

## INTERPENETRATION OF STRESS AND PITCH IN WIK-MUNKAN GRAMMAR AND PHONOLOGY

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### 0. INTRODUCTION

Wik-Munkan is an Australian Aboriginal language spoken in the area of the Archer River in the Cape York Peninsula, Queensland, Australia.<sup>1</sup> It is classified as Pama-Nyungan Family, Pama-Maric Group, Middle Paman Sub-group (O'Grady, Voegelin and Voegelin 1966:54) and is spoken as either the first or second language of the 700 people who live at Aurukun on the Archer River.

S. A. Wurm (1972:16,17) quotes the early writer Schmidt (1919) as postulating that the Northern Australian languages were unrelated to each other and to the remaining part of the continent. Wurm also quotes Kroeber (1923) who, while recognizing the linguistic unity throughout the continent, still admitted that in Northern Australia there was much less linguistic homogeneity than in the south and that even adjacent languages often differed profoundly in the north. Ursula McConnel (1945) spoke of the abrupt linguistic and cultural change which extended right across the Peninsula north of the Archer River.

More recently, Kenneth Hale (1964) has indicated that he believes the changes in the Northern Paman languages immediately north of the Watson River (just to the north of the Archer River) are only superficially deviant owing to phonological development peculiar to them. He also points out (in an unpublished manuscript) that Linḡiḡiḡ has predominantly monosyllabic morphemes and that this feature, while rare throughout the rest of Australia, is shared with other languages of the northern Paman family spoken further south in the Peninsula. Wik-Munkan is included in the languages which feature predominantly monosyllabic morphemes.

The inventory of segmental phonemes in Wik-Munkan is typical of Australian Aboriginal languages in general (O'Grady, Voegelin and Voegelin 1966) and only varies from Proto Paman (Hale 1964:225) by the addition of glottal stop and the further two vowel phonemes /e/ and /o/. The Wik-Munkan inventory is as follows:

	bi- labial	inter- dental	apico- alveolar	lamino- palatal	velar	glottal
stops	p	t̪	t	tʃ	k	ʔ
nasals	m	n̪	n	nʃ	ŋ	
lateral flap			l			
semi- vowels	w		r̪	y		
		front	central	back		
		high	i, i:		u, u:	
		mid	e, e:		o, o:	
		low		a, a:		

There is, however, considerable phonological divergence in Cape York, and this could have influenced the early writers in their assumptions about Cape York languages. For example, Kunjen (Sommer 1969) which has no glottal stop or vowel length but has three fricatives; Gogo-Yimidjir (de Zwaan 1969) which has no glottal stop; and Mabuig (Simpson 1971) has no inter-dentals, no glottal stop, but has fricatives, and no vowel length. The Northern Paman languages have their own peculiar phonological development which includes pre-nasalised stops, nasalisation of vowels and a voiced fricative series. These phonological innovations clearly distinguish them from the Wik languages (Hale 1964:251).

As well as inventory difference, the slower staccato type speech of Wik-Munkan with its short words and its obvious pitch changes related to marked stress patterns contrasts with languages which have fast flowing speech with less marked stress patterns. While there are many contrastive stress patterns for Wik-Munkan words, strong structural pressure is exerted by the pattern which I have called *Normal Rhythm*. This same pattern is described by Dixon (1972:274) for Dyirbal words as the 'preferred' stress pattern. In both languages the first syllable is stressed and there is one and only one unstressed syllable between each successive stressed syllable.

While Wik-Munkan sounds 'different' from other languages in the Cape York area and from those elsewhere throughout Australia, it fits into the over-all Australian phonological system.

The analysis of Wik-Munkan stress and pitch has caused the author considerable difficulty. The first difficulty was initial failure to recognize the grammatical significance of stress/pitch changes (first pointed out for tense distinctions by Kenneth Hale in personal communication). This lack of recognition was due to the fact that the same phonetic phenomena functions differently between different suffix classes which are defined by stress. With suffix classes such as those which include tense there is contrast between morphemes which is shown only by stress distinctions while with another suffix class these same stress differences are only stress-conditioned allomorphs.

Once the contrastive nature of stress was recognized, problems remained from a phonological viewpoint as the stress contrasts were asymmetrical. It was only when the grammar was considered in the analysis that these gaps could be adequately accounted for. From the grammatical viewpoint the lack of symmetry in contrasts can be accounted for within the grammatical structure as the pressure of certain affix classes overrides Normal Rhythm.

The analysis uses the Tagmemic model which is hierarchical in approach (Pike 1947) with the hierarchy being handled in descending order. This analysis, however, differs from Pike's model in that grammar is handled as it relates to each level of the phonology hierarchy. Some levels of the hierarchy such as the Foot and the Syllable have been analysed following Grimes' model (1969).

This paper is presented in two parts. Part I (Intonation) handles the analysis of the Phonological Clause, the Phonological Sentence and Intonation. It covers contrastive height and placement of both P-clause and P-sentence stress and predictable features of speed and pitch in the body of both P-clauses and P-sentences. Twenty-six contrastive intonation patterns are described in relation to their phonological components and their grammatical usage.

Part II, which is to follow, covers the following levels of the phonological hierarchy: the Word, the Foot, the Syllable and the Phoneme.

The data was collected during residence at Aurukun between 1962 and 1973, under the auspices of the Summer Institute of Linguistics.<sup>2</sup>

I greatly appreciate the consultation and editorial help of Eunice Pike and Alan Healey and other co-workers in the Summer Institute of Linguistics. Thanks are also extended to the Wik-Munkan speakers at Aurukun who have helped in various ways. These helpers include Hazel Chevathan, Geraldine Kawangka, Winnie Koongotema, Topsy Wolmby and Maud Yunkaporta.

My co-worker, Christine Kilham, is undertaking further detailed work towards a Ph.D. in Linguistics. Her thesis topic is 'The Thematic Organization of Wik-Munkan' which includes such features as the relevance of pitch to new information and thematic development. Her encouragement and comments have been most helpful.

## 1. PHONOLOGICAL CLAUSE

Wik-Munkan intonation is most easily described by first considering how it is related to the rhythm wave which is here called *the Phonological clause* (P-clause).

A P-clause consists of one or more words grouped together by having a single clause-stress, an intonation pattern, and certain predictable features of pitch and speed. It is normally bounded by pauses, but in the middle of certain merged sentences pause does not occur.

In describing the P-clause it is convenient to regard it as composed of two sections. The body consists of all but the last syllable or last half-syllable of the P-clause. Grammatically, it is the lexical part of the P-clause. The terminal is the last syllable if that syllable is an 'intonation carrier' clitic, or is the last half of the last syllable if no 'intonation carrier' clitic occurs.

### 1.1 CONTRASTIVE CLAUSE STRESS AND GRAMMAR

Within the body of the P-clause there is one syllable with a peak of prominence, called *clause-stress*, which is perceived as being louder and higher in pitch than that of other syllables in the P-clause.

In Wik-Munkan the placement of clause-stress (marked by °) is phonologically unpredictable and therefore contrastive. In many of the examples cited below, the clause-stress is also sentence-stress and is then marked by °°. (All other symbols are listed in Section 3.2.).

(1) / púk    ɲáʔařàmàn    °°pí:ʔan-#<sup>1</sup>  
       *child my:foc            big-int*  
       '*My child is big.*'

(2) / púk    °°ɲáʔařàman    pí:ʔan-#<sup>1</sup>  
       *child my:ts            he:minds:it-int*  
       '*My child minds it.*'

The placement of clause-stress, however, is predictable in terms of the grammar of the body of the P-clause.

(a) In a clause containing a verb, clause-stress normally occurs on the tagmeme preceding the verb, either transitive (3) or intransitive (4).

(3) / pám pí:ʔan °°ʔánpàl wámpìn-#<sup>1</sup>  
 man big from:there:to:here they:came-int  
 'The important men came from there to here.'

(4) / pám ʔálanàn °°kúʔ pí:k-#<sup>1</sup>  
 man that:ts dog he:hit-int  
 'That man hit the dog.'

(b) When a content-interrogative clause contains a verb, the clause-stress occurs on the interrogative pronoun which frequently precedes the verb.

(5) / nínt °°wántìnàk ʔí:yan-a<sup>2</sup>  
 you where:to you:go-int  
 'Where are you going?'

(6) / °°ŋé:naŋ púkaŋ wúnp-#<sup>2</sup>  
 what:on child-ts he:put-int  
 'What did the child put it on?'

(c) If the verb is preceded only by a subject pronoun and is followed by only a non-subject pronoun, clause-stress occurs on the verb.

(7) / níl °°pí:k t́ánaŋ-#<sup>1</sup>  
 he he:hit them(all)-int  
 'He hit them.'

(8) / níl °°t́áw púlant-#<sup>1</sup>  
 he he:said to:them(two)-int  
 'He said to them.'

(d) In desiderative mood, clause-stress occurs on the verb to which the 'intonation carrier' clitic -è: or -à: is attached.

(9) ↑ kán °°wá:ʔàn-à:<sup>31<></sup>  
 punct you:tell:me:about:it-int  
 'I wish you would tell me about it.'

(10) ↑ pál °°kútjìn-è:<sup>31<></sup>  
 to:here you:would:send:it-int  
 'I wish you would send it here.'

(e) In an Inverted-Sequence Sentence, the clause-stress occurs on the verb in the Consequent Action tagmeme, thus putting focus on this verb which is out of chronological order.

(11) Cons Act: / níp °°ʔí:yùw-à?<sup>3</sup> Ant Act: / kúlìtj  
 you(two) you(two)went-int clothes  
 kà:ʔátam °°kánàn púnùw-#<sup>1</sup>  
 first punct:foc you(two)washed-int  
 'You two went after you had washed the clothes.'

(f) In a Future Result Sentence, the clause-stress may occasionally occur on the future/infinitive verb in the *Future Result tagmeme*.

(12) Text: / ɲán-wèy °°ʔín wámpan-a<sup>1</sup> Fut Res: / ʔá:k  
 we:emo here we:came-int place

núnkařàm ʔáʔaŋ °má:kàn-#<sup>1</sup> Fut Res: / wík  
 yours foot:with to:tread-int words

°mámàn núnkařàm-#<sup>1</sup>  
 we:to:hold yours-int

'We came here to live at your place and to learn your language.'

(g) In non-verbal clauses the clause-stress occurs on the non-verbal predicate. This rule still holds in a content-interrogative non-verbal clause whether or not the interrogative pronoun is final.

(13) / ɲáy káʔ kùʔ°°wá:kant-a<sup>1</sup>  
 I like cat:ref-int  
 'I thought it was a cat.'

(14) / pám wé:ʔàn °°mín-a<sup>2</sup>  
 man who:foc good-int  
 'What man is good?'

(15) / pám mín °°wé:ʔàn-a<sup>2</sup>  
 man good who:foc-int  
 'Who is the good man?'

(h) When the function morphemes yáʔ (non-verbal negative/verbal intensifier), kéʔ (verbal negative), and yáʔaŋàm (frustration marker) occur they take clause-stress.

(16) ↓ máy ʔín mín °°yáʔ-#<sup>1</sup>  
 food this good not-int  
 'This food is terrible!'

(17) / ɲáy pút °°yáʔaŋàm yúk mánj ʔák kí:ŋk-kì:ŋkaŋ-#<sup>1</sup>  
 I but to:no:avail sticks small etc. I:cooked-int  
 / ɲánaŋ méʔaŋ °wáʔʔàm má:yan-#<sup>1</sup>  
 us mosquitos:ts almost picked:up-int  
 'To no avail I burned small sticks etc., still the mosquitos almost picked us up (carried us away).'

- (18) .../ níí ˚pétj-pètj-#<sup>1</sup> ↓˚˚yákkày-#<sup>1</sup> / wèntj-ǵá:?  
*she she:cried-int exclam-int sores:bad*  
 ˚pótj-a?<sup>3</sup> ↓ kékaŋ ˚ké? púnàn ǵáyaŋ-a?<sup>3</sup>  
*sore-int spear:with neg you:spear me-int*  
 ↓˚yá?aŋàm ǵáw-ǵàw-#<sup>1</sup>  
*to:no:avail she:said-int*  
 '...she cried out "yakkay, my sores are very sore. Don't  
 spear me with a spear". But she said it to no avail.'

(i) In a Simile Sentence, when a negative does not occur, clause-stress occurs on the word preceding the similarity markers yímanàŋ or ǵánmàn 'in like manner', thus focusing on the item of similarity. If the similarity marker is the first word in the P-clause, the marker receives clause-stress, thus focusing on the similarity itself.

- (19) driver ↑˚tón ǵálaŋàny-a?<sup>3</sup> / ǵàk-˚wáy múŋk-#<sup>1</sup>  
*driver one that:one:ts-int beer he:drank-int*  
 / ǵán ká? níí ˚kó?antj yímanàŋ njí:n-njì:n-#<sup>1</sup>  
*that like he blind in:like:manner he:sits-int*  
 'One driver had drunk beer and it was just as if he was  
 blind.'

- (20) .../ ká? ká:ntj ˚mínàn ké:kan-#<sup>1</sup> ǵá:k ǵá:ŋ  
*like seed good:foc it:falls-int place sand*  
 ˚mínaŋàŋ-#<sup>1</sup> ˚yímanàŋ ǵí:yàn-#<sup>1</sup>  
*good:in:foc-int like:manner he:will:go-int*  
 '...like the good seed fell on the good ground - we will  
 behave in that manner.'

- (21) .../ ká? ká:ntj ˚mínàn ké:kan-#<sup>1</sup> / páí-pù:yàn-#<sup>1</sup>  
*like seed good:foc it:falls-int here:there:foc-int*  
 / ǵá:ŋ ˚mínaŋàŋ-#<sup>1</sup> / ǵá:ŋ kúntòwaŋ ké:kan-#<sup>1</sup>  
*sand good:in:foc-int sand stony:in fell:it-int*  
 ↓ yímanàŋ ˚˚yá?-#<sup>1</sup>  
*in:like:manner not-int*  
 '...like good seed that falls here and there on good ground,  
 not like seed that falls into stony ground.'

(j) In the first clause of a Like Merged Sentence, when a negative does not occur, clause-stress occurs on the irregular verb ká:ŋk 'like'.

(22) / níl ˚ká:ŋk-#<sup>3</sup> ≠ / ˚wáɪly múŋkòw-#<sup>1</sup> / púl ˚míŋaŋ-#<sup>1</sup>  
 he likes-int yams to:eat-int and meat-int  
 'He likes eating yams and meat.'

(23) ↓ ɲáy ká:ŋk ˚˚ké?-#<sup>3</sup> ≠ / kà:ʔ˚pátj ʔánaŋàn-#<sup>1</sup>  
 I like neg-int white-nose them-int  
 'I don't like white people!'

## 1.2 PREDICTABLE PITCH IN THE BODY OF A P-CLAUSE

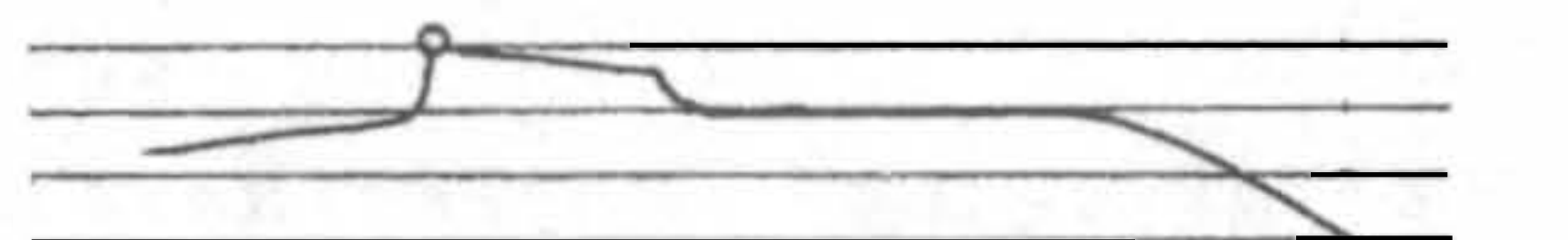
In the body of the P-clause the word stresses become successively higher in pitch until the peak of prominence is reached. This is clause-stress and on this syllable word-stress and clause-stress coincide. Following clause-stress, pitch usually drops sharply until it reaches the final syllable of the lexical part of the P-clause.

The pitch of the syllable carrying clause stress is phonologically conditioned by the consonants in that syllable.

The shape of stressed syllables in Wik-Muncan is CV(:)C(C)(C), that is, the basic pattern is CVC with optional length on the vowel nucleus and the possibility of the coda being filled by up to three consonants. There are restrictions as to the classes of consonants which fill each C of the coda. When both the onset consonant and the first consonant of the coda are voiceless, the pitch of the clause-stress is highest. When one of the two consonants is voiceless and the other voiced, the pitch of clause-stress is mid height. When both these consonants are voiced, the pitch of clause-stress is lowest.

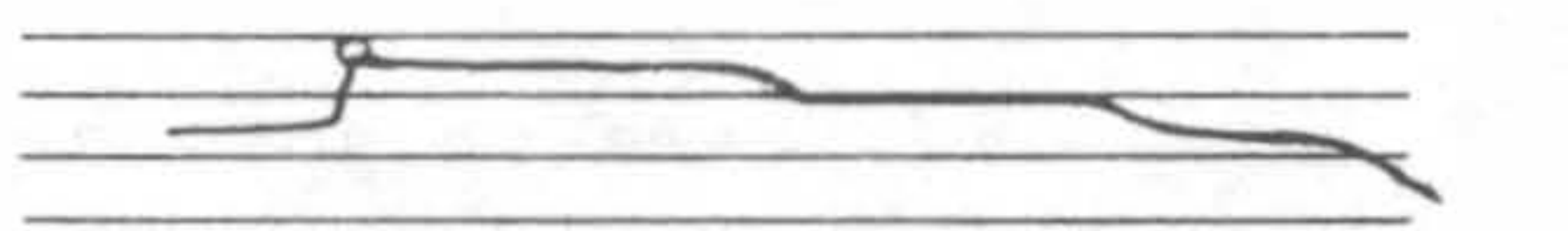
The following examples where the relative pitch height is shown by contour lines demonstrate the differences in pitch height.

(24)



/ pám ˚˚ʔítàm ʔí:y-#<sup>1</sup>  
 man slowly went:he-int  
 'The man went slowly.'

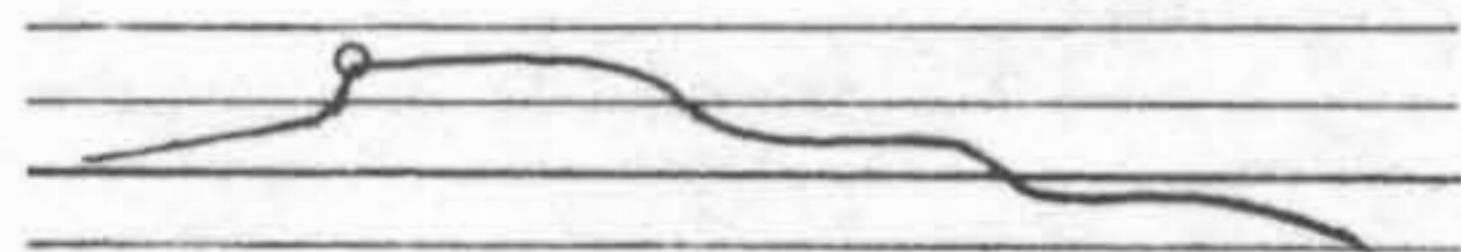
(25)



/ pám ˚˚ʔéřkam ʔí:y-#<sup>1</sup>  
 man quickly went:he-int  
 'The man went quickly.'

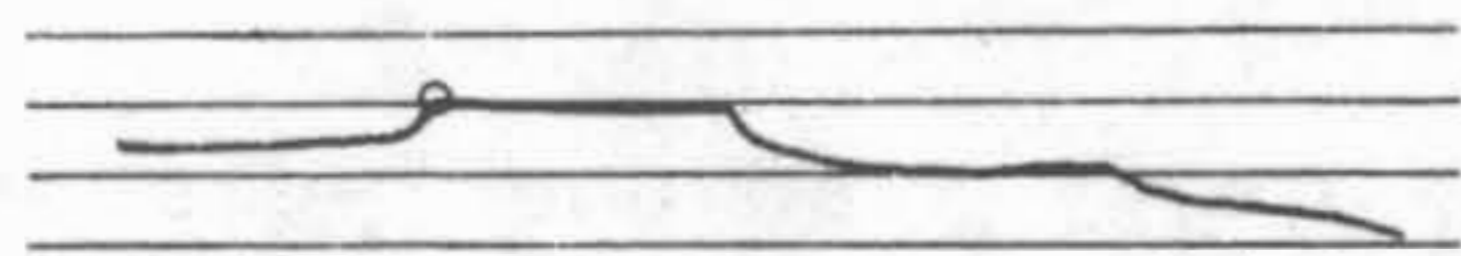


(26)



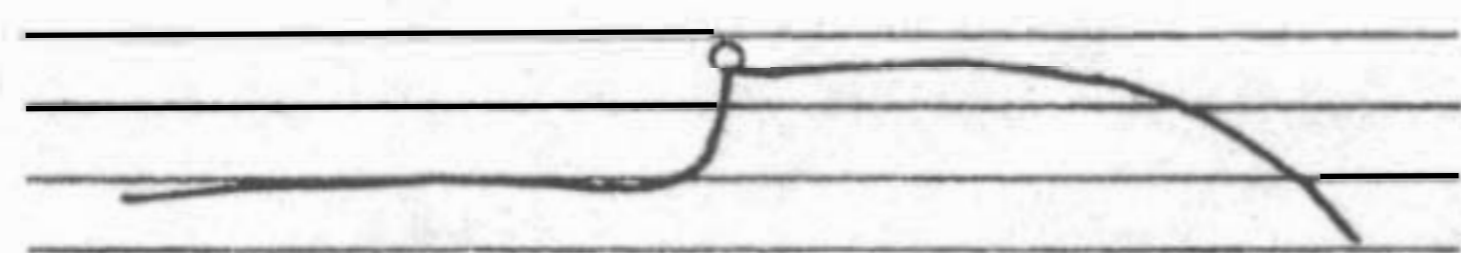
/ pám °°mítjam ké:ʔ-#<sup>1</sup>  
 man supple danced:he-int  
 'The man danced well (in a supple manner).'

(27)



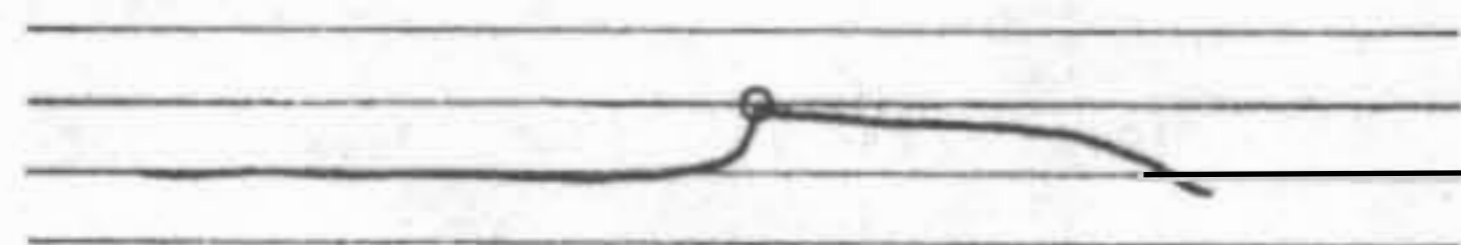
/ pám °°mínam ké:ʔ-#  
 man well danced:he-int  
 'The man danced well.'

(28)



/ yúk °°mítj-#<sup>1</sup>  
 thing soft-int  
 'A soft thing.'

(29)



/ yúk °°mín-#<sup>1</sup>  
 thing good-int  
 'A good thing.'

The pitch of clause-stress in a P-clause with general pitch elevation and compressed pitch range is less clearly perceived since the range of pitch is minimal. It is more clearly perceived as extra loudness.

### 1.3 PREDICTABLE SPEED IN A P-CLAUSE

In any P-clause one of three possible speeds occurs. These contrastive speeds inter-relate with contrastive levels and ranges of pitch.

(a) Intonation patterns with a neutral pitch (/) or an elevated compressed pitch (↑) have somewhat slow even timing throughout, according to various patterns discussed later (see *The Foot* in Part II of the paper).

(b) Patterns with an expanded pitch range (↓) have a clause-stressed syllable which is optionally greatly lengthened. Syllables preceding the clause-stressed syllable are somewhat faster but are evenly timed.

The syllables following the clause-stressed syllable are very fast and together occupy about the same time as the syllable with clause-stress.

(c) Patterns with a lowered pitch (↓) have the somewhat faster and even timing of the pre-peak part of an expanded pattern (↕), but this speed is carried throughout the whole P-clause.

#### 1.4 PHONOLOGICAL CLAUSE AND GRAMMATICAL CLAUSE

One grammatical clause (G-clause) is usually also one P-clause. Under certain circumstances, however, one G-clause may be two or more P-clauses:

(i) If the subject, object, benefactive or indirect object contains a co-ordinate serial list, each item in the list is a P-clause and the remainder of the G-clause (including a pronoun summarizing the list) is also a separate P-clause. For the most part, each of its P-clauses has the intonation pattern /...-à?³; if the list occurs after the verb, each of its P-clauses has either /...-à?³ or /...-#¹ (clause-stress roughly even on pre-posed Summarizing P-clause).

(30) /°ŋáɣ-à?³ /°nɪnt-à?³ /°Topsy-à?³ /°ŋámp      ?í:yamp-à³¹<>  
 I-int          you-int          Topsy-int          we(all)      we:went-int  
 'Topsy, you and I all went, didn't we?'

(31) / níl mín ?ínaŋàn °°pál          kál          ʔánaŋ-#¹          mín  
 he      fish      these          to:here      carried:he      them-int      fish  
 °pú:y-à?³ / mín káʔaŋʔ-à?³ ↓ mín wú:ŋkam-#¹  
 crab-int      fish      catfish-int      fish      barramundi-int  
 'He brought home these fish; crabs, catfish and barramundi.'

(32) / ʔán °°ʔánt          ʔé:ʔɪn-#¹          /°ká:t-kùnjtjant-#¹  
 they      to:them      they:gave-int          to:the:real:mother-int  
 /°pí:p-kùnjtjant-#¹          /°púk-kùnjtjant-#¹  
 to:the:real:father-int          to:the:real:child-int  
 'They gave (it) to them; to the mother, the father and the child.'

(ii) A 'Sentence Topic' is analyzed as part of the first G-clause of a sentence.<sup>3</sup> It consists of either a noun phrase or of two or more noun phrases in apposition. Each such noun phrase is a P-clause with the intonation pattern ↑...-à?³, and the remainder of the G-clause (which may include a pronoun representing the topic) is a further separate P-clause.

- (33) ↑<sup>o</sup>nánpàlànìy-à?<sup>3</sup> ↑<sup>o</sup>Tariri?ànìy-à?<sup>3</sup> ↓ níí ɲàŋk-mín °°yá?-#<sup>1</sup>  
*after:that-int Tariri:that-int he happy not-int*  
*'After that Tariri was not happy.'*

(iii) In an emphatically negative verbal sentence ké? occurs (with clause-stress) as the normal negative particle before the verb and yá? occurs at the end of the G-clause and constitutes a separate P-clause by itself and takes both clause and sentence-stress. There is rarely a pause between these two P-clauses.

- (34) ↓ ɲáy ká:ŋk ké? múŋkàŋ t́ánaŋ-#<sup>1</sup> ≠ ↓°°yá?-#<sup>1</sup>  
*I like neg eat:I them-int no-int*  
*'I really don't like eating them!'*

(iv) When a polite question is asked by a person of the younger generation, the last word of the G-clause is the question particle ?éy which constitutes a separate P-clause from the preceding part of the G-clause. It has its own clause-stress, but never takes sentence-stress.

- (35) ↑ nínt °°ké? yálkam pékìř-#<sup>2</sup> ≠ /°?éy-#<sup>12<</sup>  
*you neg shake:a:leg dance:for:me-int Q-int*  
*'You wouldn't dance "shake a leg" for me, would you?'*

(v) The conjunction ?á? always constitutes a P-clause by itself and always has the same intonation pattern. It may be described in either of two ways:

- (a) as the conjunction ?á? plus the pattern ↓...-#<sup>3</sup> with the P-clause commencing with low pitch, ↓°?á?-#<sup>3</sup> or,  
 (b) as the conjunction ? plus the pattern ↑...-à?<sup>3</sup>, with the secondary stress becoming primary stress by default and with the P-clause commencing with extra low pitch ↑°?-à?<sup>3</sup>.

The first analysis has been used in the examples in this paper.

(vi) In an equational or stative clause, having any one of certain intonation patterns ending in -#, -èy, -à, or -àw, -a is attached to the subject which is the first tagmeme of the clause. This subject could perhaps be regarded as being a separate P-clause with the intonation pattern / ...-a<sup>1</sup>. There is, however, absence of pause (symbolized ≠) between the two tagmemes.

- (36) /°?ín-a<sup>1</sup> ≠ /°°mín-#<sup>1</sup>  
*this-int good-int*  
*'This is good.'*

Alternatively, it could be regarded as a non-phonemic open transition between the two tagmemes within a single P-clause.

- (37) / ?ín °°min-#<sup>1</sup>  
           *this good-int*  
           '*This is good.*'

Two G-clauses could be considered as one P-clause in Merged Sentences but, due to the presence of two clause-stresses in all but one sub-type, they have been analyzed as two P-clauses even though there is obligatory absence of pause. (Merged sentences are discussed further in Section 2.1f.)

## 2. THE PHONOLOGICAL SENTENCE

A P-sentence consists of one or more P-clauses which have a single sentence-stress and characteristic features of pitch at the onset. It is bounded by obligatory pause.

Within each grammatical sentence there is one clause-stress which is higher than the other clause-stresses. This is called sentence-stress. The pitch difference between sentence-stress and clause-stress of the other P-clauses within the sentence may be minimal or considerable.

The onset of a new P-sentence is clearly identified by the high rise of the pitch of clause-stress, and it may also be accompanied by the intonation pattern ...-à?<sup>3</sup> on the first P-clause of the sentence.

### 2.1 CONTRASTIVE SENTENCE STRESS AND GRAMMAR

In Wik-Munkan the placement of sentence-stress (marked by °°) is phonologically unpredictable and thus contrastive. This stress has higher pitch than any other clause-stress in the P-sentence.

- (38) / kú? °°?ánaṅàṅ ònjí:nìn-#<sup>1</sup> /°°ké? páṭanj-a<sup>1</sup>  
           *dog those sat:they-int neg bit:me-int*  
           '*Those dogs sat and they didn't bite me.*'

- (39) / yúk °°?ánaṅàṅ pí:kaṅ-#<sup>1</sup> /°t'é? pí:kaṅ-#<sup>1</sup>  
           *thing those hit:I-int billy:can hit:I-int*  
           '*I hit those things - I hit those billy cans.*'

The placement of sentence-stress, however, is determined by the grammar of the utterance, as shown in the following sub-sections.

(a) In most sentences the sentence-stress is on the first P-clause, on the word and syllable which normally has clause-stress. Such P-sentences consist of a series of P-clauses with /...#<sup>1</sup> intonation

pattern and occasionally / ...-à?³ pattern. P-sentences of this kind frequently occur in Paraphrase, Temporal, Co-ordinating and Parallel Sentences. A P-sentence may consist of a single P-clause in which case the clause-stress is also the sentence-stress.

Paraphrase Sentence:

- (40) Text: / níí ˚˚táw tánt-#¹ Paraphrase: / níí  
 he he:said to:them(all)-int he  
 ˚núnantákam wá:ʔ-#¹  
 himself he:told:about-int  
 'He said to them - he told about himself.'

Amplification (Paraphrase) Sentence:

- (41) Text: / tán yúk ˚˚pí:ʔanàn ʔúmpìn-#¹  
 they(all) tree big:foc they:cut-int  
 Amplification: / táyan ˚pépanàn ʔúmpìn-#¹  
 axe sharp:with they:cut-int  
 'They cut down a big tree - they cut it with a sharp axe.'

Sequence (Temporal) Sentence:

- (42) Antecedent Base: / ɲáy ˚˚ʔí:yaŋ-à?³ Consequent Base₁: / tá:ʔ  
 I I:went-int mouth  
 ˚tjáwaʔàn ʔúmpaŋàn-#¹ Consequent Base₂: ʔ˚ʔáʔ-#³  
 big:knife:with I:cut:it-int cj-int  
 /˚hookànan wítjaŋàn-#¹  
 hook:foc I:pulled:it:out-int  
 'I went and cut the mouth (of the fish) with a big knife  
 and pulled the hook out.'

Co-ordinate Sentence:

- (43) Action: / nílàn kúym ˚˚ʔálantàn mé:ʔ-wùtàn-#¹  
 he:foc used:to that:one:to he:eyes:shut-int  
 / púnkaŋ njí:n Co-ord. Action: ʔ˚ʔáʔ-#³ / pám  
 knee:on he:sat-int cj-int man  
 wántj kónjtj tánaŋ-#¹  
 woman he:cursed them(all)-int  
 'He used to pray to that one and worship him and curse  
 people.'

## Parallel Sentence:

(44) Text: / tán mán-yàtam ?ínanàn °°kán ké:ʔantàn-#<sup>1</sup>  
 they(all) alive these punct they:dance-int

Parallel: / níl mínjtjalàmàn °kán ké:ʔan-#<sup>1</sup>  
 he ghost:foc punct he:dances-int

'Those who are alive dance and he, the ghost, dances.'

## Simple Sentence:

(45) / ʔá:k ɲámpaʔàm °°yímanàn wún-#<sup>1</sup>  
 place/custom ours(all) in:this:manner it:lies-int

'Our custom is like this.'

(46) /°°ɲáʔaʔàm-#<sup>1</sup>

my:ts-int

'(It was) my (dog which bit).'

(b) In an Inverted Sequence Sentence the sentence-stress may come on the second P-clause which is the *Antecedent Action tagmeme*. (See Section 1.1 (e) for an example.)

(c) When the function morphemes yáʔ (non-verbal negative/verbal intensifier), kéʔ (verbal negative) and yáʔanàm (frustration marker) which take clause-stress occur, they may also take sentence-stress. (See Section 1.1 (f) for examples.)

When a further function morpheme ʔép (factitive marker) occurs in a verbal clause it may take both clause-stress and sentence-stress.

(47) † wíy °°ʔép-wèy kú:pamìn-wèy-#<sup>1</sup> †°wíyìy-àʔ<sup>3</sup>  
 some fact:emo they:happy:emo-int some:others-int

‡ ká:ɲk °kéʔ-#<sup>3</sup> / pópam °ʔáɲan njí:n-njì:nìn-#<sup>1</sup>  
 like neg-int still there they:sat-int

'Some were happy (at school) but some didn't like it — they just sat quietly.'

The question tag ʔéy, which is always a separate P-clause, never takes sentence-stress but the preceding part of the G-clause does.

(48) † nínt wík-káʔ °°kéʔ wá:ʔànɲ-#<sup>2</sup> ≠ /°ʔéy-#<sup>12<</sup>  
 you story neg tell:to:me-int Q:tag-int

'You wouldn't tell me a story, would you?'

(d) When a P-clause has elevated or expanded intonation, sentence-stress is on that clause within the sentence.

(49) †°°ʔí:yàn-à::<sup>3</sup> /°ʔá:k ʔúwìn-#<sup>1</sup>  
 they:went-int place they:found-int

'They kept on going and then they found the place.'

- (50) *Text:Generic:* / ɲáy mɪŋ ˚ɲáʔ tʃɪntaŋà-#<sup>1</sup>  
 I animal fish I:speared:it-int  
*Text:Specific:* ↓ mɪŋ wú:ŋkam ˚˚pí:ʔan tʃɪntaŋà-#<sup>1</sup>  
 animal barramundi big I:speared:it-int  
 'I speared a fish - I speared a really big barramundi.'

If a sentence has both a P-clause with elevated intonation and a P-clause with expanded intonation, the one with expanded intonation takes the sentence stress.

- (51) ↑ ɲáy káʔ ˚ʔí:yɪŋànt-àʔ<sup>3</sup> ↓ púʔ ˚˚yáʔ-#<sup>1</sup>  
 I just:as I:should:go:to:him-int but no-int  
 / nɪl púʔ ˚ʔí:kanàk wámpàʔ-#<sup>1</sup>  
 he because to:here he:came:to:me-int  
 'I was about to go to him, but didn't (go) because he came here to me.'
- (52) ↑ ɲáy káʔ ˚wántaŋànt-àʔ<sup>3</sup> ↓ púʔ mɪŋ ˚˚pí:ʔan  
 I about I:leave-int but fish big  
 wɪtjaŋànt-#<sup>1</sup> / kàʔpá:l ˚ʔáŋam nʃí:n-nʃì:naŋ-#<sup>1</sup>  
 I:caught:it-int therefore there I:sat-int  
 'I was about to go but then I caught a really big fish so I kept sitting there.'

(e) When the pitch of the first P-clause of a sentence is lowered, sentence-stress occurs on the following P-clause which has neutral pitch height.

- (53) ↓ nɪl ˚táw núŋant-#<sup>1</sup> /˚˚kéʔ ʔí:yànt-àʔ<sup>3</sup> / nɪnt  
 he he:said to:him-int neg you:go:imp-int you  
 ˚fɪŋam-àʔ<sup>3</sup> ↓˚táw-#<sup>1</sup>  
 here:to:stay-int he:said-int  
 'He said to him, "Don't go - you stay here".'

(f) Wik-Munkan has a restricted set of merged grammatical sentence structures where the significant phonological feature is also that of merging. There is obligatory absence of pause (symbolized ≠) between certain tagmemes and the position of sentence-stress in some sub-types is indeterminate.

(i) In the Indirect Quote Sentence there is obligatory absence of pause between the pre-posed *Indirect Quote Formula* and the *Indirect Quote tagmeme*. Sentence-stress occurs on the *Indirect Quote tagmeme*. Following this tagmeme there is pause before the post-posed *Indirect Quote Formula*.

- (54) IQF<sub>1</sub>: / níí páám °ḡáṭařàman wá:? ḡánt-#<sup>1</sup>  
 he man mine:ts he:told:about to:us-int  
 ≠ IndQ: / níí ké:nk °ómín-tùp ?í:y-?ì:y-à?<sup>3</sup>  
 he first fish:lucky he:went:and:went-int  
 IQF<sub>2</sub>: ↓ yímanàḡ wá:? ḡánt-#<sup>1</sup>  
 like:manner he:told:about to:us-int  
 'My husband told us about how he had been a good hunter.  
 He told us what it was like.'

(ii) In the Indirect Quote Content Question Merged Sentence, the Indirect Quote Yes/No Question Sentence, the Indirect Quote Merged Sentence, and the 'Like' Merged Sentence, both clauses take approximately equal stress. These sentences could either be regarded as having no sentence-stress or as having fluctuating sentence-stress. Because of the occurrence of two clause-stresses, these Merged Sentences are considered to consist of two P-clauses. There is, however, obligatory absence of pause between them.

Indirect Quote Content Question Merged Sentence:

- (55) MQF: /°éḡkàn ṭánt-#<sup>2</sup> ≠ MContQ: /°wántìn wúnpin-#<sup>2</sup>  
 you:ask them:to-int-≠ where they:put-int  
 'Ask them where they put it.'

Indirect Quote Yes/No Question Sentence:

- (56) IQuF: /°éḡkàn núḡant-#<sup>2</sup> ≠ IndQuest: / níí náṭ  
 ask:you to:him-int-≠ he maybe  
 °wámpìy-#<sup>2</sup>  
 he:would:come-int  
 'Ask him if he would come.'

Indirect Quote Merged Sentence:

- (57) MQF: / ḡámp °wá:?àmp ṭánt-#<sup>1</sup> ≠  
 we we:tell:about to:them-int-≠  
 MIndQ: /°kón-kènjank ?í:yàyn-#<sup>1</sup>  
 ear:high:up they:to:go-int  
 '...we will tell them to be alert...'

'Like' Merged Sentence:

- (58) Like Base: / níí °ká:ḡk-#<sup>3</sup> ≠ Action: /°wáṭìy  
 he likes-int-≠ yam:type  
 múḡkòw-#<sup>1</sup> / púl °mínaḡ-#<sup>1</sup>  
 he:to:eat-int they(two) meat:with-int  
 'He likes eating yams and meat.'



(59) Like Base: / ɲáy °ká:ŋk-#<sup>3</sup> ≠ Action: / nípàn  
 I like-int- ≠ you(two):foc

ɲà:ʔ-tòn-tón °ʔí:kanàk wámpòw-#<sup>1</sup>  
 every:day to:here you:come(two)-int  
 'I like you two to come here every day.'

(iii) In the Conditional Answer ('Like' Merged) Sentence the subject pronoun takes sentence-stress. The verb *ká:ŋk* 'like' occurs immediately preceding sentence-stress. There is only one clause-stress in this highly elliptical sentence construction.

(60) Choice Marker: / ká:ŋk ≠ Action: °°níntàn náŋ  
 like you:foc maybe

té:ʔàŋ-a<sup>2</sup>

you:give:to:me-int

(Q: *Would you like tea?*) 'If you would like to give it to me.' (Implied: *I didn't come asking for tea, but I'd like it if you want to give it to me.*)

(g) In a Cyclic Sentence the clause-stresses on the *Text* and *Text'* tagmemes have approximately the same pitch. This is true irrespective of the pitch on the intervening clause-stress(es). Thus, if there are no features in the sentence (such as elevated or expanded intonation, or certain particles) causing heightening of pitch, the location of sentence-stress is indeterminately or fluctuatingly on the first or last tagmemes. The rise of pitch in the last P-clause up to the clause-stress is not as great as the rise of pitch in the first clause of a new sentence.

(61) / ɲà:ʔtòntónàn yim°°yímanàm-#<sup>1</sup> /°ʔékanàn-#<sup>1</sup> /°máŋ  
 every:day:foc this:manner-int we:get:up-int food  
 múŋkanàn-#<sup>1</sup> /°ʔí:yanàn mé:ʔ-ɲàŋanàk-#<sup>1</sup> / níŋ °°yímanàm  
 we:eat-int we:go to:pray it this:manner

ʔí:yan ɲà:ʔtòntónànìy-#<sup>1</sup>

it:goes every:day:foc-int

'Every day it's like this - we get up, we eat and we go to pray. This is the way it is every day.'

(62) / ʔín °ʔín-kènŋ-#<sup>1</sup> /°píntalaŋàn ʔúk-#<sup>1</sup>  
 this here:high-int on:plain:foc it:fell-int

↑ ɲákaŋàn °°kéʔam ʔúk-àʔ<sup>3</sup> / ɲáy °ʔín-kènŋ  
 in:water:foc didn't it:fall-int I here:high

té:ʔaŋ-#<sup>1</sup> /°píntalàŋ-#<sup>1</sup>  
 I:threw-int on:plain-int

*'It's here above. It fell on the plain - it didn't fall in the water. I threw it above on the plain.'*

(h) When a G-sentence expounds a sentence-level tagmeme, the pitch of the sentence-stress of this embedded sentence is approximately the same as the pitch of the clause-stress of a single clause were it to expound this tagmeme. The P-clause divisions, stresses, intonation, speed, and pauses of an embedded G-sentence are the same as those of an unembedded G-sentence.

## 2.2 PREDICTABLE PITCH OF A P-SENTENCE

There are three variants of the overall pitch pattern of the P-sentence. These are in relation to (i) the placement of P-sentence stress and (ii) the pitch height and range of the P-clause which takes sentence-stress.

(a) When sentence-stress occurs in the first P-clause in a sentence of two or more P-clauses, the P-sentence has an overall downdrift of pitch of successive P-clause stresses. When a sentence ends in a series of several P-clauses with  $-#^1$  or  $-a^1$  as terminal, most of the drop in pitch occurs on the clause which has sentence-stress. In fact, the downdrift of pitch on the series of clauses following sentence-stress is so slight that Wik-Munkan speakers listening to such a sentence often find it impossible to tell where it ends until they hear the pitch step up dramatically for the next P-sentence.

(63) / ɲán °opék ʔúkan-#<sup>1</sup> / °kú:y t̩é:ʔan-#<sup>1</sup> / mɪŋ  
 we down we:went:down-int line we:threw-int animal  
 °ŋáʔ wítjan ɲúl-#<sup>1</sup> / mɪŋ ɲáʔ °yót ʔánaŋàn-#<sup>1</sup>  
 fish we:caught then-int animal fish lots those-int  
*'We went down (to the landing), we threw lines and we then caught lots of fish.'*

(b) When sentence-stress occurs on a non-initial P-clause, the clause-stresses of all P-clauses preceding the one with sentence-stress also show an overall downdrift of pitch. Thus, this first part of the G-sentence preceding the P-clause with sentence-stress and the second part which follows it each have the pitch characteristics of a P-sentence with sentence-stress on the first clause. However, even when the sharp rise of pitch characteristic of a new P-sentence occurs on the second part, the two parts are lexically bound in such a way that they could not possibly be two P-sentences.

- (64) / níl mǐŋ °páŋk púŋ-#<sup>1</sup> / mǐŋ páŋk  
*he animal wallaby he:shot-int animal wallaby*  
 °°pí:ʔan-#<sup>1</sup>  
*big-int*  
 'He shot a wallaby. It was a big one.'
- (65) .../ wíy ká:ŋk °kéʔ ʔíŋan nyí:nyàn-#<sup>1</sup> ↓ ʔán  
*some like neg stay:here to:sit-int they(all)*  
 ká:ŋk °°yó:n péntàyn-#<sup>1</sup> / ké:ʔanàk-#<sup>1</sup>  
*like outside to:go-int to:play-int*  
 'Some don't like sitting in here. They really like to go  
 outside to play.'

(c) The pitch on the syllable with sentence-stress is higher than usual if the sentence-stress is on a P-clause with elevated or expanded intonation. The height of P-clause stress in a P-clause with expanded pitch range may override the height of P-clause stress in a P-clause which contains a word such as the negative *kéʔ* which frequently attracts sentence stress. (See example (65).)

- (66) ↑ ŋán °°kánàn kí:ŋkanàn-àʔ<sup>3</sup> / °múŋkan ŋúl-#<sup>1</sup>  
*we punct:foc we:cooked:it-int we:ate then-int*  
 / mǐŋ °ŋáʔ ʔánaŋàn-#<sup>1</sup>  
*animal fish those-int*  
 'When we had cooked them we ate those fish.'

### 2.3 PREDICTABLE SPEED IN A P-SENTENCE

Apart from the variations of speed already described for individual clauses (see Section 1.4) the timing of a series of P-clauses within a P-sentence is relatively even, with two exceptions, viz.,

- (a) In six sub-types of Juxtaposed Sentences (Paraphrase, Amplification, Negated Antonym, Generic-Specific, Reduction, and Reduction Amplification) all P-clauses following the first G-clause tend to be faster.
- (b) In the Completive Action Sequence Sentence the last P-clause is faster than the others.

### 2.4 SENTENCE AND PARAGRAPH

If one considers only the size and complexity of themes, one would expect to find a distinction between sentences and paragraphs in Wik-Munkan. During the analysis of the grammar, however, it proved

impossible to find any structural evidence of such a distinction. All the grammatical units of these kinds, both large and small, complex and simple, were analyzed as G-sentences (Sayers 1976). When we examine Wik-Munkan phonology we find again that there is no difference between what we might at first think to be sentences and paragraphs. Both kinds or sizes of utterances have the phonological features of a P-sentence, that is, one P-sentence is always one G-sentence and vice versa. A single P-sentence in Wik-Munkan may encompass as many as fourteen or more G-clauses which would be translated into English as a paragraph of several sentences. The only grammatical difference between this and a short sentence is the extensive embedding of sentences within sentences, that is, it is a structure of embedding rather than a linear string of clauses.

It is possible to paraphrase such a long P-sentence as several shorter P-sentences, but only by changing the grammatical structure so that each is a typical G-sentence, and by inserting adequate lexical repetition to give identification of the participants, time and location, and by making the logical relationships quite explicit.

The analysis of the complex Wik-Munkan structure as being only divisible by paraphrasing is validated by the reaction of literate Wik-Munkans. If full stops are inserted within a P-sentence following what appears to be complete G-sentences, the Wik-Munkan reader is confused unless the paraphrasing adjustments are made as described above. If paraphrasing adjustments are not made and full stops are inserted, he may confuse the participants, lose track of the time or location, or fail to make the logical connection. However, when a long P-sentence which is so typical of oral Wik-Munkan, is paraphrased into several shorter G-sentences, the Wik-Munkan reader can read these shorter G-sentences (which are also complete P-sentences) accurately, fluently and with comprehension.

- (67) ↑ t̃án    ʔínan    °work    ʔí:yantàn-#<sup>1</sup> / °yúk    ʔúmpantàn-#<sup>1</sup>  
*they    this    work    they:go-int    tree    they:chop-int*  
 / t̃à:ʔ-°t̃á:ʔ-#<sup>1</sup>    / ɲà:ʔt̃òn°t̃ón-à<sup>3</sup> / yúk    °mango  
*all:the:time-int    every:day-int    tree    mango*  
 ʔínanàn    ʔúmpantàn    t̃ánaŋ-#<sup>1</sup> / °ké:katantàn    t̃ánaŋ-à<sup>3</sup>?  
*these    they:chop    them-int    they:fell    them-int*  
 / °°ŋé:nám-a<sup>2</sup>    / ʔánan    pút̃    yìm-°yímanàm-#<sup>1</sup>  
*what:from-int    that    because    in:this:manner-int*  
 / wánjtj    ʔálpán    t̃ónám    °wárʔám    má:kan-#<sup>1</sup>  
*woman    sick    one    almost    it:crushed:her-int*

/°púŋt̩anàn	píp-# <sup>1</sup>	/ yúkàn	ʔáŋaŋ-# <sup>1</sup>		
branch:that:foc	it:broke-int	tree-foc	heavy-int		
/°máyaŋàm	ŋát̩	pút̩-a <sup>3</sup>	/ nán-pàl	yá:ʔ-kà?	
full:with:fruit	is:shut	so:int	from:that	maybe	
°ŋé:n-# <sup>2</sup>	/°yúkànìy	tút̩-# <sup>1</sup>	/ t̩án	pút̩	
what-int	tree:foc:sp	it:broke-int	they	but	
nán-pàlan	yúk	°ʔínaŋàn	púpantàn	t̩ánaŋ-# <sup>1</sup>	
from:that(reason)	tree	these	they:cut:down	them-int	
/ ŋà:ʔt̩òn-°t̩ónaŋànìy-# <sup>1</sup>	↓ ʔán	pút̩	ʔá:k	°wáy	ŋúl
every:day-int	that	because	place	bad	later
ŋé:n-# <sup>2</sup>	/°ʔálpán	t̩ák	má:k-# <sup>1</sup>	/°wúnanàngànìy-# <sup>1</sup>	
what-int	sick:people	etc.	it:crush-int	lying:there:	
	/°nán-pàlan		ʔúmpantàn-# <sup>1</sup>		
foc:sp-int	from:that:reason		they:chop-int		

*'Why are the men here working every day - chopping down and felling these mango trees? It's like this. A sick woman was almost crushed when a branch broke. The branch broke because it was heavy with fruit - maybe that's the reason the tree broke. Therefore the men are chopping down these trees each day - otherwise the place would become dangerous. Why would it become dangerous? Well...the sick people lying there would get crushed. That's why they are chopping these trees down.'*

### 3. INTONATION

#### 3.1 CONTRASTIVE COMPONENTS OF INTONATION PATTERNS

Segmentally, a phonological clause consists of one or more words bounded by pause or potential pause, and in merged sentences by lack of pause. In many instances a characteristic monosyllabic clitic or 'intonation carrier' is attached to the last word. In this way meaning contrasts are shown by: -a, -à?, -à:/-è:, -à::, -àw, and absence of a clitic.

Suprasegmentally, each phonological clause has one clause-stress (except in a Conditional Answer Merged Sentence) and contrastive patterns of pitch and loudness. These both mark the P-clause off as a phonological unit and indicate its syntactic status within the larger utterance. It is convenient to describe some of these features in relation to the two sections of the Phonological clause, viz., terminal and body.

If the last syllable of the P-clause has clause-stress (in which case it is not an intonation carrier clitic), then the last half of this last syllable is the terminal and all but this last half syllable is the body. If the last syllable does not have clause-stress, then that last syllable is the terminal and all that precedes it is the body.

In the body of the P-clause the placement of clause-stress is phonologically contrastive but grammatically determined. On the other hand, the relative pitch of each syllable in the body is phonologically determined and thus non-contrastive.

There are two intonational features of the whole P-clause which are phonologically contrastive:

- (a) the general pitch level which may be neutral, elevated, or lowered, and
- (b) the pitch range which may be neutral, expanded, or compressed.

The terminal of the intonation pattern has two features which are phonologically contrastive:

- (a) the pitch level or glide of the terminal which may be low, mid, high, low-mid rise, or high-low fall; and
- (b) the loudness shape (envelope) of the terminal which may be steady, crescendo, or crescendo-decrescendo.

The twenty-six contrastive intonation patterns of Wik-Muncan are listed in Table 1, showing their contrastive features in the Body, Carrier and Terminal.

The General pitch level and pitch range of the P-clause are shown preceding the clause by one symbol for each combination. They are:

- / neutral and neutral
- ↑ elevated and compressed
- ↕ neutral and expanded
- ↓ lowered and neutral

The carrier clitic is shown immediately following the clause. When no clitic occurs -# marks its absence.

The contrastive levels and glides of relative pitch on the terminal are shown by superscript numbers following the carrier clitic: <sup>1</sup> for low, <sup>2</sup> for mid, and <sup>3</sup> for high pitch.

The contrastive loudness shapes are marked as superscripts following the pitch numeral: no marking for steady, < for crescendo, and <> for crescendo-decrescendo.

TABLE 1: AN INVENTORY OF THE INTONATION PATTERNS SHOWING THEIR CONTRASTIVE COMPONENTS

Section	Pattern	Page	Body		Carrier	Terminal	
			General pitch level	Pitch range		Pitch: level or glide	Loudness shape
3.2.1	/...-# <sup>1</sup>	54	neutral	neutral	#	low	steady
3.2.2	/...-a <sup>1</sup>	56	neutral	neutral	-a	low	steady
3.2.3	/...-à? <sup>3&lt;&gt;</sup>	58	neutral	neutral	-à?	high	steady
3.2.4	/...-à <sup>31&lt;&gt;</sup>	59	neutral	neutral	-à	high-low	crescendo-decrescendo
	/...-èy <sup>31&lt;&gt;</sup>	59	neutral	neutral	-èy	high-low	crescendo-decrescendo
3.2.5	/...-# <sup>2</sup>	59	neutral	neutral	#	mid	steady
3.2.6	/...-a <sup>2</sup>	60	neutral	neutral	-a	mid	steady
3.2.7	/...-# <sup>12&lt;</sup>	61	neutral	neutral	#	low-mid	crescendo
3.2.8	↑...-# <sup>1</sup>	62	elevated	compressed	#	low	steady
3.2.9	↑...-a <sup>1</sup>	63	elevated	compressed	-a	low	steady
3.2.10	↑...-à? <sup>3</sup>	63	elevated	compressed	-à?	high	steady
3.2.11	↑...-è: <sup>31&lt;&gt;</sup>	65	elevated	compressed	-è:	high-low	crescendo-decrescendo
	↑...-à: <sup>31&lt;&gt;</sup>	65	elevated	compressed	-à:	high-low	crescendo-decrescendo
3.2.12	↑...-# <sup>2</sup>	65	elevated	compressed	#	mid	steady
3.2.13	↑...-à:: <sup>3</sup>	65	elevated	compressed	-à::	high	steady
3.2.14	↓...-# <sup>1</sup>	66	lowered	neutral	#	low	steady
3.2.15	↓...-a <sup>1</sup>	67	lowered	neutral	-a	low	steady
3.2.16	↓...-à? <sup>3</sup>	67	lowered	neutral	-à?	high	steady
3.2.17	↓...-# <sup>2</sup>	68	lowered	neutral	#	mid	steady
3.2.18	↓...-# <sup>12&lt;</sup>	68	lowered	neutral	#	low-mid	crescendo
3.2.19	↓...-# <sup>1</sup>	68	neutral	expanded	#	low	steady
3.2.20	↓...-a <sup>1</sup>	69	neutral	expanded	-a	low	steady
3.2.21	↓...-à? <sup>3</sup>	69	neutral	expanded	-à?	high	steady
3.2.22	↓...-à <sup>31&lt;&gt;</sup>	69	neutral	expanded	-à	high-low	crescendo-decrescendo
	↓...-èy <sup>31&lt;&gt;</sup>	69	neutral	expanded	-èy	high-low	crescendo-decrescendo
3.2.23	↓...-àw <sup>31&lt;</sup>	70	neutral	expanded	-àw	high-low	crescendo
3.2.24	↓...-# <sup>2</sup>	70	neutral	expanded	#	mid	steady
3.2.25	↓...-a <sup>2</sup>	70	neutral	expanded	-a	mid	steady
3.2.26	↓...-# <sup>3</sup>	71	neutral	expanded	#	high	steady

## 3.2 GRAMMATICAL USAGE OF EACH PATTERN

3.2.1 The /...-#<sup>1</sup> pattern is used in several ways.

(a) It may occur on the last P-clause of a sentence, especially when the last syllable of the body of the P-clause is stressed. Many kinds of sentences may end with this intonation, and it conveys an indicative meaning. The last syllable of the clause is low pitch, or falls from the high of the clause-stress to low pitch if clause-stress occurs on the final syllable.

(68) / púk      °°ʔánaŋàŋ wámpìn-#<sup>1</sup>  
*child      those      they:came-int*  
*'Those children came.'*

(69) / ɲán      °°ʔá:kanàk ʔí:yan-#<sup>1</sup>      /°máý      múŋkanàk-#<sup>1</sup>  
*we(all)      to:there we:went-int      food to:eat-int*  
*'We went there to eat.'*

(b) It may also occur on a non-final P-clause in a Paraphrase Sentence to show the appositional relationship between the clauses.

(70) / púl      °°ʔúm      móʔpùl-#<sup>1</sup>      / ɲán  
*they(two)      straight:towards they(two)ran-int      we(all)*  
*ʔáʔanàn      púl      °ʔúmàn      móʔpùl-#<sup>1</sup>*  
*we(all)saw they(two) straight:towards:foC they(two)ran-int*  
*'They ran towards each other. We saw them run towards each other.'*

(71) /°°ʔú:kanàn-#<sup>1</sup>      /°ʔótjaŋàŋŋ      ʔú:kanàn-#<sup>1</sup>  
*we:scraped-int      mud:shell:with we:scraped-int*  
*'We scraped it - we scraped it with a mudshell.'*

(72) /°°ɲá:ʔtàm-#<sup>1</sup>      ↓ pám      pí:ʔan      °kánàn      ʔáʔanàn-#<sup>1</sup>  
*tomorrow-int      man      big      punct:foC      I:will:see:him-int*  
*/ ɲáy      °kán-ɲùl      ʔí:yàn-#<sup>1</sup>*  
*I      punct:then      I:will:go-int*  
*'Tomorrow, after I've seen the important man, I'll go.'*

(73) / ʔán      ɲúl      wìk-°°káʔ      wá:ʔàyn-#<sup>1</sup>  
*they(all)      later      word-old(story)      they(all)will:tell:about-int*  
*↓ ʔán      °pé:tanànàn      wámpìn-#<sup>1</sup>      / wìk-*  
*they(all)      yesterday:foC      they(all)came-int      word-*  
*<áʔ      °mín      wá:ʔàyn-#<sup>1</sup>*  
*old(story)      good      they(all)will:tell-int*  
*'Those who came yesterday will tell a story later. They will tell a good story.'*



(c) This pattern always occurs on the G-clause preceding a clause with a deleted predicate to show the appositional relationship.

- (74) / ɲáy-°nùŋantìy-à?³ /°°kénjaŋk wúnaŋ-#¹ / nílàř  
 I:hers-int high:on I:lay-int she:mine  
 °pékaŋk-#¹  
 below:on-int  
 'I slept on the top (bunk) and she (slept) below.'

- (75) .../ mák °°pářàyn mé?aŋ-#¹  
 nevertheless they:bite-int mosquitos:ts-int  
 '...nevertheless, the mosquitos bit us.'

(d) It also occurs on the P-clause preceding an aside or a relative clause and indicates their appositional relationship to each other.

- (76) / t̄án wìk-kát °°mín wá:řìn-#¹  
 they word-old(story) good they:told-int  
 / wìk-kát °ké:nkanàmàn-#¹  
 word-old(story) from:a:long:time:ago:foc-int  
 'They told us a good story from a long time ago.'

(e) It always occurs on repeated verbs to indicate continuation of action or motion.

- (77) /°°ú:kanàn-#¹ /°?ú:kanàn-#¹ /°?ú:kanàn-à?³  
 we:scraped:it-int we:scraped:it-int we:scraped:it-int  
 'We scraped and we scraped and we scraped and then...'  
 (78) /°°?í:yanàn-#¹ /°?í:yanàn-#¹ /°?í:yanàn-à?³ ↓°?á?-#³  
 we:went-int we:went-int we:went-int and:then-int  
 'We went on and on and on and then...'

(f) It may occur where the object, indirect object or benefactive contains a serial list and follows the verb.

- (79) / t̄án °°káyàlpan mámwùntàn-#¹ /°kámpan-kùnjtj  
 they charcoal they:rub:each:other-int relatives:true  
 ?ánaŋàn-#¹ /°ká:t-kùnjtj-#¹ /°múk-kùnjtj-#¹  
 those-int mothers:true-int m.o.b:true-int  
 /°kú:njtj-kùnjtj ?ánaŋàn-#¹  
 siblings:true those-int  
 'They - those relatives, the mothers, the mother's older brothers and the brothers and sisters - rub each other with charcoal. That's how they rub themselves.'

- (80) / t̃án wày-mín °°t̃ánt t̃é:ʔìn-#<sup>1</sup> /°ká:t̃-kùnjt̃jant-#<sup>1</sup>  
*they things to:them they:gave-int mother:true:to-int*  
 /°pí:p-kùnjt̃jant-#<sup>1</sup> /°púk-kùnjt̃jant-#<sup>1</sup>  
*father:true:to-int child:true:to-int*  
*'They gave things to them - to the mother, the father and*  
*the children.'*

(g) It may also occur on the first (Consequent Action) tagmeme of an Inverted Sequence Sentence.

- (81) / ɲán °ʔí:yan ɲúl-# /°°kánamàn ɲán kúlìt̃j  
*we(all) we:went then-int punct:foc we(all) clothes*  
*púɲan-#<sup>1</sup>*  
*we:washed-int*  
*'We went after we had washed the clothes.'*

(h) It may also occur on the second (Indirect Quote) tagmeme of the Indirect Quote Sentence.

- (82) / níí °wú:tàn wá:ʔ t̃ánt-# / níí  
*he old:man:foc he:told:about to:them-int he*  
*ké:nkam pàm-wántj °°yót t̃jìnt-t̃jìnt-#<sup>1</sup>*  
*long:time:ago people lots he:speared-int*  
 /°kékaŋ-#<sup>1</sup> / níí °yímanàŋ wá:ʔ  
*spear:with-int he like:this he:told:about*  
*núɲantàkam-#<sup>1</sup>*  
*himself-int*  
*'The old man told them that long ago he speared lots of*  
*people. He told them all about himself.'*

3.2.2 The /...-a<sup>1</sup> pattern with a lenis a and low pitch, is used in the same ways that pattern /...-#<sup>1</sup> is used and with the same meanings. From a phonological point of view, however, these two patterns are not merely free variants of a single emic pattern since their occurrence is considerably determined by the grammatical status of the last word of the P-clause.

(a) Only the /...-#<sup>1</sup> pattern occurs if the P-clause ends in an object pronoun or in the words ɲul, kan, or yáʔaŋàm, or if the P-clause ends in a customary aspect verb (which has secondary stress on its final syllable) in a series of repeated verbs (see Section 3.1.2 (d)).

- (83) / t̃án °°kán ʔí:yìn ɲúl-#<sup>1</sup>  
*they(all) punct they(all)gone now-int*  
*'They have gone already.'*

(84) / níl ʔàta<sup>o</sup>máyan pí:k ʔánaŋ-#<sup>1</sup>  
*he hard he:hit them(all)-int*  
*'He hit them hard.'*

(85) /<sup>o</sup>wénkantàn-#<sup>1</sup> /<sup>o</sup>wénkantàn-#<sup>1</sup>  
*they(all)looked-int they(all)looked-int*  
 /<sup>o</sup>wénkantàn-#<sup>1</sup> ↓ pút<sup>o</sup> yáʔaŋàm-#<sup>1</sup>  
*they(all)looked-int but to:no:avail-int*  
*'They looked and looked and looked but to no avail.'*

(b) Both /...-#<sup>1</sup> and /...-a<sup>1</sup> occur but the former predominates if the P-clause ends in a verb whose last syllable has secondary stress or if the P-clause is a non-verbal clause with a non-final interrogative pronoun.

(86) / ʔán<sup>o</sup> kətj ʔí:yìn-#<sup>1</sup>  
*they(all) long:way they:went-int*  
*'They went a long way!'*

(87) / níl wé:ʔàn<sup>o</sup> mín-#<sup>1</sup>  
*he who:foc good-int*  
*'Who is good?'*

(c) Both patterns occur in free variation if the P-clause ends in an indirect object pronoun, or in the negative words kéʔ or yáʔ, or if the P-clause is an indicative non-verbal clause.

(88) /<sup>o</sup>ʔánan wá:ʔ púlant-#<sup>1</sup>  
 /<sup>o</sup>ʔánan wá:ʔ púlant-a<sup>1</sup>  
*that he:told:about to:those:two-int*  
*'He told those two about that.'*

(89) / ʔán<sup>o</sup> mín núŋant-#<sup>1</sup> ↓<sup>o</sup>yáʔ-#<sup>1</sup>  
 / ʔán<sup>o</sup> mín núŋant-#<sup>1</sup> ↓<sup>o</sup>yáʔ-a<sup>1</sup>  
*that good for:him-int not-int*  
*'That's not good for him!'*

(90) / yúk yónkàn<sup>o</sup> ʔáyan-#<sup>1</sup>  
 / yúk yónkàn<sup>o</sup> ʔáyan-a<sup>1</sup>  
*tree ironwood:foc hard-int*  
*'The ironwood tree is hard (wood).'*

(d) Both patterns occur but /...-a<sup>1</sup> predominates if the P-clause ends in a verb whose final syllable is unstressed.

(91) / ɲáy<sup>o</sup> kán ʔátaŋ-a<sup>1</sup>  
*I punct I:saw-int*  
*'I saw it.'*

3.2.3 The pattern /...-à?³ is used in several ways and the meaning carried by it is sequential. The 'intonation carrying' clitic has high pitch and is frequently as loud as the syllable with clause-stress. If the preceding syllable is low pitch because it does not have clause-stress, the final syllable has a low-high pitch glide.

(a) It is usually used in all but the final clause of a Sequence Sentence. The final clause has a marked drop of pitch and intonation pattern ↓...-#¹.

(92) /°°wúnan-à?³      ↓°tjúkùn      tájtan-#¹  
*we:stayed-int      boat      we:saw-int*  
*'We stayed and then we saw the boat.'*

(93) / mǐŋ      °°pánkàn      tjíntan-à?³      /°má:yan-à?³  
*animal      wallaby:foc      we:speared-int      we:picked:up-int*  
 ↓°kí:ŋkan      núnan      ŋúl-#¹  
*we:cooked      it      then-int*  
*'We speared a wallaby, picked it up and then we cooked it.'*

(b) It may occur on the first (Consequent Action) tagmeme of an Inverted Sequence Sentence.

(94) / níp      °?í:yùw-à?³      / yúk      ?ánanàn      kà:?ájam  
*you(two)      you(two)went-int      things      those      first*  
 °°kánàn      púŋùw-#¹  
*punct:foc      you(two)had:washed-int*  
*'You two went after you had washed those things.'*

(c) It may be used within the grammatical clause for serial (co-ordinate) listing of persons or things (other than the final P-clause of a list).

(95) /°°ŋáy-à?³      /°nínt-à?³      ↓°ŋál      ?í:yal-#¹  
*I-int      you-int      we(two)      we(two)went-int*  
*'You and I went.'*

(96) / níl      °°pál      kál      tánan-#¹      /°kék-à?³  
*he      to:here      he:carried      them-int      spear-int*  
 /°túl-à?³      ↓ mǐŋ      °ŋá?      ?ánanàn-#¹  
*woomera-int      animal      fish      those-int*  
*'He carried his spear, woomera and those fish back here.'*

(d) It may be used with the Content-interrogative clause.

(97) /°°wántìnak      ní:y      ?í:yan-à?³  
*where:to      you(all)      you(all)went-int*  
*'Where did you go?'*



(a) This pattern may be used for Yes/No Questions where intonation is the only feature signalling that the utterance is a question rather than a statement. When the younger generation use this pattern with Yes/No Questions, they always add the post-posed particle ?éy as an extra P-clause, as described in Section 3.2.7. (Note that in Yes/No Questions ending with past tense verbs that this final syllable receives secondary stress over-riding the intrinsic lack of stress of the past tense suffix.)

(103) / tǰúkùn tónàn °°ké? tǰǰàn-#<sup>2</sup>  
 boat another:foc neg you:see-int  
 'You didn't see another boat, did you?'

(104) /°°?ínan-#<sup>2</sup> /°?ínan wúnpan-#<sup>2</sup>  
 here-int here you:put-int  
 '(Is it) here? Did you put it here?'

(b) The same pattern may also be used with Content-Interrogative Sentences (but without any over-riding secondary stress).

(105) /°°wántàk wítjan núnaŋ-#<sup>2</sup>  
 what:for you:pulled her-int  
 'Why did you pull her?'

(106) / níl °°wántlìnàk ?í:yòw-#<sup>2</sup>  
 he where:to will:go-int  
 'Where is he going?'

3.2.6 The pattern /...-a<sup>2</sup>, with lenis -a and mid pitch, is used in the same ways as pattern /...-#<sup>2</sup>, and conveys the same interrogative meaning. These two patterns are not merely phonologically free variants since their occurrence is determined partly by the grammatical status of the last word of the P-clause.

(a) Only the /...-#<sup>2</sup> pattern occurs if the clause is a Yes/No Question with its final secondary stress, or if the clause is a content interrogative sentence whose last word is an object pronoun.

(107) / nínt °°ŋúl ŋí:yàn-#<sup>2</sup>  
 you later you:will:go-int  
 'Will you go later?'

(108) / nínt °°kán tǰǰan núnaŋ-#<sup>2</sup>  
 you punct you:saw her-int  
 'Did you see her?'

(b) Both /...-#<sup>2</sup> and /...-a<sup>2</sup> occur but the former predominates if the clause is a content question whose last syllable is stressed.

- (109) / púkaŋ      °°ŋé:naŋ    wúnɸ-#<sup>2</sup>  
          / púkaŋ      °°ŋé:naŋ    wúnɸ-a<sup>2</sup>  
          child:ts    what:in he:put-int  
          'What did the child put it in?'

(c) Both patterns occur in free variation if the clause is a content question ending in an indirect object pronoun or is a non-verbal content question with a non-final interrogative pronoun.

- (110) / níɪ    °°ŋé:nàk    ʔé:ʔ      núŋant-#<sup>2</sup>  
          / níɪ    °°ŋé:nàk    ʔé:ʔ      núŋant-a<sup>2</sup>  
          he        what:for he:gave to:him-int  
          'Why did he give it to him?'

- (111) / kúʔ    wé:ʔantàm    °°kúɪɪy-#<sup>2</sup>  
          / kúʔ    wé:ʔantàm    °°kúɪɪy-a<sup>2</sup>  
          dog whose            savage-int  
          'Whose dog is savage?'

(d) Both patterns occur but /...-a<sup>2</sup> predominates if the clause is a content question whose last syllable is unstressed.

- (112) / níɪ    wé:ʔàn      °°ʔátjʔùmpʔùmpaŋ-a<sup>2</sup>  
          she who:foc    looks:nice-int  
          'Who looks nice?'

3.2.7 The pattern /...-#<sup>12<</sup> is used only on the question particle ʔéy. In the usage of the younger generation, a Yes/No Question with /...-#<sup>2</sup> (Section 3.2.5) and Polite Question with †...-#<sup>2</sup> (Section 3.2.12) are both obligatorily followed, without pause, by ʔéy. This question particle is part of the G-clause, but it constitutes an extra P-clause and has intonation pattern /...-#<sup>12<</sup> on it. The glottal of ʔéy is lost due to the lack of pause. However, when ʔéy is repeated, as it sometimes is, the second ʔéy retains the glottal and is preceded by an optional pause. The -èy carrier clitic of the intonation patterns /...-èy<sup>31<></sup> and †...-èy<sup>31<></sup> is probably related to this particle ʔéy, but it does not seem to have the pitch features of a separate P-clause nor may it be repeated. It is very likely that ʔéy and -èy are borrowed forms of the English confirmation request particle eh that is so frequent in the speech of Northern Queensland.

- (113) / níɪ    pám    °°mín-#<sup>2</sup>    ≠    /°ʔéy-#<sup>12<</sup>  
          he    man    good-int            Q-int  
          'Is he a good man?'

- (114) ↑ níp tJám °°ké? t̩áɬìw-#<sup>2</sup> ≠ /°?éy-#<sup>12</sup><  
 you(two) Sam neg you(two)see-int Q-int  
 'You wouldn't have seen Sam, would you?'
- (115) ↑ tjúkùn t̩ónàn °°ké? t̩áɬàn-#<sup>2</sup> ≠ /°?éy-#<sup>12</sup><  
 boat another:foc neg you:see-int Q-int  
 'You didn't see another boat, did you?'
- (116) /°°?ín-#<sup>2</sup> ≠ /°?éy-#<sup>12</sup>< /°?éy-#<sup>12</sup><  
 here-int Q-int Q-int  
 '(Is it) here? Answer me!'

3.2.8 The pattern ↑...-#<sup>1</sup> may be used in two ways. The P-clause has elevated pitch level and compressed pitch range, the terminal has low pitch, and there is no 'intonation-carrying' clitic.

(a) As the first P-clause in a sentence, it may occur in Simultaneous, Conditional and Concession Sentences.

Simultaneous Sentence:

- (117) ↑ púk °°mánjamàn mé:ʔ-pèntjantàn-#<sup>1</sup> /°kú:tan  
 child small:foc they:are:born-int umbilical:cord  
 wá:ʔantàn-#<sup>1</sup> /°pám ʔáɬantàn-#<sup>1</sup>  
 they:call man that:to-int  
 'When children are born they perform the umbilical cord  
 ceremony to identify that (kuutan) man.'

Conditional Sentence:

- (118) ↑ níɬ wé:ʔaŋ °°ké? wík ɲé:yòwànj-#<sup>1</sup> / ɲáy °?ép  
 he who:ts neg word he:hear:me-int I factitive  
 múɬàɬàŋà-#<sup>1</sup>  
 I:will:kill:him-int  
 'If anyone doesn't listen to me, I will kill him!'

Concession Sentence:

- (119) ↑ núŋkwòy t̩ók °°pí:ʔan kí:ŋk-kì:ŋkanàmp-#<sup>1</sup>  
 even:though smoke big we:cook-int  
 / mák °páɬàyn-#<sup>1</sup> /°méʔaŋ-#<sup>1</sup>  
 nevertheless they:bite mosquitos:ts-int  
 'Even though we made a lot of smoke, the mosquitos bit (us).'

(b) As other than the first P-clause in a sentence, it may occur in a Simile Sentence.



Simile Sentence:

(120) Prop: ↑<sup>o</sup>ké? pí:kanàmànìy-à?<sup>3</sup> / t̥à:ʔté:kàn  
 neg hit:perfect:sp-int mouth:saliva:foc  
 °t̥á:ʔamàn wúnpiyìn-#<sup>1</sup> /°máʔaŋ-#<sup>1</sup> /°mé:ʔ  
 mouth:from:foc they:put-int hand:with-int eyes  
 námp-nàmpùwìn-#<sup>1</sup>  
 they:rubbed:themselves-int

Simile Base: ↑ ká? mè:ʔ-°°kám yímanàm-#<sup>1</sup>  
 like eye:juice like:manner-int

'(The children who) had not been hit put saliva from their mouth on their fingers and rubbed their eyes with their hands. It was like tears...'

3.2.9 The pattern ↑...-a<sup>1</sup> may also be used in the same ways as ↑...-#<sup>1</sup> (Section 3.2.8). Grammatical and rhythmic factors similar to those listed in Sections 3.2.2 and 3.2.6 determine which of these two patterns is used in any particular utterance.

(121) ↑ níí ɲáyaŋ °°ké? t̥át̥òwànɲ-a<sup>1</sup> / ɲáy kùʔwá:k  
 she me neg she:will:see:me-int I cat  
 °núŋantàm múlàt̥àŋàn-#<sup>1</sup>  
 hers I:will:kill:it-int  
 'When she is not looking at me I'll kill her cat.'

3.2.10 The pattern ↑...-à?<sup>3</sup> occurs in free variation with the pattern ...-#<sup>1</sup> in Simultaneous, Conditional, Concession and Simile Sentences (Section 3.2.8).

(122) ↑ núŋkwòy ɲán má? °wéntj ʔúwanàn-à?<sup>3</sup>  
 regardless:of:the:fact we(all) hands sore we:find-int  
 / wáyk wéʔanàmàn-#<sup>1</sup> ↓ pút ʔán °°mákant-#<sup>1</sup>  
 dye from:digging:foc-int but that must-int  
 'Regardless of the fact that we get sore hands from digging dye, nevertheless we must continue...'

It also occurs, however, in contexts where the pattern ↑...-#<sup>1</sup> does not occur, i.e. as 'Sentence Topic',<sup>3</sup> and in imperative sentences and introductory time clauses. The P-clause has elevated pitch level and compressed pitch range. The clitic -à? in the terminal of the P-clause has high pitch.

(a) Sentence initially this pattern carries the meaning of sentence topic. The clitic -à? is usually as loud or louder than the syllable

with clause-stress. Two or three of these P-clauses may occur in sequence within one grammatical clause. (See also Section 1.4 (ii).)

- (123) ↑<sup>00</sup>ké? pí:kamànànìy-à?<sup>3</sup> / ʔà:ʔʔé:kàn °ʔá:ʔamàn  
 neg hit:perfect:foc:sp-int saliva:foc from:mouth:foc  
 wúnpiyìn-#<sup>1</sup>  
 they:put:it-int  
 '(The children who) hadn't been hit put saliva from their mouths...'

- (124) ↑<sup>00</sup>nílanìy-à?<sup>3</sup> ↑<sup>0</sup>Taririànìy-à?<sup>3</sup> ↑ pám °pí:anànìy-à?<sup>3</sup>  
 he:foc:sp-int Tariri:foc:sp-int man big:foc:sp-int  
 / níl °kóy-kòyuw ʔú:tj-#<sup>1</sup> / °núntàŋ-#<sup>1</sup> / pám  
 he behind he:crept-int behind:him-int man  
 °ʔón ʔálanàŋ-#<sup>1</sup>  
 other behind:that:one-int  
 'He, Tariri, that big man, crept behind him, that other man, ...'

- (125) ↑<sup>0</sup>nánpàlanìy-à?<sup>3</sup> ↑<sup>0</sup>Taririʔànanìy-à?<sup>3</sup> ↓ níl ɲáŋk mín  
 after:that:sp-int Tariri:foc:sp-int he heart good  
 °oyáʔ-#<sup>31</sup><>  
 not-int  
 'After that Tariri, he was not happy, ...'

(b) The Imperative Sentence always has this pattern. The intonation is the only feature which shows that the sentence is imperative rather than a future statement.

- (126) ↑ ní:y máʔ-yù:p °°kéʔaŋàŋ njí:nàn-à?<sup>3</sup>  
 you:all hands:restless without you:sit-int  
 'Sit still!'

- (127) ↑<sup>00</sup>pál kálàʔ-à?<sup>3</sup>  
 to:here you:carry:to:me-int  
 'Bring it here to me!'

(c) An introductory time clause always has this intonation pattern.

- (128) ↑ ɲán máy °°kánàn múŋkanàn-à?<sup>3</sup> / ɲán  
 we:all food punct:foc we:had:eaten:it-int we:all  
 °ʔá:kanàk ʔí:yan ɲúl-#<sup>1</sup> / °málp ké:ʔanàk  
 to:that:place we:went then-int corroboree to:dance  
 ɲúl-#<sup>1</sup>  
 then-int



- (133) ↑<sup>00</sup>?f:y-?l:yaŋ-à::<sup>3</sup>      ↓<sup>0</sup>?fŋ      wámpan-#<sup>1</sup>  
*I:went:and:went-int    here:to:stay    I:came-int*  
*'I went on and on, and then I came to stay here.'*

3.2.14 In the pattern ↓...-#<sup>1</sup> the general pitch of the whole P-clause is lowered. This pattern has a free etic variant: there is optionally a slight narrowing of the pitch range. This pattern is used in several ways.

(a) This intonation signals a relative clause or an aside which is within or which follows another clause. Frequently this relative clause or aside is bounded by potential pause rather than distinct pause. Following this relative clause or aside, the return of the general pitch level back up to neutral may involve either a slight or considerable step up.

- (134) / tán    ŋúl    wìk-<sup>00</sup>kát    wá:ʔàyn-#<sup>1</sup>    ↓ tán  
*they    later    word-old(story)    they:will:tell-int    they*  
 pé:tanàmàn    wámpìn-#<sup>1</sup>    / wìk-kát    <sup>0</sup>mín  
*yesterday:foc    they:came-int    word-old(story)    good*  
 wá:ʔàyn-#<sup>1</sup>  
*they:will:tell-int*  
*'Those who came yesterday will tell a story later. They will tell a good story.'*

- (135) / níl    <sup>0</sup>kétj    ʔf:yàw-#<sup>1</sup>    ↓ pám    <sup>0</sup>kúlìyàn-#<sup>1</sup>    pút  
*he    long:way    he:go    man    wild:foc    because*  
 tán    <sup>0</sup>kútjìn    núnaŋ-#<sup>1</sup>  
*they    they:sent    him-int*  
*'The man who is wild will go away because they sent him.'*

- (136) /<sup>0</sup>wúʔan    nún-#    /<sup>00</sup>mín-mìn    ʔémòwant  
*he:blows    him-int    very:well    he:will:grow:for:him*  
 yípam-#<sup>1</sup>    ↓ ʔá:k    <sup>0</sup>ŋámpaʔàmànìy    pút    wún-#<sup>1</sup>  
*so:that-int    place    ours:foc:sp    because    it:lies-int*  
*'...he blows on him so that he will grow up well for him, for that's our custom.'*

(b) This pattern may occur on the pre-posed and post-posed Quote Formula tagmemes of a Direct Quote Sentence.

- (137) ↓ níl    <sup>0</sup>?fínan    tǎw    tǎnt-#<sup>1</sup>    / ní:y    mák  
*he    this    he:said    to:them-int    you(all)    must*  
<sup>00</sup>ŋé:yàn-a<sup>1</sup>  
*you:listen-int*  
*'He said this to them, "You must listen".'*

- (138) / ʔín mǐn °mán-pàʔan-#<sup>1</sup> / °mǐn-àʔ<sup>3</sup> ↓ °ʔáw-#<sup>1</sup>  
*this meat sweet-int good-int she:said-int*  
*'This meat is sweet, it's good', she said.'*

(c) It may also occur on the first (*Thesis*) tagmeme of an Antithetical Sentence.

- (139) ↓ °kúnk ʔáʔan-#<sup>1</sup> ↓ °°yáʔ-a<sup>1</sup> / púʔ wó:yan °ká:wàn  
*north I:looked-int not-int because road east:foç*  
*máʔan-#<sup>1</sup>*  
*we:came:up-int*  
*'I looked north, but I didn't see (the place I was looking for) because we had come up from the east.'*

(d) Sentence finally it is found in the Frustrated Sequence Sentence and the Completive Action Sentence.

Frustrated Sequence Sentence:

- (140) / ní káʔ pá:ʔìy-àʔ<sup>3</sup> Neg: ↓ °°yáʔ-#<sup>1</sup> ↓ °lópam  
*she just:as she:tried-int no-int right:off-int*  
*ʔú:tjantàm-#<sup>1</sup>*  
*it:fell:off:from:her-int*  
*'Just as she tried it, no, she didn't succeed because it fell from her hand.'*

Completive Action Sentence:

- (141) ↑ °°ká| -kàlìn-à::<sup>3</sup> ↓ °ʔá:k ʔúwìn-#<sup>1</sup>  
*they:rowed:and:rowed-int place they:found-int*  
*'They rowed and rowed and then they found the place.'*

3.2.15 The pattern ↓...-a<sup>1</sup> may occur sentence-finally in the contexts where ↓...-#<sup>1</sup> occurs (see Section 3.2.14). That is, it may occur on sentence-final relative clauses and asides, and on the final tagmeme of the Completive Action Sentence, Frustrated Sequence Sentence, and Direct Quote Sentence.

- (142) / ʔán pé:tanàn °°kánàm wámpìn-#<sup>1</sup> ↓ °ʔánan  
*they yesterday punct:emph they:came-int that*  
*ʔáw púlant-a<sup>1</sup>*  
*he:said to:those(two)-int*  
*'They came yesterday' - that's what he told them.'*

3.2.16 The pattern ↓...-a<sup>3</sup> has at least two uses. The general pitch level is lowered and the tempo is increased throughout the whole P-clause. The terminal has high pitch on the carrier clitic.

(a) This pattern may occur on the initial (but not the final) *Quote Formula* of a Direct Quote Sentence instead of ↓...-#<sup>1</sup> (see Section 3.2.13) provided that the *Quote tagmeme* is emphatic (either in its words or intonation).

- (143) QF<sub>1</sub>: ↓ ɲáy t̥áwə̀nànt-à?³      Quote: / nínt ˚˚t̥áɬàn  
           I      I:said:to:her-int                    you      you:look-int  
           t̥ónàkam-a¹  
           only-int  
           '...I said to her, "You just look",...'

(b) It may also occur on the first (*Thesis*) *tagmeme* of an Antithetical Sentence, as may ↓...-#<sup>1</sup>. The rhythm of the P-clause seems to determine which of these two patterns will occur.

- (144) Thesis: ↓ t̥ón ˚pá:t̥l̥n-à?³      Antithesis: / wáy ˚˚t̥j̥l̥l-#¹  
           another      they:tried-int    bad      sand-int  
           'They tried another and it was no good, it was sandy,...'

3.2.17 The pattern ↓...-#<sup>2</sup> is used for Rhetorical Question Sentences when they are embedded and have a non-co-ordinate, non-sequential relationship to the preceding clause.

- (145) ↑ ɲán ˚˚wé?anàn-à?³ ↓ ɲé:nàn wé:tjanàn-#¹  
           we      we:dig-int      what:foc      do:we:follow-int  
           ↓ ˚t̥à?púntamàn wé:tjanàn-#¹ / ˚wé?anàn-#¹  
           root:foc      we:follow-int      we:dig-int  
           '...when we dig, what do we follow? We follow that root  
           (when) we dig.'

3.2.18 The pattern ↓...-#<sup>12<</sup> occurs only on the question particle ?éy following an embedded Yes/No Rhetorical Question Sentence that has the intonation pattern ↓...-#<sup>2</sup>.

- (146) / ˚˚wántàn púlan-#¹      ↓ púl      pút̥  
           you:leave      those(two)-int      they(two)      but  
           ˚múlàt̥ìypùl      ɲámpaŋ-#²      ≠ ↓ ˚?éy-#<sup>12<</sup>  
           would:they(two):kill      us(all)-int      Q-int  
           / ˚˚wántàmp      púlan-#¹  
           we(all):leave      them(two)-int  
           'Leave them! Would they kill us? Then let's leave them.'

3.2.19 The pattern ↑...-#<sup>1</sup> is used on P-clauses of two or more words to convey the meaning of extreme emphasis. This pattern is a

conditioned variant of the  $\downarrow\dots-\grave{a}w^{31}<$  pattern. There is no clitic and the pitch of the last syllable is low. The pitch range of the P-clause is greatly expanded and the syllable with clause-stress may optionally be greatly lengthened to indicate greater emphasis. This intonation may occur on P-clauses that are initial, medial, or final in a sentence in the kinds of contexts described for  $/\dots-\#^1$  (Section 3.2.1).

- (147)  $\downarrow$  níí táyán °°pépanàŋ ?úmp núŋantàkam- $\#^1$   
*he axe sharp:with he:cut himself-int*  
*'He cut himself with a very sharp axe.'*

When yá? stands as a pro-verb, this pattern occurs on yá?, rather than the  $\downarrow\dots-\grave{a}w^{31}<$  pattern which would have been expected (see Section 3.2.23).

- (148) / ŋáy ká? °?í:yìŋànt-à?<sup>3</sup>  $\downarrow$  pút °°yá?- $\#^1$   
*I about:to I:go:to:him-int but no-int*  
*'I was about to go to him, but I didn't.'*

- (149) / nán °mín múŋkanàk- $\#^1$   $\downarrow$ °°yá?- $\#^1$   
*that good for:eating-int neg-int*  
*'That's not good to eat!'*

3.2.20 The pattern  $\downarrow\dots-a^1$  is also used to convey extreme emphasis, and is used in the contexts described for  $/\dots-a^1$  (Section 3.2.2).

- (150)  $\downarrow$ °nílànìy táy- $\#^1$   $\downarrow$  pántj ?ínaŋàn °°?átj?ùmp?ùmpán-a<sup>1</sup>  
*he:foc:sp he:said-int bird these very:beautiful-int*  
*'He said, "These birds are really beautiful."'*

- (151)  $\downarrow$  ?ín mín °°yá?-a<sup>1</sup>  
*this good not-int*  
*'This isn't good at all!'*

3.2.21 The pattern  $\downarrow\dots-\grave{a}^3$  is used to convey extreme emphasis in the same contexts as  $/\dots-\grave{a}^3$  is used (see Section 3.2.3).

- (152)  $\downarrow$ °°yákkày- $\#^1$   $\downarrow$  wèntj-tá:? °pótj-à?<sup>3</sup>  $\downarrow$  kékaŋ °ké?  
*excl-int sores:bad sore-int spear:with neg*  
 púŋàn ŋáyàŋ-à?<sup>3</sup>  
*you:spear me-int*  
*'...Ouch! My wounds are very sore! Don't spear me!'*

3.2.22 The pattern  $\downarrow\dots-\grave{a}^{31}<>$  and the non-verbal variant  $\downarrow\dots-\grave{e}y^{31}<>$  used by teenagers are used for emphatic Tag Questions (compare Section 3.2.4).

- (153)  $\downarrow^{\circ\circ}\eta\acute{a}mp$        $\text{?f:yamp-}\grave{a}^{31}<>$   
*we(all) we:went-int*  
*'It's true that we went, isn't it?'*

3.2.23 The pattern  $\downarrow\dots-\grave{a}w^{31}<$  is used on P-clauses of one or two words to convey the meaning of extreme emphasis. The clitic  $-\grave{a}w$  has a downward pitch glide with crescendo. The pitch on  $-\grave{a}w$  optionally starts either higher or lower than the pitch of the syllable with clause-stress. When it starts higher, the rise is sharp. The pitch range in the P-clause is greatly expanded. The syllable which has clause-stress may be optionally greatly lengthened to indicate greater emphasis.

The pattern  $\downarrow\dots-\#^1$  is a conditioned variant of this pattern which occurs in P-clauses of two or more words. Verbal P-clauses of two words tend to take  $\downarrow\dots-\#^1$ , and non-verbal P-clauses of two words tend to take  $\downarrow\dots-\grave{a}w^{31}<$ .

- (154)  $\downarrow^{\circ\circ}p\acute{i}:\text{?an-}\grave{a}w^{31}<$   
*big-int*  
*'It's really big!'*
- (155)  $\downarrow$   $k\acute{a}n$        $^{\circ\circ}w\acute{a}nt\grave{a}l-\grave{a}w^{31}<$   
*punct we(two)will:leave:it-int*  
*'Come on, let's leave it!'*
- (156)  $\downarrow^{\circ\circ}y\acute{a}?\text{-}\grave{a}w^{31}<$   
*no-int*  
*'No!'*

3.2.24 The pattern  $\downarrow\dots-\#^2$  is used to add emphasis to questions of the kinds described for  $/\dots-\#^2$  (Section 3.2.5). The intonation of the following question particle used by the younger generation is not changed for emphasis.

- (157)  $\downarrow$   $n\acute{i}l$        $\text{?}\grave{a}:k-\circ\circ\eta\acute{e}:n$        $w\acute{a}mp-\#^2$   
*he time:what came:he-int*  
*'When did he come?'*
- (158)  $\downarrow$   $p\acute{a}m$        $n\acute{i}l$        $^{\circ\circ}n\acute{a}n-\#^1$        $\neq$        $/^{\circ}\text{?}\acute{e}y?\text{-}\#^{12}<$   
*man he there-int Q-int*  
*'Is the man there?'*

3.2.25 The pattern  $\downarrow\dots-a^2$  is also used for emphatic questions in the same contexts as  $/\dots-a^2$  (Section 3.2.6).



- (159) ↓ nínt °°wántìnpàl má:yàn-a<sup>2</sup>  
 you where:from you:picked:it:up-int  
 'Where did you get that?'

3.2.26 The pattern ↓...-#<sup>3</sup> occurs when a negative emphatic statement is made. The range of pitch in the body of the P-clause is expanded and clause-stress always occurs on the last word. In this elliptical sentence the last word is the verbal negative ké? which occurs without a following verb. Pitch remains high and steady on this negative word and there is no 'intonation carrier' clitic.

- (160) ↓ ɲáy ká:ɲk °°ké?-#<sup>3</sup>  
 I like neg-int  
 'I don't like (yams)!' or 'I don't want (to go)!'

ABBREVIATIONS AND NOTATIONS

/	neutral pitch level and neutral pitch range of intonation pattern
↑	elevated pitch level and neutral pitch range
↕	neutral pitch level and expanded pitch range
↓	lowered pitch level and neutral pitch range
#	absence of intonation carrying clitic
≠	absence of pause between Phonological clauses
'	primary word stress
`	secondary word stress
°	clause stress
°°	sentence stress
<sup>1</sup>	(superscript following carrier clitic) lowest contrastive pitch level in intonation patterns
<sup>2</sup>	(superscript following carrier clitic) mid contrastive pitch level in intonation patterns
<sup>3</sup>	(superscript following carrier clitic) highest contrastive pitch level in intonation patterns
<sup>13</sup>	(superscript following carrier clitic) glide from pitch 1 to pitch 3. Other glides are symbolised by similar notation
( )	in syllable patterns: optional occurrence
-	in the gloss: separates translation of the morphemes from the intonation carrying clitic
-	in the vernacular: indicates compound words
:	in the gloss: links words and grammatical notations in the semi-literal translation of the vernacular word

:	in the vernacular: indicates vowel length
<	crescendo
<>	crescendo - decrescendo
<i>AntAct</i>	Antecedent Action tagmeme
<i>ConsAct</i>	Consequent Action tagmeme
<i>Co:ordAct</i>	Co-ordinate Action tagmeme
<i>emo</i>	emotive suffix
<i>fact</i>	factitive
<i>foc</i>	focus marking morpheme
<i>FutRes</i>	Future Result tagmeme
<i>G-clause</i>	Grammatical clause
<i>imp</i>	imperative
<i>IndQ</i>	Indirect Quote tagmeme
<i>IndQuest</i>	Indirect Question tagmeme
<i>int</i>	intonation pattern consisting of optional intonation-carrying clitic; and indication of pitch level and pitch range
<i>IQuF</i>	Indirect Question Formula tagmeme
<i>IQF<sub>1</sub></i>	Indirect Quote Formula tagmeme No. 1
<i>IQF<sub>2</sub></i>	Indirect Quote Formula tagmeme No. 2
<i>MContQ</i>	Merged Content Question tagmeme
<i>MIndQ</i>	Merged Indirect Question tagmeme
<i>m.o.b.</i>	mother's older brother
<i>MQF</i>	Merged Question Formula tagmeme
<i>neg</i>	negative
<i>P-clause</i>	Phonological clause
<i>P-sentence</i>	Phonological sentence
<i>punct</i>	punctilliar mood
<i>QF<sub>1</sub></i>	Quote Formula tagmeme No. 1
<i>QF<sub>2</sub></i>	Quote Formula tagmeme No. 2
<i>sp</i>	specifier morpheme
<i>Text'</i>	repetition of Text tagmeme (referred to as Text Prime)
<i>ts</i>	transitive subject

## NOTES

1. It should be noted that the Aurukun dialect of Wik-Munkan described in this paper differs from the Coen dialect as described in my earlier paper (Sayers 1964). The Coen dialect is more like the dialects spoken at Edward River.
2. A computerized concordance of 120 pages of Wik-Munkan text material used in this analysis was compiled on the IBM 1410 computer at the University of Oklahoma by the Linguistic Information Retrieval Project of the Summer Institute of Linguistics and the University of Oklahoma Research Institute and was sponsored by the National Science Foundation Grant GS - 1605.
3. In my analysis of Wik-Munkan Sentences (Sayers 1976) I have analysed 'Sentence Topic', which includes introductory time clauses, as Sentence Periphery.

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