

# Wh-Questions in Chewa and Tumbuka: Positions and Prosodies\*

Laura J. Downing

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This paper presents a preliminary survey of the positions and prosodies associated with Wh-questions in two Bantu languages spoken in Malawi. The paper shows that the two languages are similar in requiring focused subjects to be clefted. Both also require ‘which’ questions and ‘because of what’ questions to be clefted or fronted. However, for other non-subjects Tumbuka rather uniformly imposes an IAV (immediately after the verb) requirement, while Chewa does not. In both languages, we found a strong tendency for there to be a prosodic phrase break following the Wh-word. In Tumbuka, this break follows from the general phrasing algorithm of the language, while in Chewa, I propose that the break can be best understood as following from the inherent prominence of Wh-words.

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## 1 Introduction

The Bantu languages Chewa (N 30) and Tumbuka (N 20) are two of the three major languages of Malawi (Yao is the third). In this paper I present a preliminary survey of the positions where Wh-words (and answers to Wh-questions) can occur in each language, and the prosody associated with questions, both the general intonation of questions and the prosodic phrasing.

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## 2 Some background

Before presenting data illustrating the positions and prosodic phrasing associated with particular Wh-word types, first we need some background on the tone systems and prosodic phrasing algorithms of the two languages. For the sake of completeness, the intonation patterns associated with different types of questions are also briefly sketched.

### 2.1 Chewa tone and phonological phrasing

Chewa is a tone language, like most Bantu languages (Kisseberth & Odden 2003): that is, tone is both lexically and grammatically contrastive (Mtenje 1986). As demonstrated in some detail in Kanerva (1990) and Bresnan & Kanerva (1989), lexical (and grammatical) High tone realization is conditioned by phonological processes which take the Phonological Phrase as their domain. Kanerva (1990) argues that two main factors define the edges of Phonological Phrases in Chewa: syntax and focus. Syntax determines the prosodic phrasing under neutral (or broad) focus. As shown in (1b) and (1c), the VP – consisting of the verb and all its complements – is parsed into its own prosodic phrase. Subjects and topicalized NPs are in a distinct syntactic and Phonological Phrase in Kanerva's (1990) analysis, and can occur in either order with respect to the VP. (Phonological Phrases are indicated with parentheses in all the data which follows.)

Phonological evidence for the phrasing illustrated in (1) includes: lengthening of the phrase penult vowel (vowel length is not contrastive in Chewa), and phrasally-conditioned tonal alternations. These alternations can be identified in comparing the pronunciations of *galú* 'dog' in different contexts in the data in (1). Note the short penult in (a) which is lengthened in (b), and the High tone on the final syllable in (a), which is retracted to the penult in (b):<sup>1</sup>

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<sup>1</sup> The data presented come from my elicitation notes unless indicated otherwise. The following abbreviations are used in the morpheme glosses: numbers indicate noun agreement class; OBJ = object marker; SBJ = subject marker; TAM=tense-aspect marker; PERF = perfective; LOC = locative.

- (1) a. (Subj) (VP) – Kanerva (1990: 103, fig (114b))  
 (mwaána) (a-na-pézá galú kú-dáambo)  
 1.child 1SBJ-TAM-find 1.dog LOC-swamp  
 ‘The child found the dog at the swamp.’
- b. (Subj) (VP) (Top) – (Kanerva 1990: 107, fig (123b))  
 (mwaána) (a-na-m’-pézá kú-dáambo) (gaálu)  
 1.child 1SBJ-TAM-1OBJ-find LOC-swamp 1.dog  
 ‘The child found it at the swamp, the dog.’
- c. (Top) (VP) (Subj) – (Kanerva 1990: 102, fig (110c))  
 (a-leenje) (zi-ná-wá-luuma) (njúuchi)  
 2.hunter 10SBJ-SIMPLE.PAST-2OBJ-bite 10.bee  
 ‘The hunters, they bit them, the bees [did].’

Downing et al. (2004) and Downing & Mtenje (2011), however, find that the subject NP is only variably followed by a Phonological Phrase boundary. When a phrase boundary occurs, it correlates with topicalization of the subject. This variation can be seen by comparing (2a) with (2b):

- (2) a. (Ma-kóló a-na-pátsíra mwaná ndalámá zá  
 6-parent 6SBJ-RECENT.PAST-give 1.child 10.money 10.of  
 mú-longo wáake)  
 1-sister 1.her  
 ‘The parents gave the child money for her sister.’
- b. (M-fúumu) (i-na-pátsá mwaná zóóváala)  
 9-chief 9SBJ-RECENT.PAST-give 1.child 10.clothes  
 ‘The chief gave the child clothes.’

Kanerva (1990) shows that narrow focus within the VP interferes with syntactically-motivated phrasing. Kanerva claims that in situ focus on any element of the VP is possible in Chewa, and is realized only by a change in the Phonological Phrasing of the VP:

- (3) Effect of focus on phrasing (Kanerva, 1990: 98, fig. (101))
- a. What did he do? (broad focus/VP focus)  
 (a-na-mény-á nyumbá ndí mwáála)  
 1SBJ-RECENT.PAST-hit 9.house with 3.rock  
 ‘S/he hit the house with a rock.’
- b. What did he hit the house with? (Oblique PP focus)  
 (a-na-mény-á nyumbá ndí mwáála<sub>F</sub>)

- c. What did he hit with the rock? (Object NP focus)  
 (a-na-mény-á nyuúmba<sub>F</sub>) (ndí mwáála)
- d. What did he do to the house with the rock? (V focus)  
 (a-na-méeny-a<sub>F</sub>) (nyuúmba) (ndí mwáála)

However, a recent study by Downing & Pompino-Marschall (2010) does not find any systematic effect of focus on phrasing. We return to this issue in section 5.2, below, when discussing the phrasing of Wh-words (which have inherent focus).

To account for the syntactically-motivated phrasing, Downing & Mtenje (2011), adapting the Edge-based model (Selkirk 1986; Truckenbrodt 1995), propose that the Chewa prosodic phrasing algorithm is essentially identical to that proposed by Cheng & Downing (2009) for Zulu: phrase breaks align with right edges of syntactic phases (roughly, *v*P and CP). Preverbal topics (such as topicalized subjects) phrase separately because topics and a following CP are not in a head-complement relationship.

This phrasing algorithm also correctly accounts for the phrasing of clefts. The phrasing of clefts is important for the prosody of Wh-questions, since, as we see in (4), clefts are used when questioning subjects (and for other question types). As expected if phrase break follows each CP, each half of a cleft forms a separate prosodic phrase:<sup>2</sup>

- (4) Chewa cleft - copula is ‘ndi’
- |   |                         |              |                     |                      |          |
|---|-------------------------|--------------|---------------------|----------------------|----------|
| Q | [ <sub>CP</sub> (A-méné | á-ná-gulá    | nyama y-ówóola)]    | [ <sub>CP</sub> (ndi | ndàání)] |
|   | 1-REL                   | 1SBJ-TAM-buy | 9.meat 9.of-spoiled | COP                  | 1.who    |
- ‘The one who bought the spoiled meat is who?’
- |   |                      |         |                |                         |              |
|---|----------------------|---------|----------------|-------------------------|--------------|
| A | [ <sub>CP</sub> (Ndi | m-fúmú  | yá í-ng’óono)] | [ <sub>CP</sub> (i-méné | í-ná-gulá    |
|   | COP                  | 9-chief | 1.of young     | 9-REL                   | 9SBJ-TAM-buy |
- nyama y-ówóola)  
 9.meat 9.of-spoiled
- ‘It’s the junior chief who bought the spoiled meat.’

The use of clefts in forming Wh-questions is discussed in more detail in sections 3.1 and 3.2, below.

<sup>2</sup> See Cheng & Downing (to appear) for arguments that clefts are biclausal in Zulu. Clefts are assumed to have the same structure in Chewa and Tumbuka.

## 2.2 Tumbuka tone and phonological phrasing (Downing 2008)

It is controversial whether Tumbuka is to be considered a tone language, as there are no lexical or grammatical tonal contrasts in Tumbuka (except for some ideophones (Vail 1972)). The penult of every word in isolation is lengthened and bears a falling tone:

### (5) No tonal contrasts in nouns

<i>Singular</i>	<i>Gloss</i>	<i>Plural</i>
múu-nthu	‘person’	wáa-nthu
m-líimi	‘farmer’	wá-líimi
m-zíinga	‘bee hive’	mi-zíinga
m-síika	‘market’	mi-síika
khúuni	‘tree’	ma-kúuni
báanja	‘family’	ma-báanja
ci-páaso	‘fruit’	vi-páaso
ci-ndíindi	‘secret’	vi-ndíindi
nyáama	‘meat, animal’	nyáama
mbúuzi	‘goat’	mbúuzi

### (6) No tonal contrasts in verbs or verb paradigms

a.	ku-líima	‘to farm’	líima!	‘farm!’
	ti-ku-líima	‘we farm’	ti-ku-líima yáaye	‘we do not farm’
	ti-ka-líima	‘we farmed’	ti-ka-líima yáaye	‘we did not farm’
	t-angu-líima	‘we recently farmed’		
	n-a-wá-limíira	‘I have farmed for them’		
	wá-a-líima	‘they have farmed’		
	wa-zamu-líima	‘s/he will farm’	wa-zamu-limilíira	‘s/he will weed’
b.	ku-zéenga	‘to build’	zéenga!	‘build!’
	ti-ku-zéenga	‘we build’		
	nyúumba yi-ku-zengéeka	‘the house is being built’		
	wá-ka-zéenga	‘they built’		
	wá-ka-ku-zengéera	‘they built for you sg.’		
	wá-ka-mu-zengeráa-ni	‘they built for you pl.’		
	n-a-zéenga	‘I have built’		
	wa-zamu-zéenga	‘s/he will build’		
	wá-zamu-zengeráana	‘they will build for each other’		

To put these Tumbuka prosodic patterns into perspective, penult lengthening (especially phrase-penult), interpreted as stress, is very common cross-Bantu

(see, e.g., Doke 1954; Downing 2010; Hyman 2009; Philippson 1998). It is also very common cross-Bantu for the High tone of a word to be attracted to the penult of words or phrases (see, e.g., Kisseberth & Odden 2003; Philippson 1998). And it is attested (though it is not clear how widespread this is) for other languages of the region (roughly, northern Lake Malawi) to have what have been called restricted or predictable tone systems: all words must have a High tone (see Odden 1988, 1999; Schadeberg 1973 for discussion). It is plausible that the synchronic Tumbuka predictable tone system arose diachronically through the interaction of penult lengthening and the attraction of High tones to the penult, and subsequent loss of tonal contrasts.

However, Tumbuka words have the isolation pronunciation in (5) and (6) only when they are final in the Phonological Phrase. As shown in (7), the phonological phrasing algorithm which predicts the distribution of penult lengthening and penult falling tone in Tumbuka places phrase breaks at the right edge of XPs. (That is, Tumbuka phrasing is reminiscent of the phrasing motivated for Chimwiini in Kisseberth & Abasheikh (1974); Kisseberth (2010) and Selkirk (1986).) Subject NPs and Topics are phrased separately, as they are followed by XP edges. For the same reason, a verb plus first complement form a single phrase, while following complements are generally phrased separately:

(7) Tumbuka neutral phrasing (Downing 2008)

- a. (ti-ku-phika síima) ‘We are cooking porridge.’  
we-TAM-cook porridge
- b. (ŵ-áana) (ŵa-ku-ŵa-vwira ŵa-bwéezi)  
2-child 2SBJ-TAM-2OBJ-help 2-friend  
‘The children are helping the friends.’
- c. (ti-ka-wona mu-nkhúngu ku-msíika)  
we-TAM-see 1-thief LOC-market  
‘We saw a thief at the market.’
- d. (ŵ-anakáazi) (ŵa-ka-sona vy-akuvwara vya mu-kwáati)  
2-woman 2SBJ-TAM-sew 8-clothes 8.of 1-bride  
‘The women sewed clothes for the bride.’
- e. (m-nyamâ:ta) (wa-ka-timba nyúumba) (na líibwe)  
1-boy 1SBJ-TAM-hit 9.house with5.rock  
‘The boy hit the house with a rock.’

In Tumbuka, as in Chewa, questioned subjects (as well as other question types) are clefted. As expected if a phrase break follows each XP, each half of a cleft forms a separate prosodic phrase:

(8) Tumbuka cleft - copula is ‘ni/ndi-‘

Q [CP ( Ni ncheŵe njíi)] [CP ( iyo yi-ka-luma mu-nkhúungu)]  
 COP 9.dog 9.which 9.REL 9SBJ-TAM-bite 1-thief

‘It is which dog that bit the thief?’

A1 [CP ( Ni ntcheŵe y-ithu yi-kúuru)] [CP ( iyo yi-ka-luma  
 COP 9.dog 9-our 9-big 9.REL 9SBJ-TAM-bite  
 mu-nkhúungu)].

1-thief

‘It is our big dog that bit the thief.’

OR (reversed cleft)

A2 [CP (Ncheŵe y-ithu yi-kúuru)] [CP (ndi-yo yi-ka-luma  
 9.dog 9-our 9-big COP-9 9SBJ-TAM-bite  
 mu-nkhúungu)]

1-thief

‘Our big dog is the one that bit the thief.’

We take up the use of clefts in forming Wh-questions in sections 3.1 and 3.2, below.

### 2.3 Question Intonation

Before turning to the topic of prosodic phrasing in questions, let us have a brief look at the global intonation patterns of different question types.

Yes/no questions have an obligatory fall-rise (Chewa) or (high-pitched) fall-fall contour (Tumbuka) over the last two syllables of the question:

(9) a. Chewa yes/no question

(Mu-ku-fúná khóofí)

you.pl-TAM-want coffee

‘Do you want coffee?’

b. Tumbuka yes/no question

(Káasi), (ni dokotala péera) (uyo wa-ku-vwira mu-sambiizi)

Q COP 1.doctor only (1.REL 1SBJ-TAM-help 1-teacher

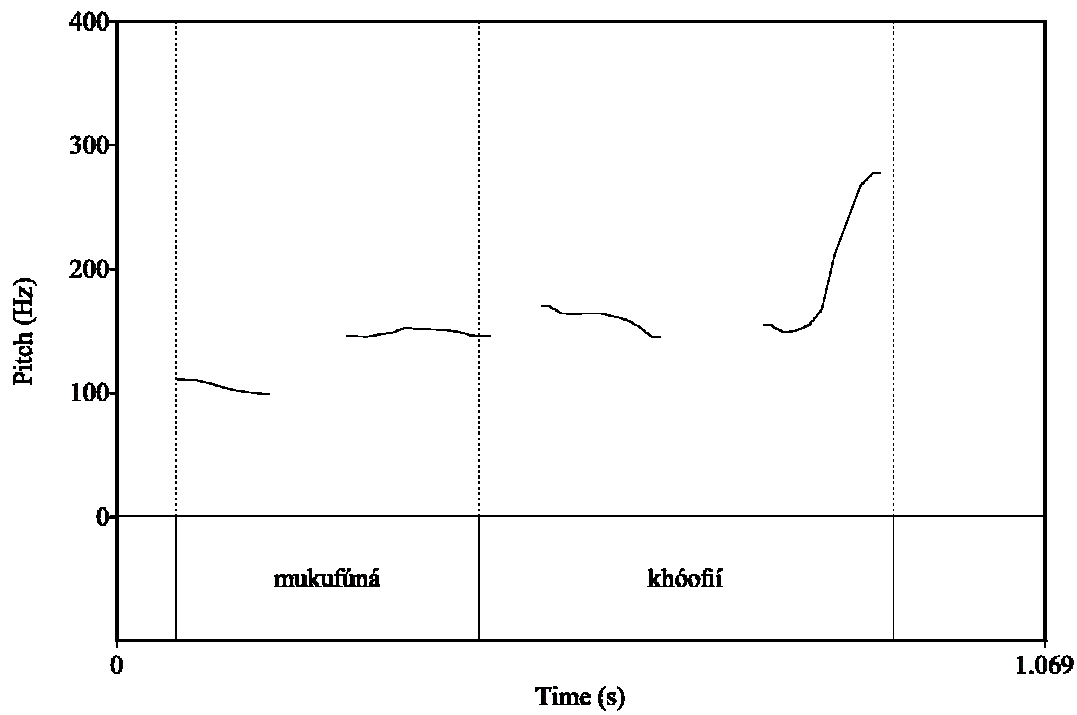
(ku-sukúulúu)?

LOC-school

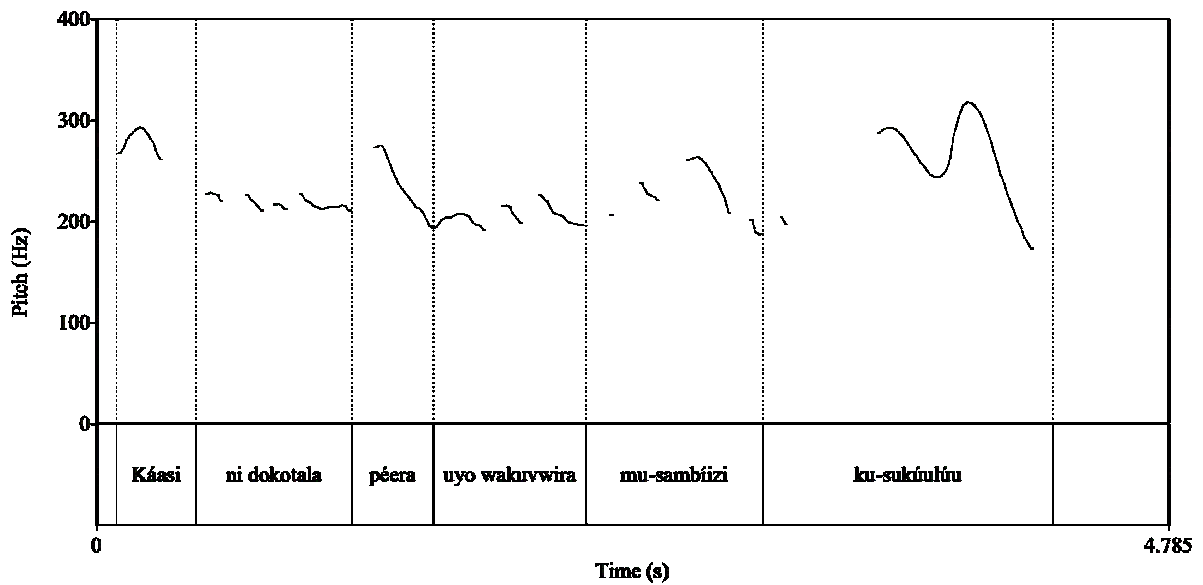
‘Does only the doctor help the teacher at the school?’

The pitch tracks for these two questions on the next page illustrate more clearly the intonation patterns:

(10) a. Pitch track for (9a)



b. Pitch track for (9b)

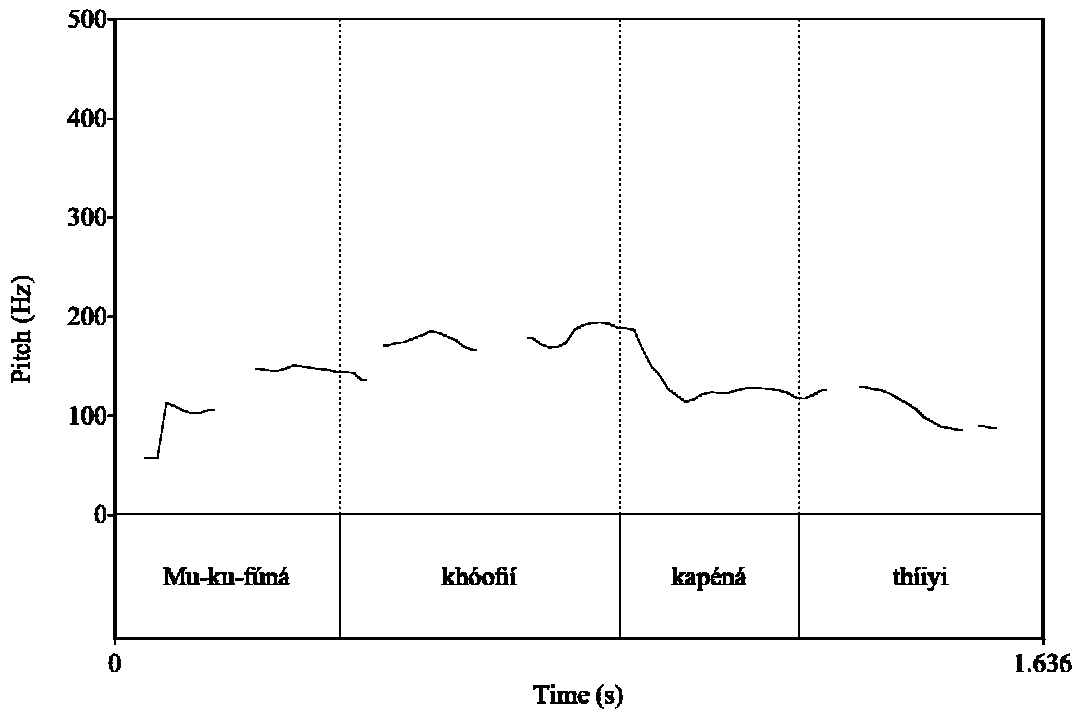




To put these intonation patterns in a wider perspective, note that a fall-fall or fall-rise melody over the last two syllables of a yes/no question is described for other E. Bantu languages, like Swahili (Ashton 1947). An overall raise in pitch has also been described for yes/no questions in other Bantu languages, like N. Sotho (Zerbian 2006a, b) and Jita (Downing 1996). Cross-linguistically, too, raised pitch is described as common in yes/no questions (Cruttenden 1997; Gussenhoven 2004).

In choice questions, the question prosody is realized only on the first choice in both languages (this is only illustrated for Chewa):

- (11) a. Chewa choice question  
(Mu-ku-fúná khóofi) (kapéna thíiyi)  
you.pl-TAM-want coffee or tea  
'Do you want coffee or tea?'
- b. Pitch track for (a)



c. Tumbuka choice question<sup>3</sup>

(M-nyamáta wa-ka-sanga n-cheŵe ya-ku-zyééwáa)  
 1-boy 1SBJ-TAM-find 9-dog 9.of-INF-be lost  
 (panyákhe m-buzi ya-ku-zyééwá) (mu-ma-thíípha)  
 or 9-goat 9.of-INF-be lost LOC-6-swamp  
 ‘Did the boy find a lost dog or a lost goat in the swamp?’

In Wh-questions, in contrast, we find no obligatory question melody in either language, though the overall pitch is raised somewhat compared to statements. This is illustrated in the pitch track in (c) on the next page. (See Myers (1996) for further discussion of Chewa question intonation):

(12) a Tumbuka Wh-question/answer pair

Q- (U-ka-mu-gulira njáani) (mango ya wíisi) (ku-gorosári)  
 you-TAM-1OBJ-buy for 1.who 9.mango 9.of unripe LOC-grocery  
 ‘Who did you buy the green mangoes for at the shop?’

A- (N-kha-mu-gulira mu-nyáane) (mango ya wíisi) (ku-gorosári)  
 I-TAM-1OBJ-buy for 1-my friend 9.mango 9.of unripe LOC-grocery  
 ‘I bought green mangoes for my friend at the shop.’

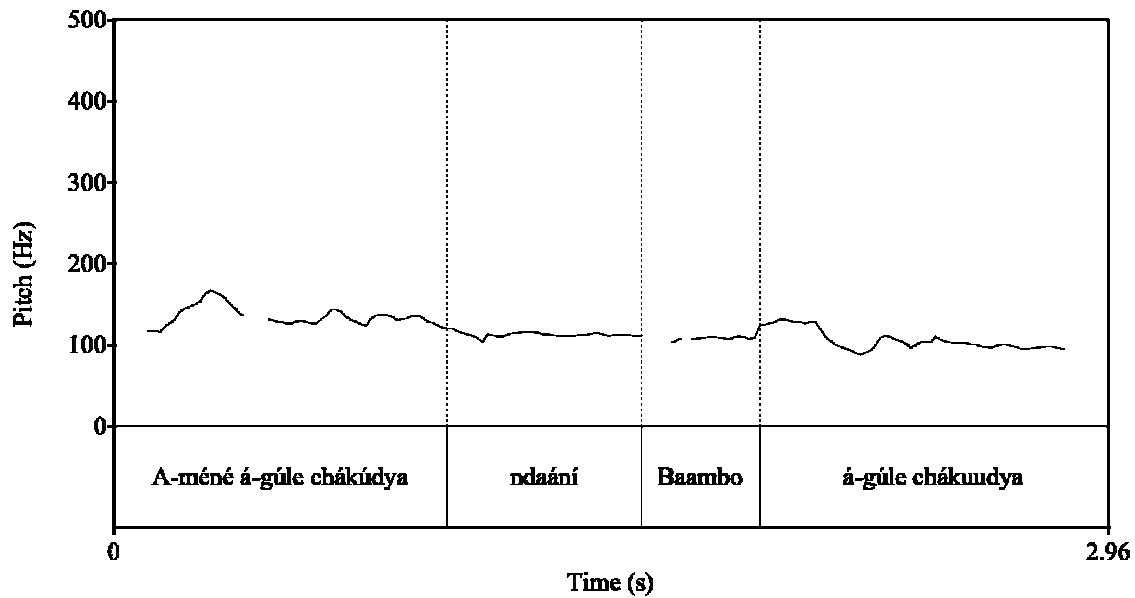
b. Chewa Wh-question/answer pair

Q- (A-méné á-gúle chákúdyá ndaání)  
 1-REL 1SBJ-buy 7.food 1.who  
 ‘Who will buy the food?’

A- (Baambo á-gúle chákuudya)  
 1.father 1SBJ-buy 7.food  
 ‘Father will buy the food.’

<sup>3</sup> Strikingly, the phrase break and concomitant phrasal stress in this choice question does not highlight the words in focus (e.g. the word for ‘dog’ and the word for ‘goat’). Instead, the Phonological Phrase aligns, as usual, with the right edge of XP. See Downing (2008) for detailed discussion of the problems these data pose for theories of focus prosody.

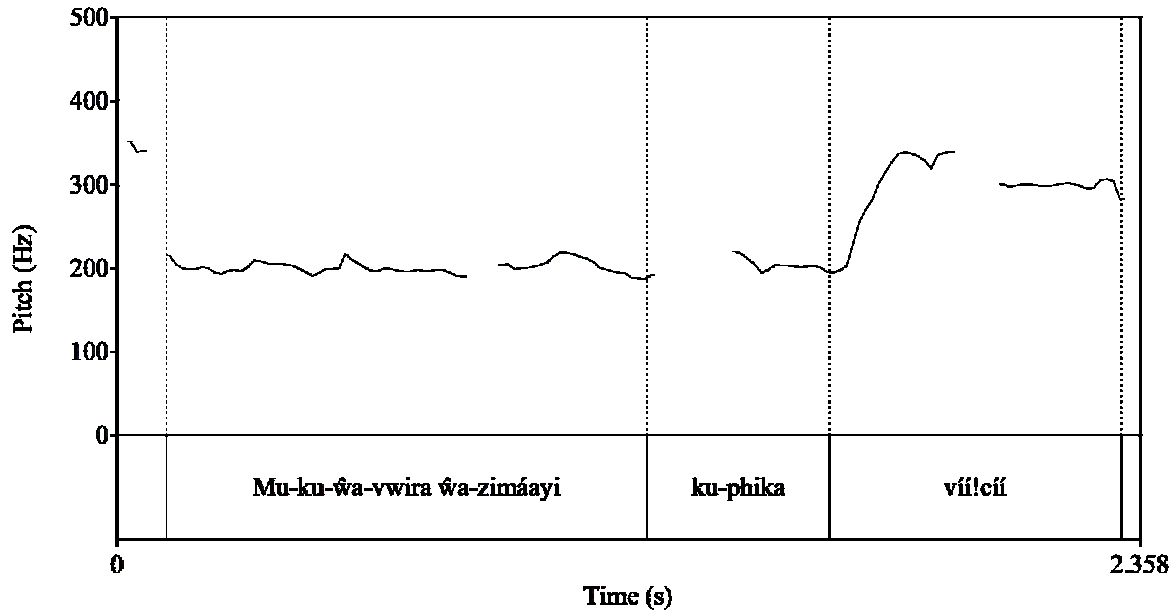
c. Pitch track for (b)



However, in Tumbuka, there is an optional raised ( $\uparrow$ ) register H!H melody on a Wh-question word when it appears in sentence-final (Intonation Phrase-final) position. This is illustrated in (b) and (c), below:

- (13) a. (N-chi víici) (ico mu-ku- $\hat{w}$ a-vwira  $\hat{w}$ a-zimáayi) (ku-phíika)  
 COP.7 8.what 7.REL you.pl-TAM-2OBJ-help 2-woman INF-cook  
 ‘It is what that you are helping the women to cook?’
- b. (Mu-ku- $\hat{w}$ a-vwira  $\hat{w}$ a-zimáayi) (ku-phika  $\uparrow$  víí!cíi)  
 you.pl-TAM-2OBJ-help 2-woman INF-cook 8.what  
 ‘What are you helping the women to cook?’

c. Pitch track for (b)



With this background in mind, in the next sections we survey the positions associated with particular wh-word types in Tumbuka and Chewa.

### 3 Positions and functions of Wh-words

In this section I survey the positions where Wh-words can occur in the two languages. As we shall see, we find four basic positions:

- cleft: in both languages required for questioning subjects
- IAV: - in Tumbuka required for questioning most non-subjects  
- in Chewa optional for questioning most non-subjects
- in situ: in Chewa most non-subjects can be questioned in situ.
- fronting (reduced cleft?): in Chewa required for the ‘for what reason’ question phrase.

#### 3.1 Clefts (and reduced clefts) for questioning subjects

A cleft is obligatory for subject questions in both languages. Indeed, clefting of focused subjects is widely found in Bantu languages – Dzamba (Bokamba 1976), Makhuwa (van der Wal 2009), Kivunjo Chaga (Moshi 1988), N. Sotho (Zerbian 2006a, b), Kitharaka (Muriungi 2003), Kinyarwanda (Maxwell 1981), Zulu (Cheng & Downing 2007) – and in other African languages – e.g., Bijogo (Segeberer 2000), Byali (Reineke 2007), Hausa (Jaggar 2001: 496), Somali (Orwin 2008). As Zerbian (2006) argues, this is likely due to a conflict between the inherent topicality of subjects and the inherent focus of Wh-questions and

answers. (See Zerbian (2006) for discussion of how clefting of focused subjects in Bantu languages fits in to typologies of the semantics of clefting.)

Examples of clefted subject questions and answers in Tumbuka are given below. Notice that the clefted Wh-word is always set off by a prosodic phrase break:

(14) Tumbuka clefted subject

- a. Q  
 (Ni njáani) (uyo wa-ku-capá vya-kuvwara vya ŵ-áana)  
 COP 1.who 1.REL 1SBJ-TAM-wash 8-clothes 8.of 2-child  
 (ku-máaji)  
 LOC-water

‘Who is washing clothes for the children in the river?’

*Best answer: cleft in either order:*

- b. (aŵo ŵa-ku-capá vya-kuvwara vya ŵ-áana) (ku-máaji)  
 2.REL 2SBJ-TAM-wash 8-clothes 8.of 2-child LOC-6.water  
 (m-ba-máama)  
 COP-2-woman

OR

- c. (mba-máama) (aŵo ŵa-ku-capá vya-kuvwara vya ŵ-áana) (ku-máaji)  
 ‘It’s the woman who is washing clothes for the children in the river.’

(15) Tumbuka clefted *which* subject

- (Ni mw-ana njúu!úu) (uyo wa-ka-luwa ku-jala ma- ŵíindo)  
 COP 1-child 1.which 1.REL 1SBJ-TAM-forget INF-close 6-window  
 ‘Which child forgot to close the windows?’

An example of a clefted subject from Chewa is given in (12a), above. Below are two examples of clefted *which* subjects from Chewa; note the different positions for *which*. And notice that the clefted Wh-word is always set off by a prosodic phrase break:

(16) Chewa clefted *which* subject

- a. (Ndi aná aa-tí) (a-méné a-ku-fúná kéeke)  
 COP 2-child 2-which 2-REL 2SBJ-TAM-want cake  
 ‘Which children want cake?’
- b. (Mwaná a-méné wá-góóná) (ndi úúti)  
 1.child 1-REL 1.TAM-sleep COP which  
 ‘Which child has fallen asleep?’  
 [lit. ‘The child who has fallen asleep is which?’]

While it is grammatical for the clefted Wh-word to occur in either initial or final position in the cleft construction in both languages, the two orders are not equally common. Interestingly, most commonly volunteered first in Tumbuka is the clefted Wh-word in initial position. In contrast, the clefted Wh-word is most commonly volunteered first in final position in Chewa.

Cleft morphology is optional in both languages, so that clefting is often indistinguishable from peripheralization (initial or final position) of the Wh-word: see (12a), above.

### 3.2 Other uses of clefts

A cleft is also obligatory in Tumbuka for non-subject *which* questions:

(17) Tumbuka non-subject *which* question - cleft obligatory

(Ni m-ziwu wa-nkhuni ngúu) (uwo m-sungwana  
 COP 3-bundle 3.of-10.wood 3.which 3.REL 1-girl  
 mu-cóoko) (wa-nga-ghegha yáayi)  
 1-small 1SBJ-TAM-carry not  
 ‘Which bundle of firewood can’t the small girl carry?’

This is a common option (but not required) in Chewa:

(18) Chewa non-subject *which* question - cleft optional

a. (Mu-ná-pátsa amáyí aánú) (búkhú lii-ti)  
 you-TAM-give 2.mother 2.your 5.book 5-which  
 ‘Which book did you give your mother?’

BUT – clefted

b. (Malw á-méné mú-ná-wa-onéetsa) (ndi áá-ti)  
 6.place 6-REL you-TAM-2OBJ-show COP 6-which  
 ‘What sights did you show them?’  
 [lit. ‘The places that you showed them are which?’]

And a cleft is required in Tumbuka for the question phrase, ‘because of what’ (why):

(19) a. (Ni cifukwa ca víici) (wá-dáada) (wá-ku-ghanaghana  
 COP because 7.of what 2-man 2SBJ-TAM -think  
 kuti wá-áaná) (wá-ku-lyesya n-khúuku)  
 that 2-child 2SBJ-TAM-feed 10-chicken

OR - in reverse order

- b. (ŵa-dáada) (ŵa-ku-ghanaghana kuti ŵ-áaná) (ŵa-ku-lyesya  
n-khúuku) (cifukwa ca víici)

‘Why does the man think the children are feeding the chickens?’

It is unclear why clefts are required in these two constructions. One might speculate, though, that ‘which’ question phrases are clefted due to the inherent identificational focus of this type of question, while the complex phrasal nature of the ‘because of what’ question motivates clefting it.

### 3.3 Immediately After the Verb (IAV)

The Immediately After the Verb (IAV) focus position is well-documented for Bantu languages: see e.g., Aghem (Hyman 1979, 1999; Hyman & Polinsky 2010; Watters 1979), Tswana (Creissels 2004); Makhua (van der Wal 2009); Kimatuumbi (Odden 1984); Basàa (Hamlaoui & Makasso 2010), Zulu (Cheng & Downing 2009) – and in other African languages, like Mambila (Güldemann 2007); Chadic (Tuller 1992). It is not surprising, then, that it is a position favored by Wh-words, which have inherent focus.

In Tumbuka, the IAV position is required when questioning any non-subject – except those which must be clefted, as noted above, namely, *which*-questions and the ‘because of what’ question phrase. The IAV position is illustrated in the data below. Notice that the Wh-word is always followed by a prosodic phrase break:

(20) Questioning a direct object (in a sentence with an indirect object)

- a. (Ku-sukúulu) (u-tol-enge víici) (ca ŵa-lendo ŵ-íithu)  
LOC-5.school you-take-TAM 7.what 7.for 2-visitor 2-our

OR

- b. (Ku-sukúulu) (u-tolel-enge víici) (ŵa-lendo ŵ-íithu)  
LOC-5.school you-take for-TAM 7.what 2-visitor 2-our

‘What are you taking to the school for our visitors?’

(21) Questioning ‘when’, ‘how’, ‘where’

- a. Q (Káasi) (wu-ka-mu-wona pa wúuli) (Méeri)  
Q you-TAM-1OBJ-see when Mary

\*Kasi, wukamuwona Mary pa wuli?

‘When did you see Mary?’

- A (Méeri) (ni-ka-mu-wona mayíiro)

Mary I-TAM-1OBJ-see yesterday

‘I saw Mary yesterday.’

- b. (Káasi) (Jiini) (wa-ku-phika úuli) (kéeke)  
 Q Jean 1SBJ-TAM-cook how cake  
 ‘How does Jean make her cake?’
- c. (ŵa-máama ŵa-ku-capira nkhúu) (vya-kuvwara vya ŵ-áana)  
 2P-woman 2P-TAM-wash where 8-clothes 8.of 2-child

OR

- d. (Vya-kuvwara vya ŵ-áana ŵa-máama) (ŵa-ku-capira nkhúu!úu)  
 ‘Where is the woman washing clothes for the children?’

(22) Questioning ‘what for’

- (Káasi) (wa-ngu-mu-piráa-ci) (ndaláama)  
 Q you-TAM-1OBJ-give.for-what 9.money  
 ‘What did you give her the money for?’

In Chewa, IAV position is not usually required when questioning a verb complement. However, *bwanji* ‘how’ most commonly occurs in IAV position. Wh-words are generally followed (and occasionally set off) by prosodic phrase breaks:

- (23) (Méeri) (a-ná-kónza bwáanji) (gálímooto)  
 Mary 1SBJ-TAM-fix how 5.car  
 ‘How did Mary fix the car?’

And IAV is a possible option for other Wh-words:

- (24) (Mu-ná-mú-oona) (liiti) (Méeri)  
 you-TAM-1OBJ-see when Mary  
 ‘When did you see Mary?’

### 3.4 In situ position

According to Mchombo (2004), Wh-question words (for verb complements) always occur in situ in Chewa. However, there is more variation in the data I have elicited than Mchombo reports. For example, in situ often alternates with IAV:



(25) a. IAV  
(wa-á-pátsa chiyáani) (baambo)  
1.SBJ-TAM-give what 1.father

OR

b. in situ  
(wa-á-pátsa bambo chiyáani)  
1.SBJ-TAM-give 1.father what  
‘What has s/he given to father?’

(26) a. IAV (speaker JC)  
(Kóódí) (u ná-yíwalá ku-wá-gúlírá chi-yáani) (amáyi áákó)  
Q you-TAM-forget INF-2OBJ-buy.for what 2.mother 2.your

OR

b. in situ (speaker AM)  
(Mu-ná-yíwalá ku-gúlíra amáyí aánú) (chi-yáani)  
‘What did you forget to buy your mother?’

(27) in situ  
(A-ná-pézá galú kuuti)  
1.SBJ-TAM-find 1.dog where  
‘Where did s/he find the dog?’

And in questioning indirect objects, the Wh-word (i.e. *ndaání* ‘who’) often occurs in final position, not in situ:<sup>4</sup>

(28) (Mu-ku-phíkíra ndaání) (kéeké)  
you-TAM-cook.for 1.who cake

OR

(Mu-ku-phíkíra kéke ndaání)  
‘Who are you baking the cake for?’

This variation in the position of non-subject Wh-words in Chewa deserves more careful study in future research.

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<sup>4</sup> Canonically, in Bantu languages indirect objects occur immediately after the verb, preceding the direct object (see, e.g. Bearth 2003). It is unclear to me, though, how rigid the order of the indirect object and direct object are in non-questions in Chewa. I have found no discussion of this in the literature.

### 3.5 Fronted

Fronting is required in Chewa for the Wh-phrase meaning, ‘because of what’ (i.e., why). In Tumbuka, as shown in (19), above, this phrase is clearly clefted. In Chewa, it is not always so clearly a cleft, as we can see by comparing (29a) – which is a cleft – with (29b):

(29) Chewa - ‘because of what’ (why)

- a. (Ndi chifukwá chíyáani) (kú-ma-téntha kwambíiri)  
 COP reason what 17SBJ-TAM-be.hot a lot  
 (mu Máatchi).  
 in March  
 ‘Why is it always so hot in March?’
- b. (Chifukwá chíyáani) (m-phunzitsi sá-na-péréke ntchító  
 reason what 1-teacher NEG.1-TAM-give 9.work  
 yo-ka-gwírírá ku nyuúmbá)  
 of-in.order.to-make LOC 9.home  
 ‘Why did the teacher not set any homework?’

Perhaps (29b) is a reduced cleft? This is a topic for future research.

### 3.6 Multiple Wh-questions

Even though both Chewa and Tumbuka have two positions where Wh-words can occur – a clefted and a non-clefted position – multiple Wh-questions are considered ungrammatical in both languages. If speakers are forced, they accept, with doubts, multiple Wh-question *if* one questioned argument is a human subject. However, these do not have a list-pair reading like they do in English (e.g., ‘Terry brought charcoal; Chris brought steak; Tracy brought corn, etc.’); rather only one pair is expected in the answer (e.g., ‘Terry brought charcoal.’).

### 3.7 Summary

To sum up this survey, in Tumbuka, Wh-words occur in positions associated with focus: cleft or IAV. As in other Bantu languages, a cleft is required when questioning the subject and is common with ‘which’ and ‘because of what’ questions. In Tumbuka, the clefted Wh-word word more commonly occurs in initial position. IAV position is required for (other) non-subjects.

In Chewa, we find more flexibility in the positions. A cleft is also required for questioning the subject - but more often we find the clefted Wh-word in final position. IAV position is only required (at least this is a strong tendency) with

‘how’. In situ position is an equally acceptable option with all other verb complements, except ‘because of what.’ As in Tumbuka, this phrase must be fronted (suggesting it is a reduced cleft).

#### **4 Prosodies: discussion**

How well the phrasing algorithm for non-questions fit the phrasing for questions illustrated in section 3? In Tumbuka, we find a close fit. The Wh-question word is at the right edge of XP, whether clefted or in IAV position. As expected, we find a prosodic phrase break following the Wh-word. In Chewa, however, we find a more complicated fit. When the Wh-word is clefted, each half of the cleft construction is in a separate prosodic phrase. This is expected, since, in general, phrase breaks follows right CP edges in Chewa. However, for non-clefted Wh-words, it is controversial whether the break we find following the Wh-word is expected. Kanerva (1990) – based on one speaker, recorded in the USA – claims that all focused XPs are followed by a phrase break. Therefore, a break following inherently focused Wh-words is expected.

However, in a more recent study (Downing & Pompino-Marschall 2010) – based on 9 speakers, recorded in Malawi – does not find a phrase break following focused words. The table in (30) summarizes the results of this study, which elicited focus by following the standard technique of asking participants to read questions intended to put different words in the sentence in focus, followed by the answer to the question.

As shown in this Table, (a) in statements with broad focus, long penult vowels are clearly seen for the first and last phonological word (pw). Compared to the word final vowels, the length ratio for the first pw varies between ca. 1.5 and 2.5. Due to the extra lengthening of the utterance final vowel, this length ratio is generally less for the last pw (again ranging between 1.5 and 2.0 for most subjects). However, (b) in situ focus on the verb (pw 2) or object (pw 3) does not result in consistent penult lengthening in the focused word. Within one sentence type, the last pw in general shows the longest penult vowel. While it sometimes does not differ significantly from the penult of pw 1, it does differ significantly from pw 2 and pw 3 whether they are focused or not:

(30) Table showing penult vowel durations under different focus conditions: mean (sd) [in ms], lengthening ratio in respect to pword final vowels (significantly longer vowels per sentence type marked in bold italics; penults of focused words marked by underlining)

subject	focus	mwaáná	a-ná-ménya	nyumbá	ndí mwáálá
EN	broad	96.401 (11.175) 2.102	38.005 (9.018) 0.487	65.501 (8.696) 0.984	<b><i>127.591 (16.080)</i></b> 1.518
EN	verb	108.124 (10.462) 2.252	<u>37.162 (15.932)</u> 0.486	57.322 (7.132) 0.790	<b><i>130.360 (21.270)</i></b> 1.871
EN	object	92.898 (17.277) 2.228	37.689 (9.973) 0.493	<u>59.371 (5.645)</u> 0.916	<b><i>117.048 (16.123)</i></b> 1.529
GN	broad	<b><i>103.762 (21.924)</i></b> 1.988	32.590 (5.858) 0.530	57.940 (7.914) 0.561	<b><i>102.041 (15.267)</i></b> 1.181
GN	verb	<b><i>110.051 (20.975)</i></b> 2.075	<u>31.103 (7.762)</u> 0.593	45.775 (6.694) 0.580	<b><i>109.078 (15.451)</i></b> 1.802
GN	object	<b><i>118.285 (22.675)</i></b> 2.222	36.733 (12.588) 0.588	<u>45.124 (9.543)</u> 0.508	<b><i>112.110 (13.002)</i></b> 1.424
HC	broad	<b><i>159.332 (50.731)</i></b> 1.459	87.696 (15.802) 0.908	70.754 (23.791) 0.813	<b><i>149.637 (25.300)</i></b> 1.877
HC	verb	<b><i>143.267 (45.511)</i></b> 1.617	<u>88.964 (23.344)</u> 1.121	75.374 (9.017) 0.876	<b><i>145.976 (21.847)</i></b> 1.389
HC	object	<b><i>139.832 (36.693)</i></b> 1.503	76.798 (11.136) 0.951	<u>72.298 (8.822)</u> 0.810	<b><i>162.107 (26.361)</i></b> 1.768
IN	broad	108.691 (11.291) 2.380	67.321 (6.969) 0.916	100.365 (13.122) 1.268	<b><i>125.405 (11.545)</i></b> 1.401
IN	verb	101.210 (14.904) 2.142	<u>60.721 (8.354)</u> 0.986	64.702 (6.307) 0.956	<b><i>133.823 (13.004)</i></b> 2.840
IN	object	<b><i>109.991 (17.009)</i></b> 2.213	61.792 (9.896) 0.816	<u>70.176 (9.128)</u> 0.816	<b><i>128.850 (26.822)</i></b> 1.692
LM	broad	<b><i>127.708 (5.921)</i></b> 1.665	96.453 (17.434) 1.237	77.332 (15.986) 0.549	<b><i>137.523 (15.507)</i></b> 0.799
LM	verb	106.981 (13.322) 1.259	<u>98.658 (18.352)</u> 1.440	47.266 (4.094) 0.495	<b><i>139.534 (10.653)</i></b> 0.646
LM	object	<b><i>131.393 (14.671)</i></b> 1.488	99.513 (22.235) 1.437	<u>62.189 (19.710)</u> 0.467	<b><i>140.033 (19.702)</i></b> 0.788
PM	broad	<b><i>135.822 (10.953)</i></b> 1.545	74.411 (9.079) 0.898	79.769 (15.599) 1.165	<b><i>145.732 (15.614)</i></b> 2.426
PM	verb	<b><i>135.578 (11.392)</i></b> 1.430	<u>75.637 (4.131)</u> 0.838	79.587 (17.780) 1.044	<b><i>127.685 (24.386)</i></b> 1.841
PM	object	<b><i>143.821 (8.720)</i></b> 1.392	74.263 (8.653) 0.789	<u>91.591 (13.162)</u> 1.224	<b><i>139.338 (9.853)</i></b> 2.086
SY	broad	87.050 (15.998) 1.982	52.805 (12.281) 0.839	55.920 (13.319) 0.686	<b><i>121.714 (18.084)</i></b> 1.561
SY	verb	94.697 (16.028) 3.108	<u>52.271 (7.845)</u> 1.029	40.003 (8.559) 0.539	<b><i>143.142 (15.124)</i></b> 1.998
SY	object	86.681 (10.426) 2.595	56.453 (12.607) 1.119	<u>43.124 (8.476)</u> 0.622	<b><i>139.028 (16.095)</i></b> 2.003

In other words, focus has no effect on penult lengthening, the salient cue to prosodic phrase breaks. If we look, for example, at the mean penult vowel lengths in the recordings for EN in the three focus contexts (broad focus, focus on the verb, focus on the first object following the verb), we can see that the penult vowel of the verb and the first object is roughly the same in all three contexts. Placing focus on the verb has no effect on the length of the penult vowel of the verb; placing focus on the first object has no effect on the length of the penult vowel of the object.

Because focused answers to Wh-questions are not systematically followed by a prosodic break, the break following inherently focused Wh-words which regularly occurs in elicitation contexts is unexpected. We leave it as a question

for future research to investigate what factors influence phrasing of Wh-words: perhaps the inherent focus of these words variably attracts some emphasis, realized as prosodic phrasing? (See Kisseberth, this volume, for a similar proposal for Chimwiini.)

## **5 Conclusions and questions for future research**

In sum, we find that Wh-words in Tumbuka and Chewa often occur in focus positions that are well known from other Bantu languages. Subject Wh-words are clefted, and, as noted above, this is plausibly motivated by the contradiction between the inherent topicality of subject position (preverbal=topic) and the inherent focus of Wh-words. (See, e.g. Zerbian 2006a,b; Morimoto 2000; van der Wal 2009 for detailed discussion.) This explanation could extend to ‘which’ questions: their inherent contrastive focus makes them likely candidates for clefting. Why, though, are ‘for what reason’ questions commonly (even obligatorily, in Tumbuka) clefted in both languages, while other Wh-questions on verb complements are not? And why the difference in preferred position for the clefted Wh-word in the two languages: initial vs. final in the cleft construction?

Non-subject Wh-words occur obligatorily in IAV position in Tumbuka. There is considerable discussion in the literature about the best explanation for why IAV position correlates with focus (see e.g., Aboh 2007; Cheng & Downing 2009; Hyman & Polinsky 2010; van der Wal 2009). It is a topic for further research to test these analyses on Tumbuka. Another topic for future research, in Chewa, is to account for the variability we find in the positions of non-subject question words: namely, between IAV / in situ / final. Why does ‘how’ most commonly occur in IAV position in Chewa while other verb complements do not have this requirement? Do we find the same variability in the position of verb complements in non questions?

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