Austronesian traditional vocal music*

Helena Lopez Palma

The goal of this paper is to describe some key structural melodic features of unaccompanied traditional vocal music of West Papua.

Our data consists of vocal music collected and recorded in 2010 by Helena Palma and Alfons Arsai. It includes some 20 Biak[1] (ISO 639-3: bhw) *wor* songs performed *a capella* by Hendrik Arwam (tenor) – a gifted singer expert in *Wor* music – and his daughter Sara, and 4 Serewen (ISO 639-3: pmo) songs performed by Obaja Tarami (baritone), who was also the composer of some of the songs. Izak Morin made the written transcription of the *Wor* songs and the translation of the lyrics into English.

Wor is a cover term for a gender of traditional vocal music of the Biaks (Rutherford 1996, Yampolsky 1991).[2] *Wor* songs (*dow*) are performed as part of a ceremonial event or a feast in which singing is combined with dancing accompanied by tifa drums. *Wor* feasts are related to many situations of Biaks' life: *Wor* music is used to honor an ancestor important to the community, to call for protection for children or for a person in a transition in his or her life-cycle, to evoke sympathy or sorrow, to raise anger or support, to prepare for a battle or to celebrate the victory of some warrior.

Wor comprises many different subtypes. Some types referred by Yampolsky (1991), and by Hendrik Arwan and Izak Morin include: Kankarem (introduction song), Beyuser (narrative song), Erisam (expressionist style), dow Mamun (war song), Dance songs (Sandia, dow Arbur), Kajob, Morinkin, Wonggei. The *Wor* songs of our corpus belong to ceremonial, narrative and expressionist subtypes:

- Eisam: expresionist song 2, 7
- Beyuser: narrative song 5,
- Dance songs: 3, 4,
- Conversational style: a pupil talks to his master fisherman 6; child to mother 7

Wor music is believed to have a magical power which grants welfare and protection to Biaks. Wor ceremonies attempt to use such a power to summon the forces of nature and to tighten social bonds. To that effect, wor uses a singing style that has been described as an "aesthetic of surprise" and wonder (Rutherford 1996, Yampolsky 1991). We will return to that in section 4.

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[1]Mofu (2010), Van den Heuvel (2006).

[2]Nowadays, Yospan songs, accompanied by a band of string instruments and tifa, are more popular than wor among young people.

A legend attributes the discovery of wor to a magical origin, related to the sound of a vine heard in the forest by an old man from the Mnuwon clan. The legend says that after that experience, Mansar Mnuwon became the first expert of wor. Rutherford (1996) describes the story as follows:

> "Late one night, while he was hunting in the forest, the man suddenly heard voices high in a tree. In vain, he scanned the branches for the source of the noise. When he sat down to rest, the music swelled. Startled, he grabbed a vine that was coiled around the tree, and the voices dividid into two choruses. The vine's flowers were singing the song! To keep the voices from sinking into the soil at sunrise, the man cut down the vine. He took it home and ate the leaves and became the first Biak clever at singing wor." Rutherford (1996, p.90)

Wor has been transmitted thereafter within clans by expert singers who teach wor to their children. Biak singers believe Biaks have been protected by the wor sung by their ancestors, and they feel obliged to sing wor to protect their own children. As they express it, "If we don't sing wor, we die." (Kamma 2013).

The **Serewen songs** in our corpus are of a narrative kind, performed in a troubadouresque style (epic ballad-like).

- Narrate some episode of the history of the people.
- Describe the creation of some mythical place (i.e.: islands).
- Songs refer to important perspectival locations (mountains, sea), which may have a magical or spiritual connotation. Such places may be considered the dwelling location of ancestors.

Constraints. Although in real performance most of the songs of our corpus would be sung by a soloist and a learners-choir in heterophonic style (Yampolsky 1991), and accompanied by tifa drums, we decided not to include drum accompaniment in our study so we could concentrate on the vocal technique of solo skilful singers who would bring out the artistic features of the music.

Building blocks. The features that contribute to build and articulate the structure of the songs that we consider in our description are:

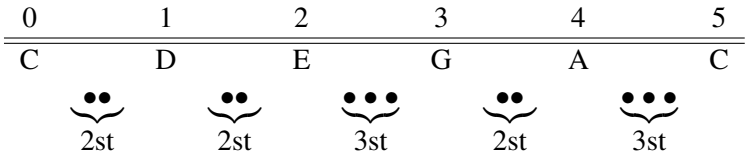
- Scaling of the octave interval.
- Intervals with a funcional value.
- Syntactic units: motives, phrases, intermediate and final cadences.

1 Scales

The songs in our corpus are built using anhemitonic pentatonic and tetratonic scales, with no intervals of a semitone between any two consecutive notes. Although intervals of a semitone or even smaller may occur as ornamental notes, but they do not have a structural role. In section 1.1 we focus on pentatonic scales and in section 1.2 on tetratonic ones.

1.1 Pentatonic scales and modes

The anhemitonic-pentatonic scale is built from the section 1-5 in the cycle of fifths (C G D A E), within the range of an octave. The smallest interval between any two consecutive notes is a tone interval. Consecutive intervals are not of the same size of 1 tone; i.e. our songs do not use the whole pentatonic scale (C D E F# G#). Scales are built with a pattern of alternating intervals with size of 2 and 3 semitones. Starting with a C sound the pattern is: Depending on which



note is taken as the first one of the scale, those sounds can be organized in five different modes or rotations, each mode with a particular flavour associated. In a pentatonic scale there are 5 possible different modes. Any of those modes can be transposed.[3]

Table 1: Anhemitonic-pentatonic modes

	0	1	2	3	4					
*Major	C	D	E	G	A	(C)				
		*D	E	G	A	C	(D)			
			E	G	A	C	D	(E)		
				*G	A	C	D	E	(G)	
				Minor	A	C	D	E	G	(A)

Table 2: Transposition patterns in semitones in an octave range

2	2	3	2	3				
	2	3	2	3	2			
		3	2	3	2	2		
			2	3	2	2	3	
				3	2	2	3	2

A mode is then an arrangement of sounds around a nuclear tone, taken as the ground or tonic sound. What are the cues for assessing which one is the nuclear tone in a song? How can we tell what is the mode of a particular song? Because in anhemitonic pentatonic scales there are no semitones, the prominence of a tone is not assessed by the force of attraction of the tonic pitch

[3] However, transpositions depend on the natural register of the voice of a singer rather than on musical composition criteria.

over a preceding tone (b-c, e-f). A tone is prominent if it is the last sound in a final cadence of a song. The tonic can be viewed as the pitch that marks the point of rest in a song.

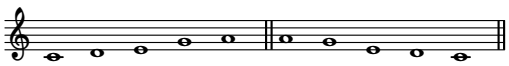
The modes used in our songs are mode 1, mode 2 and mode 4. Mode 3 and mode 5 are not documented in our samples. We mark with "$*$" the modes used in our songs.

Table 3: Pentatonic modes used in our songs

Mode	song	n/10
Mode 1	3, 9	2/10
Mode 2	1, 7	2/10
Mode 4	2	1/10

In what follows we will see the possible intervals and chords that could be used in a song built with each of those modes.

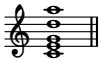
***Mode 1** (C D E G A) is a major pentatonic scale. The pattern of consecutive intervals expressed in semitones is 22323. It is used in songs 9 and 3 (if song 3 is taken to be built on a pentatonic scale).

(1) 

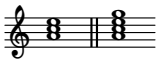
The intervals starting from the tonic pitch C are:

(2) C-D: Major 2nd (2 semitones)
C-E: Major 3rd (4 semitones)
C-G: Perfect 5th (7 semitones)
C-A: Major 6th (9 semitones)

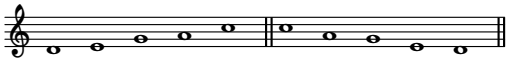
The implicit tonic chord is a major triad C-E-G (with an added 9th- C-D - and 13th-C-A)

(3) 

A tertian chord and a minor 7th chord can be built on A:[4]

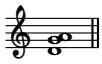
(4) 

***Mode 2** (D E G A C) is a symmetrical pentatonic scale: The pattern of consecutive intervals is 2 3 2 3 2. The symmetrical mode is used in songs 1 and 7 of our corpus. It seems to be a very frequent mode.

(5) 

[4]The chords implicit on a mode determine the harmonies used by string instruments in Yospan instrumental music.

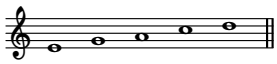
The major 6th between the first and the last note in the scale of mode 1 (C-A) and of mode 4 (G-E) is replaced in mode 2 by a minor 7th (D-C). The implicit chord is a suspended chord built as D G A

(6) 

The intervals starting from the tonic D are:

(7) D-E: Major 2nd (2st)
D-G: Perfect 4th (5st)
D-A: Perfect 5th (7st)
D-C: minor 7th (10st)

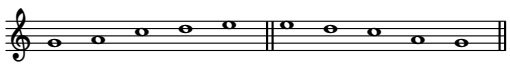
Mode 3: (EGACD): 32322. Our songs do not use this mode.

(8) 

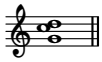
The intervals from the tonic sound are

(9) E-G: minor 3rd
E-A: perfect 4th
E-C: minor 6th
E-D: minor 7th

***Mode 4**: (G A C D E). The transposition pattern of consecutive intervals is 2 3 2 2 3. It is used in song 2. In the scale of song 2, a transposition starting on C is given: C D F G A. This transposition is similar to the tuning of the Gamelan Slendro C D F G Bflat.

(10) 

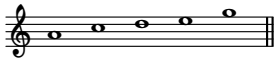
Suspended pentatonic scale. The 3rd is replaced by a perfect 4th (G-C). The implicit tonic chord is a suspended one: G C D:

(11) 

The intervals from the tonic sound D are:

(12) G-A: Major 2nd (2st)
G-C: Perfect 4th (5st)
G-D: Perfect 5th (7st)
G-E: Major 6th (9st)

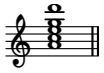
Mode 5: (A C D E G); 3 2 2 3 2. Pentatonic Minor scale. Our songs did not use this mode.

(13) 

The intervals from the tonic are:

(14) A-C: minor 3rd (3st)
A-D: Perfect 4th (5st)
A-E: Perfect 5th (7st)
A-G: minor 7th: (10st)

The major 2nd of 1st mode is replaced by a min 3rd. The implicit chord in this mode is a minor 7th chord (A C E G) with and added 11th (A C E G D)

(15) 

1.2 Anhemitonic tetratonic

Tetratonic scales seem to be derived from the pentatonic ones by omiting some tone.

Table 4: Anhemitonic-tetratatonic modes

C	D	E	G	(A)	[C]				
	*D	E	G	A	(C)	[D]			
		E	G	A	C	(D)	[E]		
			G	A	C	(D)	E	[G]	
			*Minor	A	C	D	E	(G)	[A]

Table 5: Transposition patterns in an octave range

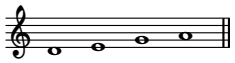
2	2	3	5				
	*2	3	2	5			
		3	2	3	4		
			2	3	4	3	
				*3	2	2	5

Only mode 2 and mode 5 of the tetratonic scale are used in our songs. Of those, the tetratonic scale of mode 2 is the one most frequently used.

Table 6: Tetratonic modes used in our songs

Mode	song	n/10
Mode 2	5,6,8,10	4/10
Mode 5	4	1/10

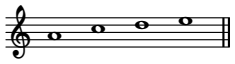
***Mode 2**: D E G A. The transposition patter in semitones is 2 3 2 (5). This is the most commonly used scale. It appears in songs 5, 6, 8, 10

(16) 

The intervals from the tonic sound are:

(17) D-E: major 2 (3st)
D-G: perfect 4th (5st)
D-A: perfect 5th (7st)

***Mode 5**: A C D E. The transposition pattern of intervals in semitones is 3 2 2 (5). It is used in song 4.

(18) 

The intervals from the tonic sound are:

(19) A-C: minor 3rd (3st)
A-D: perfect 4th (5st)
A-E: perfect 5th (7st)

2 Intervals

The melodic intervals used in the songs of our corpus are major 2nd (2 semitones), minor 3rd (3 st), perfect 4th (5 st) and 5th (7 st), 8ve (12 st); in final descending cadences 12th (7+5). Intervals of 1 semitone or smaller may be used in ornaments: They could be aleatory passing notes in between larger intervals (8ve, 4th, 5th), or a pitch phenomenon secondary to a decrease in the intensity of the dynamics.

Table 7: Melodic intervals

interval	st	cents	frequency ratios
8ve	12	1200	2:1
Perfect 5th	7	700	3:2
Perfect 4th	5	500	4:3
Major 3rd	4	400	5:4
minor 3rd	3	300	6:5
Major 2nd	2	200	9:8
Major 6th	9	900	5:3
minor 7th	10	1000	16:9

3 The structure of the songs

The songs are generated from some motive with a melodic or rhythmic prominent characteristic. Such motives are subject to variations which make them grow into articulated phrases.

3.1 Phrases

The phrase is a syntactic unit consisting in some integrated musical events. We use the definition of phrase in Schoenberg (1967, p.3):

> "... a unit approximating to what one could sing in a single breath."

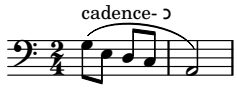
The phrase ending may be marked by a combination of features:

a) Rhythmic reduction. The notes at the end of a phrase may have a longer duration.

b) Melodic relaxation through a drop in pitch.

c) The use of some characteristic descending sequence associated to the end of a phrase, as the cadence illustrated below from song 1 "Dado ro ayam":

(20)



d) The use of a nuclear tone in a mode: In song 1, the note A, of the pentatonic symmetrical mode 2 (2323-2). In song 6, the note D of the tetratonic scale mode 2 (232-5). In song 7, the note D, of the pentatonic symmetrical mode 2 (2323-2). In song 8, the note D, of the tetratonic scale mode 2 (232-5). In song 9, the note C of the major pentatonic scale mode 1 (2232-3). In song 10, the note D of tetratonic scale of mode 2 (232-5).

e) A fading-out amplitude envelop.

3.2 Rhythm

The rhythm in the songs of our corpus is binary. Also a chant like free rhythm (song 9) is used, specially in narrative and expressionist songs.

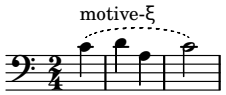
3.3 Range

The range of the rising and falling contour of the phrases is between a pentachord, and a heptachord (song 1: a descending minor 7th G-A) in the final cadences.

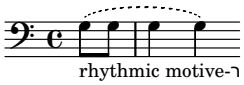
3.4 Motives

In song 2 "Ayama sambio", the motive-ξ CDAC generates a phrase with a binary structure •▼•▼

(21)

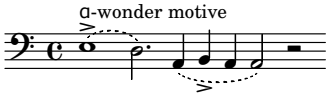


In song 3 "Foribune", the motive is rhythmic: • • ▼

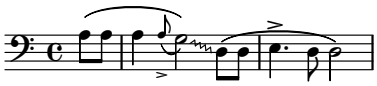
(22) 

The motive is repeated 3 times. Each time with a descending pitch, suggesting a chord GEC.

Song 5 “Wo nayro” in tetratonic mode 2: The initial phrase is made of 2 motives: a wonder motive, expressed by an exclamative surprise-like utterance on E (cf. Figure 5), which is answered at a perfect fifth below by a motive with an ascending-descending contour (ABA).

(23) 

Song 6 An initial descending motive AG is answered by a motive at a perfect fifth below DED.

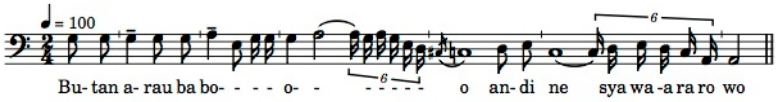
(24) 

4 The relation words-music

The same melody can be used with different lyrics. Probably, such a melody is felt as a characteristic melodic contour of traditional music or of a particular gender or is considered to depict some affection.

No syllable-note alignment. Melismatic ornamentation may occur at the end of a phrase. This is illustrated in the score below of the song 9 “Butan arau babo”, in Figure 1, and its pitch contour in Figure 2.

Figure 1: Butan arau babo, score



Exclamative utterance style: The use of screaming motives at the beginning of a song calling for the attention of the audience, or expressing admiration or wonder is a prominent feature in *wor* songs. Yampolsky (1991) and Rutherford (2003) characterize such a exclamative motives as expressions of an “aesthetic of surprise” and wonder, which they consider to be a core feature of the poetics of wor music. Those motives are illustrated in song 4 Figure 3, and song 5 in Figure 4.

In song 4 “Woresa”, and imperative utterance “wore-sa” ‘you stand up’, repeated twice, with a melismatic contour descending from stressed B to D, invites a girl to stand up and begin to dance.

The song 5 “Wo nayro” is a narrative song commemorative of the arrival at Mansinam island of the two German missionaries Carl Ottow and Johan Geisler on the 5th of February 1855. It

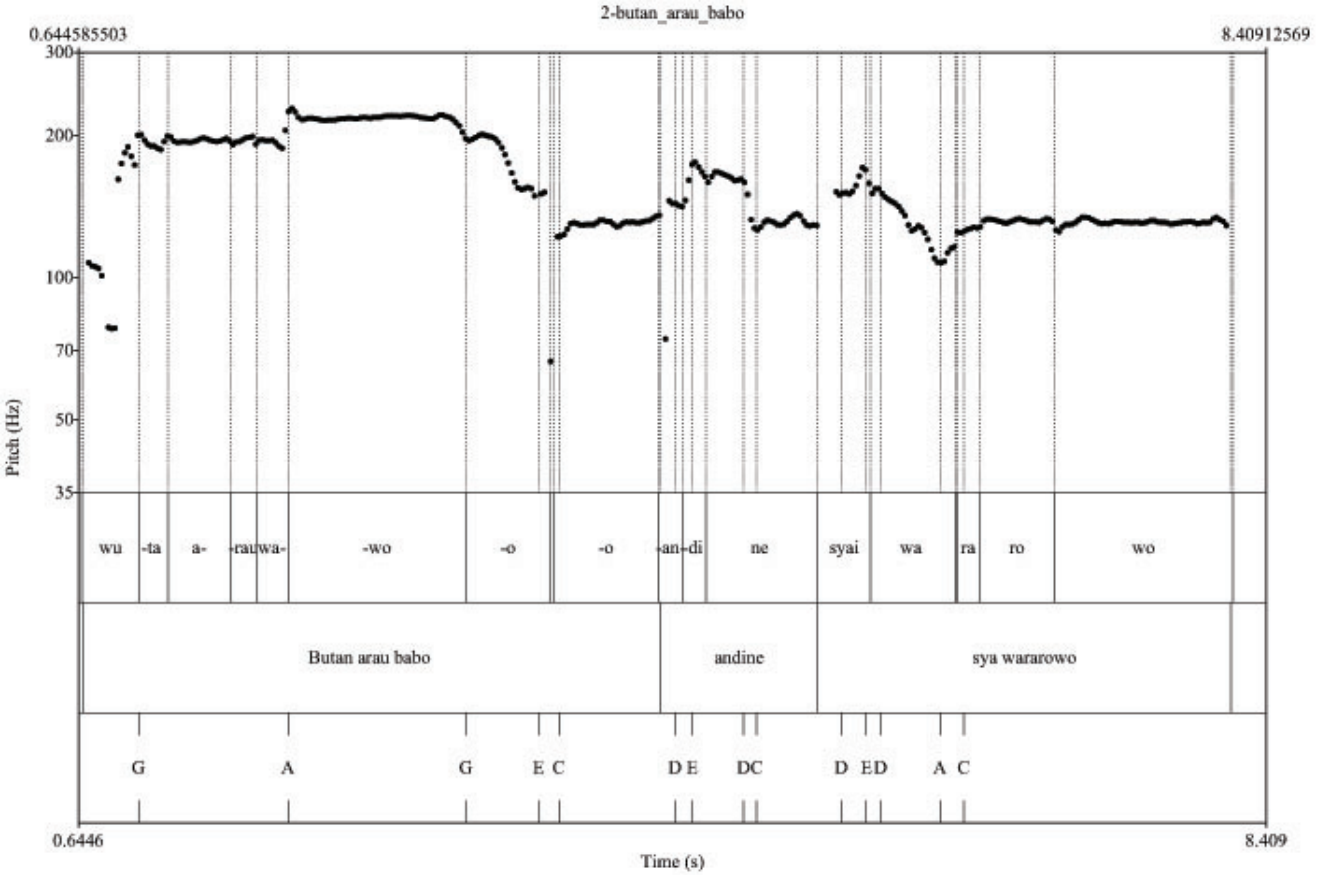


Figure 2: Butan arau babo, pitch contour

starts with an exclamative expression ‘wo’ with high intensity which fades away at the end of the word. We illustrate this expression of wonder with the pitch contour represented in Figure 4 and the intensity wave representation in Figure 5.

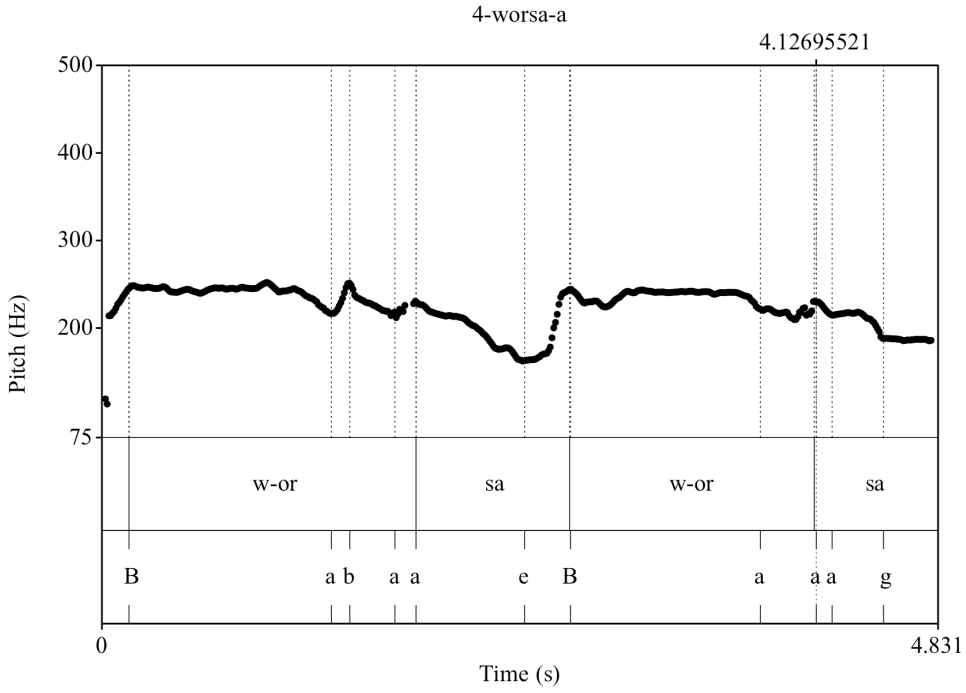


Figure 3: Woresa, pitch contoun

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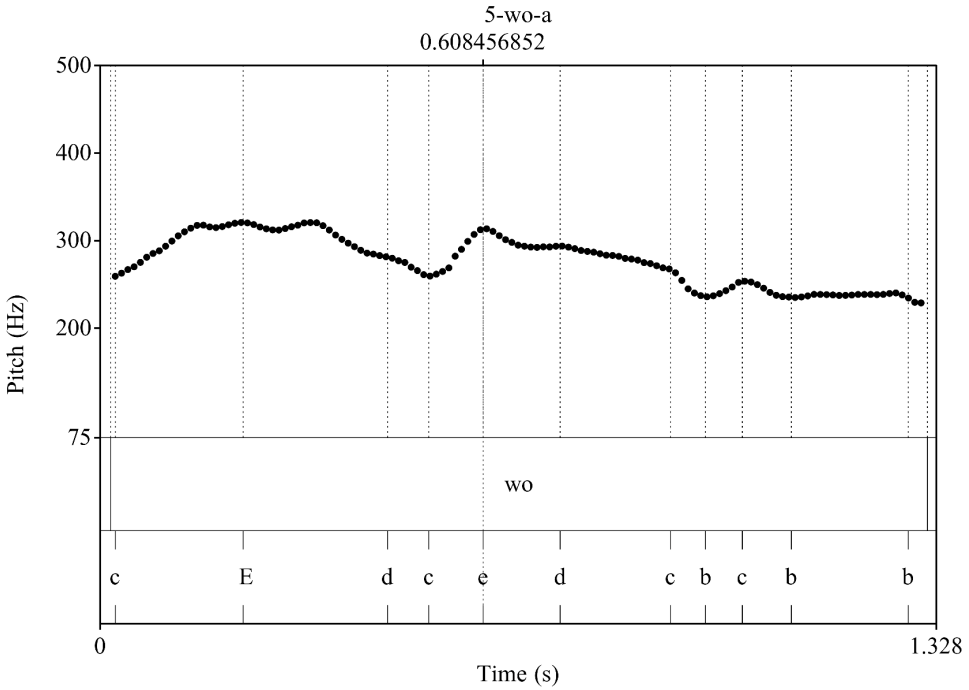


Figure 4: Wo nayro, pitch contour

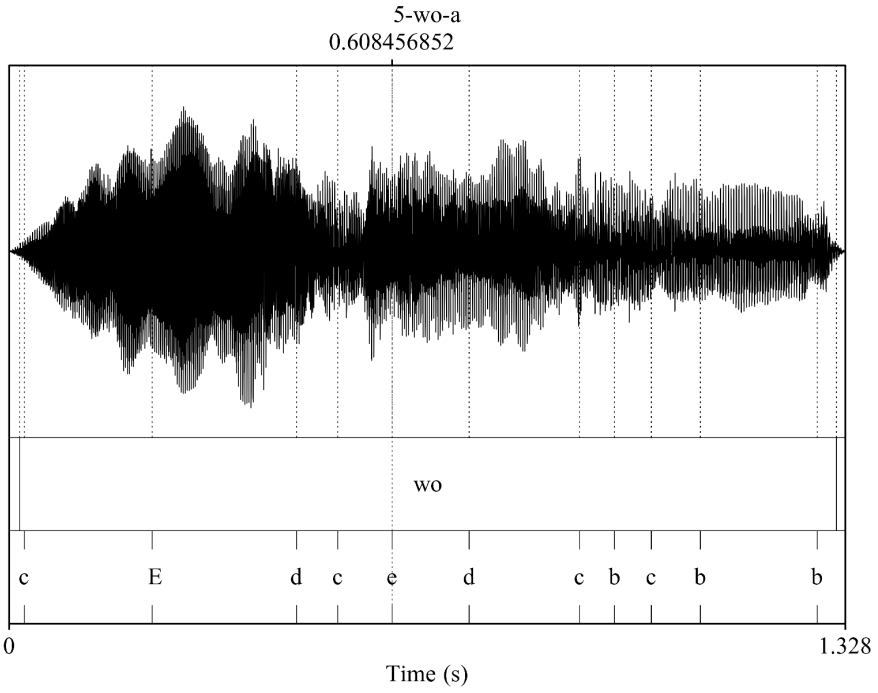
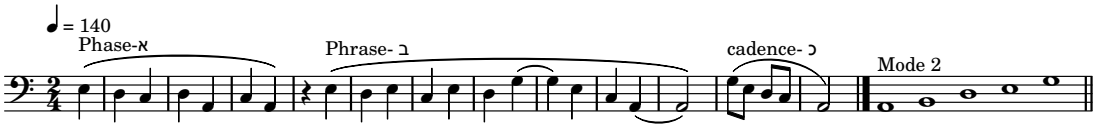


Figure 5: Wo nayro, wave dB

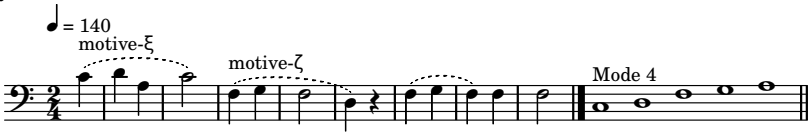
Austronesian traditional vocal music
Scores

Singer: Hendrik Arwam

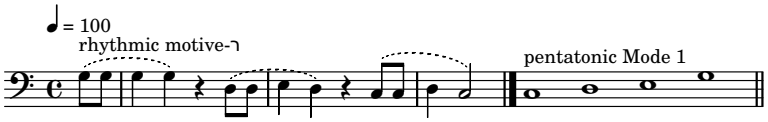
(1) Dado ro ayam



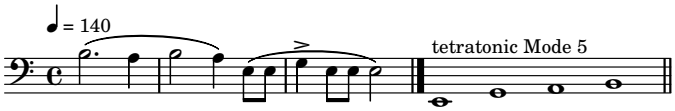
(2) Ayama



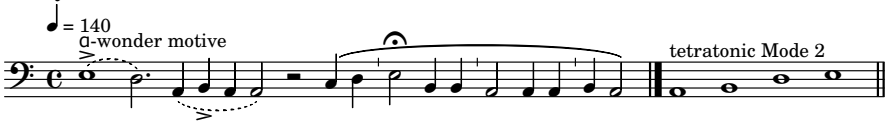
(3) Foribune



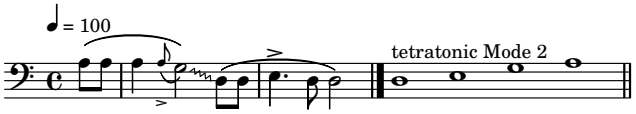
(4) Woresa



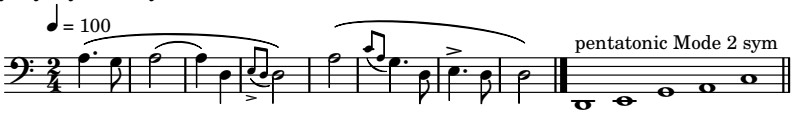
(5) Wo nayro



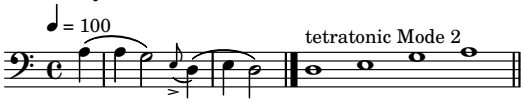
(6) Yasoriso



(7) Ay aye yasobaye

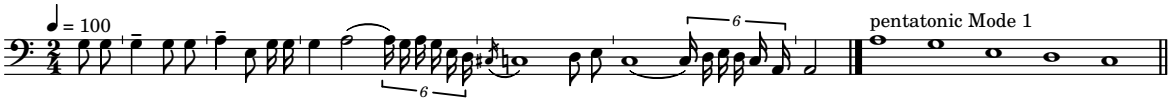


(8) Sensemo yasemo

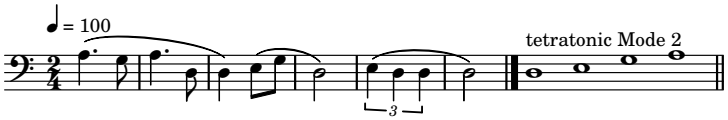


Singer: Obaja Tarami

(9) Butan arau babo



(10) Woro



Austronesian traditional vocal music
Lyrics

Singer: OBAJA TARAMI
Language: Serewen
District Pom, North Yapen

Butan arau babo
This song tells the story of the capture of people as slaves during the first war.

(1) **Butan arau babo andine syai wararowo**
dont ask the sea he was crying in the boat

(2) **Mambiri womburi butan arawo babo womini**
commander womburi dont ask the sea the slave

(3) **andine syai wararowo**
he was crying in the boat

Siobabo
This song describes the origin of the islands of Miosindi (Nukayr) and Abai.
(The first gloss is in Indonesian)

(4) **siobabo sayo besiene**
diatas poncak gunung melihat pemandangan yang indah
above top mountain look sight that beautiful
'above the top of the mountain look a beautiful sight'

(5) **mayosare isayo raruma boboi mareye boboi deriasi arawo**
saya berdiri melihat kelaut hanyut ke darat hanyut kembali kelaut.
I stand look sea float to land float back sea
'I stand looking at the land floating ashore and back into the sea'

(6) **Koboi aya taneo tundabe wongkei sibabo sayo besine**
Masiarakat dari kami pergi ke wongkei di puncak melihat pemandangan yang indah
comunity from we go to wongkei on top look sight beautiful
'our community went to the top looking at an imaginable scenery'

(7) **mayosare isayo rarauma Nurawy Abai boboi maraye boboi deriasi**
saya berdiri melihat kelaut nu-miosindi nu-aibai hanyut ke darat hanyut kesana kemari
I stand look sea Nukawy Abai float ashore float there
arawo
kembali kelaut begitu saja
here back sea
'I stand seeing Nurawy and Abai floating on the sea'