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# Musical, Poetic, and Linguistic Form in *Tom Yaya* Sung Narratives from Papua New Guinea

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**Abstract.** *Tom yaya kange* is a genre of metrical, sung narrative performed in the Ku Waru region of Highland Papua New Guinea. Describing and exemplifying two varieties of this genre, I show how the language used in them differs from ordinary spoken Ku Waru. The Ku Waru system of lexical tone is largely overridden by the tonal organization of the *tom yaya* melody, and there is a marked reduction in the length and complexity of maximal syntactic units so as to map them onto single isometric lines, greatly increasing the scope for poetic parallelism. *Tom yaya kange* are compared in these respects with genres of sung narrative from two other language areas within the New Guinea Highlands and with a range of musical genres from elsewhere in the world, and some conclusions are offered about possible interrelationships among their various linguistic, musical, and poetic features.

**1. Introduction.** Across a large area of Highland Papua New Guinea, there are traditions of balladlike sung narratives or “chanted tales.” Composed and performed by specialist bards, these are a highly valued cultural resource. From a comparative viewpoint, they are remarkable both for their scale and complexity and for the range of variation that is found among regional genres and individual styles. Since 2003 these genres have been the subject of an interdisciplinary research project based at Australian National University.<sup>1</sup> By fostering collaboration among linguists, anthropologists, and ethnomusicologists, this project has enabled us to discover what turn out to be some remarkable interrelationships among aspects of their linguistic, poetic, and musical form. In this article, I discuss some of those relationships with respect to the regional genre that most of my own research has been directed to—*tom yaya kange*, as performed in the Ku Waru region in the western reaches of the Western Highlands Province.

In common with all the other regional genres of Highlands sung narrative that have been studied so far,<sup>2</sup> *tom yaya kange* are composed and performed by only a small minority of people—mostly men but some women also—who are recognized as having special skills that allow them to do so. In this respect, the genre contrasts strongly with most or all of the other song and story genres in the region, which are performed by nearly all adults and older children. Notably, this is true of, among others, the story genre called *kange*,<sup>3</sup> of which *tom yaya kange* are the sung version. While it seems that nearly any *kange* can be adapted

for *tom yaya*-style sung delivery, in practice only a restricted range of them tend to be, and, conversely, the most commonly performed *tom yaya kange* draw on a stock of plots and characters that are seldom, if ever, rendered in spoken form. The plots of *kange* that are performed in *tom yaya* style—i.e., the plots of *tom yaya kange*—almost always center on a journey that is taken by a young man, usually to court a beautiful young woman in a distant place whom he has heard about. In preparation for the journey, he adorns himself and usually kills a pig to roast and takes the pork with him to give the young lady and her family. He is usually successful in winning her hand, and they set out to return to his place and be married. In some of the stories this homeward journey is completed and the marriage takes place, while in others it is foiled and one or both of the partners fall victim to mishaps or attacks by jealous rivals.

There is much individual stylistic variation among bards, some of which is exemplified later in this article. But five formal features have been found to be common to the *tom yaya kange* of all the eighteen bards whose work has been examined to date:

- clear division into lines of fixed length, each ending in an added vowel *e*, *o*, or *a*;
- use of formulaic expressions, each comprising one or more whole lines;
- organization of the lines into repeating two-part melodies, the second part being a line-by-line variation on the first;
- a strong tendency for each line to comprise an integral syntactic unit;
- extensive parallelism across lines.

In addition to these five features, some but not all *tom yaya kange* display two others, always in conjunction with each other:

- rhythmic organization of each line into a fixed number of beats or feet;
- strong tendency for each beat except the final one to be associated with a single word or bound morpheme.

All of these features have been discussed elsewhere (see Rumsey 2001, 2002, 2005, 2006, in press; Niles 2007). Here I draw on that previous work to address two interrelated questions that have not been systematically addressed before: How do the varieties of the Ku Waru language that are used in *tom yaya kange* sung narratives differ from those used in ordinary spoken language? And how are those differences related to the poetic and musical properties of *tom yaya kange*? Before discussing these issues, I first introduce some relevant traits of the Ku Waru language.

**2. Aspects of Ku Waru segmental phonology and prosody.** Table 1 shows the phonemic inventory of Ku Waru and the practical orthography used in the transcripts below.

**Table 1. Ku Waru Phonemic Inventory Shown in Practical Orthography**

CONSONANTS				
	LABIAL	APICOALVEOLAR	PALATAL	VELAR
PLAIN STOP	<i>p</i>	<i>t</i>	<i>s</i> [s ~ ts]	<i>k</i>
PRENASALIZED STOP	<i>b</i> [mb ~ mp]	<i>d</i> [nd ~ nt]	<i>j</i> [ɲʃ ~ ns]	<i>g</i> [ŋg ~ ŋk]
NASAL CONTINUANT	<i>m</i>	<i>n</i>	<i>ny, yn</i> [ɲ]	<i>ng</i> [ŋ]
		<i>r</i>	<i>y</i>	
	RETROFLEX TAP	APICOALVEOLAR	PALATAL	VELARIZED
LATERAL	<i>rlt</i> [ld ~ lt]	<i>l</i>	<i>ly, yl</i> [ɬ]	<i>l</i> [g̣ ~ ḳ ~ L] (sometimes also spelled <i>gl</i> or <i>kl</i> )
VOWELS				
	<i>i</i>		<i>u</i>	
	<i>e</i>		<i>o</i>	
		<i>a</i>		

In the Ku Waru language, pitch patterns are used to distinguish among words, but in a very simple way as compared with languages such as Cantonese or Thai, where pitch is distinctive at the level of the syllable. In Ku Waru, all polysyllabic words when pronounced carefully in isolation have within them a single syllable with a pitch peak that is higher than that of any other syllable within for the word;<sup>4</sup> for about 80 percent of Ku Waru words this the final syllable of the word. All monosyllabic words also have a pitch peak which is of about the same level as that of the high-toned syllable in polysyllabic words.<sup>5</sup> In the practical orthography used here, high pitch, if shown at all, is shown (with an acute accent mark ' ') only when it falls on nonfinal syllables. All other words have the default pitch peak on the final, or only syllable of the word. Examples<sup>6</sup> of words with contrasting pitch patterns are seen in (1a)–(2b).

(1a) *koma*

'carry on one's shoulder'

(1b) *kóma*

'wet'

(2a) *toba*

hit.FUT.3.SG

'he/she/it will hit'

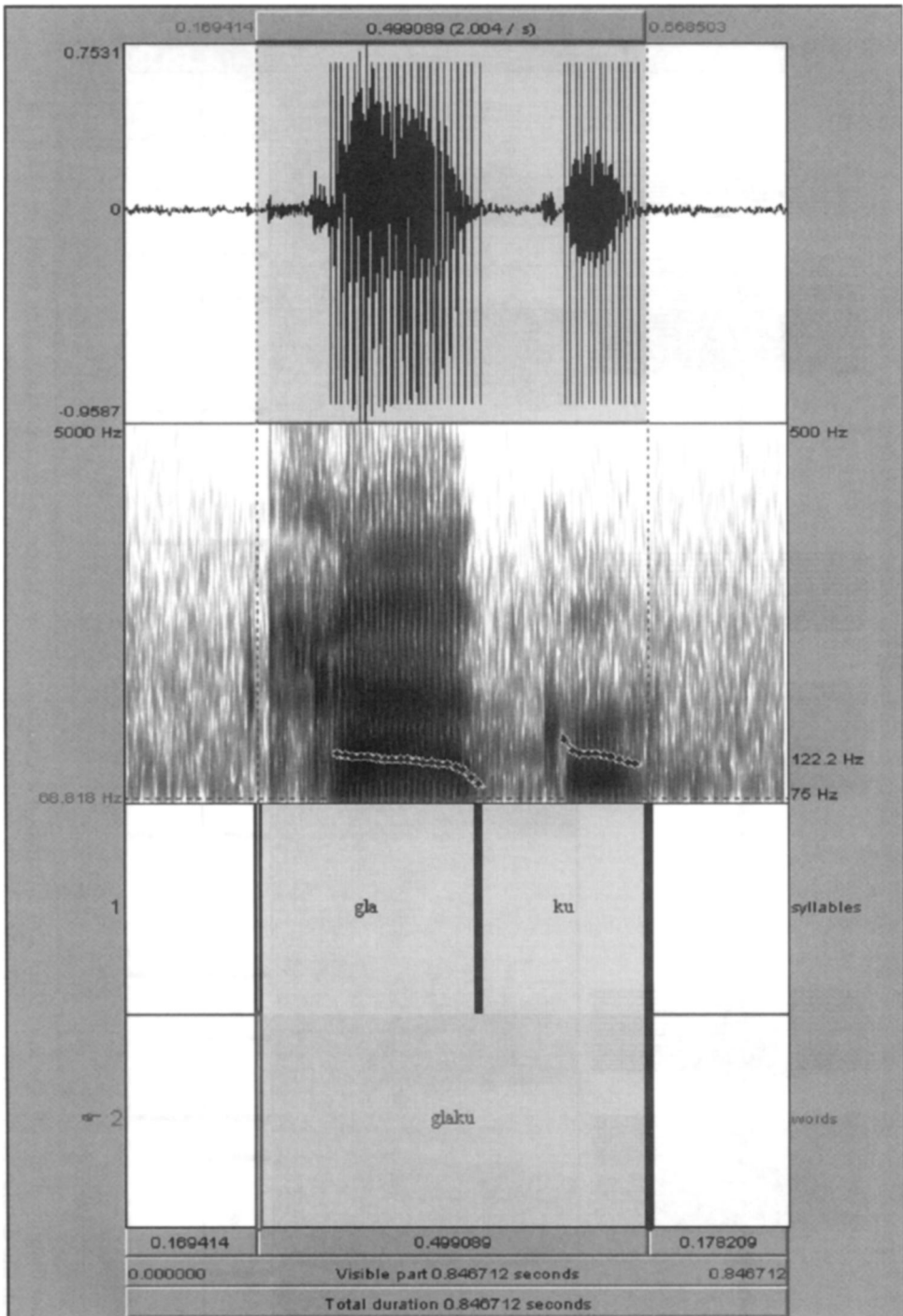
(2b) *tóba*

hit.NF:3.SG

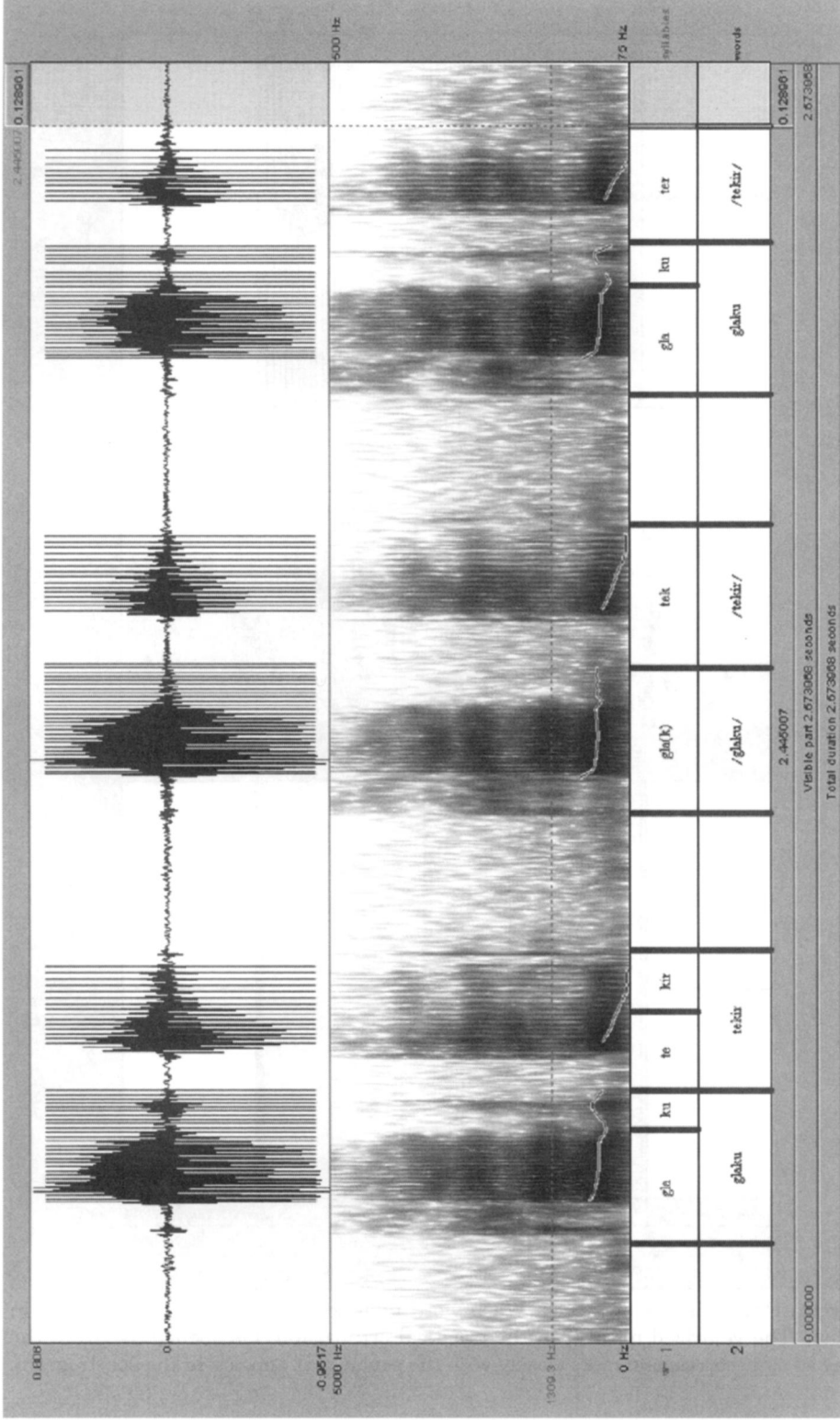
'he/she/it having hit'

Unlike in English and other languages with stress-accent systems, the syllables with pitch peaks in Ku Waru are not ipso facto longer or of higher energy level than others. Regardless of pitch level, word-final syllables, especially in connected speech (as opposed to elicited single words) tend to be shorter than initial and medial ones. Indeed, when final syllables are open (i.e., vowel-final) with a high vowel, in connected speech the vowel is often omitted altogether, leaving the word with no high-toned syllable. In such cases, the underlying presence of a final high-toned syllable is signaled by the absence of any high-toned syllable elsewhere in the word (see Merlan and Rumsey 1991:324). This is illustrated by the spectrograms in figures 1 and 2, which were produced using Praat, a computer program for phonetic analysis designed by Paul Boersma and David Weenink of the University of Amsterdam. At the bottom of the figures are labeled tiers showing the boundaries of syllables and words (tiers 1 and 2, respectively). Above the tiers is a broadband sound spectrogram overlain by a curve showing the fundamental frequency ( $F_0$ ), which correlates more or less closely with pitch.<sup>7</sup> Above the spectrogram is a display of the waveform, which is a good indicator of overall energy level.

Figure 1 shows the word *laku*<sup>8</sup> 'kina shell cover' pronounced in isolation as an independent nominal expression. Figure 2 shows the same word in combination with an inflected form of the verb *te-* 'do' in a phrase that means 'I am putting on a kina shell cover' (or, more literally, 'I am kina-shell-covering'). The phrase is pronounced three times in succession. As can be seen in figure 1, when pronounced in isolation, the word *laku* clearly has the highest pitch at the beginning of the final syllable. That word also clearly has a pitch peak on the final syllable in the first token of the phrase *laku tekir* in figure 2, but there the final syllable, notwithstanding that peak, is shorter and of much lower energy level than the first syllable. This disparity is even greater on the third token, and in the second one the final vowel drops out altogether.



**Figure 1.** Praat display of the Ku Waru word *laku* 'kina shell cover', pronounced in isolation. The velarized nasal (*l* in the practical orthography) is spelled as *gl* in the display so as to correspond more closely with the sound as it appears in the spectrogram.



**Figure 2.** Praat display of the phrase *laku tekir* 'I'm putting on a kina shell cover', pronounced three times. The velarized nasal *l* is spelled as *(gl)* in the display so as to correspond more closely with the sound as it appears in the spectrogram.

**3. Aspects of Ku Waru syntax.** In common with other Papuan languages of the Chimbu-Wahgi family to which it belongs, Ku Waru has strictly verb-final syntax, several series of morphologically distinct dependent verb forms, and several suffixes or postpositions that are used with otherwise independent verbs to mark the clauses in which they occur as dependent ones of various sorts. For example, there is a postposition *-kin*, which, when used with nouns, expresses a comitative case relation ('with', 'accompanied by'). When used on finite verbs, it forms a dependent clause with the temporal meaning 'when . . .'. Purposive clauses are formed with quasi reported speech constructions in which the verb *nyi-* 'say' frames a locution with a verb in the future tense; this construction represents intention by means of what looks like direct discourse (e.g., instead of 'They came in order to eat', Ku Waru says 'They came saying "We will eat"').<sup>9</sup> All three of these forms of clause linkage (i.e., dependent "nonfinal" verbs, *-kin*-marked temporal clauses, and reported speech-like purposive constructions) are illustrated by the passage in text 1, which comes from a *kange* story delivered in ordinary spoken form by Kopia Noma. Syntactic units are shown in square brackets.

**Text 1. Excerpt from Spoken Version of Tale (*Kange*) by Kopia Noma, Showing Syntactic Constituency**

[[[[*kang-ayl*] [*tópa mudurum*]]-*kin*] [*pi ilyi-kin medipulu*]  
 boy-DEF do.NF.3.SG chase.away.3.SG.RP-COM then that-COM itself  
 [*kolya*] [[[*langi wapra*] [*nomulu*]] [*nyik*]] [[*yábu*] [*wed*  
 place food leftover eat.FUT.1.PL say.NF.3.PL people there  
*uring*]]-*kin*] [[*ab mujuyl*] [*wed urum*]]  
 come.RP.3.PL-COM woman bear(child)-PPL there come-RP-SG

'When the boy had chased [the people] away, on that same day, when some people came back to eat the leftover food [lit., 'saying "we will eat the leftover food"'], a pregnant woman came there.'

The only clause in this entire utterance that could occur as an independent one is the clause consisting of the last two words, *wed urum* 'she came there'. The rest are all dependent clauses of the kinds referred to above. Collocations with this degree of syntactic complexity are not at all uncommon in everyday spoken Ku Waru, and in storytelling that is done in ordinary spoken language rather than in the sung *tom yaya* style to be discussed below. I turn now to a description of that style.

**4. Prosodic features of *tom yaya kange*.** All *tom yaya kange* that have been recorded and analyzed to date are delivered in audibly distinct lines that are regularly marked off by an added vowel or "vocable" *e*, *o*, or *a* at the end of the line, or, if the last word ends in one of these vowels, by a lengthening of it. In almost all of those *tom yaya kange* (including all them that have been said to be



really well composed and performed), the line is divided into a fixed number of metrical units that remains constant throughout the performance. Following the established usage discussed above, I call each of those prosodic units a “foot” and the associated rhythmic unit a “beat.” Each foot generally<sup>10</sup> comprises an integral number of syllables, ranging from one to three. Text 2<sup>11</sup> illustrates a commonly used style of *tom yaya kange* with five feet per line.<sup>12</sup> The feet are lined up in vertical columns. The commas show the places where the performer took a breath.

**Text 2. First Sixteen Lines of a *Tom Yaya Kange* in Five-Beat Style by Paulus Konts**

1	<i>puku</i>	<i>tópa</i>	<i>lku-d</i>	<i>urum</i>	<i>e</i>	‘He jumped and came into the house.’
2	<i>dali</i>	<i>pula</i>	<i>manya</i>	<i>lyirim</i>	<i>e</i>	‘He removed his banana leaf apron’
3	<i>ola</i>	<i>pula</i>	<i>wal</i>	<i>lyirim</i>	<i>e</i>	‘And put on his cordyline kilt.’
4	<i>ngi</i>	<i>kapola</i>	<i>mari</i>	<i>tekin</i>	<i>a,</i>	‘Well done, my lad, well done!’
5	<i>kanab</i>	<i>a</i>	<i>kélipa</i>	<i>púpa</i>	<i>a</i>	‘As I watched he went on his way’
6	<i>koroka</i>	<i>komunga</i>	<i>kai</i>	<i>kanunga</i>	<i>a</i>	‘Headed for Koroka Mountain.’
7	<i>ola</i>	<i>púpa</i>	<i>mólupa</i>	<i>mel</i>	<i>e</i>	‘He climbed to the top and stayed’
8	<i>tubal</i>	<i>kop</i>	<i>ekeda</i>	<i>lyirim</i>	<i>e,</i>	‘With a jew’s-harp in one hand’
9	<i>kulaip</i>	<i>mingiyil</i>	<i>ekeda</i>	<i>lyirim</i>	<i>e</i>	‘And a bamboo flute in the other.’
10	<i>kanab</i>	<i>ku</i>	<i>kéla</i>	<i>purum</i>	<i>e</i>	‘As I watched he went on his way.’
11	<i>toku</i>	<i>nóba</i>	<i>lkaib</i>	<i>turum</i>	<i>e</i>	‘Where he smoked his tobacco and spat’
12	<i>toku</i>	<i>wale</i>	<i>pora</i>	<i>purum</i>	<i>e,</i>	‘Fields of tobacco plants sprouted’
13	<i>toku</i>	<i>ikilya</i>	<i>purum</i>	<i>kanuma</i>	<i>a</i>	‘And the smoke that went up in the sky’
14	<i>waru</i>	<i>kupa</i>	<i>pungla</i>	<i>nyirim</i>	<i>a</i>	‘Billowed like clouds round the mountain.’
15	<i>i</i>	<i>kapola</i>	<i>mari</i>	<i>tekin</i>	<i>a</i>	‘Well done, my lad, well done!’
16	<i>kanab</i>	<i>taka</i>	<i>taka</i>	<i>nyiba</i>	<i>a,</i>	‘In my mind’s eye the story unfolds.’

This style of *tom yaya kange* with five feet or beats per line has the shortest line type found in any of the styles that have been analyzed to date. Other styles have lines with six, seven, and eight beats or feet per line.<sup>13</sup> Text 3 exemplifies a style with six feet per line.<sup>14</sup>

**Text 3. First Twenty Lines of a *Tom Yaya Kange* in Six-Beat Style by Kopia Noma**

1	<i>kang mel we mel kaniyl e</i>	‘Though the tiniest slip of a lad’
2	<i>kang mai pup yaka nyirim e</i>	‘That boy strode from perch to perch.’
3	<i>kang komunga mong yaka nyirim e</i>	‘That boy strode from mountain to mountain.’
4	<i>ukuni yábu tobu midi nyirim e</i>	‘He wanted to slay the Ukuni.’
5	<i>kobulka yábu tobu midi nyirim,</i>	‘He wanted to slay the Kobulka’
6	<i>kang mel we mel kaniyl e</i>	‘Though the tiniest slip of lad’
7	<i>kang piditap mel kaniyl e</i>	‘Who’d been ignored since the day he was born.’
8	<i>pilyini kub nai-ko, nyirim e</i>	‘And who’s ever heard such a tale?’
9	<i>kanuni kub nai-ko nyirim e</i>	‘And who’s ever seen such a thing?’
10	<i>kang mai pup yaka nyirim,</i>	‘That boy strode from perch to perch.’
11	<i>kobulka yábu tokur midi nyirim e</i>	‘The Kobulka tribe he would slaughter.’

12	<i>minabi yábu tokur midi nyirim e</i>	'The Minyabi tribe he would slaughter'
13	<i>kang mel we mel kaniyl e,</i>	'Though the tiniest slip of lad.'
14	<i>pilyini kub nai-ko nyirim e</i>	'And who's ever heard such a tale?'
15	<i>kanuni kub nai-ku nyirim,</i>	'And who's ever seen such a thing?'
16	<i>dala lyípa kum midi turum e</i>	'With long <i>dala</i> spear in hand'
17	<i>tibun lyípa kom midi turum e</i>	'And pronged <i>tibun</i> spear in hand'
18	<i>gaima lyípa aipa midi turum,</i>	'Strong <i>gaima</i> axe on his shoulder'
19	<i>kang mel we mel kaniyl e</i>	'That tiniest slip of a lad'
20	<i>kumuduka yab tobu midi nyirim e</i>	'Would kill all the Kumuduka too'

In these and most other *tom yaya* styles, the line-final vowel by itself comprises a single foot. As can be seen, in Noma's six-beat style this vowel is usually omitted when Noma takes a breath at the end of the line, whereas in Konts's five-beat style he usually leaves in the line-final vowel and breathes after it.

As shown by both texts, there is a strong tendency for each of the other feet in the line besides to the line-final one to consist of a single word.<sup>15</sup> In this respect, the metrical system of *tom yaya kange* is very different from ones that tend to be associated with stress-based prosodic systems such as that of English or quantity-based systems such as that of Homeric Greek, where foot boundaries and word boundaries often crosscut each other.<sup>16</sup>

Given that all feet are of roughly equal duration, a necessary enabling condition for the mapping of single words onto single feet in Ku Waru is that the syllables of longer words must be of shorter average duration than those of words with fewer syllables in them. Elsewhere (Rumsey in press) I present acoustic phonetic evidence to show that this is indeed the case. Further, auditory evidence is provided by the musical transcriptions in figure 5, discussed in section 5 below.

**5. Tonal organization of *tom yaya kange*.** In addition to the prosodic patterning discussed above, *tom yaya kange* also have a musical structure that is closely related to it at the level of the line and the foot. At least in the work of the performers being considered here, Kopia Noma and Paulus Konts, each foot is associated usually with a single musical pitch within a set pattern of pitch movements across the line. At a higher level of tonal organization, these pitch movements are organized into repeating melodies, each comprising an even number of lines (or, in musical terms, measures). In the *tom yaya kange* by Konts that is excerpted in text 2, there is an eight-line melody that uses six pitch levels corresponding roughly to the first six notes of the western musical scale.<sup>17</sup> The general form of this melody is shown in figure 3 in cipher notation.<sup>18</sup>

The first line of numbers in figure 3 shows the main musical pitch levels that map onto the corresponding five feet in line 1 of text 2, the second line to those of line 2 in that text, etc. Since the melody is repeated, its first line also corresponds to the pitches in line 9, the second line to line 10, and so forth, in repeating

eight-line cycles throughout the performance. Note that the pitch levels shown by numbers in this display apply to entire feet, regardless of the number of syllables in them, so that in the case of polysyllabic feet, all of the syllables are usually sung at roughly the same pitch level.

1	1	1	5	5
5	5	6	5	2
5	5	3	4	4
2	2	3	2	2
2	2	2	5	5
6	5	5	4	1
3	3	2	3	3
1	2	2	1	1

**Figure 3.** Basic form of eight-line *tom yaya kange* melody, shown in cipher notation.

The same melody is shown in musical notation in figure 4. In this particular representation of it, D below middle C is used as pitch 1. This is because, as we shall see below, that was its absolute pitch level during most of the performance that is being considered here, but it should be borne in mind that that is not inherent to the melody as such, which is structured in terms of relative pitch (and time) values rather than absolute ones. Note also that, as in figure 3, this abstract musical representation does not show what happens within each foot in order to map the set pattern of pitch levels and movements onto the varying numbers of syllables within the feet.



**Figure 4.** Basic form of eight-line *tom yaya kange* melody, shown in musical notation.

Within the course of an actual performance, there is considerable variation from this general form of the melody in certain respects, and little or none in others. What is most constant is the continuous cycling through the eight-line melody, with five feet per line, and the pitch values associated with the first and last feet of each of those lines within the melody. There is rather more variation with regard to the pitch values for feet 2-4 within each line, and with regard to the rhythmic and pitch patterns within each foot, especially within the polysyllabic ones. This is illustrated in figure 5, which is a musical transcription<sup>19</sup> by

Don Niles of another thirty-two lines of the same *tom yaya* performance by Paulus Konts that is excerpted in texts 2 and 4.

As in figure 4, each measure within this transcription corresponds to one line of text in terms of the format used in texts 2, 3, and 4 (a unit hereafter sometimes referred to as a “poetic line” in order to avoid confusion with lines of music as shown in figures 4 and 5). The transcription shows four repetitions of the melody, which have been taken from four separate places in the (1,065-line) performance, corresponding to text lines 91–98 (the topmost stave in each group of staves in figure 5), 262–69 (the second stave in each group), 543–50 (the third stave), and 1002–9 (the fourth stave); poetic lines correspond to musical measures. (For English translations of these lines see the appendix.) In order to facilitate comparison of these transcriptions with the basic form of the melody as shown in figure 4, the transcription from that figure is reproduced below each corresponding measure in figure 5 (on the fifth stave).

By comparing the four staves of transcribed lines with each other one can see how similar or different the realization of the melody is across the four repetitions within the sample. A close look at this supports the generalizations I have offered above about what varies and what remains more constant. As for the latter, note that the melody not only retains the same overall form across the four instances of it, but also remains remarkably stable in its absolute pitch values, which are the same through the first half of the performance and only a semitone higher near the end (in lines 1002–9). Note also that, just as in text 2, Konts take a breath (here indicated with a large apostrophe) always and only after every fourth poetic line (i.e., every fourth musical measure). The tempo remains relatively constant, varying within a range of 232–262 beats per minute. And all of this in a solo, very fast, semi-improvised performance without instrumental or rhythmic accompaniment extending over approximately thirty minutes<sup>20</sup> in which the performer constantly has to attend to how he is going to fit his delivery to the rhythmic and melodic patterns in which it is cast, while holding his audience’s attention throughout.

As for the tonal variation within the melody, the only apparently large exception to the generalization I have made above is at the beginning of line (measure) 1002, where instead of the expected D-sharp, the first foot begins a fourth lower at A-sharp, then moves up to B-sharp before reaching D-sharp at the beginning of the second foot. But as can be seen from measures 95, 266, and 1006, this start on a pitch lower than the expected one, followed by a rapid rise to it, is something that occurs regularly (though not invariably) in Kont’s performances at the beginning of the first and fifth measures of the melody after he has taken a breath.

lines 91-98  $\text{♩} = 250$   
 mo-ngayl pu-la tu-rum a por o-bil ge-la nyi-rim e ól - ku - pa mó-lu-pa ka - datum e kim ku - ni pop ka-niyln e

lines 262-269  $\text{♩} = 241$   
 kang ka - yi - we ka-niył e wari-la o - la wed pũ-pa e wa-ri-la rot bung pũp(a) e pi - ly(t)ni kub pa nyi-rim a

lines 543-550  $\text{♩} = 232$   
 a-bo-la ka - yi - we ka-niył e mó-lu-pa ngayl lep e ó - ba tull(u)-nen u - ru pi - rim e i ka - po - la ma - ri te - kin

lines 1002-9  $\text{♩} = 266$   
 me - le - mari lyi - pa mé - ba ya-bu lyi - pa mép(a) ó - ba ab tal ungl moly - bel a ku - iy - ma e - kepu ti - bu nyi-rim a

posed melody

lines 95  $\text{♩} = 266$   
 na - nga kung mid ku-dyıl nyi-rim a nu ta-ka mo-lui nyi-rim e ul - kulu tek un - kin e na kop - tup ki pa-limb e

lines 266-3  $\text{♩} = 266$   
 ka-ni - ni kub pa nyi-rim a lu-pal-nga ing nyi-rim a o - lu - ma ngal nyi-rim a nu ta - ka mo - lui nyib(a) a

lines 547  $\text{♩} = 266$   
 pi - rim - a ta - ngu - rum - mel a kang ka-yi we ka - niyl - ne mó - lu - pa - mel ké - li-pa (a) na e - kep(u) pu - kur nyi-rim a

lines 1006  $\text{♩} = 266$   
 ya - bu - nga ka te - rip - nga ta - rip tu - rum a e - kep(u) - nga wal ti - rim a i kapo - la ma - ri te - kin a

Figure 5. Musical transcription of four eight-line excerpts from Kontsi's *tom yaya*. Basic form of the melody is shown below. (Transcription by Don Niles.)

In section 6 below I discuss the question of possible interaction between the tonal patterns of the Ku Waru language and the musical melodies of *tom yaya kange*. Because the pitch movements by which linguistic tone is realized can be smaller than the smallest interval that is shown in a musical transcription such as the one in figure 5—the semitone—the discussion in section 6 is based as much on acoustic phonetic analysis as on musical transcription. For the same reason, it is useful to supplement the discussion of melodic variation in this section with acoustic phonetic evidence. In order to do that, I have focused on the position in the melody at which there is the largest pitch movement—the transition from foot 3 to foot 4 in the first measure of the melody, where there is movement from level 1 to 5 (i.e., from D to A during most of Konts's performance). Using Praat, I measured the fundamental frequency of Konts's voice in those particular feet in thirty-three lines of the performance that are instances of line 1 of the melody.<sup>21</sup> The results are shown in the first three columns of table 2. The fourth column shows the frequency interval between the third and fourth foot of each line in the sample, measured in cents, a unit used by musicologists to measure the distance between pitches which corresponds to exactly one-hundredth of a tempered semitone. On this scale, a musical Pythagorean perfect fifth corresponds to approximately 702 cents. The fifth column shows, for each line sampled, the number of cents by which the interval between the two feet deviates from that perfect fifth. As shown in the bottom rightmost cell on the table, the average interval between the third and fourth foot of melody-line 1 among the thirty-three instances in the sample is 30 cents, i.e., between one-third and one-fourth of a semitone away from being a perfect fifth. Again, given the constraints under which Konts is performing and the speed of his delivery, this degree of control over what he is doing is truly impressive.

I find it especially significant that, as can be seen from the fifth column, the average interval across all those thirty-three lines comes closer to a musical fifth than does the actual interval within most of the lines (within twenty-two of them, to be exact). This suggests that what I have taken to be the typical interval at this point in the melody (per figures 3 and 4) has a genuine psycho-acoustic reality for the performer as a kind of target that he is aiming for, just as the even scatter of bullet or arrow holes around the bull's eye of a marksman's target attests to its having been what the marksman was aiming for. In a similar way (albeit with the qualifications I have stated above), we can take the rest of the pattern shown in the figures 3 and 4 as a general form of this melody that is even more evident as an average across the range of repetitions of it than in most individual instances of it. Now let us consider some of the formal properties of that melody.

Notice that there are close parallels between the first and fifth line of the melody, between the second and sixth, between the third and seventh, and between the fourth and eighth. Each of lines 6–8 ends with three notes that are one step lower than the corresponding ones in lines 2–4, returning at the end to

pitch 1, which is not sounded anywhere in lines 2-4, but is sounded in three of the five feet of line 8 including the final one. Furthermore, many of the other pitches of lines 1-4 are transposed down or up in lines 5-8, almost always by only one step (the only exceptions being the first two notes of line 3, which are lower by two steps in line 7).

**Table 2. Difference in Fundamental Frequency between Third and Fourth Foot in Thirty-Three Instances of Line 1 of Konts's Melody**

LINE NUMBER	HZ IN THIRD FOOT	HZ IN FOURTH FOOT	DIFFERENCE IN CENTS	DEVIATION IN CENTS FROM PERFECT MUSICAL FIFTH
19	148	220	686	-16
35	151	228	713	11
43	151	238	788	86
59	151	229	721	19
67	151	225	690	-12
75	147	232	790	88
83	155	225	645	-57
91	151	232	743	41
99	149	229	744	42
107	146	222	726	24
115	156	221	603	-99
123	149	232	767	65
131	150	230	740	38
139	150	232	755	53
147	151	238	788	86
155	150	233	762	60
163	157	237	713	11
170	163	241	677	-25
182	154	231	702	0
190	153	242	794	92
198	146	233	809	107
206	150	220	663	-39
605	157	236	706	4
613	169	255	712	10
621	162	252	765	63
629	156	238	731	29
635	166	240	638	-64
645	159	249	777	75
653	154	241	775	73
661	156	249	810	108
669	159	250	783	81
677	167	258	753	51
685	162	243	702	0
<i>Full range:</i>				
MAXIMUM	169	258	810	108
MINIMUM	146	220	603	-99
AVERAGE	154	236	732	30

The bipartite melodic organization shown in figures 3 and 4 is consistent with another sonic aspect of this *tom yaya kange* performance that I have noted above, namely, the timing of the breaths taken by the performer, which in all the samples discussed here (as shown in text 2 and figure 5) come always and only after every fourth line. And, as shown by a comparison with figures 3 and 4, the four-line sets that are marked off in that way correspond exactly to the binary divisions of the melody as determined by the patterns of pitch movement and cross-line tonal parallelism. This same pattern was continued by Konts almost without exception throughout the 1,065 lines of this performance. In other performances by him and others, the fit between breathing and melody is not so completely regular, but is always at least a strong tendency. The bipartite organization itself is, however, as shown by Niles (2007; see Rumsey 2006:343–34), a feature common to all *tom yaya* melodies that have been studied to date and, indeed, of almost all the other musical genres found in the region.<sup>22</sup>

*Tom yaya kange* (along with its Melpa counterpart *kang rom*) is, however, unlike any of the other endogenous musical genres with respect to the relationship between the melody and the words that are set to it. In all genres, a text is sung to a repeating binary melody. But in other musical genres, the text is also repeated. There may be separate rates of repetition for text and melody, but both are repeated and the cycles eventually do coincide (Don Niles p.c. 2008). In *tom yaya kange* alone (as in its Melpa counterpart, *kang rom*), the text is not repeated, but instead unfolds as an extended narrative.

This raises the question, to what extent if any do the sets of poetic lines that are associated with a single presentation of the melody comprise a unit with respect to their thematic content? A full treatment of that issue would be beyond the scope of this article, and the question is in any case not one on which I have enough research to allow it, but from the available evidence it does seem that there is at least a tendency for the groups of lines associated with a single presentation of the melody, or at least for integral numbers of those presentations, to form a coherent block in thematic terms. This is true, for example, of lines 1–10 and 11–20 in text 3 (Noma's melody being a ten-line one), and of lines 1–16 in text 2. It is not quite true of lines 1–8 and 9–16 by themselves, since line 8 and 9 are linked through parallelism. Further evidence on the question is provided by the five other eight-line sets from the same performance that are presented in the appendix to this article, none of which was chosen on thematic grounds (since the point of the transcriptions for which those lines were chosen was to study the melody per se), but all of them form relatively coherent thematic blocks even out of context. It is especially relevant to note here that lines 1058–65—which comprise one full repetition of the melody as do all other sets there—are the last eight lines of the performance, concluding with two two-line formulae that cleverly and explicitly mark its end. This means that the textual content of the previous several lines has had to be carefully apportioned to the right parts of the melody so as to allow it to end in just the right place both



musically and textually. This is presumably one of the functions of one-line formulaic expressions, such as those in lines 1058 and 1061,<sup>23</sup> which allow a masterful performer such as Konts to add just the amount of filler that is needed in order to keep the melody synchronized with the thematic content of the text that is set to it.

**6. Interaction between linguistic tone and musical tune in *tom yaya kange* and cognate genres.**

Given that the Ku Waru language makes distinctive use of pitch, as discussed in section 2, the question arises, what becomes of those distinctive word-level pitch patterns when the language is used within the tonal system of a genre such as *tom yaya kange*, which has pitch patterns of its own? This question is of comparative interest in relation to the considerable body of research that has been done on the interaction of linguistic tone and musical tonality in Chinese (Chao 1956; Liu 1974; Yung 1983; Pian 1993); Japanese (Sakurai 1978); the tonal languages of Southeast Asia, including Thai (List 1961; Morton 1974; Mendenhall 1975; Tanese-Ito 1988; Swangviboonpong 2003), Vietnamese (Trần 1962, 1975), Burmese (Williamson 1981), and Lao (Chapman 2001, 2003); the tonal languages of West Africa (Jones 1949, 1959; Schneider 1961; Richards 1972; Agawu 1984, 1988; Leben 1985); and, closer to hand, the tonal languages of Highland Papua New Guinea, including Usarufa (Chenoweth 1979:98–113), Huli (Pugh-Kitingan 1981, 1984), and Duna (Sollis 2007, in press). As background for my discussion of this problem in Ku Waru, I briefly review the findings of Pugh-Kitingan and Sollis regarding Huli and Duna.

Huli is spoken in the Southern Highlands Province, approximately fifty kilometers west of the Ku Waru region. It belongs to a different language group from Ku Waru,<sup>24</sup> and has a quite different tonal system. Rather than a system with a single high-toned syllable within every word, as discussed in section 2, Huli has one of the kind that has been extensively discussed by Mark Donohue (1997) under the rubric “word tone.” There are three tone patterns in Huli—low-rising, high-falling, and level—that map onto whole words, regardless of the number of syllables in them (Rule and Rule 1970). Thus, for example, a low-rising tone in a three-syllable word in Huli is manifested by a pitch rise across the whole word from the first syllable to the last, whereas in a monosyllabic word there is a similar pitch movement within the space of its single syllable. In a detailed study of Huli musical genres, Jacqueline Pugh-Kitingan has concluded that the tonal system of Huli music, as well as the actual melodies used in all those genres, are based on these word-level tone patterns within the Huli language.

Melody is generally dominated by speech-tone. This domination is so great that Huli melodic movement appears to derive its essential motivation from the tonal patterns of the words and lines articulated. Language is thus as important in influencing melodic structure as it is in determining rhythm and form in Huli music. [Pugh-Kitingan 1984:118]

Pugh-Kitingan finds that this domination of music by language is especially true of the Huli genre of sung tales called *bì té*, in which “speech-tone is the primary determinant of the melody with sentence terminating intonation producing [a] movement to the middle pitch at the end of lines” (1981:349). But speech tone remains to some extent independent of the melody, since in passages of *bì té* that are “based on a single pitch, slight fluctuations sounding about a quarter tone from this pitch may indicate speech tone” (1981:349).<sup>25</sup>

More recently, studies have been done by Michael Sollis (2007, in press) and by Kirsty Gillespie and Lila San Roque (2007) of the relation between music and speech in Duna—the language spoken immediately to west of Huli—with particular reference to the Duna genre of sung tales called *pikono*. Although not closely related to Huli genetically,<sup>26</sup> Duna has a similar or identical word-tone system with the same three pitch patterns that extend across entire words. But rather different melodic patterns are found in Duna *pikono* than in Huli *bì té*. Both genres (unlike *tom yaya kange*) are nonmetrical; lines can differ considerably in length, each line having its own melodic shape rather than fitting together with other lines to comprise a multiline, repeating melody as in *tom yaya kange*.<sup>27</sup> Whereas *bì té* within each line “are chanted using a melodic cell of three basic pitches of which the middle one functions as a tonic or tonal centre” (Pugh-Kitingan 2008), the (one-line) melodic “phrases” of *pikono* as analyzed by Gillespie and San Roque have been found to consist of a single, more or less gradual “descent” over approximately a musical fifth or sixth to a tonal center, followed by a section that they call a “ground,” which “is marked by repetition that focuses on the tonal centre, briefly visiting the tones on either side of it” (Gillespie and San Roque 2007:5).

Taken together, Sollis’s work and Gillespie and San Roque’s show that rather than being “dominated” by the tone patterns of the Duna language, the musical realization of *pikono* involves a mutual interplay between the two. This can be seen in figure 6, from a forthcoming publication by Michael Sollis.

**Figure 6.** Duna *pikono* excerpt, showing interaction of word-tone and musical melody (from Sollis in press).

The numbers along the top lines of figure 6 show the pitches<sup>28</sup> associated with the words of this line of *pikono* when delivered by two Duna speakers in spoken form.<sup>29</sup> The musical notation shows the typical organization of a *pikono* melodic “phrase,” with a gradual descent to a tonal center (here B-flat in the

second octave below middle C), followed by a “ground” section that begins about halfway through the line with first instance of the word *perene*. Sollis finds an interaction between linguistic tone and musical melody at two distinct levels.

On one level, the melody with its gradual fall over the course of the “descent” is similar in form to the gradual drop in pitch that one generally finds across the course of spoken utterances in Duna as elsewhere,<sup>30</sup> albeit more exaggerated in the extent of its overall pitch movement (in this case, a descent of a musical fifth to the tonal center, with a brief further fall of a minor third at the end of the “ground”). Note that within both the sung and spoken<sup>31</sup> versions of the line this gradual drop takes place across a much longer time scale than do the linguistically determined pitch movements within the words that have rising or falling tones. Within the spoken version, the pitch movement on that longer time scale interacts with the word-level ones in such a way that, for example, the rising word-tone in the second speaker’s pronunciation of the first word of the spoken line *hana* is realized by a pattern 2 3, whereas on the sixth word, *perene*, it is realized by a pattern 1 1 2.<sup>32</sup> At the other level of interaction that Sollis finds between linguistic tone and musical tune, within individual words,

virtually all rising tone melodies are realized as rising tune melodies, whilst falling tone melodies usually aren’t mapped as closely when sung. . . . In general, each word begins on a lower or similar tone to the previous syllable—and so it is necessary for individual words not to “descend too far,” so to say, in keeping with the musical form. [Sollis in press]

These generalizations<sup>33</sup> can be seen to hold true for almost every word for which pitch information is given in figure 6. Of the eight word-tokens in the line, the musical realizations of all of them begin on the same note as the previous syllable or a lower one, and most or all of the words with rising tones are realized with upward steps in the musical melody.<sup>34</sup>

Returning now to the Ku Waru case, it should be clear from the discussion in sections 2 and 5 above that the tone system of the Ku Waru language is quite different from the “word-tone” systems of Huli or Duna, and that the melodies used in *tom yaya kange* as illustrated here are very different from those of either Huli *bì té* or Duna *pikono*. While *bì té*, according to Pugh-Kitingan, make use of only three musical notes, the melodies of *tom yaya kange* use up to six. That difference alone would seem to make it unlikely that the melodies of *tom yaya kange* could be determined primarily by the words used in them, as Pugh-Kitingan says of *bì té*. But might some trace of the pitch patterns of Ku Waru words remain in the form of “slight fluctuations” from the melody as Pugh-Kitingan says is the case in some *bì té*, or tune-tone interactions of the more bidirectional sort that Sollis has found in Duna *pikono*? The evidence I can bring to bear on this question is rather limited in that my colleagues and I have done extensive analysis of the pitch patterns of only one *tom yaya kange* performance—the one by Paulus Konts that is discussed in sections 4 and 5 above.

The data that this has produced are of two different sorts, auditory and acoustic phonetic.

The auditory evidence comes from the musical transcriptions in figure 5, by my ethnomusicological collaborator Don Niles, and from transcriptions by Michael Sollis (the musicologist whose study of Duna *pikono* was drawn on above).<sup>35</sup> As noted above, such transcriptions cannot necessarily be expected to capture all the pitch phenomena which are relevant to this study, as they do not show pitch differences smaller than that of the musical semitone. But since that is sufficient for revealing the patterns of tune-tone interaction in Huli and Duna as shown above, it is worth asking whether the same might be true of Ku Waru. The transcriptions do offer some highly appropriate places to look for tune-tone interaction—namely, positions within the melody where there are high-toned syllables in one or more of the four repetitions of the melody and low-toned syllables in the others. For example, in the fourth foot of measure (and poetic line) 264 as shown in figure 5 there is a word with the high tone on the first syllable, *púp(a)*,<sup>36</sup> whereas at melodically equivalent positions within measures 93, 545, and 1004 there are words with the (default) high tone on the final syllable, i.e., *kadarum*, *pirim*, and *molybel*, respectively. And, sure enough, the high-tone syllable in *púp(a)* is sounded a semitone higher than the expected G, whereas the low-toned syllable of all the other words in this position is sounded a semitone lower than the expected note (F-sharp in measures 93 and 545 and F-double-sharp [= G] in measure 1004 where the expected note—given the raised pitch values at this point in the performance—is G-sharp). Furthermore, the second syllables in *kadarum* (in measure 93) and *pirim* (in measure 545) are on higher pitches than the first—and higher than the expected ones for that point in the melody—just as one might expect if the linguistic tone is affecting its realization. A similar apparent tune-tone correspondence can be seen with respect to the high-toned first syllable of *méba* in measure 1002 as compared with the low-toned ones in the first syllables of the words at equivalent positions in measures 91, 262, and 543.

Of the thirteen instances of high-toned initial syllables in polysyllabic words in the transcription, however, the two that I have just discussed as possible examples of tune-tone correspondence are the only ones that work that way. In two other cases, *ólkupa* in measure 93 and *mólupa* in measure 549, as can be seen from the transcription, the deviation from the expected musical pitches is actually in the other direction, i.e., with lower than expected pitch for the high-toned syllables. And, in the other nine instances,<sup>37</sup> the transcription shows no deviation at all from the expected melodic pattern and no difference in pitch between the first and second syllables of the word. Similarly, in the transcriptions by Michael Sollis of four presentations of the melody within this performance, at similar positions there are one instance of apparent tune-tone correspondence, two instances of the opposite kind, and eleven instances where the linguistically high-toned first syllable is shown as being realized by the same note as the other

syllable or syllables within the word. Summing up these findings, I conclude that in Ku Waru *tom yaya kange*, unlike in Huli *bi té* or Duna *pikono*, there would seem to be no tune-tone correspondence that can be demonstrated on the basis of musical transcriptions that do not show pitch differences of less than a semitone.

By contrast, acoustic phonetic analysis, while not without its limitations, allows us to measure the fundamental frequency of the performer's voice ( $F_0$ ) at a much more microscopic level, as already shown by my discussion in section 5 of the data in table 2. As in my analysis of the musical transcriptions above, my approach to the acoustic phonetic analysis has been to look for pairs of lines within the performance that occur at the same position within the repeating eight-line melody, but where at a given position within each of the two lines there are words with contrasting tones. An example of such a pair is lines 1 and 9 of text 2. Both of these lines are sung as line 1 of the melody, with the pitches distributed over the five feet in the pattern 1 1 1 5 5 as shown in figure 3, that is:

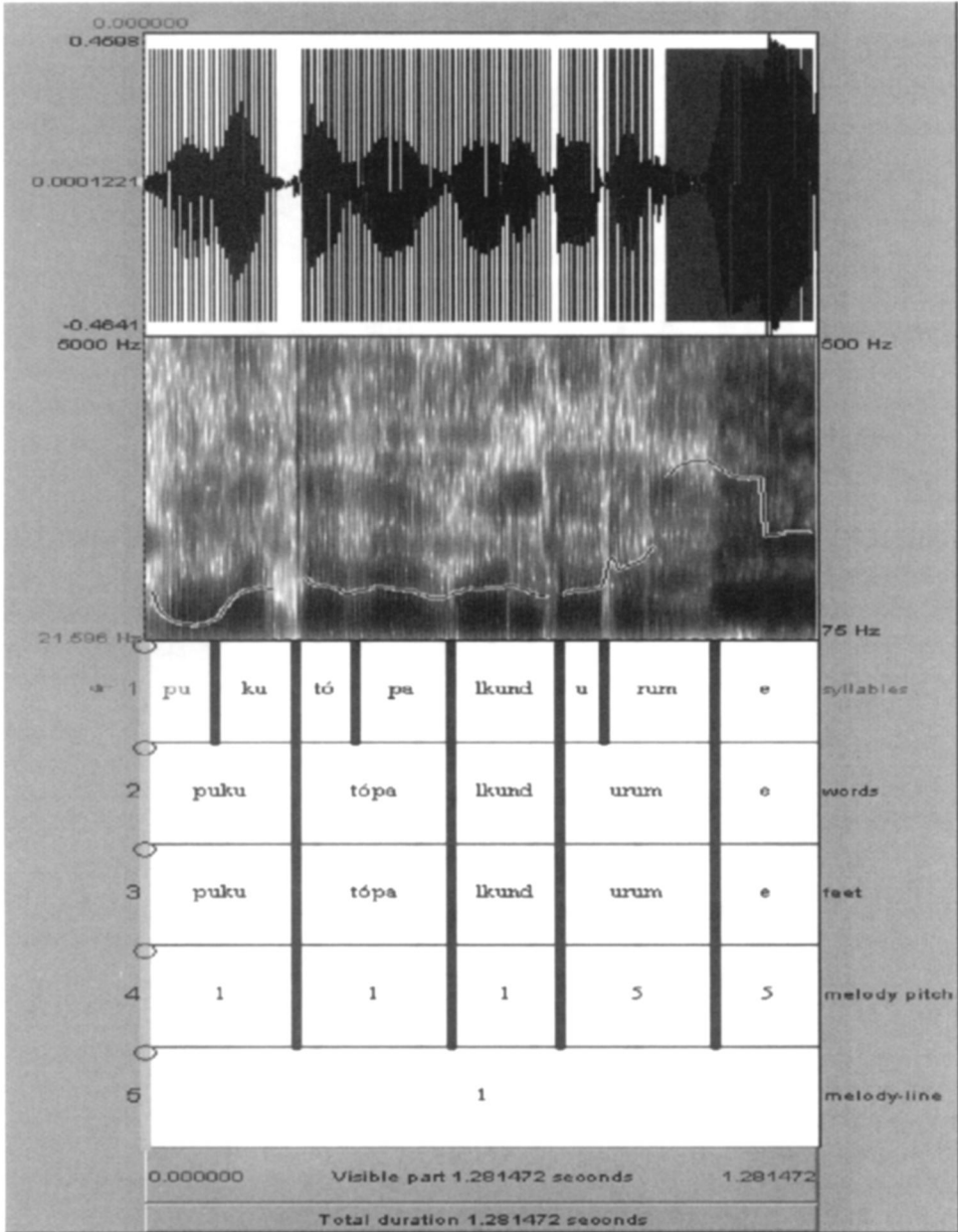
1	<i>puku</i>	<i>tópa</i>	<i>lku-d</i>	<i>urum</i>	<i>e</i>
	1	1	1	5	5
9	<i>kulaip</i>	<i>mingiyl</i>	<i>ekeda</i>	<i>lyirim</i>	<i>e</i>
	1	1	1	5	5

Note that there is a difference of tone between the words in the second foot position within each the two lines, *tópa* having the high tone on the first syllable and *mingiyl* having it on the second. As in the discussion of musical transcriptions above, this is the sort of melodically equivalent but tonally contrasting pair of words that I have assumed will provide the clearest evidence for tune-tone correspondence if there is any to be found. In the musical transcription of this line by Michael Sollis, none was evident; both syllables of both words were shown as being sounded at D (as were all other syllables in the first three words/feet of both lines).

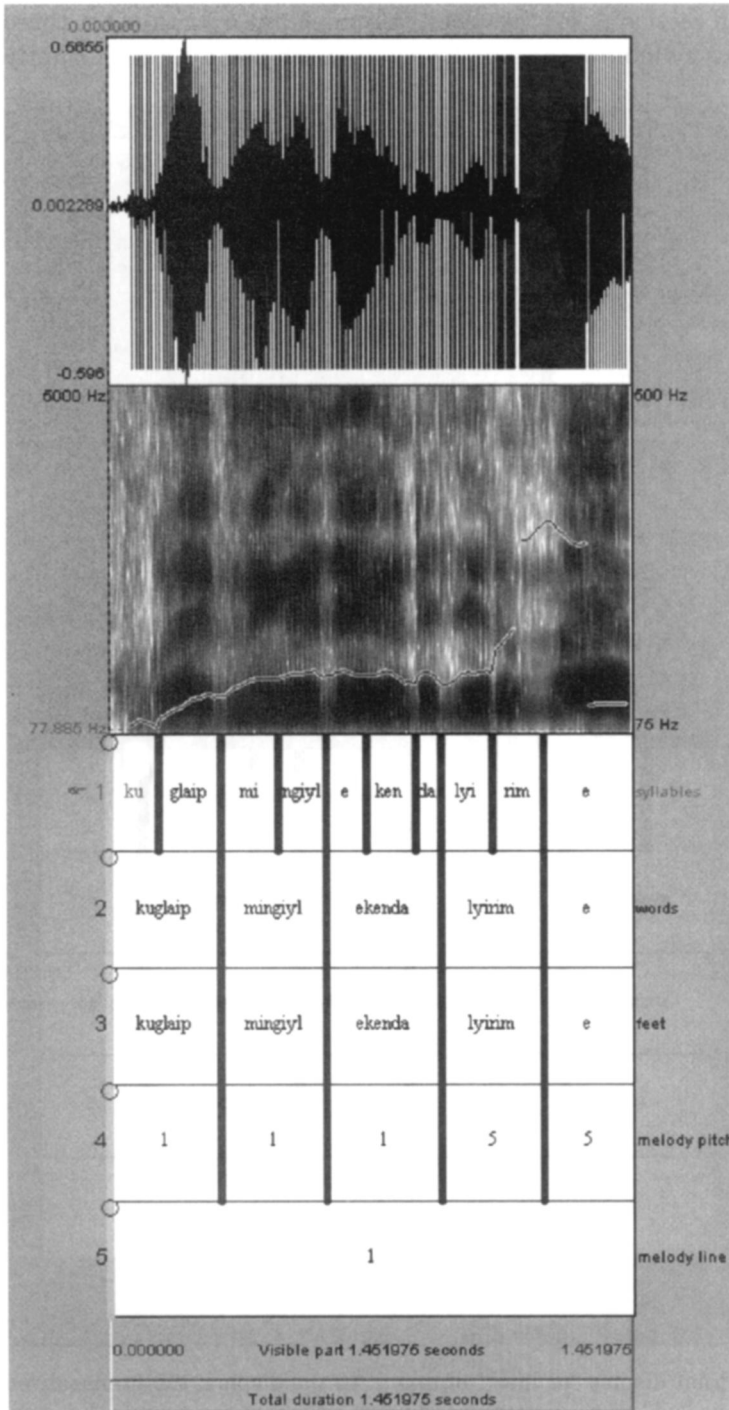
Turning now to the acoustic phonetic evidence, Praat displays of lines 1 and 9 are shown in figures 7 and 8, respectively. As in figures 1 and 2, there are labeled tiers showing the division of the line into syllables (tier 1) and words (tier 2). In these figures there are also tiers showing feet (tier 3), the musical pitch associated with each foot (tier 4), and the ordinal number of the line within the eight-line melody that is realized by that series of musical pitches (tier 5).

Before we consider the interaction of linguistic tone and musical melody in these data, a few general observations are in order about the relation between melody and  $F_0$  movement as shown by these displays. First, note that, as already shown by the transcriptions in figure 5, the musical pitches (insofar as these can be read from  $F_0$ ) do not map precisely onto the rhythmic feet, but do so in a general way, which is evident over the course of many repetitions of the melody. In these two lines, each of which has the underlying melodic shape 1 1 1 5 5, as

analyzed in section 5,  $F_0$  stays relatively constant over the first three feet and into the first syllable of the fourth foot, at which point it rises abruptly.<sup>38</sup>



**Figure 7.** Praat display for line 1 of text 2. In the display, the prenasalized stop *d* is transcribed as “nd” so as to correspond more closely to the sounds that appear in the spectrogram.



**Figure 8.** Praat display for line 9 of text 2. In the display, the prenasalized stop *d* is transcribed as “nd” and the velarized lateral *l* is transcribed as “gl” so as to correspond more closely to the sounds that appear in the spectrogram.

Now let us compare the contrasting words in the second foot of each of these lines, *tópa* in figure 7 and *mingiył* in figure 8. As shown by the portion of the  $F_0$  curve above each of these words, there does seem to be a trace of the differing pitch patterns of the two words, *tópa* having a slightly higher pitch on the first syllable than the second and *mingiył* the converse. And, indeed, within each of the other disyllabic feet of these two lines—all of which, other than *tópa*, have the default pitch peak on the final syllable—there is a higher pitch on that syllable than on the first. This is especially noticeable in the fourth foot of each line, where the rise is large and abrupt. What happens in both of those lines is a good example of the interaction between linguistic tone and melody, in that the jump from musical pitch 1 to pitch 5 that is otherwise associated with the movement from the third foot to the fourth one in this line of the melody is delayed until after the first syllable of the fourth foot, allowing linguistic tone and musical melody to be synchronized with each other.<sup>39</sup>

Thus, within these lines there seems to be a clear tendency for linguistic tone to interact with the melody in such a way as to accommodate each of them to the other. In order to provide further acoustic phonetic evidence on this question, I made Praat analyses of twenty-two more selected lines from within the same performance. Although it is not feasible to present those in detail here, I can say that the tendency for the realization of the melody to be affected by linguistic tone patterns was rather less strong in later lines than in lines 1 and 9 as shown in figures 7 and 8. For example, in line 71 the word *tópa* again occurs as the second foot of the line (as in line 1), but with the second syllable reaching a slightly higher pitch than the first, rather than falling to a lower one as in line 1 (shown in figure 7). And in the third foot of line 98, the word *kódupa* occurs with the highest pitch on the final syllable rather than the first. But, overall, there is a clear tendency for the pitch patterns of words to be preserved.

To quantify this, I looked at each foot within my twenty-four-line sample where there was a polysyllabic word, and found fifty-five of them for which the  $F_0$  information from the Praat analysis was clear enough to be able to determine whether or not the pitch pattern of the word was preserved when occurring in this sung form—that is, whether the syllable that would have had a high tone in the spoken form of the word also had the highest pitch in the sung form. I found that that was the case for forty-one of the fifty-five examples, or 74.5 percent of them. Five of the twelve exceptions were cases involving a word with a high-toned first syllable that occurred immediately after a breath, such as the first word in measure 1 or measure 5 of the melody. In these cases, there is a special factor to be considered, namely, the tendency I have already pointed out for this performer, at least, to begin the sounding of such words on a lower note than the expected one, followed by a rapid rise to it (as seen in lines 95, 266, and 1002 and 1006 in figure 5). If those five cases are set aside on that basis, it raises the proportion of cases where linguistic tone is preserved to forty-one of fifty, or 82 percent.



In brief, there is good evidence in the work of at least one performer that the tone patterns of Ku Waru words tend to be preserved when those words are set to the melody of *tom yaya kange*, as microtonal variations within the melody or as slight alterations to the rhythm that bring the pitch movements of the melody into line with those of the words that are set to it. Though the realization of the *tom yaya kange* melody is in this way affected by the tone patterns of Ku Waru words, there is no evidence that the placement of words within the line is constrained by those tone patterns. That is, any word can occur within any foot. In this respect, the Ku Waru metrical system is very different from other well-known ones, such as Homeric hexameter or Shakespearean iambic pentameter, where there are elaborate constraints on the mapping of strong vs. weak syllables onto particular positions within the foot, but where words do not map onto individual feet as regularly as they do in *tom yaya kange*.<sup>40</sup>

**7. Syntactic features of *tom yaya kange*.** Just as each foot of a sung *tom yaya kange* line tends to correspond to a single word, so, too, does each line tend to comprise an integral syntactic unit at a higher level. This can be illustrated from the lines of *tom yaya kange* that are shown in text 2. Those same lines are shown again in text 4, with interlinear morpheme glosses and brackets enclosing the maximal syntactic units.<sup>41</sup>

**Text 4. Paulus Konts's *Tom Yaya Kange*, Lines 1-16, with Glosses and Bracketing of Maximal Units**

- 1 [puku tópa lku-d urum] e  
jump do.NF.3.SG house-DAT come.RP.3.SG
- 2 [dali pula manya lyirim] e  
banana.leaf cordyline down take.RP.3.SG
- 3 [ola pula wal lyirim] e  
up cordyline woven take.RP.3.SG
- 4 [ngi kapola mari tekin] a,  
that good things do.PPR.2.SG
- 5 [kanab a kélipa púpa] a  
see.OPT.1.SG leave.NF.3.SG go.NF.3.SG
- 6 koroka komunga kai kanunga a  
Koroka(name) mountain good that
- 7 ola púpa mólupa mel e  
up do.NF.3.SG stay.NF.3.SG like
- 8 tubal kop ekeda lyirim] e,  
jew's.harp knotted on.a.side take.RP.3.SG

- 9 [*kulaip mingiyi ekeda lyirim*] *e*  
 flute tube on.a.side take.RP.3.SG
- 10 [*kanaba ku kéla purum*] *e*  
 see.OPT.1.SG and leave go.RP.3.SG
- 11 [*toku nóba lkaib turum*] *e*  
 tobacco consume.NF.3.SG spit do.PPR.3.SG
- 12 [*toku wale pora purum*] *e,*  
 tobacco sprout completely go.RP.3.SG
- 13 [*toku ikilyi purum kanuma a*  
 tobacco smoke go.RP.3.SG that
- 14 [*waru kupa punglau nyirim*] *a*  
 mountainside billow move manifest.RP.3.SG
- 15 [*i kapola mari tekin*] *a*  
 that good things do.PPR.2.SG
- 16 [*kanab taka taka nyiba*] *a,*  
 see.OPT.1.SG quietly quietly manifest.NF.3.SG

As can be seen, nine out of the sixteen lines (numbers 1, 2, 3, 4, 9, 10, 11, 12, and 15) each comprise one such unit—a full independent clause ending in an inflected finite verb. As is often the case in *kange* performances (in both their spoken form and their sung, *tom yaya* form), when the performer is speaking or singing from the standpoint of narrator (rather than as one of the characters in his story, whom he is quoting), these final, finite verbs are in the remote past tense (used for events that happened more than one day before the time of speaking).

Another such unit extends over lines 13–14. Within that two-line sentence, line 13 comprises an integral syntactic constituent, namely, a complex noun phrase consisting of head noun phrase *toku ikilyi* ‘tobacco smoke’ (with head noun *ikilyi* ‘smoke’ and *toku* ‘tobacco’ in attributive position), followed by a relativized verb *purum* ‘went’,<sup>42</sup> followed by an anaphoric pronoun *kanuma* ‘that’, the whole line being glossable as ‘the tobacco smoke that went up in the sky’. Line 14 is also an integral syntactic unit (and, indeed, potentially a maximal one), the line being glossable as ‘it moved like a billowing cloud along a mountain range’.<sup>43</sup>

Lines 5–8 comprise another sentence within which each of the prosodic lines is an integral syntactic unit, glossable (in a more literal way than in the translation given with text 2) as ‘As I was watching and he was leaving / that good Koroka Mountain / going up and staying / he carried a knotted jew’s-harp on one side [of his body]’. Line 16 too is an integral syntactic unit (though not a maximal one), a formulaic expression that I translate freely as ‘in my mind’s eye

the story unfolds', but which translates more literally as 'as I look, quietly, quietly, manifesting itself' (the verb *nyíba* being in a "nonfinal" form that links it to what follows).

Relevant properties of the syntax of text 4 (= text 2) can thus be summarized as follows. All of the breaks between maximal syntactic units correspond to line breaks as established on prosodic grounds; nine of the sixteen prosodic lines in the text comprise maximal syntactic units, each of which is only four words long (followed by a vocable at the end of line that is not integral to its syntax); and within the maximal syntactic units that extend across more than one line, each line comprises an integral unit at a lower level of constituent structure. This text is typical of *tom yaya kange* in all these respects; there is a strong, almost invariant tendency for lines to comprise integral syntactic units, often maximal ones, and for the maximal units to be shorter than in ordinary spoken language.

The latter point can be illustrated by comparing the syntax of text 4 as described immediately above with that of the spoken utterance shown in text 1, the syntax of which was discussed in section 3. Whereas the syntactic unit that comprises text 1 is eighteen words long, the average length of the maximal syntactic units in text 4 (= text 2) is five and one-half words.<sup>44</sup>

In the case of text 1, a more direct syntactic comparison between spoken and sung versions is possible because that text comes from a spoken rendition of a *kange* story by Noma that he also performed a few minutes later in a sung *tom yaya* version with the same narrative content. In Noma's sung version, the events narrated within the single syntactic unit in text 1 were narrated over eight lines of *tom yaya kange*. These are shown in text 5,<sup>45</sup> where brackets enclose the maximal syntactic units as in text 4.

**Text 5. Excerpt from *Tom Yaya Kange* by Kopia Noma, Narrating the Same Events as His Prose Version in Text 1 (with maximal syntactic units bracketed)**

80	[ <i>kang mel we mel kaniyl</i>	'That tiniest slip of a lad'
81	<i>yábu topa mudurum kolya kanuma e</i>	'The place where he'd chased them away'
82	<i>yábu langi wapra lyimulu nyiring] e</i>	'Some said, "Let's look there for food."'
83	[ <i>yab oba kelipa midi purum] e</i>	'They came and went all day.'
84	[ <i>yab kanapa kelipa midi purum] e</i>	'People looked all around and left,'
85	[ <i>yab mel we mel,</i>	'People of no account.'
86	[ <i>aba te midi urum] e</i>	'Then a woman came by herself'
87	[ <i>kangabola mujuy] midi urum] e</i>	'With a child inside her she came.'

As can be seen by comparing the two texts, events that in the spoken version (text 1) were narrated within a single syntactic unit were stretched over five maximal syntactic units in the sung version (text 5). And, just as in text 4, those syntactic units all map closely onto the prosodic lines, lines 83-87 each comprising a single, maximal syntactic unit, and lines 80-82 comprising one such unit within which each of the three lines is a constituent.

In short, there is a strong similarity between sung texts 2 and 5 in the extent to which poetic lines correlate with syntactic units (in both of these examples a perfect correlation) and in the fact that the maximal syntactic units within them are, on average, much shorter than those used in most forms of spoken Ku Waru, including the kind used in storytelling. This similarity holds notwithstanding the fact that these text excerpts come from different *tom yaya kange* by two different composer-performers—Paulus Konts and Kopia Noma—in two different styles, the former with a five-beat line and the latter with a six-beat one.

### **8. The poetic form of *tom yaya kange* as constructed through parallelism.**

As discussed elsewhere (Rumsey 2001, 2002, 2005), *tom yaya kange* make extensive use of parallelism, the ordered interplay of repetition and variation. This is found both in their musical organization, as discussed in section 5, and in their language. In Rumsey (2002, 2005), some of the forms of linguistic parallelism that are used in *tom yaya kange* were exemplified from the opening lines of the same performance that is excerpted in text 3. Those were all examples of what I here call “substantive” parallelism. Here I exemplify those and other kinds of parallelism from another *tom yaya kange* performed at around the same time, in February 1997, by Engal Kep, at Alekena in the upper Kaugel Valley, approximately fifteen kilometers west of Kailge as the crow flies across the rugged Tambul Range that lies between the two.<sup>46</sup>

The first forty-eight lines of Kep’s *tom yaya kange* are shown in text 6. Lines related to each other through certain kinds of parallelism are connected with brackets at the left margin. The relations shown in that way are of two different kinds, substantive parallelism and grammatical parallelism. Relations of substantive parallelism are shown by square brackets and relations of purely grammatical parallelism are shown by curved brackets. (In this text all cases of substantive parallelism also involve grammatical parallelism, so the latter are shown only in the absence of the former.) Substantive parallelism involves the exact repetition of words,<sup>47</sup> for example, *yaya nyirim* in lines 3–4. This repetition establishes a frame within which the nonrepeated word in the first of the two lines—in this case *pekir* in line 3—is placed in a salient relationship to a nonrepeated word at an equivalent position in the other line, in this case *molkur* in line 4.<sup>48</sup> In the form of representation I use for parallelism in text 6 as elsewhere (Rumsey 1995, 2002, 2005), the elements that are placed in a relation of this kind through the repetition of words elsewhere in the line are shown with underlining.

**Text 6. Opening Lines of a *Tom Yaya Kange* by Engal Kep, Showing Patterns of Lexical and Grammatical Parallelism**

- ( 1 *kalkala ab-a tanga a* 'The woman was Kalkagla Tanga.'
- 2 *wi kupi yi tala a* 'The man was Kupi Tagla.'
- [ 3 *pekir yaya nyirim e* '“They all know I sleep here,” she said.'
- 4 *molkur yaya nyirim e* '“They all know I stay here,” he said.'
- 5 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- [ 6 *pilyini kub papu nyirim e* 'You will hear and enjoy it in yours.'
- 7 *kanuni kub papu nyirim e* 'You will see and enjoy it in yours.'
- 8 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- 9 *wi kupi yi tala a* 'I'll tell of the man Kupi Tagla.'
- [ 10 *pekir yaya nyirim e* '“They all know I sleep here,” he said.'
- 11 *molkur yaya nyirim e* '“They all know I stay here,” he said.'
- 12 *kanab yaya nyirim e* '“They all want to see it,” he said.'
- [ 13 *yi tata yi-e nay e* '“Father what man are you?'
- 14 *ab ma ab nay e* 'Mother what woman are you?'
- ( 15 *na kolya tenga pubu e* 'I want to go elsewhere,” he said.'
- 16 *nu tena puni-e nyirim e* '“You want to go where?” she asked.'
- 17 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- 18 *pilyini kub papu nyirim e* 'You will hear and enjoy it in yours.'
- 19 *mola mel-e pilyirim e* 'He stayed and heard what she said.'
- ( 20 *kari kalykenga ola purum e* 'Then he set off for old Mount Kalykenga.'
- 21 *poni kapo-te wa angilyurum a* 'A big *poni* tree was there.'
- 22 *singuje tewa* 'On top stood its massive trunk.'
- [ 23 *kuku-ma enga-d-e purum e* 'Some branches went right out to Enga.'
- 24 *madi-kid peya mel-e purum e* 'Others went right out to Mendi.'
- 25 *sibu-d peya mel-e purum e* 'Others went right out to Chimbu.'
- 26 *tari-kid peya mel-e purum e* 'Others went right out to Tari.'
- 27 *abola abeli ola mel e purum e* 'Up the tree he climbed.'
- [ 28 *kuku tenga topa mujirum a* 'He pushed aside one of the branches.'
- 29 *kepa wali anum-sil-e mulurum e* 'And there sat a mother and baby tree-kangaroo.'
- [ 30 *topa manya mel-e mudurum e* 'He killed them and threw them down.'
- 31 *kuku tenga ola-e purum e* 'Then he climbed up another branch.'
- [ 32 *maya wali anum-sil-o muluringl e* 'And there sat a big mother and baby possum.'
- 33 *topa manya mel-e mudurum e* 'He killed them and threw them down.'
- 34 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- 35 *kilikili manya mel-e urum e* 'He slid down the tree with a “WHOOSH”'
- 36 *oba pul-na mel-e mulurum e* 'And stayed down below at the base.'
- 37 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- [ 38 *pilyini kub papu-e nyirim e* 'You will hear and enjoy it in yours.'
- 39 *kanuni kub papu-e nyirim e* 'You will see and enjoy it in yours.'
- 40 *kanab taka taka nyirim e* 'In my mind's eye the story unfolds.'
- 41 *po-mola mel kanarum e* 'He walked along and then saw'
- 42 *kari wijaka mel-e kana a* 'A place like Winjaka, see!'
- 43 *tepi-te nokur-e nyirim e* 'A fire said, “I'm burning”'
- 44 *merila talyi-i nyirim e* 'It was really going, straight up.'
- 45 *toli nyirim e* 'The smoke went higher and higher'
- 46 *wilyala mulu-na tibraki-i turum e* 'Then stopped and hung in the sky.'
- [ 47 *ama ye-e nyirim e* '“Wow! Oh Mother!” he said.'
- [ 48 *tata ye-e nyirim e* '“Wow! Oh Father!” he said.'

Grammatical parallelism, on the other hand, need not involve any repetition of words. Instead, the parallel terms—shown with broken underlining—are linked by virtue of their placement within a given grammatical structure that is repeated from line to line. In the example that occurs in lines 1 and 2 of text 6, the paired terms are *kalkala ab tanga* ‘the woman *tanga* from *kalkala*’ and *kupi yi tala* ‘the man *tala* from *kupi*’. These are both noun phrases of a particular type that is used in Ku Waru for referring to persons. The phrase consists of a personal name as head noun in final position, preceded by a noun that specifies the gender of the person and whether he or she is a child or an adult (the possibilities being *ab* ‘woman’, *yi* ‘man’, *abola* ‘girl’, and *kang* ‘boy’), that is itself preceded by a noun that names the place with which the person is primarily associated (usually a home or place of origin).<sup>49</sup> Note that the grammatical parallelism that is involved here is also an instance of what is often referred to as “semantic parallelism,” since within the construction that is repeated there are paradigmatically regular semantic relations at each of the three positions, the first one a contrast between a pair of well-known place names in the area, the second a contrast between male and female, and the third between a pair of personal names taken from an established stock of them in the area, the first name distinctively female and the second name distinctively male.

The second instance of purely grammatical parallelism in this text, in lines 15–16, involves a pair of clauses of the same type. These are shown below with interlinear glosses and bracketed constituents.

15 [[ *na*] [[*kolya tanga*] [*pu-bu*] ] ]...  
 I place another go-1.SG.FUT  
 ‘I want to go to another place.’

16 [[ *nu*] [[*tena*] [*pu-ni*] ] ]...  
 you where go-2.SG.FUT  
 ‘Where do you want to go?’

In this example it is not quite true that there is no substantive repetition from line to line. But the repetition is limited to one morpheme within a word—the root *pu-* ‘go’—which places the alternating suffixes *-bu* and *-ni* in a relationship of the kind known as “morphological parallelism” (Fabb 1997:138). Still, the more thoroughgoing parallelism between these two lines is the grammatical one between the two clauses, each consisting of a final verb in future tense, a clause-initial subject pronoun with which the verb agrees in person and number, and an intervening expression specifying (or in the second line, questioning) the goal of the movement predicated by the verb. Here again, as in the previous example, the syntagmatic structural parallelism between the two lines is accompanied by tight paradigmatic semantic relations between structurally corresponding parts of the two constructions. In the first position, there is a relation of minimal contrast between the two singular personal pronouns *na* ‘I’ and *nu*

'you'; in the second position, a relation between an expression referring to an indefinite place and an interrogative word questioning its reference; and in the third position, a relation of minimal contrast between two future-tense forms of the same verb, with first person singular vs. second person singular subjects.

As mentioned above and illustrated by this example, the relation between substantive and grammatical parallelism is not a mutually exclusive one. This becomes even more evident when we consider the cases of substantive parallelism as shown with square brackets, since the words that are repeated from line to line usually (in this text, always) fit into the same grammatical structure within each line. The reasons I have distinguished grammatical parallelism in principle from substantive are, first, so that cases of the former can be identified where they occur independently of the latter (as in lines 1-2), and second, so that kinds and degrees of grammatical parallelism can be distinguished even in cases where the patterns of substantive parallelism remain constant from line to line. An example that bears out the second of these two points occurs in lines 10-12 of text 6, where the grounds for construing the link between lines 10 and 11 as closer than the one between them and line 12 are grammatical, the verbs in those lines, *pekir* and *molkur*, being the same in tense-mode-aspect (present progressive) whereas the verb in line 12, *kanab*, is in the optative.<sup>50</sup>

The elements that are linked to each other through relations of substantive parallelism (which in this text also involve grammatical parallelism, as noted above) in the other lines are: in lines 6-7 and 38-39, *pily-* 'hear' and *kan-* 'see'; in lines 10-11, *pe-* 'sleep' and *mol-* 'stay'; in lines 13-14 *yi* 'man' and *ab* 'woman' (twice each), and *tata* 'father' and *ma* 'mother'; in lines 23-26, four place names or regional designations for distant places in different directions from the setting at Winjaka, namely, *enga* (the Enga region to the northwest), *ma-di* (a town and associated Mendi region to the south), *sibu* (the Chimbu region to the east), and Tari (a town and the associated Huli region to the west); in lines 28 and 31, *topa mujirum* 'pushed aside' and *ola purum* 'climbed up'; in lines 29 and 32, *kepa* 'tree kangaroo' and *maya* 'possum'; in lines 47-48, *ama*, the vocative form of the word for 'mother', and *tata* 'father' (also in this case vocative). Note that with the possible exception of the parallelism between 28 and 31, all of these instances of substantive parallelism are also instances of semantic parallelism in the sense discussed above.

As shown by the bracketing, lines 28-33 are a complex case of parallelism in which two three-line sets, 28-30 and 31-33, are placed in a relationship of parallelism with each other, for which the complete repetition from line 30 to line 33 (i.e., the last line of each set) helps to establish the frame for the overall parallelism between the sets, just as partial repetition within adjacent lines elsewhere establishes the frame for parallelism between them.

Besides the substantive and grammatical forms of parallelism shown with brackets and underlining in text 6, there are other forms of it that are not displayed there. Some are cases of phonological parallelism. In lines 1 and 2, for

example, the linked place names *kalkala* and *kupi* both begin with the same consonant, and the linked personal names *tanga* and *tala* differ in only one consonant. And in what is perhaps a case of long-distance phonological parallelism, the place name *kalykenga*, introduced in line 20 as the “different place” that Kupi Tala has set off for, has two of its three vowels and three of its consonants in common with those of *kalkala*, the name of the place to which his beloved Tanga has been linked by the appellation in line 1. In a much more copious form of repetition, the added vowels *e* and *a* at the end of each line could be seen as implementing a kind of phonological parallelism through which the lines are marked out as “equivalent” units in the sense of Jakobson (1960).

In addition to these added vowels and the metrical and musical properties discussed in sections 4 and 5, the lines in *tom yaya kange* are also relatively consistently marked off at the end with a finite, final verb before an added vowel. This is true, for example, of forty out of the forty-eight lines in text 6. This could be seen as an instance of grammatical parallelism of a kind that, as one reviewer of this article points out, is almost inevitable given the language’s strict verb-final syntax and the tendency for lines of *tom yaya kange* to comprise maximal syntactic constituents. Furthermore, the verbs in such parallel sets often end with the remote past third person singular marker *-rim/-rum* (true of thirty-nine out of the forty-eight lines in text 6) that could also be seen as a kind of phonological parallelism, or what I call “accidental end rhyme”—accidental because it follows from the verb-final syntax and preponderance of remote past tense in these stories, rather than from any penchant for end rhyme per se in Ku Waru verbal art.<sup>51</sup>

Before moving on in section 9 to some general conclusions about the forms of parallelism in *tom yaya kange*, I introduce an example of multiline parallelism from another performance. This example, shown in text 7, comes from later in the same performance by Paulus Konts excerpted in text 2.

#### **Text 7. Excerpt from a *Tom Yaya Kange* by Paulus Konts with Example of Multiline Parallelism**

- 1 *puku topa lku-d oba a* ‘He jumped and dashed into the house.’
- 2 *kapo-nga pul kaniyl e* ‘And as for that big fat boar,’
- 3 *kubulu-n sirim kanuma a* ‘He really gave it the club.’
- 4 *kung memi terilal purum a* ‘The blood just gushed and gushed.’
- 5 *napilya nekid yabu kanuma a* ‘The people across the Nebilyer’
- 6 *kolya lo lupu anumuyul turum e* ‘Felt it raining down upon them.’
- 7 *kunungu pada tok piring e* ‘They had to put up their umbrellas.’
- 8 *napilya yakid yabu kanuma a* ‘But the people this side of the Nebilyer’
- 9 *pan kangad kok turum e* ‘Felt the vapors that rose from the ground.’
- 10 *kolya ena pui nyirim a* ‘It was pleasantly cool and shady.’

This passage comes at a point in the story when the hero (who we later learn is none other than Paulus himself) is preparing for his journey by killing and roasting a pig so that he can take a supply of cooked pork along with him to



present to his beloved Tangapa and her family. In lines 5–10 there is an instance of multiline parallelism that is similar in structure to the one in text 6, lines 28–33. The terms that are linked through substantive parallelism in lines 5 and 8 are *nekid* ‘on that other side’ and *yakid* ‘on this side’, and in lines 6 and 9 are *kolya lo lupu anumuyul turum*, literally, ‘a different sort of rain hit the place’ and *pan kangad kok turum* ‘moist, warm vapors rose up from the ground’. As for the third pair of lines, 7 and 10, note that they have no word in common. Nor is there any grammatical parallelism between them, line 7 being a transitive clause with a third person plural subject and line 10 being an intransitive clause with a third person singular subject. But within the frame established by lines 5, 8, 6, and 9, the whole of line 10 is clearly placed in a parallel relation with line 7, to which it is in thematic antithesis, contrasting the pleasant weather conditions on one side of the Nebilyer Valley with the unpleasant ones on the other—drenched as it was with the strange or “different” kind of “rain” that resulted from the spectacular slaughter of the pig referred to in lines 2–4.

Comparing this instance of multiline parallelism in text 7 with the one in lines 28–33 of text 6, it can be seen that in both cases the domain of parallelism is extended beyond the single line to the three-line set. It is in those terms that we can understand how both the full repetition from line 30 to line 33 of text 6 and the complete lack of repetition from line 7 to line 10 of text 7 can play a structurally analogous role. Both those pairs of lines fit into a larger whole within which full lines can figure as repeating or nonrepeating parts, just as portions of single lines do in the more common case where the domain of parallelism is the single line.

**9. Conclusions.** This article has focused mainly on the linguistic, poetic, and musical properties of one genre of sung poetry from the New Guinea Highlands, with some comparisons in section 6 to other such genres elsewhere in the region. In conclusion, I broaden the scope of that comparison to include other sung genres from around the world, try to characterize the range of variability that is found among them in certain respects, and, in turn, use that comparison as a basis for deepening the understanding the interrelationships among the various features of *tom yaya kange*.

On the musico-phonological side, as discussed in section 6, the interaction between the tone system of the Ku Waru language and the melody of *tom yaya kange* that I have analyzed, shows, in comparative terms, an instance of the broader range of relationships that are found between the inherent prosodic properties of words and the rhythmic and tonal properties of the musical forms to which the words are set. These relationships vary according to the nature of the lexical-prosodic system of the language in question. They have been most extensively studied and rigorously theorized for languages that have stress-accent systems and for genres of sung poetry that have metrical systems based on patterns of alternating strong and weak syllables (differentiated by stress,

length, or syllable shape) or on the number of syllables or morae (length units) within each line. The meeting ground between musical melody and lexical prosody in languages of this type is primarily in the area of rhythm, so much so that two of the leading theorists of musical “textsetting”—the setting of words to music—posit as a basic methodological assumption of their theory that “on a local level at least, the notion of ‘strong beat’ relevant to textsetting is predominantly a rhythmic and metrical phenomenon independent of pitch height” (Halle and Lerdahl 1993:3).

In languages that have prosodic systems organized in terms of tone, as Halle and Lerdahl recognize (1993:4), there is obviously greater scope for interaction between the tonal properties of speech and music. These interactions have been rather less extensively studied than those involving rhythm alone, but there is nonetheless a considerable body of literature on them, particularly in East and Southeast Asian languages and West African ones, as attested by the references cited at the beginning of section 6. The literature on musico-lingual interaction in the tonal languages of New Guinea and neighboring regions is smaller, as far as I know having been limited until recently to the work of two scholars, Vida Chenoweth and Judith Pugh-Kitingan, but now augmented by my own work and that of Michael Sollis, as discussed in section 6. From the comparison developed there among Huli *bì té*, Duna *pikono*, and Ku Waru *tom yaya kange*, it can be seen that there is considerable variation: in the Huli case, the (invariably single-line) melody is largely determined by linguistic tone; in the Ku Waru case, the (invariably multiline) melody has a much more determinate form of its own, with only microlevel adjustment to the pitch patterns of Ku Waru words; and in the Duna case, intermediate between the other two, the (invariably single-line) melody has a very general form as “descent” and “ground,” within which at least two of the three Duna word-tones (level and rising) regularly determine the shape of the musical melody at the level of the word.

This range of variation within a relatively compact region of the New Guinea Highlands may be interestingly compared with what has been found in other studies of the tune-tone relationship from China, Southeast East Asia, and Africa. In all three of those areas, the degree of correspondence between musical melody and linguistic tone has been found to vary by genre.<sup>52</sup> In China, a high degree of correspondence between the two has been found in Cantonese classical opera, in which set texts are sung to largely improvised, two-line melodies based on a small repertoire of established aria types that provide a “skeletal structure for the music” (Yung 1983:34). In contrast, in contemporary Mandarin songs, in which the melody is part of the composition, Chao (1956) found that composers mostly ignore lexical tones. In his study of musical genres of Central Thailand, using a metric developed specifically for ascertaining degrees of tune-tone correspondence, List found the highest degree of it within the “recitations and chants” of school children, followed by “folk songs such as lullabies where text and tune probably form one associated tradition,” with “less coordination . . .

found in . . . classical song where the association of precomposed texts and tunes presents much more difficulty in achieving this coordination” and “still less coordination . . . in the present day popular song, whether an acculturated imitation of a Western model of a setting of new text to a traditional tune” (1961:30).

Comparing this discussion of Chinese and Thai musical genres to that of Highland New Guinea ones in section 6, it can be seen that there is a roughly similar range of variation in tune-tone correspondence within each, even though the genres being compared with each other in the Chinese and Thai cases are in other respects much more diverse than the Papua New Guinea Highland ones, which are all traditional genres of semi-improvised sung narrative, and even though all three of the Papua New Guinea Highland genres differ from any of the Thai or Chinese ones in question in that the words being sung do not comprise a fixed text, but a more-or-less formulaic, semi-improvised one (with a more-or-less fixed plot and cast of characters). What this suggests is that a variable that more strongly conditions the degree of tune-tone correspondence across all three regions is the presence or absence of a fixed, relatively elaborate melody to which the words are set—a distinction that crosscuts all three regions and places the varieties of Ku Waru *tom yaya kange* treated here<sup>53</sup> together with Mandarin and Thai “songs” at or near one end of the scale, and Huli *bì té* at or near the other end, together with Cantonese opera and Thai “recitations and chants.”

Turning now to the grammatical and poetic features of *tom yaya kange* that I have discussed above, the tendency I have shown for the maximal structural units used in *tom yaya kange* to be shorter and simpler than those of ordinary storytelling and to map onto poetic lines is not unusual in comparative terms. Both are true, for example, of Vedic Sanskrit (originally sung) verse (Allen 1973:113) and, closer at hand, of *tindi* sung tales in the Ipili region of Highland Papua New Guinea (Borchard and Gibbs 2008).<sup>54</sup> But in the case of *tom yaya kange*, the degree of shortening and simplification is greater than in many, perhaps most, poetic traditions in the world. For with its systems of medial verbs, clause chaining, and hypotaxis, and the extensive use made of them in everyday speech, the maximal syntactic units of spoken Ku Waru are typically very long and complex, as exemplified by text 1. To quantify their length, I have done a word count of the first 93 maximal syntactic units of the longer narrative from which text 1 is taken, and found that the average length of those units is 8.8 words, with a range of 1–35 words per unit.

By way of comparison, turning to what is perhaps the most detailed analysis of the grammar of song language in Aboriginal Australia, Dixon and Koch’s (1996) study of Dyirbal song poetry, a count I have done on Dyirbal spoken texts in Dixon (1972)<sup>55</sup> shows an average length of 2.65 words per maximal syntactic unit, with a range of 1–7 words per unit in a sample of 116 units.<sup>56</sup> This is very close to, in fact slightly less than, the average number of words per line in a sample of Dyirbal songs<sup>57</sup> that I have examined in Dixon and Koch (1996), which

was 2.80. Correspondingly, the degree of syntactic complexity that one finds in the language of Dyirbal songs (as attested by the 174 of them in Dixon and Koch [1996] and the discussion of their syntax therein) does not seem much different from what one finds in spoken narrative texts (as found in Dixon 1972:368–97).<sup>58</sup> This contrasts markedly with the degree of shortening and simplification of maximal syntactic units in Ku Waru *tom yaya kange* that was evident from my discussion of text 4 and comparison of texts 1 and 5 in section 7 above, and shows how much difference there may be among the world's poetic traditions in this regard. While there is no reason to think that the Ku Waru case and the Dyirbal one mark the polar extremes of a continuum among those traditions with respect to their degrees of shortening and syntactic simplification, the two cases do suggest a range of variation along which other such traditions could be placed, and raise the question of what other kinds of differences among them this one might be related to.

One that is obviously relevant, as pointed out by a reviewer for this article, is the difference between semi-improvised, oral-formulaic traditions such as *tom yaya kange*, and others, especially written ones in which the text is largely or entirely fixed in advance of the performance. The reviewer opines with respect to spoken utterances such as the one in text 1 that “planning such complex sentences on-line, while fitting them to the metrical requirements of this epic genre, would be an almost impossible feat, whereas building short sentences one line at a time is much more manageable.” But in this connection it is important to point out that there is no necessary connection between fixed metrical requirements and semi-improvised, oral-formulaic traditions. One finds both written and oral poetic genres both with and without relatively fixed metrical patterns. Even among the three oral genres from the New Guinea Highlands that are compared in section 6, there is a large difference in this respect between Ku Waru *tom yaya kange*, on the one hand, and both Huli *bi té* and Duna *pikono*, on the other, in that both of the latter are nonmetrical genres with lines that vary greatly in length, with line lengths of 10–12 words being not uncommon and 15–16 not unheard of.<sup>59</sup> Accordingly, San Roque (p.c. 2008) reports that the Duna that is used in sung *pikono* is roughly comparable in syntactic complexity to that of spoken narrative. As suggested by the contrast with *tom yaya kange* in this respect, it would seem to be the combination of metricality and fixed line lengths with “on-line” composition that induces syntactic simplification and regularization rather than the fact of on-line composition per se.

Returning now to the question of what other factors this simplification and regularization might be related to, there is one ubiquitous poetic feature of Ku Waru *tom yaya kange* that seems to be related both to this syntactic feature and to the musical and phonological ones I have discussed above—namely, their parallelism. Within the phonological realm, the timing of everyday speech is adjusted in order to even out the duration of words of differing length so as to allow them to map onto one foot each, and the tone patterns of everyday Ku

Waru are adjusted in order to allow the rise and fall of pitch within each line to be determined mainly by the *tom yaya* melody, with linguistic tone leaving at most a trace in the form of microtonal variations to the basic pattern of the melody, or shifts in the timing of pitch movements in the melody relative to the timing of prosodic feet. Within the syntactic realm, the average length and complexity of maximal syntactic units that one finds within everyday speech are dramatically reduced, and their length evened out in order to allow them to map onto prosodic-cum-musical lines—most commonly onto only one of them, just as words map onto individual feet.

One of the main things that is accomplished by this simplification and regularization of the rhythm, prosody, and syntax of everyday speech is the creation of a set of building blocks that afford enhanced possibilities for musical form and poetic parallelism. Within the musical realm, we have seen that *tom yaya* melodies fit tongue-and-groove with the isometric lines of text that are set to them and organize those lines into two-part cycles, wherein the pitch patterns of each line within the first part are partially replicated by those within a corresponding line in the second part. In structural terms, this pattern corresponds precisely to the patterns of multiline parallelism that have been exemplified and discussed with respect to the six-line examples found in texts 6 and 7, the melodic version itself comprising a musical form of multiline parallelism, as discussed in section 5.<sup>60</sup>

Within the realm of language per se, the alignment of syntactic structure with isometric prosodic lines creates the conditions for all the forms of parallelism that were analyzed in section 8 (and no doubt others as well). This is crucial to the poetic form of *tom yaya kange* because, as shown by that analysis and by similar ones that I have done on other *tom yaya kange* texts (Rumsey 2002, 2005), as well as on the cognate *kang rom* genre practiced by the neighboring Melpa people (Rumsey 1995), parallelism is pervasive in them. This is by no means unusual in comparative terms, as parallelism is a widely attested and studied feature in genres of verbal art around the world.<sup>61</sup> What has been less extensively studied are the ways in which everyday speech is modified in order to facilitate it. In Ku Waru this is done above all through the shaping of speech into isometric lines that align with the syntactic structure of the sung text. Given how long, complex, and variable the maximal syntactic units of spoken Ku Waru tend to be (as in many, perhaps most languages and speech communities of the New Guinea Highlands), this requires more modification than the creation of such lines would require in many other languages or speech communities where the those units tend to be shorter and the style of discourse more terse, as shown by the comparison with Dyirbal. But it is precisely in the extent to which, and the ways in which, it differs from ordinary speech that *tom yaya kange*, in common with other forms of verbal art around the world, achieves that “making special” that is everywhere the hallmark of the aesthetic (Dissanayake 1992), and that focus on “the way in which communication is carried out, above

and beyond its referential content” that is the hallmark of oral performance (Bauman 1986:3).

### Appendix

#### Some Excerpts from Konts’s *Tom Yaya Kange* That Are Each Realized within One Full Repetition of the Melody

(See figure 5 for musical transcriptions of lines 91–98, 262–69, 543–50, and 1002–9.)

91	<i>le mongayl pula turum a</i>	‘He severed the gut at the bottom’
92	<i>por obil gela nyirim e</i>	‘And broke off the legs at the joints.’
93	<i>ólkupa mólupa kandarum e</i>	‘He stayed there and looked at his work.’
94	<i>kim kuni pop kaniyl-n e</i>	‘Then up piped the chervil herb plant.’
95	<i>nanga kung mid kuduyl nyirim a</i>	“‘Is that red meat for me?’”
96	<i>nu taka molui nyirim e</i>	“‘Now you just keep quiet,’ he said.’
97	<i>ulkulu tek un-kin e</i>	“‘If you come up too close and beg’
98	<i>na koctup ki palimb e</i>	‘While I’m carving I’ll cut off my hand.’”
262	<i>kang kayi-we kaniyl e</i>	‘Splendid young lad that he was,’
263	<i>warila ola we-d púp(a) e</i>	‘He came to the place known as Warigli.’
264	<i>warila <b>rod bung</b> púp(a) e</i>	‘He then went to Warigli Junction.’
265	<i>pilyini kub pa nyirim a</i>	‘You will hear, it went like this.’
266	<i>kanini kub pa nyirim a</i>	‘You will see, it went like this.’
267	<i>lupal-nga ing nyirim a</i>	‘Even the mosquitos discussed it.’
268	<i>olu-ma ngal nyirim a</i>	‘The flies were making a sound.’
269	<i>nu taka molui nyib(a) a</i>	“‘Now you just keep quiet,’ he said.’
543	<i>abola kayi-we kaniyl e</i>	‘That loveliest of lasses’
544	<i>mólupa ngayi lep e</i>	‘Stayed out at first, then following,’
545	<i>óba tulumen(a-na) uru pirim e</i>	‘Came into the bedroom and slept.’
546	<i>i kapola mari tekin,</i>	‘Well done, my lass, well done!’
547	<i>pirim-a tangurum-mel a</i>	‘They slept until it was daybreak.’
548	<i>kang kayi we kaniyl-n e</i>	‘And then that spendid young lad,’
549	<i>mólupa-mel kélip(a) a</i>	‘Lingering a while, then parting,’
550	<i>na ekepu(u) pukur nyirim a,</i>	‘Said, “Now I’d better go.’
1002	<i>mel-mari lyípa méba</i>	‘He gathered up all kinds of wealth.’
1003	<i>yabu lyípa mép(a) óba</i>	‘He brought many people back with him.’
1004	<i>ab tal ungl molybel a</i>	“‘Two ladies have come and are waiting.’
1005	<i>kuiyma ekepu tibu nyirim a</i>	‘I want to give bridewealth,’ he said.’
1006	<i>yabu-nga ka kanuma</i>	‘All of those kin folk of his’
1007	<i>terip-nga tarip turum a</i>	‘Gave so much he nearly fell down.’
1008	<i>ekepu-nga wal tirim a</i>	‘Then he packed it all up.’
1009	<i>i kapola mari tekin a</i>	‘Well done, my lad, well done!’
1058	<i>kanab-a taka nyíba a</i>	‘In my mind’s eye the story unfolds.’
1059	<i>yabu kala- mudurum kanuma</i>	‘The descendants that he produced’
1060	<i>ekepu ilyi pépa molcum e</i>	‘Are living right here today.’
1061	<i>i kapola mari tekin e</i>	‘Well done, my lad, well done!’
1062	<i>konta mong rltup rltap a</i>	‘Now the ball stops rolling.’
1063	<i>dalú mong kerikar a</i>	‘The banana-leaf curtains draw shut.’

- 1064 *aku na pora nyikim a* 'Now the story is finished.'  
 1065 *ilyi-nga óba mak pekim e* 'Now it is at the end.'

### Notes

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*Transcription.* Ku Waru words are spelled in the practical orthography shown in table 1, except in the Praat displays in figures 1, 2, 7, and 8, where, in order to correspond more closely with the sounds displayed in the spectrograms, the velarized lateral is spelled ⟨gl⟩ and prenasalized *d* is spelled ⟨nd⟩. Words in bold type in Ku Waru texts are Tok Pisin ones, and are spelled using standard Tok Pisin orthography per Mihalic (1971). High tone is shown (with an acute accent ´) only when it does not fall on the final syllable of a word. Tone is not shown at all in texts 6 or 7 as it is not relevant to the use that is made of those texts in the discussion.

*Abbreviations.* The following abbreviations are used: 1 = first person; 2 = second person; 3 = third person; COM = comitative; DAT = dative; DEF = definite; FUT = future; NF = nonfinal; OPT = optative; PL = plural; PPL = participle; PPR = present progressive; RP = remote past; SG = singular.

1. See <http://rspas.anu.edu.au/anthropology/chantedtales/> for details of the project.

2. For details of these, see the map and bibliography at <http://rspas.anu.edu.au/anthropology/chantedtales/>.

3. For the distinguishing features of this genre in relation to *teman*, the other major story genre, see Merlan (1995).

4. In the sketch grammar of Ku Waru in Merlan and Rumsey, this was referred to as a "pitch-accent" system (1991:324). Recently, following Hyman (2006), I have become convinced that, given the wide range of lexical-prosodic systems to which that rubric has been applied, it is not a particularly useful one, and so I have not used it here.

5. Almost all monosyllabic words have identical pitch patterns in which the pitch peak generally occurs within the first half of the syllable nucleus and is followed by a fall

over the rest of it. We have come across only a handful of exceptions to this, and all of them involve phonetically long vowels that are probably best interpreted as geminate vowels or bimoraic syllables, within which one of the vowels or morae bears the high tone for the word. The most commonly occurring example is the word *naá* 'not', which has a long vowel with a gradually rising pitch over most or all of its duration, with a fall occurring near the end of it if at all. It contrasts with the word *na* 'I', which has a shorter vowel.

6. For online, playable audio recordings of these and other examples and texts used in this article, see <http://rspas.anu.edu.au/anthropology/chantedtales/>.

7. Fundamental frequency ( $F_0$ ) cannot always be assumed to correlate perfectly with pitch, since the latter is an auditory (i.e., perceptual) phenomenon, whereas the former is an acoustic one (Rose 1989). But in the material that is being considered here, there does seem to be a close correlation between the two, as shown by the correspondence between, for example, the acoustically based measurements of musical intervals in table 2 and the auditory impression that has led us to posit a musical fifth as the pitch interval between the two feet for which the measurements on that table were taken.

8. Note that, as explained above, the absence of an accent mark on this word indicates that it has the default high tone on the final syllable, just as in (1a)–(2b) and in all other polysyllabic Ku Waru words cited or used this article.

9. For further details concerning these and other kinds of clause linkage and embedding in Ku Waru, see Merlan and Rumsey (1991:330–34, 340–42).

10. In almost every case where the foot consists of a word with more than three syllables, one or more of the syllables is phonetically reduced or elided. This sometimes happens also to three-syllable words and even two-syllable ones, as is exemplified in the musical transcriptions in figure 5.

11. For a summary of the full plot of the story from which text 2 is an opening extract, see Rumsey (2005:60–61). The line-by-line translations in texts 2, 3, and 5 are in a rhythmically regular, three-beat style that I use in order to carry over something of the rhythmic feel of the original. In order to do this, I have translated somewhat freely in places, so my English translations cannot be taken as a reliable indicator of the syntax or wording of the Ku Waru original. Where more literal translations are called for in the discussion of particular lines, I have provided them when referring to those lines.

12. This style was made popular, beginning in the 1980s, by a performer named Paul Pepa through broadcasts of his recorded performances by Radio Western Highlands, the Mount Hagen–based local service of Papua New Guinea's National Broadcasting Commission (see Rumsey [2006] for details).

13. For an analysis of an eight-beat style, see Niles (2007).

14. For a full transcription, line-by-line translation, and free translation of this text—the full version of which runs to 363 lines—see Rumsey (2001:228–39).

15. The only exception to this is in the second foot of line 5 in text 2, where Konts adds a second, semantically empty vowel *a* to fill out the line, which has only three words in it. Note that this allows him to map each of those three words onto a single foot, rather than, say, stretching either the preceding or the following word over two feet, as is common in English verse or in Homeric dactylic hexameter.

16. An example of a foot boundary within a word occurs between the second and third foot of the first line of Henry Wadsworth Longfellow's poem "Evangeline," seen in (i).

(i) *This is the | forest prim- | eval the | murmuring | pines and the | hemlocks*



Furthermore, four out of the six feet in this line consist of more than one word, or parts of more than one word. Similarly, a foot boundary within a word occurs between the third and fourth foot of the first line of Homer's *Odyssey*, and four of its six feet consist of more than one word, or parts of more than one word, as seen in (ii).

- (ii) – ◡ ◡ | – ◡ ◡ | – ◡ ◡ | – ◡ ◡ | – ◡ ◡ | – ◡  
*andra moi | ennepe | mousa po- | lytropon | hos mala | polla*  
 'Tell me, oh Muse, of that man of many turns, who in many ways . . .'

17. The main difference is that the third tone of Konts's scale is often lower than a Western major third, lying somewhere between a Western major and minor third.

18. This representation of the melody differs in some respects from, and supersedes, the one presented in Rumsey (2001:212) and Rumsey (2006:326–27), as a result of more recent input from ethnomusicologists Don Niles, Michael Sollis, and Kirsty Gillespie, including Niles's musical transcription of Konts as represented in figure 5, and a transcription by Sollis that is not reproduced here, but is referred to in the discussion.

19. Besides the familiar notational conventions used in this transcription, other rather less frequently used ones that may need explanation are as follows: the "8" below the treble clef sign indicates that the pitches shown are all an octave lower than they would be as normally notated in treble clef; the large apostrophes above the staves indicate places where a breath was taken; "x" in place of the normal round head on some notes (e.g., in measure 266) indicates that the pitch was rather indistinct, often due to the raspiness or creakiness of the performer's voice; "x" to the left of a note (e.g., in measure 1004) indicates a "double sharp," i.e., a pitch that is a whole step above the one to which the sign is attached (in this case, F–double sharp sounds like a G).

20. The total time of the performance as recorded was 26 minutes and 20 seconds, but it actually took a little longer, since Konts took two short breaks during the course of it in order to catch his breath.

21. Since, as shown by figures 5–7, there is often a change of pitch (voice frequency) within the fourth foot of this line, there was some indeterminacy about where to take the readings for this comparison. But this did not present a big problem in practice because within most of the feet in the sample there was a relatively level phase that presented an obvious sampling point. Where this was not the case and there was continuous movement throughout the foot, I took the reading as close as I could to the middle of the movement.

22. In a study pertaining to both the Ku Waru region and the Melpa region to the east, Niles concludes that "in the material examined to date [from eight different musical genres], melodies which are not binary as understood here are only found in genres associated with areas to the west or south of the Ku Waru. In contrast, genres associated with regions to the east or north of the Ku Waru all use binary melodies" (2007:116). More recently, Niles (p.c. 2008) reports that he has found one instance of a nonbinary melody in the Melpa region, a recording of a performance of *kang rom*—the Melpa equivalent of *tom yaya kange*—by a performer named Kraip. The style of this performance is highly unusual in other respects as well. By contrast, binary melodies have been found in the work of all the other *kang rom* and *tom yaya kange* performers that have been analyzed to date.

23. Other instances of the formulaic expression in line 1058, or closely related expressions, can be seen in text 2 (= text 4), line 16, and text 6, lines 5, 8, 17, 34, and 40. Other instances of the expression in line 1061 can be seen in text 2 (= text 4), line 15, and in the appendix, lines 546 and 1009. For further discussion and exemplification of formulaic expressions in *tom yaya kange*, see Rumsey (2001:205–9).

24. In terms of the most recent classifications by Ross (2005) and Pawley (2005), Huli belongs to the Engan subgroup of the Trans New Guinea family, and Ku Waru (along with Melpa) to the Chimbu-Wahgi subgroup.

25. For fuller discussion and extensive exemplification of all of these points, see Pugh-Kitingan (1981, 1984).

26. In terms of the most recent classifications by Ross (2005) and Pawley (2005), Duna belongs to the Duna subgroup of the Trans New Guinea family, and Huli to the Engan subgroup.

27. This difference between what I call “single-line” and “multiline” melodies below is broadly similar to the one made by musicologists between “strophic” and “stichic” melodies, but not quite equivalent to it in two respects. First, both “stichic” and “strophic” melodies are assumed to have a relatively fixed form that repeats from one presentation of the melody to the next, which is not true of the *bì té* melody and is true of the *pikono* melody in only a very general way. Second, the term “strophic melodies” suggests that such melodies are associated with discrete chunks of text of the kind known as “strophes,” whereas in the case of *tom yaya kange* this is only a tendency, as discussed in section 5. For an interesting typology of the music of “oral epics” based in part on the “stichic” and “strophic” distinction, see Reichl (2000).

28. These numbers are not to be read as indicating level pitches on each syllable with stepwise transitions among them, but rather as indicating overall contours across each word. For example, 2 3 over the word *hana* indicates a rising tone over the duration of the word, and 3 2 over *ayu* a falling one.

29. The character > in both of the top lines represents “a strong declination in the spoken version” of the *pikono* line (Sollis in press: n. 12). See n. 30 below regarding declination.

30. The tendency known as “declination” is widely attested in languages of the world and is thought to be due to the decrease in subglottal air pressure that occurs over the course of what is uttered between one breath and another (Ladefoged 1968).

31. Within the spoken versions in this case, declination is more evident in the second speaker’s version, as shown by the lower row of numbers above the staff.

32. This kind of interaction between intonational declination and word-level prosody is widely attested cross-linguistically, especially in tonal languages where it has been extensively studied under the rubric of “downstep.” For details, see Gussenhoven (2004: 97–122).

33. Though there is not the space to review it here, much of Sollis’s article is devoted to an interesting discussion of the ways in which musical factors may override the default patterns of tune-tone correspondence, especially in the case of words with falling or level tones. For example, in figure 6 in the penultimate word of the line *riya*, “the final syllable ‘ya’ is sung on the tonic note 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” (Sollis in press).

34. “All” if we take the first speaker’s pitch patterns in the spoken line as the standard, “most” if we take the second speaker’s as such.

35. The transcriptions by Sollis are of the first two presentations of the melody in the performance (lines 1–16), the last one (lines 1058–65), and the same one in lines 543–50 that was also transcribed by Niles.

36. The parentheses around the *a* in this word indicate that its full form is *púpa*, but that the *a* in the sung form of the word here has been omitted.

37. These occur in measures 93, 263, 269, 544, 545, 549, 1002, and 1003 (twice).

38. In these particular two lines,  $F_0$  actually rises by a good deal more than the expected musical fifth and then moves down to it before the end of the line. Lines 1 and 9

are very unusual in this respect—in keeping with the general tendency that musicologists have found for first repetitions of strophic melodies to “deviate markedly from the rest” (Nettl 1964:119)—so the size of the  $F_0$  jump shown in these figures should not be taken as typical, a matter about which table 2 provides much more reliable evidence. Moreover, there is an anomaly in the  $F_0$  display in figure 8 in that the abrupt fall in the middle of the fifth foot does not sound like such a big drop, but instead like a drop to a musical fifth above the pitch 1, which is how it is shown in the musical transcription of this line by Sollis (a good illustration of the importance of interpreting acoustic phonetic data in conjunction with auditory data). Neither of these anomalies is relevant for the points under discussion here, one of which concerns a different position in the line and the other of which concerns the timing of jump in the fourth foot rather than its size.

39. This is also evident from the transcriptions in figure 5, in that at the equivalent positions in measures 91, 262, and 543 where there are disyllabic words with high-toned final syllables, the rise from D to A takes place on the second syllable. This contrasts with what happens in measure 1002, where there is a disyllabic word in that position with a high-toned first syllable (*méba*), and where the pitch rise takes place on that syllable. The same pattern is found in Sollis’s transcription, which is consistent in this respect with the Praat displays in figures 7 and 8, and with Don Niles’s transcription of *kaniyl* in measure 543. But in another line (1058) with *nyiba* in this position, Sollis’s transcription shows the rise to A on the first syllable, just as in Niles’s transcription of *méba* in measure 1002. This evidence is, however, less conclusive than it might seem to be, since in both of the latter cases the words with high-toned first syllables are spread across two feet, as may be seen from Niles’s transcription of *méba* in measure 1002. Thus, the contrast with the other cases involving disyllabic words with low-toned first syllables in the fourth foot is not a minimal one. It might be that the earlier pitch rise on *méba* and *nyiba* is due to their different rhythmic treatment within the melody rather than to their different linguistic tones. This question seems resolvable in principle and calls for further research.

40. Elsewhere (Rumsey in press) I show that this fact about the Ku Waru metrical system places it at odds with current accounts of poetic meter which assume a universal distinction between strong and weak metrical positions, such as the one proposed by Hanson and Kiparsky (1996; cf. Kiparsky and Youmans 1989).

41. As should be evident from the absence of a right bracket, line 16 does not comprise a maximal syntactic unit, but belongs to a larger one that includes line 17, not shown here.

42. For a brief account of relativization in Ku Waru, see Merlan and Rumsey (1991: 340).

43. One reviewer asked me to identify what kind of grammatical unit line 14 is, and in particular, whether it can be viewed as a verb phrase. That question was no doubt prompted in part by my not having included the initial word “it” in my gloss of that line in text 2 or in the earlier draft of this paragraph. In fact, line 14 is grammatically not a verb phrase in Ku Waru, but a full sentence, the subject of which is specified as third person singular by the ending of the verb *nyirim*. Such a sentence can either stand by itself or optionally be expanded by the inclusion of an overt subject noun phrase, as it is in the combination of lines 13 and 14.

44. For purposes of this calculation, the *a* in the second foot of line 5 of text 2 (= text 4) has been not been counted since it is not a word, but a vocable used to fill out the five-beat line that would otherwise be missing a beat. Line 16 also has not been included within the count, since it does not comprise a maximal syntactic unit.

45. For the full 363-line text of that performance, see Rumsey (2001:228–38). The line numbering used in text 5 has been preserved from that of the original full text.

46. I have presented a summary translation of Kep's full text and analysis of aspects of its contents elsewhere (Rumsey 2005:254–60).

47. This being the case, it might seem that a more appropriate term for this kind of relationship would be "lexical parallelism." But that term is commonly used in a rather different way, for a relationship in which "two words are interpretable as being parallel to one another [and] the relation of meaning between the two words determines the relation of meaning between the two larger sections of text which include those words" (Fabb 1997:139).

48. More precisely, in this case the relationship is one of contrast between two verb roots, *pe-* 'sleep' and *mol-* 'stay', *-kir* and *-kur* both being allomorphs of the first person singular present progressive verb suffix.

49. Both of the first two terms in this construction are optional. For example, there are expressions like *ab tanga* 'the woman Tanga' and *kupi tala* 'Tala from Kupi'.

50. In this case, the closer grammatical relationship between *pekir* and *molkur* is in part reflected substantively (iconically) by the presence of the same first person singular present progressive verb ending *-kir/-kur* as opposed to the completely different first person present singular optative ending *-ab*. But that is a contingent fact owing to the relatively regular nature of Ku Waru verb morphology (Merlan and Rumsey 1991:325–34). Given the grammatical categories involved, the same two-level bracketing of lines 10–12 would be justified even if the verb morphology were totally irregular, with no more substantive resemblance between the verbs in lines 10 and 11 than between either of them and the one in line 12.

51. Note that most of the cases of lines ending with a verb of this kind (before the line-final vocable *e*) in text 6 (which is typical of *tom yaya kange* in this respect) involve a single verb *nyirim* 'he/she/it said (before yesterday)'. In some lines (e.g., 3, 4, 10, 11, and 16 in text 6) this verb is used to frame something that is said by one of the characters in the story, the speaker of the framed locution being its subject. In other cases (e.g., lines 5, 6, 7), it is used to frame the story as such, with the story as the implicit subject of the framing verb, the sense being something like 'it [the story] said' or 'so the story goes' (see Rumsey 2001:208).

52. For evidence of this from Africa, compare Greenberg (1949), who finds that there is no tone-tone correspondence in a short Ewe song that he analyzes, with Agawu (1988), who does find tone-tone correspondences in each of the eight Northern Ewe songs that he treats, just as has been found to be the case elsewhere in West Africa by Jones (1949, 1959), Schneider (1961), and Richards (1972). Agawu (1988:128) finds that the extent of tone-variation in Northern Ewe song varies by genre, but unlike the Chinese and Thai sources cited in this section, he does not show us how (his 1988 article being cast mainly as an argument that more attention should be paid to other aspects of the music besides tone-tone correspondence). Nor have I been able to find any other systematic studies of such variation in the Africanist literature, where most of the studies of tone-tone relations are based on a single song or on the work of a single composer.

53. Some varieties of *tom yaya kange* seem not to have a repeating melody.

54. More generally, based on a broad survey of poetic (including sung poetic) traditions from around the world, Nigel Fabb concludes that "the line, as a textual constituent, typically corresponds to linguistic constituents—both prosodic phonological constituents and syntactic constituents. In the prosodic phonological structure, the line ending typically coincides with a major constituent boundary such that a pause is possible. . . . In the syntactic structure, the end of the line will often coincide with a major phrase boundary, and often with the end of a clause. At a minimum, a line boundary will usually coincide with a word boundary" (1997:88).

55. The samples were taken from two texts: text XV, of which I used the first thirty lines (Dixon 1972:368–73), and text XXXIb (Dixon 1972:383–87). The texts are broken up

by slash marks (/), which I have used as my criterion for what constitutes a maximal syntactic unit, following Dixon's statement that "any utterance could end at any place marked by /" (1972:38). Note that above the level of these maximal syntactic units in Dyirbal there are what Dixon (1972) calls "topic chains" in which sequences of clauses with certain kinds of coreference configurations are coordinated; but the main clauses within these chains are structurally independent units inasmuch as any of them could occur by itself as a fully grammatical utterance.

56. This is quite typical of what one finds among speakers of Australian Aboriginal languages right across the continent, regardless of the considerable differences one finds among the languages. For example, compare Bunuba, a much more head-dominated language than Dyirbal, which is spoken on the other side of northern Australia. Notwithstanding the fairly full array of embedded and dependent clause types that are available in the language, speakers tend to use them sparingly, as in Dyirbal. In two texts by different Bunuba speakers (Rumsey 2000:128-33), the average number of words per sentence is 3.86 in the first text and is 2.92 in the second text.

57. The songs were of three different genres, of which I sampled a total of seventy-six lines (Dixon and Koch 1996:77-83, 190-95, 215-20).

58. Compare Dixon and Koch: "Basically Dyirbal songs have the same phonology and grammar as the everyday spoken style" (1996:34). Although this statement as worded pertains to grammar per se rather than the uses that are made of it, in practice it seems to apply about as well to the latter.

59. My evidence for this comes from word counts I have done using a *pikono* text by Kiale Yokono that was recorded by Kirsty Gillespie in 2003, and was transcribed and translated by Kenny Yuwi Kendoli and Lila San Roque—the same text from which Sollis has taken the eight-word line shown in figure 6, which is of roughly average length for the lines in this performance.

60. This raises the question of whether there is any systematic relationship between the linguistic parallelism found within particular lines of text and that which is found in the melody itself. Like the question I discussed at the end of section 5 about whether sets of melody lines form thematic units of any kind, this is not a question that I have done much work on, but my preliminary impression is that there is a rather weaker relationship of this kind than there is with regard to thematic content. It is not uncommon, for example, for pairs of parallel lines to be found in which one falls at the end of one repetition of the melody and the other at the beginning of the next, as for example in lines 8 and 9 of text 2 (= text 4).

61. See, for example, Strehlow (1971) for the Aranda of Central Australia, Gossen (1974) for the Chamula (a Mayan group) of Southern Mexico, Watson (1971) for Chinese, and Fox (1988) for a number of different areas of eastern Indonesia.

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