

Text and meter in a Lander Warlpiri song series*

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The way that language and music are matched to create a well-formed song differs across singing genres and languages. This article analyses how text and music align in a set of Warlpiri women's songs of the *yawulyu* genre from the Lander River region of central Australia. It proceeds by investigating whether a previously identified set of constraints governing how words are put to music in a different corpus of *yawulyu* songs applies to a further set of *yawulyu* songs considered here, which we refer to as the *Kiirnpa* song series. Both sets of songs are from the Lander Warlpiri region. It emerges that one constraint must be revised, and an additional constraint is observed in this corpus, while the preferred weighting of constraints differs in interesting ways.

Keywords: Warlpiri songs, text, meter, prosody, rhythm, yawulyu

1. Introduction

Singing genres vary as to which aspects of language and music are matched to create a well-formed song. For example, English folk songs match stressed syllables to strong musical beats. Such requirements are described as text-setting

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rules (Halle & Lerdahl 1993; Hayes 2009). Some song styles have no requirements on how language and music should align and these are described as non-metrical genres.

This article analyses how text and music align in a set of Warlpiri women's songs of the *yawulyu* genre from the Lander River region of central Australia (see map below). Turpin & Laughren (2013) identified constraints and preferences in how words are put to music in a corpus of 97 lines of Rain and Budgerigar *yawulyu* songs from this region. In this current paper we put these constraints and preferences to the test by analysing a further set of *yawulyu* songs from the region, the Kiirnpa song series.¹ This song series celebrates the ancestral woman Kiirnpa renowned for her role in preparing edible seeds. The songs are owned by the Nampijinpa/Nangala patricouple from Pawu (Mt Barkly).² In §2 we summarize the constraints as they apply in the Kiirnpa songs. The verse structure is analysed in §3 and line structure in §4. Our conclusions are presented in §5.

1.1 *The corpus*

The corpus considered here is based on a performance by Lucy Nampijinpa, Leah Nampijinpa, Peggy Nampijinpa, Dora Napaljarri and the late Hilda Napaljarri held at Panma-parnta, some 20kms from the Willowra community (Wirliyajarrayi), within view of the Pawu hills. This performance was recorded by the authors and film-maker Wiriya Sati on 27 October 2010. The performance was part of a larger project to document Willowra women's songs. Elicitation and discussion of the song texts with the singers as well as Kathy Nangala and Marilyn Nampijinpa were recorded in July 2012 and August 2013 at Willowra.

The corpus consists of 11 verses of the Kiirnpa song series, each of which consists of two lines, making a total of 23 different lines.³ As in all *yawulyu*

¹ *Yawulyu* is a traditional women's ceremonial genre involving singing, clapstick accompaniment, ritual adornment and dancing. Each *yawulyu* song set is associated with a particular totemic ancestor who travels along a track within a geographic region; and is owned by a particular lineage of people (Barwick et al 2013:1).

² A Warlpiri person belongs to one of eight named subsections.

³ There are two versions of the second line of verse 11 (L22, L23).

performance, each verse is sung repeatedly without a break until the end of the melodic contour.

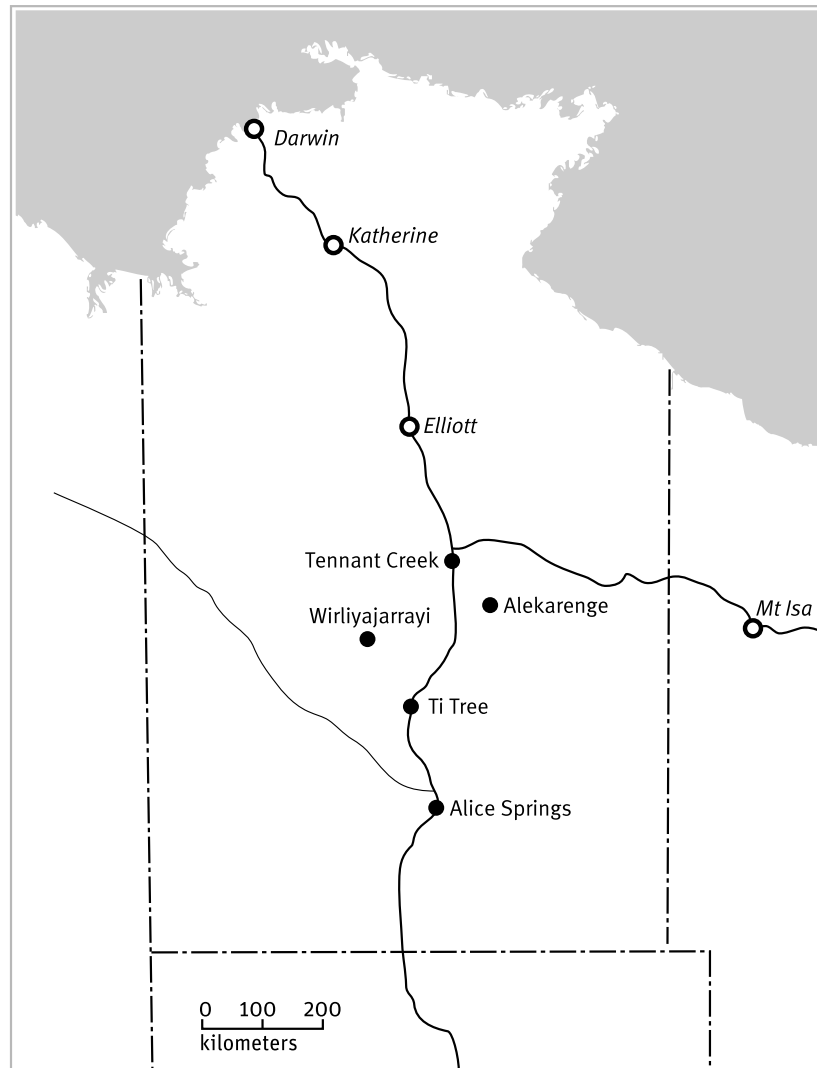


Figure 1. Map showing Wirliyajarrayi (Willowra), the community where the singers reside on the Lander River, NT.















































































Duple			
L17, song 9			
	ma rdan ji	nga rdan ja	
L14, song 7			
	ya ji ya	ji rri lay	
L01, song 1			
	pang ka tay	tay pang kay	
L18, song 9			
	ki rra ki	rra ma rda	ni nyay
L09, song 5			
L10, song 5			
	pan ma nga rla	pan ma nga rla	
L02, song 1			
	nga li ki nga	ling ki	nga li ki
(7 beats)			
L03, song 2			
L04, song 2			
	lu ku rru ru	ku rla	wang ka ja
	ti ya ti ya	ku rla	wang ka ja
L07, song 4			
L08, song 4			
	man ji ka	rtay rtay	man ji ka
	wan nga rla	ngir pa	wan nga rla
L13, song 7			
	wa pi rli	pi rli	wa pi rli
Polyrhythmic			
	kiin pa	la ka lay	yi rra ray
L15, song 8			
	ma rda ni	nya	
L16, song 8			
	ngu rrim pal	ka la ngay	yi rra ray
	ma rda ni	nya	
Triple			
L06, song 3			
	wa rram pal	wa rram pal	pay
L22, song 11			
	wa li na	rri	ki ji pan
L21, song 11			
L23, song 11			
	nga na	nya ngu na	ki ji pan
	nya ngu na	nya ngu na	wa la rna
L19, song 10			
L20, song 10			
	wa lam parr	ngi na	pi rdany nga
	wa la ka	la nga	pi rdany nga
L11, song 6			
L12, song 6			
	wirr ka li	ma rra li	ma rang ka
	jil pil pa	ma rra li	ma rang ka
L05, song 3			
	ju wa ngu	lay na	ju wa ngu
	lay na	kum pa ram	pa ra

Table 1. The 23 lines of the Kiirnpa song series^{4,5,6}⁴ The final bar of L3 and L4 is swung ().

2. Constraints

Of the 11 verses, eight (14 lines) are in duple meter, meaning that there is a binary division of the beat; and nine are in triple, having a ternary division of the beat. These lines are shown in Table 1. The clapstick accompaniment is represented in our musical notation with ‘x’. The transcription represents the sung text, which does not necessarily correspond to the spoken text.

2.1 *Rhythmic constraints*

Turpin & Laughren (2013: 410) identify an inviolable constraint named NoSubdivision, which applies to how the beat (the rhythmic pulse) is divided:

1. NOSUBDIVISION: No subdivision of the beat below a quaver is permitted

Beats are determined by the associated clapstick accompaniment (represented as ‘x’ in the rhythmic notation). This constraint also applies to the *Kiirnpa* series as will be discussed in §4.

2.2 *Text constraints*

Previously we identified a preference for verbs to come last within a line (Turpin & Laughren 2013: 421-2):


2. VERBFINAL: Verbs can only occur at the end of a line

This preference is also attested in the *Kiirnpa* songs, but, as will be discussed in §4.4, one exception occurs.

2.3 *Text-setting constraints (matching text to rhythm)*

We also identified two inviolable constraints on how linguistic units are set to rhythmic (musical) units:

3. PHP/BAR: Phonological phrase edges must align with bar edges

⁵ An alternate analysis of the underlying rhythm of L01 is 

⁶ Variants of L22 are considered in §4.

4. SYLL/NOTE: Each syllable must be set to one metrical position (MP) — a quaver note

As will be argued, the minimal linguistic unit that can be set to one metrical position (represented in the rhythmic notations as a quaver) is actually a mora rather than a syllable. In this paper we identify a further constraint, VARYRHYTHM, to be discussed in §4.3:

5. VARYRHYTHM: A line made up of identical text in both hemistiches must not have an identically repeated rhythm. That is, a line should not be symmetrical in relation to both text and rhythm.

We will show how these constraints work later, but first we identify the verse structure preferences.

2.4 Verse structure preferences

The preferences on verse structure, set out in 6 to 8 below, were also observed in the other Lander River songs discussed in Turpin & Laughren (2013).

6. AABB: A verse should consist of two repeated rhythmic-text lines
7. PARALLELISM: Both lines of a verse should have identical final hemistiches (text & rhythm)
8. SYMMETRY: Both lines of a verse should be of equal rhythmic length

The degree of adherence to the three verse structure preferences in the Kiirnpa songs is summarised in Table 2.


	AABB	SYMMETRY	PARALLELISM
YES	9	8	5
NO	2	3	6

Table 2. Verse structure preferences in the 11 Kiirnpa songs

One finding in the Kiirnpa songs is that SYMMETRY is more commonly observed than PARALLELISM, whereas the previously analysed Lander River songs show the reverse tendency. All song series analysed thus far show a strong preference for AABB.

3. Verse structure

Adherence to the above eight constraints and preferences creates a well-formed verse of the type exemplified in Song 2 shown in (1). This verse consists of two well-formed lines, labelled as L3 and L4. At the level of the verse, the violable constraints AABB, and SYMMETRY are both observed. The repetition of each line before moving on to the next (shown by the dotted double bar lines in the rhythmic representation) illustrates the preferred AABB verse structure. The equal length of both lines (three bars) illustrates SYMMETRY and the identical rhythmic-text of bars 2 and 3 (*-ku=rla wangka-ja*) in both lines illustrates the related constraint PARALLELISM.

(1) 

lu ku rru ru ku rla wang ka ja L3

lukarrara-ku=rla | *wangka-ja*

desert.sedge-DAT=3SG.DAT talk-PST⁷

‘(She) spoke to the *lukarrara* grass (*Fimbristylis oxystachya*)’

ti ya ti ya ku rla wang ka ja L4

tiyartiya-ku=rla | *wangka-ja*


magpie.lark-DAT=3SG.DAT talk-PST

‘(She) spoke to the black and white one/ magpie lark’

The text constraint VERBFINAL is also met in (1), as *wangkaja* ‘talked’ occurs in the final position of both lines of the verse. The preferred verse structure, which

⁷ We use the following abbreviations: 1 first person, 2 second person, 3 third person, ABL ablative, AUX auxiliary, DU dual, DAT dative, ERG ergative, HITH hither, LOC locative, PL plural, PRS present, PST past, PTT presentative, S subject, SG singular, - affix boundary, = enclitic boundary, | phonological phrase boundary.

observes AABB, PARALLELISM and SYMMETRY, can also be seen in Song 6, shown in (2). This verse also adheres to VERBFINAL, as the verb *yirrarninyarni* is the third and final PHP of the line, as well as to SYMMETRY and PARALLELISM.

(2) 


Wirr ka li	ma rra li	ma ran ka	yi rra rni	nya rni	L11
<i>wirrkali-marri=li</i>		<i>mardu-ngka</i>	<i>yirra-rninya=rni</i>		
bloodwood-stand=3PL.S		coolaman-LOC	put-PTT=HITH		

jilpilpa	marrali	marangka	yirrarni	nyarni	L12
<i>jilpilpi-marri=li</i>		<i>mardu-ngka</i>	<i>yirra-rninya=rni</i>		
desert_bloodwood-stand=3PL.S		coolaman-LOC	put-PTT=HITH		

‘They gather (seeds) into their coolamons near the Bloodwoods’
‘They gather (seeds) into their coolamons near the Desert Bloodwoods’

4. Line structure

Turning now to the construction of a line, there are two main constraints at work. These are PHP/BAR (Constraint 3), which states that phonological phrase edges must align with bar edges, and MORA/MP, which is a revision of SYLL/NOTE (Constraint 4) which states that each syllable must be set to one metrical position.

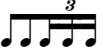

4. (revised): MORA/MP: Only one mora can be set to a single metrical position (= a minimal timing unit, i.e. a quaver .

Constraint MORA/MP rules out any linguistic unit larger than a mora being set to a single metrical position. Note that this does not prevent a mora being set to *more* than one metrical position.

4.1 *PhP/Bar and Mora/MP*

In (1) the first PHP, *lukarrara-ku=rli*, aligns with the left edge of bar 1 and the right edge of bar 2, while the second, PHP *wangka-ja*, aligns with the edges of bar 3. PHP edges and bars are marked by | in the examples. A double bar line indicates a line boundary, and a colon indicates that the line is repeated once before moving on to the next line). The lines in (2) have three PHPs. The first,



wirrkali-marri-li, aligns with the left edge of bar 1 and the right edge of bar 2. The second, *mardu-ngka*, aligns with the edges of bar 3; and the third, *yirra-rminya-rni*, aligns with the left edge of bar 4 and the right edge of bar 5.

Note that most Warlpiri syllables are monomoraic, so can be set to one metrical position.⁸ Using Western musical notation we denote a metrical position with a quaver; thus in duple meter there are four metrical positions in a bar and in triple meter, three. In both lines of the verse in (2) each of the 14 syllables (all monomoraic) are set to one metrical position (♫), except for the final syllable, which is set to two metrical positions. The constraints PHP/BAR and NOSUBDIVISION (no subdivisions below a quaver) account for the setting of the final syllable to two metrical positions. The alternative setting, which would also respect PHP/BAR, in which the final two syllables of the word are squashed into the one bar (|  | *yi.rra.rni.nya.rni*) is ruled out by the constraint NOSUBDIVISION (no subdivisions below a quaver, i.e. no semiquavers). When the number of syllables in a phrase and the number of metrical positions in a bar are not the same, the constraints PHP/BAR (phonological phrase edges must align with bar edges) and NOSUBDIVISION conspire to force the setting of a mora to more than one metrical position. A further example can be seen in (1) where phrase-final *rla* and *ja* both extend in duration until the completion of the bar (bars 2 and 3). NOSUBDIVISION means that the six syllable prosodic phrase *tiyartiya-ku=rla*, as well as *lukarrara-ku=rla*, are not set to , as this would be two subdivisions below the beat. Quavers are the smallest division these syllables can be set to, and so two bars are required. PHP/BAR means that the final syllables of the phrases, *rla* and *ja*, must extend in duration until the end of the bar (see also the rhythmic setting of line 22, a complex line discussed in Section 4.5.)

⁸ In Warlpiri a syllable may contain a single vocalic mora or two morae. Only vowels (or syllabic nuclei) bear moraic weight in Warlpiri so that the syllabic coda consisting of a sonorant or nasal consonant is excluded, thus CV = CVC (monomoraic), and CVV = CVVC (bimoraic).

As mentioned above, there are relatively few words with bimoraic syllables in Warlpiri (CVV(C)), yet one turns up in the Kiirnpa verse — in fact, in the name of the ancestral woman herself. The initial bimoraic syllable, *kiirn*, is set to two metrical positions, a quarter note (or crotchet), as can be seen in bar one of example (3). MORA/MP (only one mora can be set to one metrical position) thus accounts for the setting of a heavy syllable (bimoraic) to a minimum of two metrical positions.


(3) 
kiirn pa la ka lay yi rra ray ma rda ni nya L15
Kiirnpa-rlu=ka=rla | yarrara-marda-rninya
 K-ERG=AUX=3SG.DAT winnow(-have)-PTT
 ‘Kiirnpa winnows’

Example (3) has an unusual rhythm, although one not unattested in central Australia,⁹ it is polyrhythmic: the clap beat is in duple time while the sung text is in triple. Note that a metrical position is the binary division of the ternary vocal line in the polyrhythmic meter and not the duple clap beat. Furthermore, the first and second beats of each bar in the vocal line is occupied by a note (except for the last bar), creating a short-long rhythmic pattern. The bar initial monomoraic syllables occupy only one metrical position (♩) (*la*, *yi*, *ma*), whereas the bar initial bimoraic syllable (*kiirn*) occupies two metrical positions. As discussed above, PHP requires the final syllable of a phrase to be extended until the end of the bar. The preference for setting *mardarninya* to  rather than  may be motivated by a desire to maintain the strict short-long rhythmic pattern in all but the final bar which must be long, to observe PHP/BAR. Note too, that this is also the only verse in this song series that names the central totemic ancestor, Kiirnpa. We suggest that the use of the polyrhythmic meter highlights the significance of this verse.

⁹ Polyrhythmic songs are found in Arrernte (Ellis 1968) and in Kaytetye (Turpin 2007).

4.2 *Glide elision*


Glides are frequently elided when intervocalic in both speech and song, and the result is one (usually long) syllable. When sung, these are treated as bimoraic monosyllables and so set to two metrical positions.¹⁰ This can be seen in the line in (4) below, a triple meter song. In bars 1 and 3 the intervocalic /w/ in *Pawu* is elided and the remaining bimoraic syllable is set to two metrical positions, a crotchet (♩). Similarly, in the first phonological phrase the intervocalic /y/ of the song word suffix *rtayirtayi* is elided (twice) and the remaining bimoraic syllable set to two metrical positions, realised as two quavers tied over bars 1 and 2. The reduplicated syllable is sung to the remaining three metrical positions in bar 2 since Constraint 3 PHP/BAR must be respected.

(4)  :||

L1

Pawu-ngka-rtayirtayi *Pawu-ngka*
 name-LOC-?(SONG) name-LOC
 ‘At Pawu, at Pawu.’

Another word with intervocalic *y* is *ngayi* shown in (5).¹¹ This word is treated the same way, set to two metrical positions (sung as a crotchet).

(5)  :||

L21

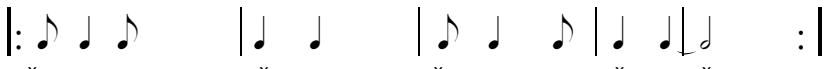
Ngayi=rna | *nya-ngu-rnu* | *kiji-parnta*
 just=1SG see-PST-HITH bud-with
 ‘I’ve just seen it here with closed green buds.’

¹⁰ This is also observed in Kaytetye women’s songs (Turpin 2007).

¹¹ The Warlpiri phonological system does not admit glides (r, w, y) in a syllabic coda. Vowels realised as phonetic diphthongs only result from connected speech processes (Ingram *et al.* 2008).

4.3 VARYRHYTHM


In addition to the constraints identified in Turpin & Laughren (2013) discussed so far, a further constraint VARYRHYTHM is observed in the Kiirnpa song corpus. It is illustrated by Song 4 shown in (6). This constraint states that a line must not consist of two identical halves in respect to both text and rhythm. Both lines of this song are made up of a repeated text: *manjiki-rtayi-rtayi* (L7), and *Wangarlangurrpa* (L8). The constraint VARYRHYTHM is met by extending the value of the final syllables of each line, *rtay* and *pa* respectively, so that the two half-lines are no longer rhythmically identical. Instead, the first hemistich (half line) is two bars long and the second is three bars long.

(6) 

man ji ka rtay rtay man ji ka rtay rtay L7
manjiki-rtayirtayi |
 camping_out -? (SONG)
 wan nga rla ngarr pa wan nga rla ngarr pa L8
Wangarlangurrpa |
 place_name
 ‘Camping out, camping out. (At) Wangarlangurrpa (rock hole)’

The motivation for this constraint is probably to avoid a reinterpretation of a hemistich boundary as a line boundary. There is a tendency in songs for the boundaries of higher level units (phrase, line, verse) to be matched with progressively longer durations. Thus the line final syllable is more than twice the length of the line-internal hemistich boundary.

In example (7) the repair for VARYRHYTHM is highly unusual: it is the penultimate syllable as well as the final syllable that is extended in the textual repetition.

(7) 

wi ki ra rla | wi ki ri rla | L9

wikiri-rla *wikiri-rla*

wet.earth-LOC wet.earth-LOC

'In the damp earth, the damp earth'

In (7) PHP/BAR is met since the final syllable *rla* aligns with the right edge of bars 1 and 3 and the initial syllable aligns with the left edges of bars 1 and 2. For the first phrase this constraint is met without modification, as the number of morae and metrical positions are identical (four). However for the second and final phrase, the same four morae must be set to a different rhythm because of the constraint VARYRHYTHM. This is met by lengthening the penultimate syllable *ri* in the repeat of this phrase. Thus the hemistich boundary at the end of bar 1 is clearly differentiated from the line boundary at the end of bar 3.

4.4 PARALLELISM and SYMMETRY

We observed examples of PARALLELISM in (1) and (2) and a further example can be seen in the two lines of verse 10, shown in (8). These lines also provide an example of how SYMMETRY may force syllabic epenthesis. The 5-syllable PHPs *Warlu-kurlangu* and *purduly-ngarni-nya* are each set to two bars to meet PHP/BAR and NOSUBDIVISION. The 4-syllable word in the B line, *Warlamparrngi* (L19), imitates this rhythmic pattern by epenthesizing the vocable NA.

- (8)
- | | | | | | | |
|---|-----------------------|--------------|---------------------------|--------------|---|-----|
| | | | | | : | |
| | ^x | ^x | ^x | ^x | | |
| A | wa la ka | la ngu | pi rdiny nga | ni nya | | L20 |
| | <i>Warlu-kurlangu</i> | | <i>purduly-ngarni-nya</i> | | | |
| | fire-POSS/Place_name | | blacken_with_fire-PTT | | | |
| B | wa rlam parr | ngi na | pi rdiny nga | ni nya | | L19 |
| | <i>Warlamparrngi</i> | NA | <i>purduly-ngarni-nya</i> | | | |
| | place_name | | blacken_with_fire-PTT | | | |
- ‘Warlukurlangu blackening with fire’
‘Warlamparrngi blackening with fire’

In (9) the epenthesis of NA to each repeat of the 4-syllable phrase *juwa-ngurlu*, which is followed by a 5-syllable phrase *kumpurumpuru*, is similar; however it is not driven by SYMMETRY.

- (9)
- | | | | | | | | | |
|----|--------------------|--------------|--------------------|--------------|---------------------|--------------|---|--|
| | | | | | | | : | |
| | ^x | ^x | ^x | ^x | ^x | ^x | | |
| L5 | ju wa ngu | lay na | ju wa ngu | lay na | kum pa ram | pa ra | | |
| | <i>juwa-ngurlu</i> | NA | <i>juwa-ngurlu</i> | NA | <i>kumpurumpuru</i> | | | |
| | ground_seed-ABL | | ground_seed-ABL | | seed_pile | | | |
- ‘The seeds from the first grind, piled up’

The monomoraic vocable NA can only be set to one metrical position at the right edge of a bar. Given the triple meter of the example in (9), the final syllable of *juwa-ngurlu* must be set to a note in a second bar to comply with NOSUBDIVISION. If PHP/BAR were observed by extending this syllable to fill all three metrical positions (as a dotted crotchet) then a hemistich-final boundary would be signalled with a longer note than the actual line-final syllable *ra*. Moreover, such a setting would divide the line into three hemistich-like parts, which is not permitted. Thus the vocable NA allows all phrase-final bars to have the same rhythmic setting. This also creates a line of identical rhythmic segments— | . This is the same repair strategy found in the other Lander River Warlpiri songs.

Line 20 in (8) also shows that while the constraint PHP/BAR is adhered to, there is no similar constraint on the alignment of a preverb with the bar. Here the preverb *purduly* plus main verb *ngarninya* align as a whole with bar edges, but the internal division of preverb and verb do not.¹²

Line 5 in (9) in which the first hemistich consists of the repeated phrase *juma-ngurlu* shows that Constraint 5 VARYRHYTHM only applies at the level of the line in order to exclude identical text-to-rhythm settings in both hemistiches. Identical rhythmic-text segments are permitted within a line, as long as they do not form two identical half-lines (hemistiches). Repeated rhythmic-text segments also occur in the lines of other Lander River song series (Turpin & Laughren 2013).


4.5 *Variation as constraints in conflict*

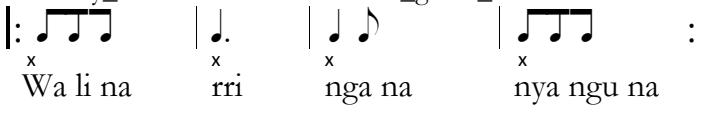
Where variants of a song are attested, these are based on a reordering of the constraints and verse level preferences. This can be seen with Line 22 in (10), which was sung in four different ways (a–d). In some cases a single performance showed more than one setting. These differences are due to different perceptions of the line boundaries and PARALLELISM. (The other line of this verse, L21, was considered earlier in example 5.)

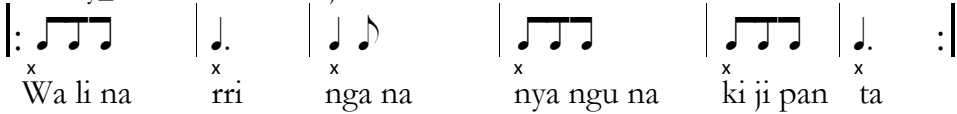
The preference for SYMMETRY supports an interpretation of the line as (10a) or (10b). The preference for PARALLELISM also supports an interpretation of (10a), but also (10c); while the preference for verb-final lines supports (10b). The variant line d in (10) does not meet any verse level preferences or end in a verb. The different competing forms of this song arise because the verbal phrase, *nyangurnu*, does not end on a long note or ♩ ♪ as other lines do.¹³

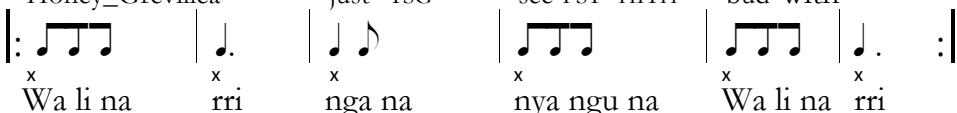
¹² See Pentland & Laughren (2005) for a detailed discussion of the prosodic structure involving preverb and verb.

¹³ Variations due to reassigning line boundaries that achieve PARALLELISM are also found in neighbouring Kaytetye women's songs (Turpin 2005:152-154) and Alyawarr songs (Turpin & Ross 2013:57).

(10) a.  L22
Walunarri | *kiji-parnta* |
Honey_Grevillea | closed_green_bud-with

b.  L22
Walunarri | *Ngayi=rna* | *nya-ngu=rnu* |
Honey_Grevillea | just=1SG | see-PST-HITH

c.  L22
Walunarri | *ngayi=rna* | *nya-ngu=rnu* | *kiji-parnta* |
Honey_Grevillea | just=1SG | see-PST=HITH | bud-with

d.  L22
Walunarri | *ngayi=rna* | *nya-ngu=rnu* | *Walunarri* |
Honey_Grevillea | just=1SG | see-PST-HITH | Honey.Grevillea

5. Conclusion

By looking at a wider set of data we see the pervasiveness of the three matching constraints listed below, which are akin to faithfulness constraints in Optimality Theory of phonology.

- PHP/BAR
- NOSUBDIVISION
- MORA/MP

We find no violations of these constraints. Together with the preferred rhythmic sequences and verb-final text lines (VARYRHYTHM, VERBFINAL), these constraints often coerce the final syllable of a phonological phrase to be long, or they induce NA epenthesis. These matching constraints account for the settings of a significant proportion of the *yawnyhu* songs in the Lander River region that we have analysed thus far. In addition there are preferred arrangements of lines within a verse (AABB, PARALLELISM, SYMMETRY) that assist in identifying line boundaries, which is no simple task as performance requires the verse to be sung repeatedly without a break (cycling), thus forming a complete song. Furthermore,

in performance a song may conclude before the end of a line in the repeating verse. While the rhythmic settings of phrases remain stable due to the strict matching constraints, perceptions of line boundaries can vary, especially when the VERBFINAL constraint is violated.

Variations are interesting because they must be tailored to fit within the conventions of the *yawulyu* genre. Variations have multiple triggers, for example a word that becomes taboo and must be avoided by either deletion or substitution which may entail changes to the text-to-rhythm mapping and involve the insertion of the vocable NA or an additional bar (Turpin & Laughren 2013:420-422). Alternatively, they may result from the resetting of preferences due to a misremembering of the original, which could lead to an association of particular versions with particular communities.

A study such as the one presented here, which focuses on a single *yawulyu* song series recorded in one central Australian community, provides the basis for a wider comparison of how text is set to rhythm in songs of this genre. The framework we have proposed allows for a principled comparison to address questions such as: What are the constraints and preferences within which variation occurs? Is there regional variation in what constitutes a constraint or a preference? What is the extent of this variation? Is variation linked to particular totemic ancestors, language type or region? Does the same set of constraints and preferences apply to traditional songs beyond the *yawulyu* genre? Answering these questions requires detailed documentation of a wide range of song series across communities and languages.

References

- Barwick L, M Laughren & M Turpin 2013 'Sustaining *Yawulyu*: Some practitioners' and learners' perspectives' *Musicology Australia* 35(2): 1–30.
- Ellis C 1968 'Rhythmic analysis of Aboriginal syllabic songs' *Miscellanea Musicologica* 3: 21–49.
- Halle J & J Lerdahl 1993 'A generative textsetting model' *Current Musicology* 55: 3–23.
- Hayes B 2009 'Text-setting as constraint conflict' in J-L Aroui & A Arleo (eds) *Towards a Typology of Poetic Forms* Amsterdam: John Benjamins. pp. 43-61.
- Ingram J, M Laughren & M Chapman 2008 'Connected speech processes in Warlpiri' in *Proceedings of the 9th Annual Conference of the International Speech Communication Association*

- (Interspeech 2008) incorporating the 12th Australasian International Conference on Speech Science and Technology (SST2008). p. 94.
- Pentland C & M Laughren 2005 'Distinguishing prosodic word and phonological word in Warlpiri: Prosodic constituency in morphologically complex words' in I Mushin (ed.), *Proceedings of the 2004 conference of the Australian Linguistic Society*. Sydney: University of Sydney eScholarship repository. Retrieved from <http://hdl.handle.net/2123/107>
- Turpin M 2005 *Form and meaning of Akwehe: a Kaytetye women's song series from Central Australia*. PhD thesis, Department of Linguistics, University of Sydney, NSW.
- Turpin M 2007 'Artfully hidden: Text and rhythm in a Central Australian Aboriginal song series' *Musicology Australia*, 29(1): 93-108.
- Turpin M & M Laughren 2013 'Edge effects in Warlpiri Yawulyu: Resyllabification, epenthesis, final vowel modification' *Australian Journal of Linguistics* 33: 399-425.
- Turpin M & A Ross 2013 *Antarrengeny Awely. Alyawarr women's traditional ceremony of Antarrengeny country*. Darwin, NT: Batchelor Press.



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