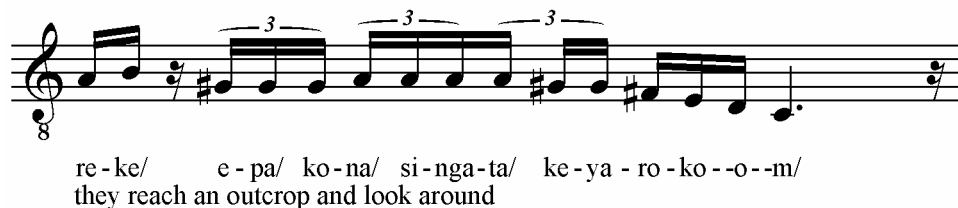
Figure 8. Musical Example (2)4:16 - Ending a section with a descent

As mentioned above, a section typically begins with lines at the top of Kiale's usual *pikono* pitch-range, where he sings words that sum up the previous section, and uses the word *yarita* indicating that he is telling a story that he has heard.[44] I speculate that this relatively redundant introduction to a section provides time for Kiale to pre-compose the following lines. The following lines are typically a series of descending phrases which present the general lingual thematic material and style embodied in that section. These descents generally reach a bottom tonic note, where lines of ground-phrases elaborate on the lingual thematic material by listing praise names related to the theme of that section, providing detail to Kiale's story. There is thus a rough correlation between the melodic contours Kiale sings, the function of such contours within the song, and Kiale's method of storytelling. This music-language relationship is accurately described by Gillespie and San Roque (forthcoming).

It is useful to consider the elements that construct phrases within Kiale's *pikono*. Phrases can be broken up into smaller units distinguished by musical stresses Kiale places on certain syllables. This creates a pattern of accented and non-accented syllables, which in turn give an impression of beats. Each accented syllable is indicated through the beginning of a beamed group of notes in the transcription.[45] Syllables are generally sung to a constant pulse of quavers, semi-quavers, demi-semi-quavers, or triplet formations of these. Similar beats are sometimes arranged in succession which gives the impression of a meter which is usually in duple or triple time, and occasionally in quintuple time. The

---

[44] This is a standard feature of spoken discourse in Papuan languages which has been treated by linguistics under the rubric of 'tail-head linkage' (de Vries 2005).

[45] In the full transcription, the middle stave notates the *pikono* beat derived from accented syllables. The top stave provides an imaginary beat that is more constant than the *pikono* beat for analytical purposes only, as a more regular pulse.

tempo of the pulse may change abruptly at the beginning of a new line or section, or may gradually change within a line, and is arbitrarily measured in quavers in the transcript. Kiale's vocal timbre also changes throughout the *pikono*, although this was beyond the scope of this present research except for several general observations. The tonic remains relatively stable throughout the *pikono*, and shifts within a tone as Kiale's intonation slightly diminishes/augments.[46] There is very limited use of modulation to different pitch sets.

Another general characteristic of Kiale's *pikono* is the frequent and diverse use of reported speech. The constant use of the word *yarita* at the beginning of each section gives a sense that the whole story is being reported by a storyteller (Kiale). This is poetically conceptualised in the last line of the *pikono*, where Kiale adds the verb-root 'ri' before *yarita* for the only time in his story, which means 'you have heard it told' as shown in Figure 9. This use of a descending *yarita* occurs at the end of a section, which is unique in the *pikono*.[47] Closure to the song is suggested, making explicit all the *yarita*s that have previously occurred, as the addition of the verb-root 'ri' allows *yarita* to be understood in everyday speech.

a - yu/ ha - na - ni - nia/   ri - ya - ri - ta - -o/
now that's it *you have heard it told*
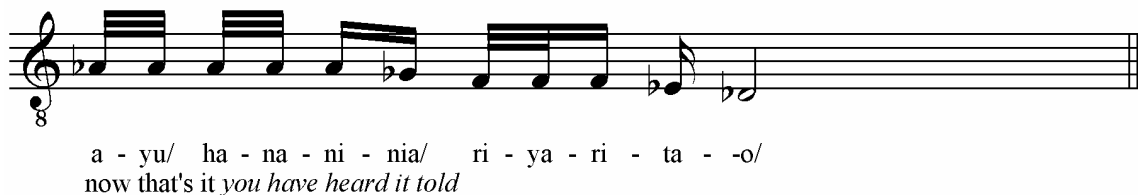
Figure 9. Musical Example (4)38:33 - Final line of Kiale's *pikono*

Now that the general form of Kiale's *pikono* has been described, it is possible to closely analyse the musical-lingual interplay that occurs.

---

[46] The tonic shifts between a B♭ and D♭, using equal temperament and A =440Hz
[47] While *yarita* frequently occurs at the end of a line, it very rarely occurs at the end the higher-order unit the section, noticed by the long note held at the end.

2. Analysis of the Word

Musical-lingual interplay occurs within individual words of Kiale's *pikono*. This takes the form of aural representations of sounds in the story through the use of onomatopoeia and expressives. It also occurs through recurring melodies associated with certain words, which are sometimes associated with the characteristics of Duna as a tonal language.

2.1 Onomatopoeia

Kiale's use of voice to represent sounds and themes that occur in the story is a striking feature of his singing. Kiale frequently uses glissandi to arrive and depart from a note,[48] sings a note far outside his usual vocal range, or uses an unusual pattern of intervals. From a non-Duna perspective, these elements are striking, as they are sudden divergences from the typical melodic and rhythmic style usually performed – they often appear over one note only, and then fall straight back to a 'normal' melodic contour. Kiale's use of these techniques almost always represents an aural event being told in the story. For instance, in Figure 10, the word '*wee*', which imitates the sound of whistling,[49] is approached by the unusual occurrence of a wide glissando, notated by the arrow approaching the note:
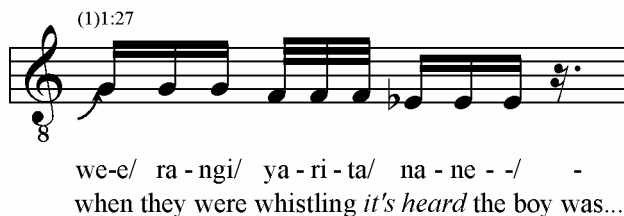
Figure 10. Musical Example (1)1:27 - Onomatopoeia

---

[48] Glissando refers to a continuous sliding movement from one note to another without any sudden jump in pitch.

[49] Distinguishing between words that exhibit sound symbolism is problematic, and one can suggest a scale of words that are purely imitative (ideophones) and words that are not imitative. The word *wee* has a semivowel beginning ('w') and a vowel ending ('ee') which is uncommon in Duna, suggesting the word *wee* is more imitative. In English, similar problems of conventionalisation exist through words such as 'squeak' and 'cockadoodledoo'. Different typologies of sound symbolism are provided in the edited collection by Hinton, Nichols, and Ohalla (1994).

28

The word *wee* is sung at beginning of the phrase, which takes the form of a descent that typically begins each section. These events usually occur on 'sounding' words such as 'whistling', and thus have an onomatopoeic quality about them. Such instances indicate moments when Kiale literally represents the semantic value of the words as musical notes, which become deviations away from his usual style of singing.[50]

2.2 Expressives

Duna also contains words which make a more oblique representation of natural sounds. The word *kulu* means 'thundering' and when spoken should represent the sound of thunder. Such words are called *expressives*,[51] and differ from the above example of onomatopoeia, as the phonetic value of the word is less representative of the sound that it refers to. At the beginning of Figure 11, Kiale combines *kulu* with the joining word *yokorane*. *Kulu* is sung as a glissando from a high F to a G, and lies far outside Kiale's typical *pikono* pitch-range, which rarely goes above a C:

Figure 11. Musical Example (2)40:03 - Expressives

The use of expressives occurs throughout Kiale's *pikono* – other examples include the sound of an arrow flying through the air. In these instances, Kiale sings a musical representation of the narrative that he is describing. In the above example Kiale is

---

[50] This is a special case, since the semantics pertain to sound.

[51] The term 'expressives' is not commonly referred to in linguistics. The term is associated with Diffloth, who identified a class of ideophones that exhibited an "expressive mode of meaning, characterised by symbolism, and formally represented by some device other than a rewrite rule" (1972: 445).

describing a battle between two groups. The use of the *kulu* expressive, and high note associated with it, seem to indicate the excitement and violence of this part of his story. This is further emphasised by the parallel occurrence of an outlying interval and glissando on the word *siya*, meaning held, and *ara*, referring to dust, as identified in Figure 11. The paradigmatic musical-unit of an outlying note is thus projected from the axis of selection, as it is chosen for the musical realisation of the word *kulu*, into the axis of combination, where it later realises the words *siya* and then *ara*. Musical-lingual interplay can be seen through this parallelism of the outlying note, originating from the lingual properties of *kulu*. This characterises the fighting scene, and through musical means, puts the lexical items *kulu, siya*, and *ara* into a relationship of the kind that Jakobson called 'equivalence'.[52] Similar occurrences of outlying notes occur in other themes of the *pikono*, such as when Kiale describes how a boy sheds his decorative feathers as he dances.

2.3 Tune Melodies
Several recurring words are characterised by a unique melody and rhythm and thus exhibit musical-lingual interplay. Such words differ from onomatopoeic and expressive instances of musical-lingual overlap, as these words do not represent aural sounds heard in the story. As Duna is a tone-language, some words are spoken at particular pitches that carry semantic meaning, creating a tone-melody. The tune-melodies when sung roughly fall into two categories:[53] firstly there are marking words, such as *yarita* whose pitch has no distinctive semantic value when spoken (i.e. no significant tone-melody) according to current research. Such instances indicate that within the *pikono* marking words cannot be separated from a particular melody and rhythm – the combined musical and lingual elements constitute a singular unit. Secondly there are words and phrases whose pitches do have semantic meaning when spoken (i.e. have significant tone-melody), which are preserved or manipulated when sung. In this case, musical-lingual

---

[52] There are other occasions where *siya* is sung as a glissando, which suggests Kiale may also be characterising the fighting scene with words associated with unusual melodies, although current research of Duna is inadequate to confirm this.

[53] 'Tune-melodies' refers to the rhythmic and melodic properties of a word when sung. Contrastingly, tone-melodies refer to the semantically distinctive melodic variation of words (and phrases) when spoken.

interplay occurs where lingual elements of a word are manipulated to fit in with the musical form of the *pikono*, and vice versa.

2.3.1 Marking Words

Musical-lingual interplay occurs as important words in Kiale's *pikono* are attached to specific musical formulae. As previously mentioned, the word *yarita* is a structural marker in Kiale's *pikono* used outside its spoken context – *yarita* only makes sense when it is attached to a verb-root and translates to 'is heard'. However, it is not just the word *yarita* itself which marks the *pikono* structure, but also pitches and melodies that are attached to the word when sung. Within the sample I transcribed, there were 66 instances of *yarita* sung by Kiale. Table 1 indicates the melodic and rhythmic frequencies of the word.

Yarita usually occurs either towards the beginning or end of a melodic-descent phrase (marked *b* and *e* respectively on the table). In these instances *yarita* is used as a meta-narrational device which marks the structure of his storytelling.[54] There are occasions when the word is also included within the middle of a line (marked *m* on the table). It can be seen on the table that during a descent the word *yarita* usually has the rhythm
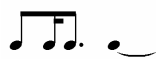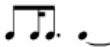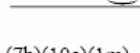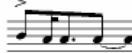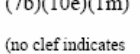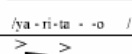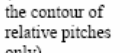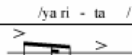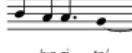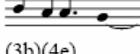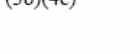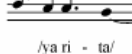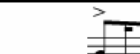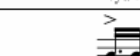
 where the first quaver is the last syllable from the previous word. There is

typically a stepwise descent, usually in the form of which sometimes continues to step downwards. The last syllable 'ta' arrives on the final beat, and is held for a variable duration. Accents are usually placed on first and last notes.

---

[54] It is described as a meta-narrational device as it makes reference to the context of performance rather than to the world of narrated events. Alan Rumsey provides a similar example in a similar genre of sung tales in Ku Waru, Papua New Guinea (2001: 207-208).

Table 1. Distribution of the sung word *yarita*

Left table:

Rhythm	Melody	Accents	b	e	m
		/ya ri - ta/	7	8	1
	(7b)(10e)(1m) (no clef indicates the contour of relative pitches only)	/ya - ri - ta - -o /			1
		/ya ri - ta /			1
(13b)(16e)(1m) (52%)(70%)(5%)		/ya ri - ta/	1	1	
b= number of *yarita* occurrences at the beginning of descent	(3b)(4e)	/ya ri - ta/	2	3	
e= number of *yarita* occurrences at the end of descent		/ya ri - ta /	2		
m=number of *yarita* occurrences in the middle of a line	(3b)	/ya ri - ta /	1		
Top line indicates frequency		/ya ri - ta /			1
Bottom line indicates percentage that rhythm was sung for *yarita*	(1e)	/ya ri - ta /			1
	(1e)				
INCLUDING VARIATIONS OF ABOVE (15b)(21e)(1m) (60%)(91%)(5%)		/ya-ri - ta--o -m/			1
		/ya ri - ta /			1
		/ya ri - ta-o /			1
		/ya ri -ta/	1		
		/a--e/ ya-ri - ta--o -o -m/	1		
		/ri ya-ri - ta--o /			1
		/ya ri - ta/			1

Right table:

Rhythm	Melody/Accents	b	e	m
(3b) (12%)	/ya-ri - ta/	1		
	/ya - ri - ta/	1		
	/ya ri - ta/	1		
(2b) (1m) (8%) (5%)	/ya-ri - ta/			1
	/ya-ri - ta/	1		
	/ya-ri-ta/	1		
	/ya ri-ta/	1		
(1b) (4m) (4%) (22%)	/ya ri - ta/			3
	/ya-ri-ta/	1		
	/ya ri - ta/			1
(3b) (1e) (8m) (12%)(5%)(44%)	/ya ri -ta/	1		7
	/ya ri-ta/	1		
	/ya-ri-ta/			1
	/ya ri-ta/	1	1	
(1b) (1e) (4m) (4%) (5%) (22%)	/ya-ri (ta)/			3
	/ya-(ri)-ta/	1	1	
	/ya ri - (ta)/			1

There are several variations on this tune-melody, such as /a--e/ ya-ri - ta--o -o -m/ ,[55] and other

rhythmic formulations such as /ya ri - ta/ . More generally, when *yarita* is sung during descents, the syllable 'ya' is almost always shorter than the following two syllables 'ri' and 'ta', and also shorter than the last syllable from the previous word. The word is usually sung rhythmically, with the syncopation created by the short 'ya' syllable resolved by the following 'ri' syllable.

In contrast, when *yarita* appears in the middle of a line as part of the narrative, as opposed to being used as a meta-narrative, it is usually sung in a ground-phrase or pedal-

phrase in the form /ya ri-ta/ , hence containing different rhythmic and melodic elements than when *yarita* is sung during a descent. There is thus an interesting interplay between phonetic and syntactic dimensions of musical-lingual overlap when Kiale sings the word *yarita*. The word is sung differently for certain syntactical units within the song (either a descent, or the middle of a line), and this is associated with rhythmic and melodic formulae – for instance, descents are associated with a short-long-long rhythm, and a descending stepwise melody. The combined textual-melodic-rhythmic formulae are paradigmatic units of Kiale's *pikono* which are projected into the axis of combination at different points in the song in order to mark the beginning and end of descents, or certain narrative sections. This musical-lingual interplay also influences other words, as a descending *yarita* usually requires the previous word to end with a 'long' syllable on the same pitch that 'ya' will be sung. This is particularly evident when *yarita* is the first word of a sentence, and is usually preceded by a vocable to take the place of a previous word. There seem to be similar word-melodies for other frequently recurring words in the story, such as *ake* (meaning 'what then'), but *yarita* is unique in the structural function it plays in Kiale's storytelling.

---

[55] In such instances 'o-o-m' is a sung extension of the last syllable of *yarita*.

33

2.3.2 Tune-Tone Correspondence

Duna is a tone-language, and unlike *yarita*, many words carry semantically distinctive values of pitch, which are mapped out when Kiale sings them in the process of musical-lingual interplay. For example the word *nane*, meaning boy, has a rising toneme associated with it.[56] Samples of the first nine occurrences of *nane* within Kiale's *pikono* were taken, and each one was found to preserve the rising contour when sung. Tonal properties of Duna have only recently been investigated through the work of San Roque, whose current view is that Duna has at least three tonemes: A rising, level, and falling contour spread across the word, with the possibility of an additional concave contour. This is further complicated by tonal variation caused by intonation over a phrase which may change the tone of individual words, known as tone sandhi.[57] Tonemes do carry semantic value, but in most contexts of use there is good deal of redundancy, and words can usually be comprehended without a toneme attached to them. The tune-tone correspondence within *pikono* is described in more detail in a previous study (Sollis 2006), and the findings are summarised below.

In September 2006 I worked with two Duna speakers, Kenny Kendoli and Richard Alo, who recited certain lines from Kiale's *pikono* in a normal speaking voice.[58] The pitch contours of their phrases were studied using broadband audio spectrographs of the words both in isolation and in sentences,[59] which were compared to Kiale's sung melodic contour in his *pikono*. This experiment thus provided scope to analyse the tune-tone correspondence for single words as well as for general intonation over a spoken phrase to see the effects of tone sandhi. Figure 12 shows a sample of the comparisons between the spoken (in cipher notation above) and sung (in musical notation below) texts.

It can be seen that there is a relatively consistent correlation between tone-melodies (from the spoken text) and tune-melodies (from the sung text). This correlation is generally found over the entire word as opposed to individual syllables, which supports the

---

[56] It has been suggested that many Papua New Guinea tonal languages have tones that occur over an entire word rather than an individual syllable, which is described as a wordtone (Donahue 1997: 348).
[57] Tone sandhi in Papua New Guinea languages has been analysed by Ross (2005).
[58] These lines were chosen in collaboration with Lila San Roque, September, 2006.
[59] Using the Praat © software which can be obtained from http://www.fon.hum.uva.nl/praat/.

inclusion of Duna into Donahue's typological class of a word-tone language (Donahue 1997),[60] as can be seen by the word *rorinya* in example 25 of Figure 12.

Figure 12. Comparing speech-tone to tune-tone over phrases[61]

---

[60] It is hoped that the investigation of musical-lingual interplay in genres like *pikono* can provide insights into the language's tonal properties in the same way that linguistic analysis has contributed to an understanding of the music. This two-way relationship between sung and spoken domains reflects the complex musical-lingual interplay that occurs in *pikono*.

[61] The transcripts notate the pitch levels only. The staff-notation represents the notes Kiale sings during his *pikono*. Glissandi are notated in the usual way, and microtonal inflections are notated by an arrow next to the note. The two lines of numbers above the staves represent in cipher notation the relative pitches spoken by Kenny and Richard in their spoken version of these musical lines, on the first and second lines of numbers respectively. A > represents a strong declination in the spoken version. The text is indicated below, and the preceding number indicates the example. Accidentals hold for the measure.

A general declination in tone-melody within the examples of spoken Duna is mapped by a descending sung melodic-contour in *pikono*. Such falls are typical in the samples analysed, which suggest a parallel between spoken intonation and the descent-ground patterning of phrases. In example 12 of Figure 12 above, for instance, the last word *riya* falls to the lowest tone within the utterance in both the sung and spoken versions.

Another general pattern is the tendency for the spoken line to begin with a sharp rise, no matter what the toneme affixed to the first word is. This is often preserved within the sung *pikono*, as can be seen on the first word *hoyaki* of example 25 of Figure 12, where there is an exaggerated sharp rise in tune-melody occurring at the beginning of the sung phrase.

In example 20 of Figure 12, a tune-tone correspondence can clearly be seen for the three words. The first two words *rana* and *roaeno* have a rising tone-melody with the rising tone on the final syllable. The final word *yarita* is falling in both tone and tune melodies. This correspondence is typical for most examples, particularly for rising and level tone-melodies. Tune-tone deviations occur when the general musical structure is inconsistent with the linguistic tone-melodies. This can be seen through the penultimate word of example 33 of Figure 12, *riya*, where the final syllable 'ya' is sung on the tonic tone of the phrase. In this case, the musical style of approaching the tonic overcomes the importance of preserving the level tone-melody of the word. Here can be seen musical-lingual interplay on two levels: Firstly, the descent and the ground mirror general spoken intonation; and secondly, the detail of these descents and grounds are influenced by the spoken tone-melodies of Kiale's phrases. The latter indicates a process where the abstract musical melodic contours of *pikono* and the tone-melodies implied by the lingual text are processed together in musical-lingual interplay when Kiale sings *pikono*.

This process is clarified in Table 2. Each entry indicates the number of occurrences where a certain tone-melody (on the vertical axis), including tone-sandhi effects, was performed as a certain tune-melody (on the horizontal axis). The number of tune-tone

correspondences for each tone-melody is notated in bold along the diagonal axis, with a percentage of total occurrences for each tune-melody indicated below.

Table 2. Distribution of tune-tone correspondence

		Rising	Falling	Level	Concave
		Occurrences of tune-melody			
		Rising	Falling	Level	Concave
	Rising	**30**	1	6	0
	Falling	2	**4**	7	2
	Level	3	1	**8**	0
	Concave	2	0	1	0
		Percentages that a tune-melody occurs for a given tone-melody			
		Rising	Falling	Level	Concave
	Rising	**81%**	3%	16%	0%
	Falling	13%	**27%**	47%	13%
	Level	25%	8%	**67%**	0
	Concave	67%	0	33%	0

There is a low tune-tone correspondence for falling tone-melodies, and a high correspondence for both rising and level tone-melodies. This may be due to the descending melodies commonly sung in *pikono*. Since there is a general descent across consecutive words in many *pikono* phrases, maintaining a tune-tone correspondence for falling tone-melodies may cause the sung melody to 'descend-too-far'. Here we see a process of musical-lingual interplay, where the musical structure of descending words in a phrase transforms falling spoken tone-melodies into level sung tune-melodies.

3. Analysis of Word-groups

Musical-lingual interplay also occurs upon groups of words. This can be seen through the text-setting of words to musical rhythms. This text-setting often occurs in parallelism, in both simple and complex forms. Through analysing the parallelism that occurs among these units, the musical-lingual interplay that occurs can be explored.

3.1 Text Setting

Although there is no constant meter through Kiale's *pikono*, syllables are usually sung to a pulse, and fall into groups created by accented syllables sung at a higher intensity. These groups can create a quasi-meter during certain moments in the *pikono*, which constantly change between duple, triple, and un-metered beats. This is indicated in the transcription, where the beginning of each beamed group indicates an accented note and the start of a 'beat'. This beat is then mapped on to the middle stave to give an indication of how the beat of the *pikono* progresses. The top stave provides an imaginary beat that is more constant than the *pikono* beat for analytical purposes only, as markers of rhythm and time. Musical-lingual interplay occurs when words are set to these musical beats, and when the musical beats are created out of words (i.e. the process of text-setting).[62] Consider Figure 13 below:

Figure 13. Musical Example (2)4:10 - Accented syllables creating beats

The first of these lines begins rather un-metrically before falling into a group of triple beats with the words *ombe puka larembe puka*, and then falling back into an unmetered

---

[62] Textsetting is a commonly used musical term referring to the process of composing text to music. Halle and Lerdahl (1993) examine text-setting from a combined musical and linguistic perspective.

section. Despite the unmetered nature of the above extract, an overarching sense of beat can be seen through the parallelism of the duration of the last note and subsequent rest at the end of each phrase shown by the boxes. In this respect, the second line mirrors the first line. This sense of beat is felt throughout Kiale's *pikono* – for instance, when Kiale finishes a section on a long humming note, the duration of the note and subsequent rest leading to the next section are precisely measured in the beats that were performed leading to the final note.

There is often a relationship between the words and sung beats, implying that a process of text-setting occurs. Figure 14 is an example where a meter is strongly felt, alternating between duple and triple beats. On the first line, the first important word is trisyllabic – *rirane* – and establishes a triple meter.[63] The end of the first line and beginning of a second line change to a duple meter, but the consecutive trisyllabic words *ralata* and *pepota* cause a return to triple meter. In anticipating a series of disyllabic words *pinia rara ipa*, a duple meter emerges, with the accents falling on the second syllable of each word.[64] Towards the end of the last line the beat stays constant – a typical occurrence in Kiale's singing – and the trisyllabic word *ruwata* is sung over a triplet to fit the duple beat, suggesting a dialogic process between musical beats and lingual beats.

Constant musical-lingual interplay in *pikono* is often manifested through the relationship between the rhythm associated with the words as lexical items, and the rhythm that is conditioned by the beats in the music. Similar musical-lingual interplay occurs when syncopated beats are resolved through an appropriate rest or held note at the end of a line (as discussed above), and sections where poetic devices such as alliteration are mapped by a recurring melodic or rhythmic unit, particularly when listing praise names. Musical-

---

[63] The first two words seem to be a mistake by Kiale. Kiale is marking the end of reported speech, and *riya* is used inappropriately in this context as it marks the beginning of reported speech. This is then replaced by the correct grammatical marker *rirane*.

[64] This implies that syllables in Duna, at least in *pikono*, are relatively isometric (meaning that all syllables are of the same length) which is not true of all languages. It is not true, for example of English, which is what linguists call a 'stress-timed' language, in which syllables vary greatly in length according to their level of stress.

lingual interplay can be identified by the way in which it recurs over time, and can thus be manifested through parallelism.[65]

Figure 14. Musical Example (1)5:46 - Textsetting

3.2 Simple and Complex Interplay

The expression of song, as combining musical and lingual elements can be made sense of through the text-setting interaction as demonstrated above. Throughout the *pikono* there are different degrees of complexity within musical-lingual interplay. This can be seen through the interaction between different instances of parallelism among musical elements and among lingual elements. Analysing such interactions of parallelism

---

[65] Here is an extension of Jakobson's (1960) notion of parallelism as making sense between meaning and meter in poetics. Like Jakobson's formulation, parallelism plays an important part through the projection of equivalence in meter, which creates relations between other elements, such as words, in the song.

demonstrates that musical and lingual dimensions both show degrees of dependence and independence. By looking at the patterns of parallelism we can see how musical-lingual interplay operates.

For instance, in Figure 15, the words *pularia siya si romanata* appear at the end of the first line describing the fierce winds. There is parallelism between two combined paradigmatic units – the musical sequences of pitches and the linguistic words – which are projected into the axis of combination by framing praise names associated with fierce winds *ariako* and *mandolin* in lines two and three. The pitches and words are thus repeated together (with the exception of a raised 'ya' in *siya* on the second line). This corresponding parallelism between one musical element (pitch) and a lingual element (words) exemplifies a *simple level* of interplay, where both musical and lingual elements are associated with each other in a constant manner.

Between the second and third line however, there is also *complex interplay* between two musical elements (the melody, and rhythm/beat pattern), and a lingual element. This is noted by a second parallelism of a different paradigmatic unit, in this instance the pattern of musical beats ♪　♪　♪.　♪.　♪ that is projected from the second line into the third line. This is associated with the parallelism of the words/melody, and thus strengthens the equivalence between the lines. However, the two instances of parallelism are disjunct – they do not directly correspond with each other. The beat pattern, and resulting rhythmic text-setting, is out of phase with the word/melody parallelism that also occurs over these lines. This suggests a degree of independence between various musical and lingual dimensions, and a complex interplay between them, resulting in the disjunct parallelism that is found.

Figure 15. Musical Example (2)1:50 - Simple and complex interplay

4. *Parallelism Across Higher Units: Phrases, lines and sections*

Parallelism between different lines also evinces complex musical-lingual interplay. Both consecutive and non-consecutive lines often contain parallel elements. For example, in Figure 15 as analysed above, there is a higher-order parallelism between the first three and last three lines of the extract. An abc-abc parallel pattern occurs: The first and fourth lines contain a narrow descent from E to C; the second and fifth lines contain a similar narrow descent from E to C; whilst the third and sixth lines descend from D to C. The parallel lines are not exact replicas. The elements which are parallel – general melodic-contours and the starting and end points of descents – are paradigmatic units which are selected in the first three lines. They are then projected into combination with other musical elements in the following lines: for instance, the second occurrence of the (E-C;E-C;D-C) descending sequence of lines is characterised by constant beats, whilst the first occurrence seems to be unmetered. This musical parallelism establishes a relation between the corresponding linguistic themes – praise names for wind in the first three lines, and praise names for pandanus in the last three lines. A degree of comparison or Jakobsonian 'equivalence' between winds and pandanus is therefore realised, despite the fact that the linguistic frame of the sentences changes in each case.

The same pattern of descents then returns half a minute later in the *pikono*, as shown in Figure 16. Here we notice the same sequence of descents (E-C;E-C;D-C).[66] This long-range parallelism links to the musical-lingual interplay that occurred in Figure 15. In this instance, the praise name for birds takes the place of the wind and pandanus praise names that occurred earlier. The musical-lingual interplay occurs even though the lines were not sung consecutively, hence my designation 'long-range parallelism'.

---

[66] Note that the second line in this phrase begins on D but rises to E which is where the descent begins.

Figure 16. Musical Example (2)2:46 - Long-range parallelism

Long-range parallelism represents a high-order parallelism where certain types of musical-lingual interplay are woven throughout the story. This type of parallelism may apply to phrases, lines, or sections of Kiale's *pikono*. The ways parallelism is used through the *pikono* are diverse. In contrast to the (abc-abc) pattern, we also notice direct repetition (aa-bb) of phrases in Figure 17. In this instance, the top line consists of two phrases of stepwise descents with roughly the same pitch range. Similarly the bottom line consists of two almost identical ground-phrases. This is juxtaposed against the repeating lingual framing of praise names *aya sokota riya so*. Here, we notice a delay between parallelism of musical and lingual elements. As stated, praise names are typically sung to ground melodies, which occur in the bottom line of Figure 17. However, the first occurrence of the praise-name frame occurs in the top line, sung to the second parallel occurrence of the descending melody. This delay between parallelisms of

44

different musical elements is common in *pikono* – for instance, in the aforementioned process of textsetting – and suggests both independence and dependence between different elements. It also suggests how parallelism is used by a performer, as the projection of one paradigmatic unit may prompt the projection of a related paradigmatic unit to occur soon after.

Figure 17. Musical Example (4)0:13 - Parallelism delay

Sections can also be arranged through parallelism. This often results in different musical-lingual elements characterising different sections with a certain style. Much of this is integral to *pikono* structure, which is based on different patterns of descent-lines and ground-lines.[67] For instance Table 3 summarises the sequences of lines and sections of just under two minutes of Kiale's *pikono*. The extract describes a handsome boy dancing, where the older women of the group has chosen an appropriate girl for him to dance with.[68]

---

[67] That is lines made up of descent and ground phrases respectively.

[68] The Range gives the highest note of that line first. The Pitch Set indicates all the pitches used in that line. b/e refers to the beginning and ending note of the line. The Theme is a rough summary of the lingual themes being sung during that line. End refers to the duration of the last note and/or rest of each line. The Beat refers to the meter implied in that section: D=Duple; T=Triple; 5=Quintuple; ? = unmetered; Bold = strong meter present in this section.

Table 3. Summary of *pikono* from (2)70:04

Time	Range	Pitch Set	Melodic Contour	b/e	Theme	End	Beat
(2)70:04 i.	Gb/Eb	(Eb,F,Gb)		Gb/Eb	*riya yarita* (links last line)		T
ii.	A/E	(E,F,Gb,A)		F/E	*yarita*		D
iii.	Bb/Db	(Db,Eb,E,G,Bb)		Bb/Db	Boy tossing feathers		both
iv.	Fb/Db	(Db,Eb,Fb)		Db/Db	Boy tossing feathers		5
v.	E/C	(C,Db,D,Eb,E)		Db/C(Eb)	Boy tossing feathers	ana-crusis	5
vi.	Gb/D	(D,Eb,F,Gb)		Gb/D	Boy tossing feathers		D
(2)70:21 i.	F/Eb	(Eb,F)		F/Eb	*korane*		?
ii.	Ab/E	(E,Gb,Ab)		Gb/Gb	*yarita*		D
iii.	Ab/E	(E,F,Ab)		F/E	*yarita*		D
iv.	A/Eb	(Eb,E,F,Gb,A)		F/E	People are befeathered		T
v.	Ab/Eb	(Eb,E,F,G,Ab)		G/E	People are befeathered		?
vi.	B/Db	(Db,Eb,F,Ab,B)		Ab/Db	People are befeathered		D
vii.	Gb/Db	(Db,Eb,F,Gb)		F/Eb	Boys feathers turn to clouds		?
viii.	Eb/Db	(Db,Eb)		Eb/Db	Boys feathers turn to clouds		both
ix.	F/Db	(Db,Eb,F)		F/Db	Boys feathers turn to clouds		D
(2)70:43 i.	Gb/Fb	(Fb,Gb)		Gb/Fb	*yarita*		D
ii.	B/Db	(Db,Eb,F,Gb,Ab,B)		B/Db	*yarita*		D
iii.	Bb/F	(F,Gb,Ab,Bb)		Ab/F	*yarita*		D
iv.	Bb/F	(F,Gb,Ab,Bb)		Ab/F	Boy went and danced (D)		D
v.	Bb/C	(C,Db,Eb,F,Gb,Ab,Bb)		Bb/C	D with cassowary feathers		both
vi.	Eb/Db	(Db,Eb)		Eb/Db	D with cassowary feathers		?
(2)70:59 i.	Bb/Db	(Db,Eb,F,Gb,Ab,Bb)		Bb/Db	*riya kona* (oldwomen speak)		?
ii.	F/Eb	(Eb,E,F)		Eb/F	"Someone will D with him"		D
iii.	A/E	(E,F#,A)		F#/E	"Someone will D with him"		both
iv.	A/C#	(C#,D,Eb,E,A)		A/D	"Girl 1 has already D"		?
v.	F#/C#	(C#,D,Eb,E,F#)		F#/E	"Girl 2 has already D…		?
vi.	E/C#	(C#,D,E)		E/D	… with a list of men"		?
(2)71:16 i.	F/E	(E,F)		E/F	"All these dancing"		T
ii.	F/Eb	(Eb,E,F)		E/Eb	"All these dancing"		both
iii.	G/Eb	(Eb,E,F,G)		Eb/Eb	"Boys hair could be ruined..		D
iv.	G/C	(C,D,E,G)		G/D	..if he D with these girls"		D
v.	F/C	(C,Db,Eb,F)		Eb/Db	"Boys hair could be ruined"		D
(2)71:27 i.	E/Eb	(Eb,E)		E/Eb	*yarita*		T
ii.	Bb/Eb	(Eb,G,Bb)		G,Eb	*yarita*		T
iii.	Ab/Db	(Db,Eb,F,Ab)		F/Db	River was heard		D
iv.	Bb/Gb	(Gb,Ab,Bb)		Ab/Gb	*yarita*		D
v.	Bb/Gb	(Gb,Ab,Bb)		Bb/Gb	Hiliwa Laki's daughter		T
vi.	Bb/Db	(Db,Eb,F,Gb,Ab,Bb)		Bb/Db	River was heard		T
vii.	Bb/Db	(Db,D,Eb,F,Gb,Ab,Bb)		Ab,Db	Boy should D with her		both

46

From the table we can get an overview of how parallelism operates between different musical-lingual elements within different structural levels. General parallelism between sections, which are indicated by bold partitions, occurs through series of lines moving in descents of varying length. The starting note of a descent tends to be a note in a stepwise direction from the starting note of the previous descent. Descents are patterned within each section: the starting note for descents tends to peak towards the middle of each section, and descents towards the end of a section tend to be narrower, where there may be a relatively short ground-line. For instance, from (2)70:21, shown in Table 3 and in Figure 18, a series of descending lines begins with F, then G♭, F, F, G, A♭, F, E♭, F. The starting notes of these descents peak on A♭ towards the end, and the last descent is followed by a short ground-melody. Clearly marked ground sections are absent throughout this long extract, which is possibly due to the important narrative content of this part of the story.

Figure 18. Musical Example (2)70:21 - Pattern of descents

The parallel occurrences of musical elements between sections in this extract are mirrored by corresponding lingual elements. In Figure 18 for example, the first three descents are based on the joining word *yarita* and contain little narrative content. The following two descents introduce this section's main theme of decorations tumbling down the boys' backs. This is followed by a list of praise names of places which elaborate and clarify the narrative theme of dancing with feathers, as the places are evocative of where the feathers originally came from. This equivalence of places and feathers is strengthened by the musical parallelism which puts the place names into comparison with the feathers sung in the previous section (from (2)70:04) shown in Table 3.

This pattern occurs through all the sections of this extract, and implies a comparison between the lists of praise names sung in all of the sections (praise names of feathers, places, names of boys, cassowaries, and hair). Interestingly this corresponds to what we know of Duna cosmology, where there are similar features between feathers, boys, and hair (Stewart and Strathern 2002a: 149, Haley 2002: 149). The last line of the extract translates as "If she came to dance, the pair would be a perfect *payape* match, shoulder to shoulder as one. Their *komia* hair would be as one". Both *komia* and *payape* are praise names for hair, and this integration of praise names into the narrative brings closure to the comparisons. This long extract suggests interplay between the patterning of melodic descents and thematic linguistic descriptions of the story.

In the Table 3 extract, parallelism between sections is superimposed over parallelism between phrases. For instance, certain patterns of descents usually occur in close proximity, for example chromatic descents in (2)70:04v and (2)70:21iv, and wide descents in (2)70:43ii, (2)70:43v, and (2)70:59i. Also, two phrases with a dancing theme contain similar patterns of word groups, where the word-groups ascend rather then descend, constituting a paradigmatic unit. This first occurs at (2)70:43iv shown in Figure 19, and is then projected into parallelism in (2)70:59ii, and (2)70:59iii as summarised in Table 3.

e - pa/ ra - ta/ nga-ta/ ku - ru - ra - ne/ ya - ri - ta/
he went across to the place and danced
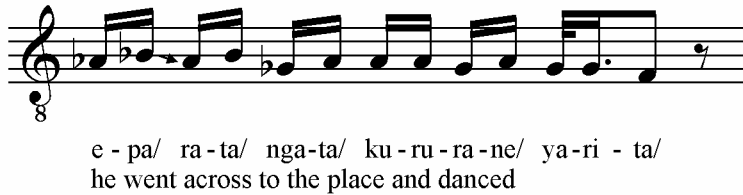
Figure 19. Musical Example (2)70:43 - Dancing pattern

Lines within a section may also be organised through parallelism, such as in section (2)71:27 in Table 3, where lines (i. ii. iii.) correspond to lines (iv. v. vi.). Both groups of lines feature a similar sequence of descents, meter, and lingual themes. The starting notes of the descents do change, whereby those notes are placed in a parallel relation with each other through their occurrence at the same position of the general descent (which constitutes the musical syntagm). It is also noticed that sections may be unified by the repeated duration of the last note and pause at the end of every section, for example at section (2)70:21 shown on Table 3.

What this shows is that parallelism is used at different structural levels, creating order out of both musical and lingual elements. Selecting paradigmatic units and projecting them into the axis of combination is part of the process of musical-lingual interplay, and also the realised manifestation of musical-lingual interplay in Kiale's performance.

5. Sub-genres and Style

In the above examples we noted how stylistic musical-lingual elements organised by parallelism characterise certain sections of Kiale's *pikono*. More generally, different forms of musical-lingual interplay characterise what I call different *sub-genres* within the *pikono*. My use of sub-genre here is intended to evoke Bakhtin's (1986) concept of speech genres, where different lingual elements characterise different contexts of speech. Similarly, Kiale makes use of different ways of singing to represent different thematic elements of his story. Musical-lingual interplay occurs between musical elements which correlate to lingual themes in Kiale's *pikono*.

For example, when Kiale sings about war in (2)40:03 we notice greater melodic variation, as indicated earlier in Figure 11 and a quick demi-semi quaver pulse, delivering a particularly exciting tone of voice.[69] This is often coupled with a strong meter through a constant beat as shown in Figure 20. This may reflect other genres of speech and song, where performers will talk about war in a rushed and excited voice (San Roque, personal communication).

ho me - ra ne/ ya ri - ta/   ho - ra ka/ si-ndi ni/ ko ra-ne/ hi wa ta/ ko na/   ndu - lu - re/ a ngu/ hu ndi - ra ru - a/
so it was *it was heard*   the fighting teams had all been standing there, with just a single shot they were wiped out

ha me - ra -ne/ ki/ ka - pe/ (ha)-ma/ po - po/   ha me - ra ne/ ha- ka/ le -ri/ po ko - pi. (ha)-ma/ po po-m/
so it was and the *ki kape*   so it was and the *haka leri pokopi* meeting ground was empty
meeting ground was empty

Figure 20. Musical Example (2)40:03 - 'War' sub-genre

Other 'metered' sub-genres include repeated sections where Kiale describes stringing a bow, dancing, and flying foxes. This contrasts to 'un-metered' sub-genres, which usually constitute Kiale's general narrative. The difference between such sub-genres can be seen through the transformation of one sub-genre to another. For example, in Figure 21 we see an un-metered narrative sub-genre at the beginning transform to a duple-metered flying fox sub-genre midway through the second line. This then reverts to the un-metered narrative sub-genre on the last line. The change in sub-genre here is also marked by the change from a fast narrative tempo to a slow flying fox tempo.

---

[69] Future research into timbral variations in *pikono* may elicit more forms of musical-lingual interplay. This could be guided by Fales excellent study of vocal timbre as an essential musical element (2002), and Feld et al. study of timbre in country music (2004).

Figure 21. Musical Example (4)38:10 - Flying fox sub-genre

In the above example we also see the difference between sudden and gradual transformations in sub-genre: a change in meter suddenly occurs midway through the second line corresponding to the arrival of the flying-fox genre. However, the transformation back to un-metered beats in the narrative genre is more gradual and takes a line to occur. Also, the slower change in tempo on the second line anticipates the coming of the flying fox sub-genre which begins in the following phrase. This signals a delay between the occurrence of related musical and lingual elements.

Changes in sub-genre occur rapidly throughout this final part of the *pikono*. Sub-genres containing similar musical elements may project equivalence between the corresponding lingual themes. For instance, the flying fox genre shares similar elements to a preceding sub-genre, when the main characters turn into cassowaries. This relates to Duna conception of birds and flying foxes as cosmologically connected to death (San Roque, personal communication. Similar to that found in Kaluli by Feld 1990[1982]). Similarly, in Table 3 we notice how musical parallelism creates comparisons between hair, feathers, and boys, which are related concepts in Duna, creating cultural sense out of the combined musical and lingual elements.

The interactions between different sub-genres are an interesting aspect of musical-lingual interplay within the *pikono*. This may relate to other types of Duna speech and singing genres – it has been discussed above that the descents and ground of *pikono* mirror the intonation of spoken phrases. Also, Kendoli (forthcoming) discusses the similarity between *pikono* and lament songs. A speculative example of 'quoting' other genres in the *pikono* occurs when Kiale quotes a man calling people to a meeting ground, bearing a strong duple meter shown in Figure 22, which may reflect an associated speech genre called *rumba haka*.[70]

---

[70] Information on *rumba haka* from Gillespie, personal communication.

Figure 22. Musical Example (4)37:11 - Calling out sub-genre

6. Reported Speech

Kiale often sings reported speech in a particular style, which can constitute different sub-genres. In this aspect, Kiale's use of sub-genres evokes Bakhtin's concept of heteroglossia, where different social voices are given a sense of unity in a work such as the novel (Bakhtin 1981: 298). A similar process occurs in *pikono*, where Kiale uses a variety of melodic and lingual techniques to convey different characters through reported speech. This is best seen through the analysis of a long section of various types of reported speech from (2)2:28 to (2)4:16. For the full extract, see Appendix B.

The reported speech begins at (2)2:28 signalled by the speech marker *riya*, where Kiale directly reports the girl calling out to the boy. This is also musically marked, as the previous narrative section was characterised through wide descents beginning on high

notes (G and A♭). Contrastingly, the beginning of reported speech begins on a lower note (E). The beginning of the reported speech is shown in Figure 23:

Figure 23. Musical Example (2)2:28 - Reported Speech 1

This *riya* phrase is followed by a pedal-phrase around the E, which typifies many sections of reported speech in Kiale's *pikono*. This is followed by ambiguous reported speech in the second line of Figure 23 where Kiale is neither directly quoting the girl speak (e.g. '"The waterfall was tumbling", she said'), or indirectly reporting something she has said (e.g. 'She said the waterfall was tumbling'). Instead, Kiale is ambiguous in his use of reported speech. Kiale is speaking as the girl's voice describing the landscape, without actually taking on the role of the girl or implying that he is himself present in the story. In essence, Kiale is reporting speech in his own words on 'behalf' of the girl. This ambiguous reported speech is marked by the suffix 'nania' on the final word, which asserts that what is being described is occurring in the present-tense of the story (as opposed to the story-past).[71] Kiale uses this style of reported speech frequently, which may be musically marked by the pedal-phrase.

Another reported speech sub-genre occurs at (2)3:01, shown in Figure 24. Here the speech marker *riya* resolves the ambiguity of the previous section. However, Kiale

---

[71] Duna exhibits 'evidential' bound morphemes on the sole marker on a final word, which describes what kind of evidence exists for a proposition (San Roque forthcoming). These evidential markers indicate whose point of view is being taken on the action, allowing the narrator to speak from the character's point of view when not directly quoting them.

begins another line with the same indeterminate style of reported speech as before, as he continues to describe the landscape and people on behalf of the girl:

ri - ya/ ho - ya - ki/ ha/ wi - nia/   e/ ya - ri - ta/ ke - re - pa/ ma - ngu - lu/ ko - ro - ya/
coming back to this side   ah *it was heard* steambaking *kerepa* and *mangalu* greens

e - pa - na/ a - ya/ re - po/ re - po/ re - pa - ni/ wa - (ni)/ u - wa - na - nia - -o/   re - pa - ko/ ? ?/ nu - nu - ku - na - nia/ 'pa'/
across there the Repo Repo Repani daughters sleep there   the Repako women's daughters celebrate(?) there

Figure 24. Musical Example (2)3:01 - Reported Speech 2

The wide descent of the line *e yarita kerepa mangulu koroya* indicates that we are returning to a narrative, and Kiale's use of ambiguous reported speech is only clarified at (2)3:16, when the terminating speech marker *riyata* is sung, as shown on Figure 25. Following a phrase of general narrative, Kiale goes on to directly report speech from the girl or boy who says "now we two will go this way":

ri ya ta/   a ne ne/ ke ruaya/ ngo/   a yu/ keno/ nganda/ pina/ ya ri - ta/   i - pa/ so lo wara/ mbuya/ a - po/ reiniania/
she spoke   and looking about   now we two will go   the *mbuya* ocean sits away over there
          the pair went on   this way *it was heard*

Figure 25. Musical Example (2)3:16 - Reported Speech 3

A change in character then occurs at (2)3:50, where Kiale takes on the voice of women who are observing the scene, and who are commenting on the two lovers, shown in Figure 26. This change of character is marked musically by the exclamation *ae* which occurs at a wide interval. There is no explicit lingual marker, although the word *ngoyana* implies that it is in present tense of the story.

a - e/ na - ne/ wa/ ngo-ya-na/ ha-na/ li-ma/ a-wua-pe/ pe/ pe/ ke-lo/ ha/ ngo-ya-na/ no-ko-ae/
ah see the boy going there   is she his sweetheart or his sister traveling with him there
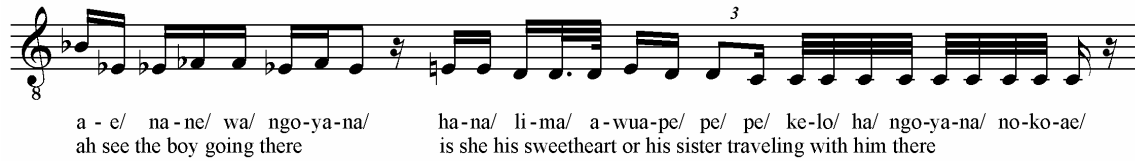
Figure 26. Musical Example (2)3:50 - Reported Speech 4

The extensive section of reported speech ends at 4:16, where Kiale begins a new section with a large descent, as shown in Figure 27:

ngayeni/ yari-ta/ re - ke/ e - pa/ ko - na/ si - nga-ta/ ke - ya - ro - ko - -o - -m/
going yet *it*   they reach an outcrop and look around
was heard
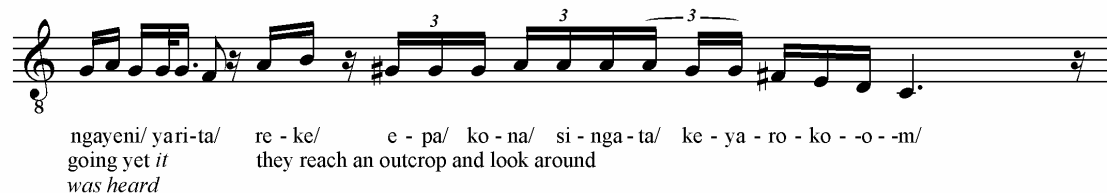
Figure 27. Musical Example (2)4:16 - Reported Speech 5

Throughout the *pikono*, Kiale uses at least four different types of reported speech:

1) Direct reported speech
2) Indirect reported speech
3) Ambiguous reported speech
4) Kiale taking on the role of the character[72]

The different ways Kiale reports speech are signalled by different interplay between musical and linguistic elements. Certain musical elements, such as pedal-phrases, may also characterise reported speech in Kiale's *pikono*. I speculate that Kiale's diverse and sometimes ambiguous use of reported speech is highly evocative, as it places the listener 'inside' the story, and is part of his craft as a highly regarded storyteller and *pikono* performer.

---

[72] When Kiale is taking on the role of the character, he is not technically reporting speech as he is speaking from his own persona. However, since Kiale is evoking the voice of someone other than himself, I am including it in the general category of reported speech.

Summary of findings

Through a textual analysis of a *pikono* performance, it was possible to identify several types of musical-lingual interplay as summarised below:

- The general form of *pikono* is based on musical descents (often correlating with lingual narratives) and musical grounds (often correlating with lingual lists of praise names)
- Musical representations of aural sounds heard in the story (onomatopoeia)
- Musical representations of thematic events in the story (expressives)
- Words that are bound to specific musical formulae as a structural marker of *pikono* (such as *yarita*), suggesting musical-lingual markers
- The interplay between the melodic properties of *pikono*, and tone-melodies of the spoken *pikono* text
- The interplay between the rhythmic properties of the linguistic text and the rhythm caused by the beats when sung
- Occurrences of musical-lingual interplay in corresponding parallelism – simple musical-lingual interplay
- Occurrences of musical-lingual interplay in disjunct parallelism, where different musical-lingual elements are repeated independently – complex musical-lingual interplay
- Parallelism of musical-lingual interplay among phrases, lines, and sections (both consecutively and non-consecutively)
- Different sub-genres characterised by specific types of musical-lingual interplay
- Musical-lingual interplay as marking reported speech

Pikono can only be understood through an analysis of musical-lingual interplay, which requires an anthropological-musicological-linguistic approach. Such analysis is a critical starting point in studying the cultural and social processes of how a song is composed, performed, and perceived. The following final chapter will use the musical-lingual interplay identified in Kiale's *pikono* to introduce a general theory in terms of which the

process and realisation of musical-lingual interplay can be understood in relation to its broader cultural and social context.

Chapter 3 – An Introduction to a Theory of Musical-lingual Interplay

In this Chapter, I propose the introduction of a general theory of musical-lingual interplay. The analysis of Kiale's *pikono* suggests two necessary conditions that are required for musical-lingual interplay to occur: that parallelism operates with respect to musical elements and lingual elements; and that there are shared dimensions between musical elements and lingual elements. By recognising these two necessary conditions and trying to understand how they combine, I believe we will be better able to explain both the process and realisation of musical-lingual interplay. This framework also suggests a degree of interchangability between music and speech which can be partly explained in terms of Bakhtin's theory of speech genres and heteroglossia. Through drawing on the works of Bakhtin and Jakobson it is possible to revive the analysis of musical-lingual interplay which has been neglected since the 1960s, as discussed in Chapter 1. In this chapter I will try to identify the potential that empirical analysis of musical-lingual interplay offers for future ethnomusicological and anthropological research. Such an approach is only possible through a tripartite analysis informed by anthropology, musicology, and linguistics, and is reminiscent of the works of Herzog and List as it has the potential to place musical-lingual interplay into broader cultural and social contexts.

The analysis of Duna *pikono* that I have made in Chapter 2 allows us to address some of the questions posed by Herzog and List through analysing different relationships between

musical elements and lingual elements of Kiale's *pikono*. This analysis reveals both comparison and interaction between speech and music. For example, comparison between speech and music is exemplified when Kiale sings *yarita* in a linguistic phrase that would make no sense if the phrase was spoken. Interaction is present when sets of praise names such as those pertaining to hair and feathers are given equivalence through parallel musical realisation – an excellent example of Jakobson's notion of 'equivalence' as realised through parallelism. Since music and speech are comparable and interact with each other, they are interchangeable to a degree. This interchangability is a result of musical-lingual interplay.

I believe that musical-lingual interplay is made possible through two necessary conditions that are present in Kiale's *pikono*. I will analyse the two necessary conditions of musical-lingual interplay in more detail below, and through them show how musical-lingual interplay can operate in two different ways.

1. Two Necessary Conditions of Musical-Lingual Interplay

Consider first the condition that parallelism operates with respect to lingual elements and musical elements. In doing so, let us conduct a thought experiment, using Kiale's *pikono* as an example, which assumes there are only 'pure' musical elements and 'pure' lingual elements within Kiale's *pikono*.[73] In this thought experiment, try to identify parallelism between musical elements *or* lingual elements in Kiale's *pikono*. It should not be difficult: lingual-parallelism still occurs in the same places as previously identified, for instance, in the repeating praise name frame *sokotia riya so* used to describe bridges in Figure 17 of Chapter 2. Likewise, musical-parallelism also occurs in the same places previously identified, such as the parallel occurrences of descent structure in Figure 15 and Figure 16 of Chapter 2. In this thought experiment, we are thus recognising the parallelism of lingual elements or musical elements in an environment where there is no musical-lingual interplay.

---

[73] Of course, the preceding analysis suggests that there are no 'pure' musical elements or 'pure' lingual elements, and this assumption will be dropped at the end of the discussion. In deriving the necessary conditions, however, it is useful to conceptualise of 'pure' musical elements and 'pure' lingual elements which have no *a priori* interaction.

Now consider the second necessary condition. If we examine the musical elements and lingual elements in the independent state we are pretending they are in, we notice similar features that they both have. These features can be described as phonetic, syntactic, and semantic dimensions of musical elements or lingual elements. The three dimensions, as introduced in Chapter 1 and alluded to in Chapter 2, overlap and influence each other. Let us consider the tangible similarities across the three dimensions of musical elements and lingual elements.

Shared phonetic dimensions between speech and music can involve similarities/differences in pitch, rhythm, volume, timbre, tempo, and articulation.[74] Many of these similarities were shown in Kiale's *pikono* in Chapter 2. Duna is a tonal language, so both spoken words and the intonation of phrases contain pitch movement, described as tone-melody. This is a feature shared with music, where notes are sung to what has been described as tune-melody. A similar shared phonetic dimension of speech and music was demonstrated in text-setting: rhythms in *pikono* were constructed from spoken words (either disyllabic or trisyllabic), and constructed from musical meter. Similarities between timbre and volume also seem to be present throughout Kiale's *pikono*, but have not yet been analysed.[75]

Shared syntactic dimensions are similarities between the organisation and structure of the linguistic-text and the music. Linguistic text has an organisation and structure, where different words have different functions. In Kiale's *pikono* for instance, framing phrases were used to describe praise names. Musical elements have a syntactic dimension through the fact that they occur in time and realise temporally extended musical

---

[74] These elements are defined as phonetic in a general sense, and not in a strictly linguistic sense. Timbre and volume, for instance, are not known to have any distinctive function in Duna language and would not fit a linguistic definition of phonetic.

[75] Since timbre and volume are not linguistically distinctive in Duna, use of them in speech assumes musical-lingual interplay. In this instance, musical elements are superimposed upon speech. The interchangability of speech and music is considered in further detail below, but is ignored for present purposes.

structures – for example, in Kiale's *pikono*, descending phrases generally marked the beginning of a section, whilst long held notes generally marked the end of a section.[76]

Shared semantic dimensions are similarities between the meanings associated with speech and music. Words have a semantic meaning attached to them, as may music. For instance, in Kiale's *pikono*, the sound of whistling is musically mimicked to convey this meaning. Here all three musical dimensions – phonetic, syntactic, and semantic depend on each other – the musical imitation of whistling conveys a semantic meaning through the phonetic dimension of the sound and how it is structured in the musical phrase as a syntactic dimension. This is where identifying parallels between cognitive linguistics and music can be useful in explaining how different dimensions of language relate to one another.

In our thought experiment we have established how the two necessary conditions of musical-lingual interplay apply to Kiale's *pikono* – the first that parallelism occurs within the realms of musical elements and of lingual elements, and the second that musical elements and lingual elements share certain features that we can describe in three dimensions (phonetic, syntactic, and semantic). Now let us see how these necessary conditions result in musical-lingual interplay.

2. The Process and Realisation of Musical-Lingual Interplay

Let us continue the thought experiment and consider closely how parallelism operates between these 'pure' musical elements or 'pure' lingual elements. In each instance of parallelism, units from a paradigmatic set (either musical or lingual) are placed in relation to one another. The 'equivalence' between these paradigmatic units is then projected over time in the syntagmatic axis. For example, there is frequent parallelism of melodic descents in Table 3 of Chapter 2. In this case, melodic descents form a paradigmatic musical-unit, which are selected as characterising the first phrases and lines of a section. The principle of equivalence, through which these descents form a paradigmatic set, is

---

[76] A interesting comparison between musical and linguistic syntactic form occurs in a similar genre of sung stories in Ku Waru, Papua New Guinea (Rumsey forthcoming).

projected onto the axis of combination through their occurrence in the same syntagmatic position in the line across two or more successive lines. Similarly, within each descent, though the same kind of interplay between repetition and variation, various musical elements, such as different starting pitches and meters, are placed in parallel relationships with each other.

Through this process, parallelism creates equivalence in one dimension through the projection of paradigmatic units in another dimension. In the above example, the paradigmatic unit is a melodic descent – part of the phonetic dimension – and the recurring descents mark the beginning of each section – part of the syntactic dimension. This concept is evocative of Jakobson's description of parallelism creating sense out of mode and meter (1960: 369). There are at least two ways in which this process facilitates musical-lingual interplay

Firstly, consider the case where a single stretch of sound realises both a musical element and lingual element. This can occur due to our second necessary condition that there are shared dimensions of musical elements and lingual elements. For example, in Kiale's *pikono*, a word which in linguistic terms has a rising melody (tone-melody) is often placed on descending parts of the musical melody (tune-melody), which has the effect of preventing the melody from descending below the tonic (see Figure 12 and the related discussion in Chapter 2). However, this causes words spoken with a falling toneme to transform into a rising tone-melody when sung. In this instance, a single composite paradigmatic unit (the sung word), simultaneously figures as both a musical element and a lingual element, which both share a phonetic dimension of pitch. Musical-lingual interplay is thus manifested whenever a paradigmatic unit in this way figures in relations of parallelism along both these dimensions. In this instance parallelism *between* both musical elements *and* lingual elements may cause an interaction between musical and lingual elements, exemplified by the tune-tone deviations that often occurred over falling tone-melodies.

Secondly, consider the case where parallelism of a musical element can lead to equivalence between lingual elements, and vice versa. This occurred many times throughout Kiale's *pikono*. For example, parallelism between descents in Table 3 established a relation between the lingual themes of different sections – hair, boys, and feathers. As another example, equivalence between the syntactic units of the beginning of a section was created by a specific melodic formula projected into combination with the marking word *yarita* throughout Kiale's *pikono*. Such instances of parallelism cause a relationship between musical elements and lingual elements in the performance. This relationship allows different types of musical-lingual interplay to occur, such as the simple and complex alignment of different musical elements and linguistic-elements in Figure 15 of Chapter 2. Musical-lingual interplay is thus manifested in the equivalence of a lingual element created by parallelism of a musical element, and vice versa. In this way, musical-lingual interplay figures as part of broader cultural and social processes by placing culturally related objects, such as hair and feathers, into semantic equivalence.[77]

The thought experiment thus arrives at a general model of musical-interplay occurring through two necessary conditions and ultimately manifested through parallelism, in two different ways. However, there is one flaw in the above reasoning, as we started with an initial assumption that there is independence between musical elements and lingual elements. Kiale's *pikono*, and the model we derived, suggest a degree of interchangability between music and speech. Music and speech share similar elements, and thus exist on a spectrum with an abstract pure 'music' at one end and an abstract pure 'language' on the other. Musical elements and lingual elements can therefore be spoken of comparatively as they share certain properties, and thus are unlikely to be 'purely' music or 'purely' language. I believe that musical-lingual interplay is an ongoing process, where there is constant interaction between musical elements and lingual elements in all forms of speech and music. The complex interplay between music and language suggests that speech and song are to some degree interchangeable and cannot be analysed independently.

---

[77] Semantic in the sense that hair and feathers share a similar cultural meaning. See Chapter 2, section 4.

3. Interchangability between Speech and Music

Mikhail Bakhtin's theory of speech genre and heteroglossia may be useful in describing and studying the interchangability between speech and song.[78] Bakhtin analysed language as part of, and influenced by, a social context. He identified different genres of speech based on formal elements, which evinced different social voices. Examples of different genres would be everyday narration, writing letters, and military talk (Bakhtin 1986: 60). Bakhtin distinguished between primary (simple) and secondary (complex) speech genres, where secondary genres are complex, highly organised, and "absorb and digest simple genres" (ibid.: 62). This theory of speech genres is related to Bakhtin's theory of heteroglossia in the novel (1981), which describes how a novel produces a unified social voice whilst containing multiple social voices. An example of how this is adapted to speech-genres would be letter-writing in a novel. Letter-writing exists as a genre outside the novel, is perfectly viable in its own terms and constitutes a primary genre. The novel on the other hand is a secondary genre, as it can absorb the primary genre of letter-writing and become dependent on it. The novel however, still evinces a singular voice, over and above the multiplicity of voices that it contains through the absorption of primary genres and through the author's 'orchestration' of the polyphony among them (ibid.:263). The crux of Bakhtin's theory is that the multiplicity of genres relate to different social voices which may be based on class, race, or other social strata.

We find a related process in Kiale's *pikono*, where Kiale represents a multiplicity of 'voices' – for instance, in the way he sings about war, the way he sings about dancing, the way he lists praise names, the way he sings general narration, and the way he reports speech. Although these 'voices' are not necessarily distinct social-voices in Bakhtin's sense, they still operate as different primary units which are absorbed into the *pikono* as a secondary unit. These different sub-genres thus parallel the concept of Bakhtin's primary speech genres. Kiale draws on different sub-genres throughout the *pikono* whilst still maintaining a unified voice overall. Similarly to Bakhtin's identification of different

---

[78] There exists a handful of articles tat have tried to apply Bakhtin's notion of heteroglossia and speech genres to musical analysis, usually in defining a musical style or what constitutes a musical text (Berger 1994, Bowen 1993, Feld 1988: 106), in my opinion Feld being the most effective. Toner (2005) offers a different Bakhtinian perspective, examining how the construction of song can be a unified expression of a multiplicity of voices.

speech-genres, the analysis in Chapter 2 identified formal differences between sub-genres. For example, pedal-phrases typically occur when Kiale reports speech. Features of Duna suggest that sub-genres may relate to genres of speech and song external to *pikono*. For example, Duna stories about war are often performed in a rushed voice, which is musically paralleled in Kiale's *pikono* (San Roque, personal communication). I also speculated that when Kiale reports types of speech in his *pikono*, such as calling people to a meeting place, he is evincing corresponding speech genres that would be used in an everyday context. Future research into the social importance of different sub-genres in Kiale's *pikono* may lead to an understanding of how tangible elements of Kiale's performance – the musical text – convey a multiplicity of social voices. Such investigation could lead to similar analysis within different genres and in different societies, showing how song fits into broader social contexts.

A degree of interchangability between musical genres and speech genres suggests that they can be seen as part of a single spectrum and can be manipulated by performers. In the case of Kiale's *pikono*, for example, it is possible that Kiale draws on different genres of speech and song in his *pikono*, and transforms them through musical-lingual interplay. For example, an element of everyday speech, such as general declination over a sentence, may be transformed into a musical equivalence, such as the long descending musical-contours that are characteristic of *pikono*. Analysis into musical-lingual interplay may thus lead to an understanding of how songs, and perhaps music generally, function as part of the same plane as language.[79]

4. Future Possibilities

Research into musical-lingual interplay is critical to coming to such an understanding of song. In the case of Kiale's *pikono*, sub-genres were defined by the parallelism that occurred among musical elements and lingual elements, which were the manifestations of musical-lingual interplay. Music can thus be seen as part of a domain of human culture at

---

[79] Research into Australian Aboriginal songs is suggestive of such interaction between a multiplicity of song and speech genres. For example, Dixon (1980: 54-57) shows the variation between song language and everyday speech, and how this relates to social roles.

large, and not a unique or special case of it. This is possible as analysis of musical-lingual interplay allows comparisons to be made between music and another element of human culture – language. This comparison is made through both the tangible and abstract qualities of music and language, and places them in a broader cultural context.[80]

Through such investigation, it is possible that a cultural theory of musical aesthetics influenced by musical-lingual interplay may be understood, in line with the initial intentions of Herzog in 1934. If the processes of musical-lingual interplay are accurately described, we can understand the ways in which any piece of music relates to aspects of language. Seeing music as related to language, I believe, is the first step in seeing music as part of a broader cultural worldview. Since music and language are in constant interaction in song,[81] identifying the interplay between them may help determine what makes a 'good' performance. Musical-lingual interplay may thus contribute to a technical description of aesthetic as relating to cultural tastes etc. In this sense, it may be possible judge the aesthetic of Kiale's *pikono* through his use of musical-lingual interplay, and how this corresponds to the cultural 'ideal'.

5. *Concluding Thoughts*

This thesis claims that musical-lingual interplay is an essential element of song. The analysis of Kiale's *pikono* in Chapter 2 demonstrates a very high level of musical-lingual interplay, suggesting that it is an important aspect of Duna *pikono*. Such an analysis is only possible through combining anthropological, musicological, and linguistic approaches as discussed in Chapter 1: a musicological-anthropological approach describes the *realisation* of musical performance through ethnographic fieldwork into musical phenomena; a linguistic-musicological approach describes the *process* of musical performance through analogies to cognitive linguistics; and a linguistic-anthropological approach helps to explain both the realisation and process of musical performance

---

[80] In my opinion, this could occur by extending my use of Jakobson and Bakhtin by examining the social relationships caused by the intertexuality of musical performance (Briggs and Bauman 1992), as applied to Turner's liminal and ritual aspects of performance (1969, 1986).

[81] I leave the possibility open that similar relationships to language may be present in instrumental music also.

through the model that has been used to describe poetics and Jakobson's theory of parallelism.

In spite of its importance, research into musical-lingual interplay has largely been neglected over the past 30 years. However, the early ethnomusicological works of George Herzog and George List inspire the introduction to a general model of musical-lingual interplay as part of a broad social context. In this Chapter, I have proposed the introduction of a theory of musical-lingual interplay, which explains musical-lingual interplay as manifested by parallelism. Musical-lingual interplay also suggests a degree of interchangability which can partly be explained by Bakhtin's theory of speech genres and heteroglossia.

It is hoped that future empirical investigation into musical-lingual interplay can further clarify the relationship between music and language. The research of musical-lingual interplay offers great potential in anthropology and ethnomusicology, as it provides a framework to place music in direct comparison to language, and thus provides a stepping stone from music to culture. I believe that future research may yield results such as a cultural theory of aesthetics influenced by musical-lingual interplay, and that this research is crucial in understanding both the process and realisation of music and language in performance.

References Cited

Agawu, V. K. 1984. The impact of language on musical composition in Ghana: An introduction to the musical style of Ephraim Amu. *Ethnomusicology* 28(1): 37-73.

Bakhtin, M. M. 1981. *The Dialogic Imagination.* Austin: University of Texas Press.

Bakhtin, M. M. 1986. *Speech Genres and Other Late Essays.* Austin: University of Texas Press.

Bauman, R. 1975. Verbal art as performance. *American Anthropologist* 77(2): 290-311.

Bauman, R. & Briggs, C. L. 1990. Poetics and performance as critical perspectives on language and social life. *Annual Review of Anthropology* 19(59-88.

Berger, K. 1994. Diegesis and mimesis: The poetic modes and the matter of artistic presentation. *The Journal of Musicology* 12(4): 407-433.

Bernstein, L. 1992[1973] *The Unanswered Question Lecturers.* [DVD] New Jersey:Kultur

Blacking, J. 1971. Deep and surface structures in Venda music. *Yearbook of the International Folk Music Council* 3(91-108.

Blacking, J. 1973. *How Musical is Man?* Seattle: University of Washington Press.

Boas, F. 1969[1910]. *Kwakiutl Tales.* New York: AMS Press.

Bowen, J. A. 1993. The history of remembered innovation: Tradition and its role in the relationship between musical works and their performances. *The Journal of Musicology* 11(2): 139-173.

Briggs, C. L. & Bauman, R. 1992. Genre, intertextuality and social power. *Journal of Linguistic Anthropology* 2(2): 131-172.

Bright, W. 1963. Language and music: areas for cooperation. *Ethnomusicology* 7(1): 26-32.

Chapman, A. 2001. Lexical tone, pitch and poetic structure: Elements of melody creation in *Khap-Lam* vocal music genres of Laos. *Context: A Journal of Music Research* 21(21-40.

Chenoweth, V. 1969. An investigation of the singing styles of the Dunas. *Oceania* 39(3): 218-231.

Chenoweth, V. 1979. *The Usarufas and their Music.* Dallas, Texas: S.I.L. Museum of Anthropology.

Chomsky, N. 1957. *Syntactic Structures.* The Hague: Mouton.

Chomsky, N. 1965. *Aspects on the Theory of Syntax.* Cambridge: The MIT Press.

Clunies Ross, M. & Wild, S. A. 1984. Formal performance: The relations of music, text and dance in Arnhem Land clan songs. *Ethnomusicology* 28(2): 209-235.

de Vries, L. 2005. Towards a typology of tail-head linkage in Papuan languages. *Studies in Language* 29(2): 363-384.

Diffloth, G. 1972. Notes on expressive meaning. In Peranteau, P. M., Levi, J. N. & Phares, G. C. (eds.) *Papers from the Eighth Regional Meeting Chicago Linguistic Society.* Chicago: Chicago Linguistic Society.

Dixon, R. M. W. 1980. *The Languages of Australia.* Cambridge: Cambridge University Press.

Donahue, M. 1997. Tone systems in New Guinea. *Linguistic Typology* 1(347-386.

Durbin, M. A. 1971. Transformational models applied to musical analysis: Theoretical possibilities. *Ethnomusicology* 15(3): 353-362.

Fales, C. 2002. The paradox of timbre. *Ethnomusicology* 46(1): 56-95.

Feld, S. 1974. Linguistic models in ethnomusicology. *Ethnomusicology* 18(2): 197-217.

Feld, S. 1988. Aesthetics as iconicity of style, or 'Lift-up-over Sounding': Getting into the Kaluli groove. *Yearbook for Traditional Music* 20(74-113.

Feld, S. 1990[1982]. *Sound and Sentiment: Birds, weeping, poetics, and song in Kaluli expression.* Philadelphia: University of Pennsylvania Press.

Feld, S. & Fox, A. A. 1994. Music and language. *Annual Review of Anthropology* 23(25-53.

Feld, S., Fox, A. A., Porcello, T. & Samuels, D. 2004. Vocal anthropology: From the music of language to the language of song. In Duranti, A. (ed.) *A Companion to Linguistic Anthropology.* Oxford: Blackwells.

Finnegan, R. 1977. *Oral Poetry: Its nature, significance and social context.* Cambridge, London: Cambridge University Press.

Frisbie, C. J. 1980. Vocables in Navajo ceremonial music. *Ethnomusicology* 24(3): 347-392.

Gillespie, K. & San Roque, L. forthcoming. Music and Language in Duna *pikono.* In Rumsey, A. (ed.) *Sung Stories from the Papua New Guinea Highlands: Studies in form, meaning and sociocultural context.*

Haley, N. 2002. Ipakana Yakaiya: mapping landscapes, mapping lives. Unpublished Ph.D. dissertation, Australian National University.

Halle, J. & Lerdahl, F. 1993. A generative textsetting model. *Current Musicology* 55(3-24).

Herzog, G. 1934. Speech-melody and primitive music. *Musical Quarterly* 20(452-466.

Hill, J. D. 1993. *Keepers of the Saced Chants: The poetics of ritual power in an Amazonian society.* Tuscon: The University of Arizona Press.

Hinton, L., Nichols, J. & Ohalla, J. J. (Eds.) 1994. *Sound Symbolism.* Cambridge: Cambridge University Press.

Hogarth, G. 1969[1848]. *Musical History, Biography, and Criticism.* New York: Da Capo Press.

Hymes, D. H. 1962. The ethnography of speaking. In Gladwin, T. & Sturtevant, W. C. (eds.) *Anthropology and Human Behaviour.* Washington, D.C.: Anthropological Society of Washington.

Jakobson, R. 1960. Concluding statement: Linguistics and poetics. In Sebeok, T. A. (ed.) *Style in Language.* Cambridge, MA: MIT Press.

Jakobson, R. 1987[1932]. Musicology and linguistics. In Pomorska, K. & Rudy, S. (eds.) *Language in Literature.* Massachusetts: The Belknap Press of Harvard University Press.

Kendoli, K. Y. forthcoming. Yuna pikono. In Rumsey, A. (ed.) *Sung Stories from the Papua New Guinea Highlands: Studies in form, meaning and sociocultural context.*

Leben, W. R. 1985. On the correspondence between lingusitic tone and musical melody. In Goyvaerts, D. L. (ed.) *African Linguistics: Essays in Memory of M.W.K. Semikenke.* Amsterdam: Benjamins.

Lerdahl, F. & Jackendoff, R. 1983. *A Generative Theory of Tonal Music.* Massachusetts: The MIT Press.

Lévi-Strauss, C. 1963. *Structural Anthropology.* New York: Basic Books.

Lévi-Strauss, C. 1969[1964]. *The Raw and the Cooked: Introduction to a science of mythology I.* New York: Harper & Row.

List, G. 1961. Speech melody and song melody in Central Thailand. *Ethnomusicology* 5(1): 16-32.

List, G. 1963. The boundaries of speech and song. *Ethnomusicology* 7(1): 1-16.

Lord, A. 1960. *The Singer of Tales.* Cambridge: Harvard University Press.

Luhrmann, T. M. 1990. Our master, our brother: Lévi-Strauss's debt to Rousseau. *Cultural Anthropology* 5(4): 396-413.

McAlpin, C. 1917. The reality of the opera. Part II. *The Musical Times* 58(892): 247-249.

Merriam, A. 1964. *The Anthropology of Music.* Evanston, Illinois: Northwestern University Press.

Meyer, L. B. 1989. *Style and Music: Theory, history, and ideology.* Philadelphia: University of Pennsylvania Press.

Modjeska, N. 1977. Production among the Duna: Aspects of horticultural intensification in Central New Guinea. Unpublished Ph.D. dissertation, Australian National University.

Mulder, J. 1994. Structural organization in coast Tsimshian music. *Ethnomusicology* 38(1): 81-125.

Nettl, B. 1993. Words and song, language and music: An enduring issue in ethnomusicology. In Wade, B. C. (ed.) *Text, Tone, and Tune: Parameters of music in multicultural perspective.* New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.

Nettl, B. 2002. *Encounters in Ethnomusicology: A memoir.* Warren, Michigan: Harmonie Park Press.

Ong, W. J. 1982. *Orality and Literacy: The technologizing of the word.* London: Methuen.

Parry, M. 1954. *Serbocroation Heroic Songs: Srposko-Hrvatske junacke pjeseme; edited and translated by Albert Bates Lord; with musical transcriptions by Béla Bartók and prefaces by John H. Finley and Roman Jakobson.* Cambridge: Harvard University Press.

Partch, H. 1949. *Genesis of a Music: monophony: the relation of its music to historic and contemporary trends; its philosophy, concepts, and principles; its relation to historic and proposed intonations; and its application to musical instruments.* Madison: University of Wisconsin Press.

Powers, H. S. 1980. Language models and musical analysis. *Ethnomusicology* 24(1): 1 - 60.

Pugh-Kitingan, J. 1979. Language communication and instrumental music in Papua New Guinea - Comments on the Huli and Samberigi cases. *3rd I.M.S. Symposium.* University of Adelaide.

Pugh-Kitingan, J. 1981. An Ethnomusicological Study of the Huli of the Southern Highlands, Papua New Guinea. Unpublished Ph.D. dissertation, University of Queensland.

Ross, M. 2005. Towards a reconstruction of the history of tone in the Trans New Guinea family. In Kaji, S. (ed.) *Cross Linguistic Studies of Tonal Phenomena.* Tokyo: Research Institute for Language and Cultures of Asia and Africa.

Rothenberg, J. 1985. *Technicians of the Sacred : A range of poetries from Africa, America, Asia, Europe & Oceania.* Berkeley: University of California Press.

Rousseau, J.-J. & Herder, J. J. 1966[1781]. *Essays on the Origin of Language.* New York: F. Ungar Publishing Co.

Rumsey, A. 2001. Tom yaya kange: A metrical narrative genre from the New Guinea Highlands. *Journal of Linguistic Anthropology* 11(2): 193-239.

Rumsey, A. forthcoming. Musical, poetic and linguistic form in tom yaya sung narratives from Papua New Guinea. In Rumsey, A. (ed.) *Sung Stories from the Papua New Guinea Highlands: Studies in form, meaning and sociocultural context.*

Ruwet, N. 1987. Methods of analysis in musicology. *Music Analysis* 6(1/2): 11-36.

San Roque, L. forthcoming. Unpublished Ph.D. dissertation, Australian National University.

Schneider, M. 1961. Tone and tune in West African music. *Ethnomusicology* 5(3): 204-215.

Seeger, A. 1980. *Why Suya Sing: A musical anthropology of an Amazonian people.* Cambridge: Cambridge University Press.

Sollis, M. 2006. Tonal variation amongst Chanted Tales of Papua New Guinea. Unpublished ms.

Springer, G. P. 1956. Langage and music: Parallels and divergences. In Halle, M. & Et Al. (eds.) *Roman Jakobson: Essays on the occasion of his sixtieth birthday.* The Hague: Mouton.

Stern, T. 1957. Drum and whistle "languages": An analysis of speech surrogates. *American Anthropologist* 59(3): 487-506.

Stewart, P. J. & Strathern, A. 2002a. *Gender, Song, and Sensibility.* Westport, Connecticut: Praeger.

Stewart, P. J. & Strathern, A. 2002b. *Remaking the World: Myth, mining, and ritual change among the Duna of Papua New Guinea.* Washington: Smithsonian Institution Press.

Strathern, A. & Stewart, P. J. 2004. *Empowering the Past, Confronting the Future.* New York: Palgrave Macmillan.

Strehlow, T. G. H. 1971. *Songs of Central Australia.* Sydney: Angus and Robertson.

Tanese-Ito, Y. 1988. The relationship between speech-tone and vocal melody in Thai court song. *Musica Asiatica* 5(109-139.

Tarn, N. 1991. *Views from the Weaving Mountain: Selected essays in poetics & anthropology.* Albuquerque: College of Arts and Sciences University of New Mexico.

Toner, P. 2005. Home among the gum trees: An ethnography of Yolngu mainstream musical performance in mainstream contexts. In Magowan, F. & Neuenfeldt, K. (eds.) *Landscapes of Indigenous Performance: Music, song and dance of the Torres Strait and Arnhem Land* Canberra: Aboriginal Studies Press.

Turner, V. 1969. *The Ritual Process.* Chicago: Aldine.

Turner, V. 1986. *The Anthropology of Performance.* New York: PAJ Publications.

Umiker 1974. Speech surrogates: drum and whistle systems. *Current Trends in Linguistics* 12(496-536.

Wild, S. 2006. Ethnomusicology down under: A distinctive voice in the antipodes? *Ethnomusicology* 50(22): 345-352.

Yung, B. 1983. Creative process in Cantonese opera I: The role of linguistic tones. *Ethnomusicology* 27(2): 297-318.

Appendix A – Glossary

The following technical terms were frequently used in the thesis describing musical-lingual interplay generally and in the analysis of Kiale's *pikono*:

axis of combination – in linguistics, the analytical dimension along which paradigmatic units occur in sequence within given construction types (syntagms)

axis of selection – in linguistics, the analytical dimension along which paradigmatic units are grouped into sets based on their occurrence as mutually-exclusive alternatives within a given structural position

beat – in Kiale's *pikono*, a rhythmic unit created by the accented stress placed on certain syllables

cognitive approach to language and music – the description of musical structures as analogous to formal linguistic structures

declination – a universal human tendency for pitch to gradually fall as words and longer utterances are spoken, even if the associated pitch pattern in linguistic terms is a level (or rising) one

expressives – a word which is characterised by the sound it refers, without imitating the actual sound.

glissando –a smooth continuous movement from one note to another without any sudden jump in pitch

lexical – words that refer to things in a given language

line – in Kiale's *pikono*, a group of phrases that form a higher-order unit, usually terminated by a rest

lingual element – the elements of a music/language genre that pertain generally to language structures (e.g. words, spoken intonation)

lingual text- the constitutive lingual elements of a performance, which may include words, tone-melodies, and lingual themes

lingual theme – what the linguistic text, or a particular stretch of it, is about at the level of ideational content

marking word – in Kiale's *pikono*, a word such as *yarita* which was used to mark certain sections, but does not make sense in every day speech

melodic contour – a general pattern of notes in relation to each other which constitute a phrase

meter – in Kiale's *pikono*, a sequence of regularised beats

musical competence – Relating to Chomsky's (1956) notion of linguistic competence as the comprehension and production of language as applied to music

musical element – the elements of a music/language genre that pertain generally to musical structures (e.g. rhythm, tonal melody)

musical-lingual interplay – the interaction between musical elements and lingual elements in a genre of music or language

musical text - the constitutive musical elements of a performance, which may include melody, rhythm, timbre and tempo

onomatopoeia – a word which is taken by its users to be directly representative of the sound it refers to

paradigmatic unit – a term used in linguistics to identify a unit in terms of relations of contrast to a set of other units that can all occur in the same position within a given construction type (syntagm)

parallelism – the ordered interplay of repetition and variation, which, in Jakobson's terms "*projects the principle of equivalence from the axis of selection into the axis of combination*" (Jakobson 1960:71)

phenomenal approach to language and music – the description of case studies which exhibit a tangible realisation of the interaction between language and music

phonetic dimension of musical-lingual elements – the elements of music and language that pertain to sound

phrase – in Kiale's *pikono*, the basic structural unit – one of a set of different melodic contours, which often correlate to grammatical units in the sung text

process of performance – structures involved in delivery of a performance

realisation of performance – the tangible manifestation of musical-lingual interplay delivered through a performance

reported speech – the representation or projection by a given speaker of the speech of another, such as a quotation

section – in Kiale's *pikono*, a group of lines that form a higher-order unit, usually terminated by a long sustained note on the tonic

semantic dimension of musical-lingual elements – the elements of music and language that pertain to the function of meaning

song-text – the combined musical elements and lingual elements of a song

sprechstimme - literally means 'spoken-voice', however, in music it is used interchangeably with the word *sprechgesang* which means 'spoken-song'. .

style – a combination of specific musical elements that are characteristic of a genre or sub-genre

sub-genre – in Kiale's *pikono*, a set of musical elements that correlate to a lingual theme

syntactic dimension of musical-lingual elements – the elements of music and language that pertain to their sequence and organisation

syntagmatic unit – a term used in linguistics to identify a unit in terms of its relation to a set of other units that occur in combination within a given utterance

textsetting – the process of setting words to music

textual analysis of performance – an analysis of a performance, based on an understanding of the musical elements and lingual elements of the performance which can be represented, for example, in a detailed transcription

tone language – a language in which pitch/tone is one of the aspects of sound that are used to distinguish between lexical meanings.

toneme – a linguistically significant pitch pattern that is associated with a syllable or word

tone-melody – the pitch contour of spoken words, influenced by tonemes of the words and tone sandhi

tone sandhi – the ways in which the tone of a given syllable is affected by its position within a larger utterance due to vocal intonation over a phrase. For example, a rising pitch interval may acoustically be perceived as lower due to declination

tune-melody – the melodic contour of sung words

tune-tone correspondence – the correspondence between tune-melody and tone-melody of the same linguistic text

vocable – a non-lexical utterance, such as the singing of 'ah' or 'oo'

vocal intonation – the pitch movements over a phrase of speech

wordtone – a toneme that is associated with an entire word rather than with a syllable as such, so that, for example a rising toneme may be realised along a single syllable in the case of a monosyllabic word or across two syllables in the case of a disyllabic word.

Appendix B – Transcription

The Audio CD attached contains the recordings of the transcribed extracts, numbered 1-9 in the following transcription.

Track 1: (1)0:16 – (1)1:45
Track 2: (1)4:52 – (1)6:12
Track 3: (2)1:50 – (2)4:20
Track 4: (2)23:02 – (2)23:50
Track 5: (2)40:03 – (2)40:40
Track 6: (2)70:04 – (2)71:48
Track 7: (3)0:44 – (3)1:35
Track 8: (4)0:13 – (4)0:30
Track 9: (4)37:11-(4)38:45