**Questions in Bantu Languages:
Prosodies and Positions**

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Introduction[*]

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1   The Bantu PSYN project

The papers in this volume were originally presented at the Workshop on Bantu Wh-questions, held at the Institut des Sciences de l'Homme, Université Lyon 2, on 25-26 March 2011, which was organized by the French-German cooperative project on the Phonology/Syntax Interface in Bantu Languages (BANTU PSYN). This project, which is funded by the ANR and the DFG, comprises three research teams, based in Berlin, Paris and Lyon. The Berlin team, at the ZAS, is: Laura Downing (project leader) and Kristina Riedel (post-doc). The Paris team, at the Laboratoire de phonétique et phonologie (LPP; UMR 7018), is: Annie Rialland (project leader), Cédric Patin (Maître de Conférences, STL, Université Lille 3), Jean-Marc Beltzung (post-doc), Martial Embanga Aborobongui (doctoral student), Fatima Hamlaoui (post-doc). The Lyon team, at the Dynamique du Langage (UMR 5596) is: Gérard Philippson (project leader) and Sophie Manus (Maître de Conférences, Université Lyon 2). These three research teams bring together the range of theoretical expertise necessary to investigate the phonology-syntax interface: intonation (Patin, Rialland), tonal phonology (Aborobongui, Downing, Manus, Patin, Philippson, Rialland), phonology-syntax interface (Downing, Patin) and formal syntax (Riedel, Hamlaoui). They also bring together a range of Bantu language expertise: Western Bantu (Aboronbongui, Rialland), Eastern Bantu (Manus, Patin, Philippson, Riedel), and Southern Bantu (Downing).

This range of expertise is essential to realizing the goals of our project. Because Bantu languages have a rich phrasal phonology, they have played a central role in the development of theories of the phonology-syntax interface ever since the seminal work from the 1970s on Chimwiini (Kisseberth & Abasheikh 1974) and Haya (Byarushengo et al. 1976). Indeed, half the papers in Inkelas & Zec's (1990) collection of papers on the phonology-syntax interface deal with Bantu languages. They have naturally played an important role in current debates comparing indirect and direct reference theories of the phonology-syntax interface. Indirect reference theories (e.g., Nespor & Vogel

1986; Selkirk 1986, 1995, 2000, 2009; Kanerva 1990; Truckenbrodt 1995, 1999, 2005, 2007) propose that phonology is not directly conditioned by syntactic information. Rather, the interface is mediated by phrasal prosodic constituents like Phonological Phrase and Intonation Phrase, which need not match any syntactic constituent. In contrast, direct reference theories (e.g., Kaisse 1985; Odden 1995, 1996; Pak 2008; Seidl 2001) argue that phrasal prosodic constituents are superfluous, as phonology can – indeed, must – refer directly to syntactic structure.

In spite of this long history, most work to date on the phonology-syntax interface in Bantu languages suffers from limitations, due to the range of expertise required: intonation, phonology, syntax. Quite generally, intonational studies on African languages are extremely rare. Most of the existing data has not been the subject of careful phonetic analysis, whether of the prosody of neutral sentences or of questions or other focus structures. There are important gaps in our knowledge of Bantu syntax which in turn limit our understanding of the phonology-syntax interface. Recent developments in syntactic theory have provided a new way of thinking about the type of syntactic information that phonology can refer to and have raised new questions: Do only syntactic constituent edges condition prosodic phrasing? Do larger domains such as syntactic phases, or even other factors, like argument and adjunct distinctions, play a role? Further, earlier studies looked at a limited range of syntactic constructions. Little research exists on the phonology of focus or of sentences with non-canonical word order in Bantu languages. Both the prosody and the syntax of complex sentences, questions and dislocations are understudied for Bantu languages. Our project aims to remedy these gaps in our knowledge by bringing together a research team with all the necessary expertise. Further, by undertaking the intonational, phonological and syntactic analysis of several languages we can investigate whether there is any correlation among differences in morphosyntactic and prosodic properties that might also explain differences in phrasing and intonation. It will also allow us to investigate whether there are cross-linguistically common prosodic patterns for particular morpho-syntactic structures.

To pursue these goals in a systematic way, each year we concentrate on one syntactic construction. We have chosen the following constructions where previous work has shown that both syntactic and non-syntactic factors play a complex role in conditioning the prosody: relative clauses (comparing restrictive relatives, non restrictive relatives and clefts), question types and dislocations. This volume mainly presents papers from the workshop on the second year's annual theme, namely question types. The elicitation questionnaire for question types, which project members used to collect data presented in their papers, forms the Appendix to this volume.

2   Issues in the phonology and syntax of Bantu constituent questions

All of the papers in the volume except one (Mtenje) take up some aspect of (mainly) wh-question constructions in some Bantu language. Mtenje's paper on the prosodic phrasing of relative clause constructions in Ciwandya (Malawi, M20) is included, as the data collected was inspired by the BANTU PSYN relative clause questionnaire developed in the first year of the project and published as an appendix to *ZASPiL* 53, a volume of papers by project members on Bantu relative clause constructions. Mtenje's analysis fits Ciwandya into the patterns illustrated by the papers in that volume, showing the questionnaire fills its purpose of being useful to other linguists interested in researching, for other languages, the topics the BANTU PSYN project has chosen to concentrate on.

The other papers in the present volume examine how constituent (wh-) questions are formed in a number of Bantu languages along with their prosody. We briefly summarize the positions and prosodies for wh-words described in each paper.

Aborongui et al.'s paper on wh-questions (*questions partielles*) in ɛmbɔ́sí (C 25) shows that there are two series of wh-words in this language. One is used when it is presupposed that the question has an answer (and that the addressee knows the answer). The other series does not have this presupposition. There are two basic positions for wh-words. They can occur in situ or in a relative (cleft) construction. These two constructions can be used to question both subjects and objects. The use of both constructions is also possible for temporal questions, but not for locative, manner or causal questions, where the relative construction is not found. As for the prosody of wh-words, they are characterized by an optional floating High tone. There is no special intonation for wh-questions as a whole, though, nor do questions and question words have any effect on prosodic phrasing.

Downing's paper on wh-questions in Chewa (N 30) and Tumbuka (N 20) shows that these languages, like ɛmbɔ́sí, have a relative (cleft) construction for forming questions. However, in Chewa and Tumbuka, clefts (or reduced clefts) are required for questioning subjects. Subjects cannot be questioned in situ, properly speaking. (This is a common restriction on subject questions; see Zerbian 2006a, b for discussion.) Non-subjects also cannot be questioned in situ in Tumbuka. They must be questioned in the Immediately After the Verb (IAV) focus position that has become well known for Bantu languages since Hyman's (1979) and Watters' (1979) work on Aghem. In Chewa, in contrast, most non-subjects can be questioned in situ, though there is variation between IAV and in situ position. Even though both languages have two positions for wh-words (cleft and postverbal), neither language allows multiple wh-questions. As for the prosody of wh-questions, in neither language do we find an obligatory global

question intonation, though the register of wh-questions tends to be higher than that of assertions. One does find a prosodic phrase break following wh-words, and in Chewa, Downing attributes this break to the inherent focus of wh-words.

Hamlaoui & Makasso's paper on Bàsàa (A 43) wh-questions confirms the prevalence, cross-Bantu, of an obligatory IAV position for questioning (many) non-subjects. In contrast, subjects and temporal wh-phrases are questioned in situ. Subjects and non-subjects can also be questioned by fronting the wh-word. When they are fronted, they have a special prosody: the vowel of the wh-word is lengthened in order to bear a lexical High tone (as it also is when the wh-word occurs sentence finally), it is realized with a raised register, and there is a prosodic phrase break following the fronted wh-word. The questions with a fronted wh-phrase also have a different semantics: they require an exhaustive answer and presuppose that the addressee can provide the answer.

Hyman & Katamba's paper on Luganda (J10) wh-questions shows that in this language, as well, neutral non-subject wh-elements must occur in IAV position. In contrast, subject wh-question elements occur before the verb, which must have relative clause morphology/phonology. (These are, however, not cleft constructions.) Clefts are also used to form questions, but subject and adjunct wh-elements cannot be clefted; only object wh-elements can. Even though there are two positions where wh-elements can occur, multiple wh-questions are only possible with severe restrictions in Luganda. Prosodically, wh-questions have their own intonation. Wh-words end in a High tone and have distinctive phonological properties which are discussed in detail in this article.

Kisseberth's paper on Chimwiini, a dialect of Swahili (G40) spoken in Somalia, provides a very detailed description of the morphosyntax and prosody of both wh-questions and yes/no questions. In Chimwiini, as in Luganda, subject wh-phrases must occur preverbally, and the verb is in the "pseudo-relative" form. The full question word *nini* 'what' must also occur in this preverbal pseudo-relative construction, whether it is subject or object. Other non-subject wh-elements (like *gani* 'which') optionally also occur in this construction, but they can also occur postverbally, optionally in IAV position (the usual focus position in Chimwiini), and then the verb does not have the pseudo-relative form. Chimwiini also has wh-enclitics to the verb, which do not require any special form of the verb. One finds an unexpected prosodic phrase break following these enclitics, which Kisseberth attributes to the inherent focus of wh-elements. Otherwise, wh-questions do not appear to have any particular prosody. However, yes-no questions do: they are realized with a raised pitch, downstepping is suspended, and an accented final syllable is realized with a salient falling contour.

Riedel & Patin's paper on Fipa (M13) shows that, while there is some preference for post-verbal wh-elements to appear in IAV position, wh-questions

predominantly have the same word order and morphological marking as their declarative counterparts. Subjects are questioned in the pre-verbal position, and questioned objects mostly appear in the IAV position, though they can optionally remain in-situ. The opposite situation is found in adverbial questions, where wh-words are mostly questioned in situ, but may also appear in the IAV position. Multiple wh-questions are grammatical. The paper discusses agreement, showing that the questioned subject agrees with the verb, and that some wh-words, whether referring to animates or inanimates, optionally trigger object-marking, just like non-questioned objects. Riedel & Patin conclude that wh-questions are mostly marked by prosody: a falling intonation, enhanced by other prosodic parameters such as lengthening or the lack of final devoicing, is associated with the last syllable of the Intonational Phrase.

To sum up, while most typologies of wh-questions recognize two common positions for wh-words – fronted or in situ – these positions turn out to be relatively rare for the Bantu languages presented in this volume. Instead, we more commonly find other positions: clefts – often obligatory for subjects – or "pseudo-relatives" for preverbal wh-words, and IAV position for non-subject wh-words. While in situ position is attested in some of the language, in ɛmbɔ́sí, it freely alternates with a cleft-like construction, and in Chewa, Chimwiini and Fipa, it often alternates with IAV position. Fronting is only described for Bàsàa, where it is a syntactically and prosodically marked position for asking exhaustive questions. In neutral wh-questions, most of the languages do not have a distinctive intonational pattern. However, wh-words themselves often have a marked prosody: they have a final (or floating) High tone in ɛmbɔ́sí, Bàsàa and Luganda; they are followed by a prosodic phrase break in Chewa, Chimwiini and Tumbuka. This again makes these Bantu languages different from more familiar languages like English, where wh-words have no special prosody.

We believe that these distinctive morphosyntactic and prosodic properties of Bantu wh-questions, carefully documented in the papers in this volume, will make the data and analyses of interest both to Bantu and to general linguistics. We hope they also provide an impetus to engage in further research on this rich and complex topic.

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Questions partielles en ɛmbɔ́sí (C25)[*]

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L'article étudie les diverses façons de poser des questions partielles en Embosi (C25). D'une part, la langue possède deux ensembles de pronoms/déterminants interrogatifs: 1) nda/nde, nda renvoyant aux animés et nde aux non-animés, 2) des mots interrogatifs en accord de classe avec le nom qu'ils déterminent ou qu'ils remplacent, segmentalement homophones des démonstratifs. Ces deux catégories de marqueurs appellent des réponses de nature différente. Par ailleurs, deux ensembles de constructions sont possibles pour les questions partielles portant sur le sujet, l'objet direct ou indirect: les constructions avec relatives et les constructions in situ. Les questions partielles sur le lieu, la cause, la manière se posent avec des adverbes et n'admettent que les constructions in situ. Sur le plan prosodique, il n'y a ni intonation ni groupement prosodique spécifique pour les questions partielles en Embosi. Leur seule caractéristique prosodique est un ton H facultatif (variable selon les locuteurs) sur la finale du mot qui précède le mot interrogatif.

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This article investigates the different ways of asking constituent questions in Embosi (C25). First, the language has two sets of interrogative pronouns/demonstratives: 1) nda/nde, with nda referring to animates and nde to non-animates; and 2) interrogative words, homophonous with demonstratives, that agree in class with the noun that they modify or replace. These two categories of markers require different types of responses. Further, two types of constructions are possible for constituent questions on the subject, direct object or indirect object: constructions with relatives and in situ constructions. Constituent questions on place, cause or manner are formed using adverbs and only permit the in situ construction. As for the prosody of questions, there is no special intonation or prosodic phrasing for constituent questions in Embosi. Their only prosodic characteristic is an optional High tone (variable depending on the speaker) which occurs on the final syllable of the word which precedes the interrogative word.

1   Introduction

L'ɛmbɔ́sî est une langue bantoue (C25) parlée au Congo-Brazzaville. Cette langue possède un grand nombre de types de questions partielles qui résultent de la possibilité d'employer deux ensembles différents de mots interrogatifs, des constructions avec relatives ou des constructions *in situ*. Cet article présente ces divers types de questions partielles ainsi que leurs emplois. La première partie est consacrée aux mots interrogatifs, la seconde aux constructions (relatives ou *in situ*) et la troisième à la prosodie.

2   Les mots interrogatifs (MI)

2.1   Les pronoms/déterminants interrogatifs

L'ɛmbɔ́sî possède deux ensembles de pronoms/déterminants interrogatifs :

> *nda* «qui, quel» et *nde* «quoi, quel» qui renvoient à la différence humain/non humain. /nd-a/ est utilisé pour les humains et /nd-e/ pour les non-humains.

> *wo, mi….* «qui, lequel, quoi, lequel» en accord de classe avec le nom qu'il détermine ou qu'il remplace.

Il est intéressant de remarquer que le second ensemble de mots interrogatifs est segmentalement identique au démonstratif[1].

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[1]   Les abréviations utilisées dans cet article sont les suivantes: **Acc** accompli, **B** ton bas, **Cl** classe nominale, **Inac** Inaccompli, **H** ton haut, **H.i** ton haut interrogatif, **MI** mot interrogatif, **Prés** présent, **Rec** récent, **Rel** relative et **St** statif.

(1) Démonstratif (2) Interrogatif
 moro wó   moro/moró wo

 mo-ro – wó   mo-ro – wo
 Cl_1.personne – Cl_1.dem Cl_1.personne – Cl_1.MI
 «cette personne»   «quelle personne?»

Le démonstratif et l'interrogatif possèdent tous deux un ton haut. Néanmoins, ce ton haut est fixe pour le démonstratif et flottant pour l'interrogatif. Le ton H de l'interrogatif se comporte de trois manières différentes : il peut s'associer à sa propre voyelle, se reporter sur la syllabe précédente, comme sous (2), ou ne pas être réalisé (i.e. rester flottant). Cette différence peut être schématisée de la manière suivante :
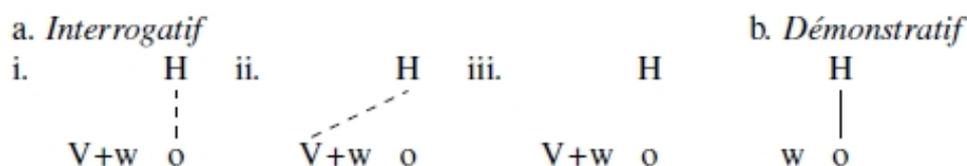
Les questions formées avec ces deux ensembles de mots interrogatifs se distinguent par la nature de la réponse qu'elles appellent (nommer/montrer) et en termes de présupposition.

  Considérons des exemples d'emploi de ces deux catégories de mots interrogatifs. Le contexte peut être le suivant : une personne entre dans une pièce où se trouve une autre personne. Utilisant *nda* (un mot interrogatif de la première catégorie), elle peut lui poser une des deux questions suivantes:

(3) moro yɛɛtéɛ́ Jumá nda
  mo-ro – ye.ye-tá-i – ´ – Jumá – MI
  Cl_1.personne – Cl_1.Rel-voir-Réc – H – Jumá – quelle
  Litt : «Personne qui a vu Juma quelle?»
  «Quelle est la personne qui a vu Juma?»

(4) moro/moró nda yɛɛtéɛ́ Jumá
  mo-ro – MI – ye.ye-tá-i – ´ – Jumá
  Cl_1.personne – quel – Cl_1.Rel-voir-Réc – H – Jumá
  Litt: «Personne quelle qui a vu Juma?»
  «Quelle est la personne qui a vu Juma?»

La réponse donnée sera donc du type suivant:
R1: Lui (wa), Martial, personne (moro kaá)
R2: #Celui-ci, Celui qui porte un pull rouge

Les questions (3) et (4) ne présupposent pas qu'il existe au moins une personne qui satisfait cette propriété «X a vu Jumá». La réponse «personne» n'est pas étrange dans ce contexte, puisque la question avec /nd-a/ laisse ouverte la possibilité que l'ensemble des personnes qui satisfait cette propriété soit vide. Ainsi, lorsque le locuteur emploie /nd-a/, il s'attend à ce que son interlocuteur nomme la personne (qui peut être plurielle) qui satisfait la propriété exprimée dans la question.

Cette même personne, utilisant /wo/ (un mot interrogatif de la deuxième catégorie), peut aussi poser les questions suivantes:

(5)   moro yɛɛtɛ́ɛ́ Jumá wo

    mo-ro – ye.ye-tá-i – ´– Jumá – MI

    Cl_1.personne – Cl_1.Rel-voir-Réc – H – Jumá – quelle

    Litt: «Personne qui a vu Jumá laquelle?»

    «Quelle est la personne qui a vu Juma?»

(6)   moro/moró wo yɛɛtɛ́ɛ́ Jumá

    mo-ro – MI – ye.ye-tá-i – ´– Jumá

    Cl_1.personne – quelle – Cl_1.Rel-voir-Réc – H – Jumá

    Litt: «Personne quelle qui a vu Jumá?»

    «Quelle est la personne qui a vu Juma?»

    La réponse donnée sera donc plutôt du type suivant:
    R1: Celui-ci, celui qui porte un pull rouge
    R2: #Lui (wa), Martial, Personne (moro kaá)

Les questions (5) et (6) avec /wo/, etc. présupposent quant à elles, qu'il existe au moins une personne, dans un ensemble donné, qui satisfait la propriété exprimée dans la question. Ce type de question implique que l'on montre la personne (R1) ou que l'on donne une ou des propriété(s) qui permette(nt) de l'identifier (R1). Répondre par «personne» (R2) est inattendu et revient à signifier à celui qui pose la question qu'il se trompe.

2.2 Les adverbes interrogatifs

L'ɛmbɔ́sî possède aussi les adverbes interrogatifs suivants : /pe/ «où», /bo/ «comment» et /kwɛ́ɛ/ «combien» que nous aborderons plus bas.

3 Les constructions des questions partielles

Les questions partielles en ɛmbɔ́sî se forment des deux manières suivantes: (i) avec des propositions relatives et (ii) avec le mot interrogatif (MI) in situ, c'est-à-dire dans la position canonique de l'élément qu'il questionne. Ces diverses constructions paraissent interchangeables. Une étude de corpus spontanés serait nécessaire pour faire émerger des variations de fréquence entre ces constructions et les paramètres influençant leurs emplois.

3.1 Questions partielles sur le sujet

Dans les questions partielles portant sur le sujet, deux constructions sont possibles à l'aide d'une relative. Dans la première construction, sous (7), la relative se place avant le MI et dans la seconde, sous (8), la relative se place après le MI:

(7) (Nom +) Relative (+copule) + MI

(moro) yɛɛtɛ́ɛ́ Jumá (adzî) {nda/wo}

(mo-ro –) ye.ye-tá-i – ´– Jumá – (a-dzi) – MI

(Cl_1.personne –) Cl_1.Rel-voir-Réc – H – Jumá – (Cl_1.St-être-Prés) – quelle

Litt: «(Personne) qui a vu Jumá (est) quelle?»

«Quelle est la personne qui a vu Juma?»

(8) Nom (+copule) + MI + Relative

moro (adzî) / moró {nda/wo} yɛɛtɛ́ɛ́ Jumá

mo-ro – (a-dzi – ´–) / mo-oro MI – ye.ye-tá-i – ´– Jumá

Cl_1.personne – (Cl_1.être-Prés – H) / Cl_1.personne – quelle – Cl_1.Rel-voir-Ré – H – Jumá

Litt: «Personne (est) quelle qui a vu Juma?»

«Quelle est la personne qui a vu Juma?»

En ce qui concerne les constructions avec MI *in situ*, celles-ci ont la structure suivante:

(9)   [(Nom +) MI]$_{sujet}$ + V + (Compléments/Circonstants)

(moro/moró) {nda/wo} átɛ́ɛ (Jumá)

(mo-ro) – MI – a- ´-tá-i – (Jumá)

(Cl$_1$.personne) – quelle – Cl$_1$.Acc-voir-Réc – (Jumá)

Litt: «Personne quelle a vu (Jumá)»

«Qui a vu Juma?»

On notera que le MI peut être précédé d'un nom, tel que moro «personne» que nous avons indiqué entre parenthèses. Lorsque le nom est présent, c'est l'ensemble de l'expression nominale qui occupe la position sujet.

3.2 Questions partielles sur l'objet

A l'instar des questions partielles portant sur le sujet, deux constructions avec relative sont possibles dans les questions partielles portant sur l'objet. Dans la première construction, sous (10), la relative se place avant MI, tandis que dans la seconde, sous (11), elle se place après le MI :

(10) (Nom+) Relative (+copule) + MI+ (Complément/circonstant)

(eyia) yéédziî nɔ́ (édze)–ndɔ(ɔfɛ́ti) /(eyia) yéédziî nɔ́ (édze) yɔ(ɔfɛ́ti)

(e-yia) – yé.yé-dzi-i – ´ – nɔ – (e- ´-dza-i) – MI – (mó^2 – ø-fɛ́ti)

(Cl$_7$.chose) Cl$_7$.Rel-trouver-Rec – H – 2Sg – (était) – Quoi – (pendant – fête)

Litt: «(chose) que a trouvé tu (était) quoi (pendant la fête)»

«Quelle est la chose que tu as trouvée pendant la fête?»

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[2]   /mó/ est la forme de base du morphème /mó/ «pendant» qui, dans l'exemple 19, se trouve réalisé /ɔ/ du fait des processus suivants:

-Harmonie vocalique avec le /ɛ/ de «fɛ́ti» qui ouvre le /o/ en /ɔ/

-Dissimilation consonantique qui entraîne l'effacement du /m/ (cf.Beltzung & al. 2010 pour les processus de dissimilation consonantique en ɛmbɔ́sí)

-Restructuration tonale entre deux mots qui provoque la chute du ton H.

Cet exemple illustre la complexité des règles qui rendent compte de l'écart entre les formes de base et les formes réalisées en ɛmbɔ́sí. Nous avons conscience que beaucoup de formes dans nos exemples nécessiteraient des explications supplémentaires, des dérivations, ce qu'il n'est pas possible de faire dans la limite de cet article.

(11) (Nom+) (+copule) + MI + Relative (+circonstant)

(eyia)(édze) nde yéédziî nɔ(ɔféti) / (eyia) (édze) ye yéédziî nɔ(ɔféti)

(e-yia) (e- ´-dza-i) – MI – yé.yé-dzi-i – ´– nɔ – (mó – ø-féti)

(Cl_7.chose) (était) – quoi - Cl_7.Rel-trouver-Rec–H–2Sg – H – (pendant – Cl_1.fête)

Litt: «(chose) (était) quoi que a trouvé tu (pendant la fête)»

«Quelle est la chose que tu as trouvée pendant la fête?»

Le MI peut également être *in situ*, c'est-à-dire à la place de l'objet, comme dans les exemples suivants:

(12) Sujet + V+[(Nom)+MI]$_{Objet}$ (+circonstant)

nódzii (eyiá) ndɔ(ɔféti) / nódzii (eyiá) yɔ(ɔféti)

nɔ - nɔ- ´-di-i – (e-yia) MI – (mó - ø-féti)

2Sg – 2Sg.Acc-trouver-Rec–(Cl_7.chose) – quoi – (pendant– Cl_1.fête)

«Tu as eu quoi pendant la fête?»

(13) Sujet+(Circonstant)+V [(Nom)+MI]$_{Objet}$

nɔ(ɔfét)ódzii (eyiá) nde/ye

nɔ – (mó - ø-féti) – nɔ - ´-dzi-i – (e-yia) – MI

2Sg –(pendant – Cl_1.fête)–2Sg-Acc-trouver-Rec– (Cl_7.chose) – quoi

«Toi (pendant la fête) tu as trouvé quoi»

3.3 Questions partielles sur l'objet indirect

Dans les questions partielles portant sur l'objet indirect, les constructions avec relative ont la structure suivante :

(14) (Nom+) Relative (avec résomptif) (+copule) + MI

(moro) yɛɛpɛ́ nîitswétswelé (la wa/wá) (adzî) {nda/wo}

(mo-ro –) ye.ye-pɛ́ – nɔ – ´– mi-tswétswelé – (la – wa)(a-di-i) MI

(Cl_1.personne –) Cl_1.Rel-donner-Rec – 2Sg – H – Cl_4.oranges – (à – 3Sg) (Cl_1.être.Prés) qui

Litt: «(Personne) que as donné tu les oranges (à lui) qui?»,

«Quelle est la personne à qui tu as donné les oranges?»

De la même manière qu'en (9), (12) et (13), le MI peut-être aussi *in situ*, c'est-à-dire dans la position de l'objet indirect au sein de la phrase simple. Ceci est illustré dans les exemples suivants:

(15) Sujet + objet + V + [(Nom) MI] _{Objet indirect}
  n̂itswétswelɔ́pɛ́ɛ la (moro/moró) nda/wo
  nɔ – ´ – mi-tswétswelé – ɔ- ´-pɛ́-ɛ – la – (mo-ro) – MI
  2Sg – H – Cl$_4$.orange – 2Sg.Acc-donner-Rec – à – (Cl$_1$.personne)– quelle
  Litt: «Toi les oranges tu as donné (à personne) quelle?»
  «A quelle personne/A qui tu as donné les oranges?»

(16) Sujet + V + Objet+ [(Nom) MI]$_{objet indirect}$
  nɔpéitswétswelé la (moro/moró) nda/wo
  nɔ – nɔ- ´-pɛ-ɛ – mi-tswétswelé – la – (mo-ro) – MI
  2Sg – 2Sg.Acc-donner-Rec – Cl$_4$.orange – à – (Cl$_1$.personne) – qui
  «Tu as donné les oranges à qui?»

3.4 Questions partielles sur le lieu

Le MI pour ce type de question est /pe/ «où». Aucune construction avec relative n'est attestée. Le MI est précédé d'une préposition et occupe la position d'un circonstant. Les ordres des compléments peuvent être divers:

(17) Sujet +V+Objet+[Prép+MI]$_{lieu}$
  nódzii búku bvó pe
  nɔ - nɔ- ´-di-i – bu-úku – bvú – ó – pe
  2Sg – 2Sg.Acc-trouver-Rec – Cl$_{14}$.livre – Cl$_{14}$.dem – à – où
  «Tu as eu ce livre où?»

(18) Sujet +Objet+V+ [Prép+MI]$_{lieu}$
  nɔ búku bvódzió pe
  nɔ – bu-úku – bvú – nɔ- ´-di-i – ó – pe
  2Sg – Cl$_{14}$.livre – Cl$_{14}$.dem – 2Sg.Acc-trouver-Rec – à – où
  Litt: «Toi livre ce as trouvé où?»
  «Tu as eu ce livre où»

3.5 Questions partielles temporelles

Il n'y a pas de marqueur spécifique de la question temporelle. On demande: «quel jour?», «quelle heure?». Les mots interrogatifs utilisés sont /nd-e/, /mu/, etc. A l'instar des autres types de questions partielles, on trouve des constructions avec relatives et des constructions *in situ*.

Dans les questions partielles temporelles, deux constructions avec relative sont possibles. Dans la première construction, sous (19), la relative se place

avant le MI alors que dans la seconde construction, sous (20), la relative se place après le MI:

(19)   (Nom+) Relative + (copule+) MI
       (ɔkɔɔ) mɔ́ɔ́dza nɔ́ vacánse (ódî) nde/mu
       (mo-kɔɔ –) mó.mó-dzwa – nɔ – ´– vacances – (mo- ´-di – ´–) – MI
       (Cl$_3$.jour –) Cl$_3$.Rel-aller-Prés – 2Sg – H – vacances – (Cl$_3$.St-être-Prés – H –) quel
       Litt: «(Le jour) que tu iras en vacances (est) quel?»
       «Quel jour/quand est-ce que tu iras en vacances?»

(20)   Nom+ (copule+) MI + Relative
       ɔkɔɔ́ (ódî) nde/mu mɔ́ɔ́dzwa nɔ́ vacanse
       mo-kɔɔ (mo- ´-di – ´–) – MI – mó.mó-dzwa – nɔ – ´– vacances
       Cl$_3$.jour (Cl$_3$.St-être-Prés – H) – quel – Cl$_3$.Rel-aller-Prés – 2sg – H – vacances
       Litt: «le jour (est) quel que tu iras en vacances?»
       «Quel jour/quand est ce que tu iras en vacances?»

Les expressions temporelles se trouvent également **in situ**. Elles peuvent occuper diverses positions en fonction de la place des circonstants et de l'objet :

(21)   Sujet+V+Objet+[N+MI]$_{Temps}$
       nɔ lɔ́ɔdzwá vacansɔkɔɔ nde/mu
       nɔ – lɔ́.lɔ-dzw-a – ´– vacance – mo-kɔɔ MI
       2sg – 2sg.Inac-aller-Fut – H – vacances – Cl$_3$.jour – quel
       «Tu iras en vacances quel jour?»

(22)   Sujet+Objet+V+[N+MI]$_{Temps}$
       nɔ́ vacanse lɔ́ɔdzwɔ́ɔkɔɔ́ nde/mu
       nɔ – ´– vacance – lɔ́.lɔ-dzwa – ´– mo-kɔɔ – MI
       2sg – H – vacance – 2sg.Inac-aller-Fut – H – Cl$_3$.jour – quel
       «Toi en vacances tu iras quel jour?»

3.6 Questions partielles de manière

Pour former des questions partielles portant sur la manière, l'ɛmbɔ́sí utilise le mot interrogatif /bo/ «comment» ou l'expression interrogative /ndéngé nd-e/ «quelle manière».

    Les questions avec /bo/ « comment » ne nécessitent aucune construction relative. Le morphème /bo/ occupe les positions attendues pour un circonstant de

manière. Dans les exemples suivants, il est soit avant soit après le complément de lieu.

(23) nópfe βá bo
      nɔ – nɔ - ´- pfa-i – βá – bo
      2sg – 2sg.Acc-arriver-Rec – ici – comment
      Litt: «Tu es arrivé ici comment?»

(24) nɔ βɔ́pfe bo
      nɔ – βá – nɔ- ´-pfa-i – bo
      2sg – ici – 2sg.Acc-arriver-Rec – comment
      Litt: «Toi ici est arrivé comment?»

Dans les constructions avec /bo/, l'objet direct (en italique) peut se trouver dans sa position habituelle (25) ou devant le verbe (26) :

(25) nɔ lɔ́ɔkjîikátî máatɔrɔ bo
      nɔ – lɔ́.lɔ-kja – ´− mi-kátî – má – ma-tɔrɔ - bo
      2sg – 2sg.Inac-faire-Prés – H – Cl$_4$.beignet – de – Cl$_6$.banane – comment
      «Tu fais les beignets à la banane comment»

(26) nîikátî máatɔrɔ lɔ́ɔkjá bo
      nɔ – ´− mi-kátî – má – ma-tɔrɔ - lɔ́.lɔ-kja – ´− bo
      2sg – H – Cl$_4$.beignet – de – Cl$_6$.banane – 2sg.Inac-faire-Prés – H – comment
      Litt : «toi les beignets à la banane tu fabriques comment?»

Les questions avec /ndéngé nd-e/ «de quelle manière» n'impliquent également pas de construction relative: l'expression interrogative se trouve *in situ* – dans une position attendue pour un circonstant – comme dans les exemples suivants:

(27) nópfe βá ndéngé nde
      nɔ – nɔ - ´- pfa-i – βá – ø-ndéngé – nd-e
      2sg – 2sg.Acc-arriver-Rec – ici – Cl$_9$.manière – quelle
      Litt: «Tu es arrivé ici de quelle manière?»

(28) nɔ lɔ́ɔkjîikátî máatɔrɔ ndéngé nde
  nɔ – lɔ́.lɔ-kja – ´– mi-kátî – má – ma-tɔrɔ – ø-ndéngé – nd-e
  2sg–avec–2sg.Inac-faire-prés – H – Cl$_4$.beignet–de–Cl$_6$.banane–Cl$_9$.manière
  – quelle
  Litt: «Tu fais les beignets à la banane de quelle manière?»

A l'instar des constructions avec /bo/, l'objet (en italique) peut être dans sa position habituelle ou apparaître devant le verbe:

(29) nîikátî máatɔrɔ lɔ́ɔkja ndéngé nde
  nɔ – ´– mi-kátî – má – ma-tɔrɔ - lɔ́.lɔ-kja – ø-ndéngé – nd-e
  2sg– H – Cl$_4$.beignet – de – Cl$_6$.banane – 2sg.Inac-faire-Prés – Cl$_9$.manière
  – quelle
  Litt: «Toi les beignets à la banane tu fais de quelle manière?»

3.7 Questions partielles sur la cause

Dans les questions partielles portant sur la cause, on distingue trois syntagmes interrogatifs signifiant "pourquoi, pour quelle raison" à savoir:

(30) a. tsîna mó nde
      ø-tsîna – mó – nde
      Cl$_7$.raison – pour – quel
      «Pour quelle raison?»

  b. tsîna/tsîná nde
      ø-tsîna – nde
      Cl$_7$.raison – quoi
      «Pourquoi?»

  c. mó nde
      mó – nde
      Pour – quoi
      «Pourquoi?»

Dans ce type de questions, les constructions avec relatives ne sont pas possibles. Les trois syntagmes interrogatifs peuvent se trouver dans les diverses positions occupées par un circonstant:

(31) tsîna/tsîná nde yángalîdíîî téé la téó swéngá Mars
tsina – nde – ø-yángalá î-díîî – téé – la – téé – mó – ø-swéngé – ya – Mars
Cl_7.raison–quelle–Cl_5.chaleur–Cl_5.St-être-Hab–toujours–et–toujours–au–Cl_1.mois–de–Mars
Litt : «Pourquoi la chaleur est toujours et toujours au mois de Mars?»

(32) yángalîdíîî téé la téó swéngá Mars ó nde
ø-yángalá – i - ´-di-îî – téé – la – téé – mó - ø-swéngé – ya – Mars – mó – nde
Cl_5-chaleur–Cl_5.St-être-Hab–toujours–et–toujours–au–Cl_1.mois–de–Mars–pour–quoi
Litt: «la chaleur est toujours et toujours au mois de Mars pourquoi?»

(33) nɔpéɛ wa mbɔ́ngɔ tsîna/tsîná nde
nɔ – ɔ - ´-pé-i – wa – ø-mbɔ́ngɔ – ø-tsîna – nde
2sg – 2sg.Acc-donner-Rec – Cl_7.argent – Cl_7.raison – quelle
«Tu lui as donné de l'argent pourquoi?»

(34) tsîna/tsîná nde nɔpéɛ wa mbɔ́ngɔ
ø-tsîna – nd-e – nɔ - ɔ - ´-pé-i – wa - ø-mbɔ́ngɔ
Cl_7.raison – quelle – 2sg – 2sg.Acc-donner-Rec – 3sg – Cl_7.argent
«Pourquoi tu lui as donné de l'argent?»

Le tableau suivant fait la synthèse des structures de questions partielles vues précédemment:

Table 1: Structure des différentes questions partielles en ɛmbɔ́sî.

Constructions avec Relatives	MI in situ
Type 1: (N+) Relative (+Copule)+<u>MI</u>	Pas de relative.
Type 2: N (+Copule)+<u>MI</u>+Relative	MI à sa place normale par rapport au type de question (Sujet, Objet, Objet Indirect).

4   Prosodie

La seule marque prosodique caractéristique des questions partielles est un ton H facultatif, qui sera présenté en 4.1. Sinon, les intonations et l'organisation prosodique des questions partielles ne diffèrent pas de celles des phrases assertives simples (voir en 4.2.).

4.1   Le ton H facultatif antéposé au mot interrogatif

Le ton H peut être sur la finale du mot qui précède le marqueur interrogatif. Sa présence est facultative et dépend du locuteur. Dans les exemples (2), (4), (6), (8) et (9) que nous avons donnés précédemment, il a été mentionné que sa réalisation était facultative. Nous ajoutons ci-dessous deux exemples où il est présent. Nous l'avons noté H.i. (pour H interrogatif).

(35)   moro yɛɛtéɛ́ mbɔmɔ́ nda

        mo-ro – ye.ye-tá-i – ´− ø-mbɔmɔ - H - MI
        Cl_1.personne – Cl_1.Rel-voir-Rec – H – Cl_1.python – H.i – qui
        Lit: «Personne qui a vu python qui»
        «Quelle est la personne qui a vu le python?»

(36)   moró nda yɛɛtéɛ́ mbɔmɔ

        mo-ro – H – MI – ye.ye-tá-i – ´− ø-mbɔmɔ
        Cl_1.personne – H.i – quelle - Cl_1.Rel-voir-Rec – H – Cl_1.python
        Lit: «Personne quelle qui a vu python»
        «Quelle est la personne qui a vu le python?»

4.2   Absence d'intonation et de groupement prosodique spécifique

Les intonations des questions partielles sont les mêmes que celles des phrases assertives, c'est-à-dire avec un ton de frontière final très bas (B%). Ce point a été plus particulièrement vérifié en comparant l'intonation des exemples de ce corpus avec celle des phrases assertives enregistrées dans des conditions équivalentes pour une étude précédente sur les relatives (voir Beltzung & al. 2010).

Comme les phrases assertives, même assez longues et structurellement complexes (avec deux propositions), elles peuvent constituer des touts non subdivisés prosodiquement. Ainsi, les réductions de hiatus, qui se produisent entre deux mots phonologiques successifs peuvent se réaliser en tous points d'une question partielle, quels que soient son marqueur interrogatif, sa

construction et la présence ou non d'une copule, comme l'illustrent les exemples suivants dans lesquels les voyelles élidées sont soulignées et indiquées en gras:

(37) nîitswétswelódzéondéanda

nɔ́ mi-tswétswelé ó-dzá-i ó ndée yá nda
2Sg – Cl$_4$.orange – 2Sg.Acc-manger-Rec – à – Cl$_7$.maison – Cl$_1$.de – qui
Litt: «toi les oranges tu as mangé à la maison de qui?»
«Chez qui as-tu mangé les oranges?»

(38) nognéalóngámoroónde

nɔ ó-gná-i ma-lóngó má mo-ro mó nd-e
2Sg – 2Sg.Acc-Boire-Rec – Cl$_2$.sang – de – Cl$_1$.personne – pour – quoi
Litt: «Tu as bu le sang humain pour quoi?»
«Pourquoi as-tu bu le sang humain?»

Le domaine de la réduction de hiatus est la phrase dans son ensemble et non une unité telle que le Groupe Phonologique, qui est dans la hiérarchie prosodique l'unité de niveau supérieur au Mot Phonologique. Par ailleurs, la langue ne possède pas de structuration accentuelle ou rythmique qui puisse déterminer des groupements de la taille du Groupe Phonologique (typiquement, un nom, ses déterminants et un adjectif, un verbe et son objet, deux objets …). A ce stade de notre analyse, nous pensons que l'ɛmbɔ́sî ne possède pas de Groupes Phonologiques, qui seraient comparables, entre autres, à ceux des langues bantoues de l'Est, comme le chichewa (Downing 2010, entre autres). Cette absence de Groupes Phonologiques ne dépend pas des structures syntaxiques et se manifeste tout aussi bien dans les questions partielles que dans les autres types de phrases. Par ailleurs, une étude des pauses, qui varient en fonction des styles de parole, nécessiterait l'analyse d'un corpus spontané, ce que nous envisageons de faire dans une deuxième étape.

5   Conclusion

Des langues comme le français sont réputées pour leur grand nombre de façons de poser des questions. L'ɛmbɔ́sî rejoint ce groupe, avec deux ensembles de morphèmes interrogatifs, des constructions avec relatives et une construction *in situ*. Par ailleurs, la question partielle en ɛmbɔ́sî n'a pas de marque prosodique spécifique, étant réalisée comme une assertive.

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

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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.

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):[1]

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[1]   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-ḿ-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$_F$)

c. What did he hit with the rock? (Object NP focus)

(a-na-mény-á nyuúmba$_F$) (ndí mwáála)

d. What did he do to the house with the rock? (V focus)

(a-na-méeny-a$_F$) (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:[2]

(4) Chewa cleft - copula is 'ndi'

Q [$_{CP}$(A-méné á-ná-gulá nyama y-ówóola)] [$_{CP}$ (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 [$_{CP}$ (Ndi m-fúmú yá í-ng´óono)] [$_{CP}$ (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.

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2 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

Singular	*Gloss*	*Plural*
múu-nthu	'person'	ŵáa-nthu
m-líimi	'farmer'	ŵa-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-líma yáaye	'we do not farm'
ti-ka-líima	'we farmed'	ti-ka-líma yáaye	'we did not farm'
t-angu-líima	'we recently farmed'		
n-a-ŵa-limíira	'I have farmed for them'		
ŵ‒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'		
ŵa-ka-zéenga	'they built'		
ŵa-ka-ku-zengéera	'they built for you sg.'		
ŵa-ka-mu-zengeráa-ni	'they built for you pl.'		
n-a-zéenga	'I have built'		
wa-zamu-zéenga	's/he will build'		
ŵa-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   with 5.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   khóofíí)
           you.pl-TAM-want   coffee
           'Do you want coffee?
      b.   Tumbuka yes/no question
           (Káasi), (ni   dokotala péera)   (uyo   wa-ku-vwira mu-sambíizi)
   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)
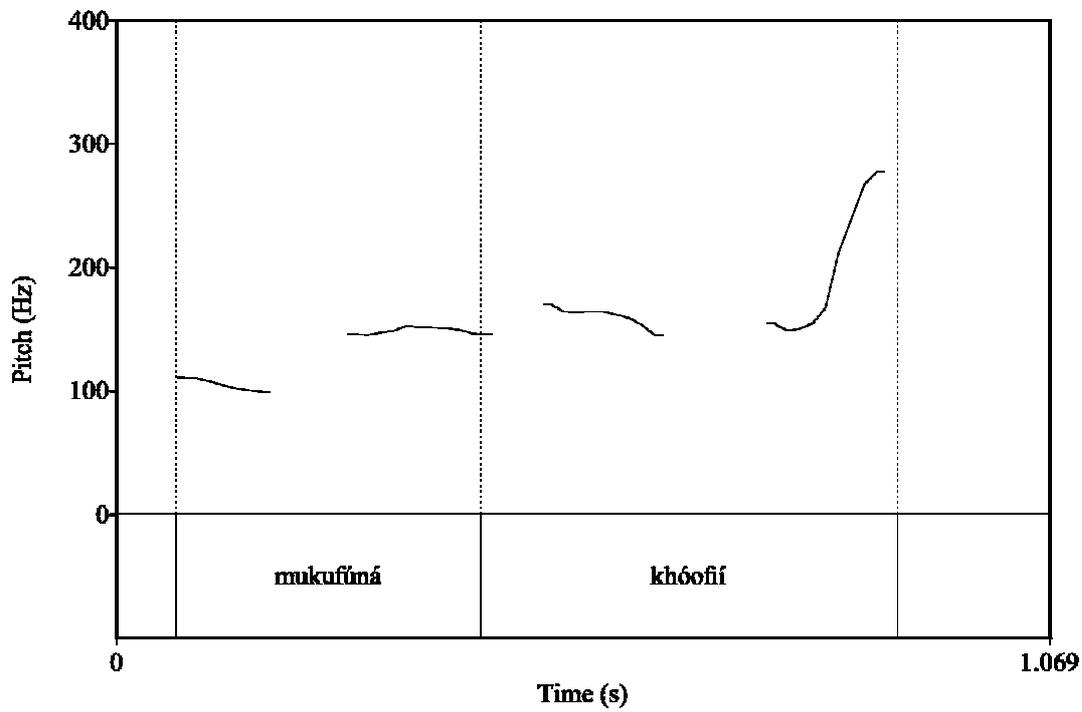
b.　　Pitch track for (9b)
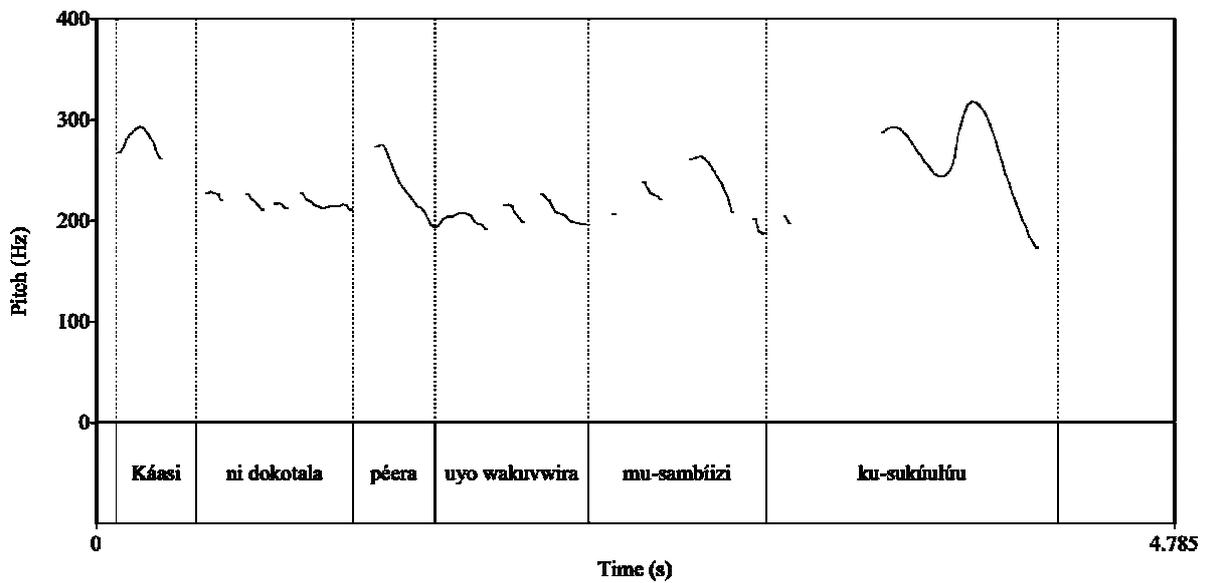
To put these intonation patterns in a wider perspective, note that a fall-fall or fall-rise melody over the last two syllables of a yes/no question is described for other E. Bantu languages, like Swahili (Ashton 1947). An overall raise in pitch has also been described for yes/no questions in other Bantu 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　　　khóofíí) (kapéná　　thíiyi)
　　　you.pl-TAM-want　　coffee　　or　　　tea
　　　'Do you want coffee or tea?'

　　b.　Pitch track for (a)

31
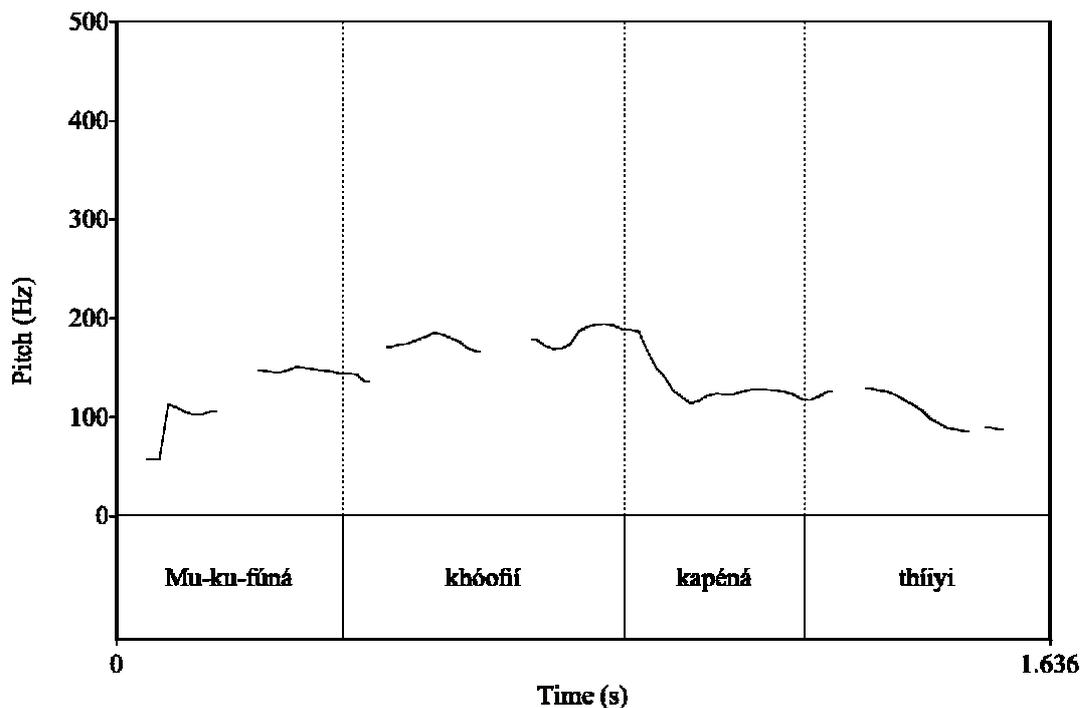
c.   Tumbuka choice question[3]
(M-nyamáta   wa-ka-sanga   n-cheŵe   ya-ku-zyéeŵáa)
1-boy   1SBJ-TAM-find   9-dog   9.of-INF-be lost
(panyákhe   m-buzi   ya-ku-zyéeŵa)   (mu-ma-thíipha)
or   9-goat   9.of-INF-be lost   LOC-6-swamp
'Did the boy find a lost dog or a lost goat in the swamp?'

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   ŵíisi)   (ku-gorosáari)
          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   ŵíisi)   (ku-gorosáari)
          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   chákúdya   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.'

---

[3]   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)
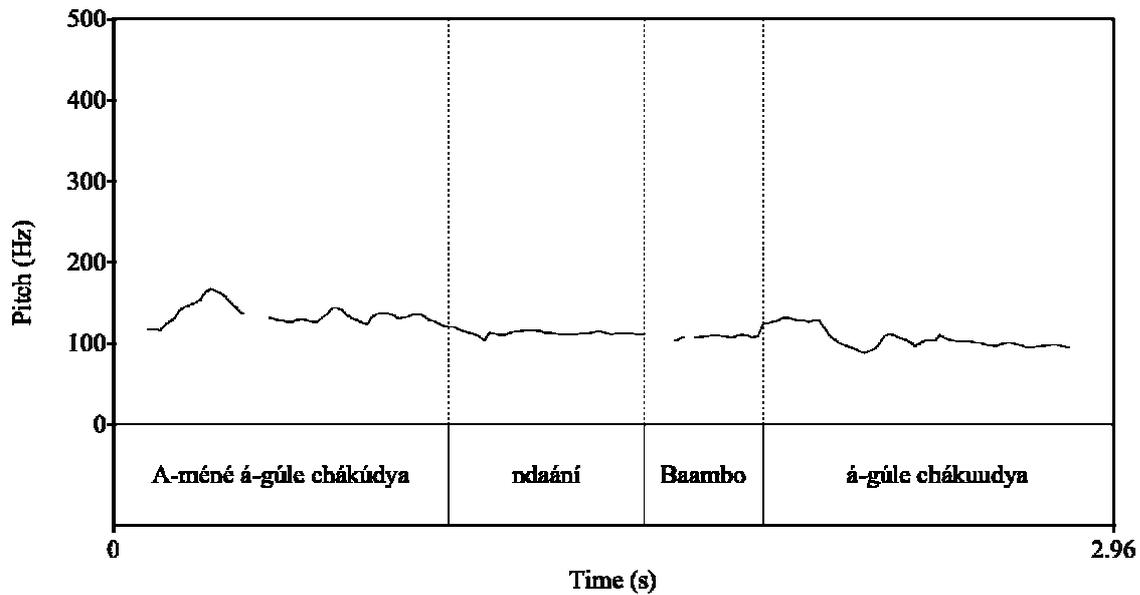
However, in Tumbuka, there is an optional raised (↑) register H!H melody on a Wh-question word when it appears in sentence-final (Intonation Phrase-final) position. This is illustrated in (b) and (c), below:

(13) a.   (N-chi   víici) (ico   mu-ku-ŵa-vwira   ŵa-zimáayí)   (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-ŵa-vwira   ŵa-zimáayi)   (ku-phika   ↑ víi!cíí)
            you.pl-TAM-2OBJ-help 2-woman   INF-cook   8.what
            'What are you helping the women to cook?'

c. Pitch track for (b)
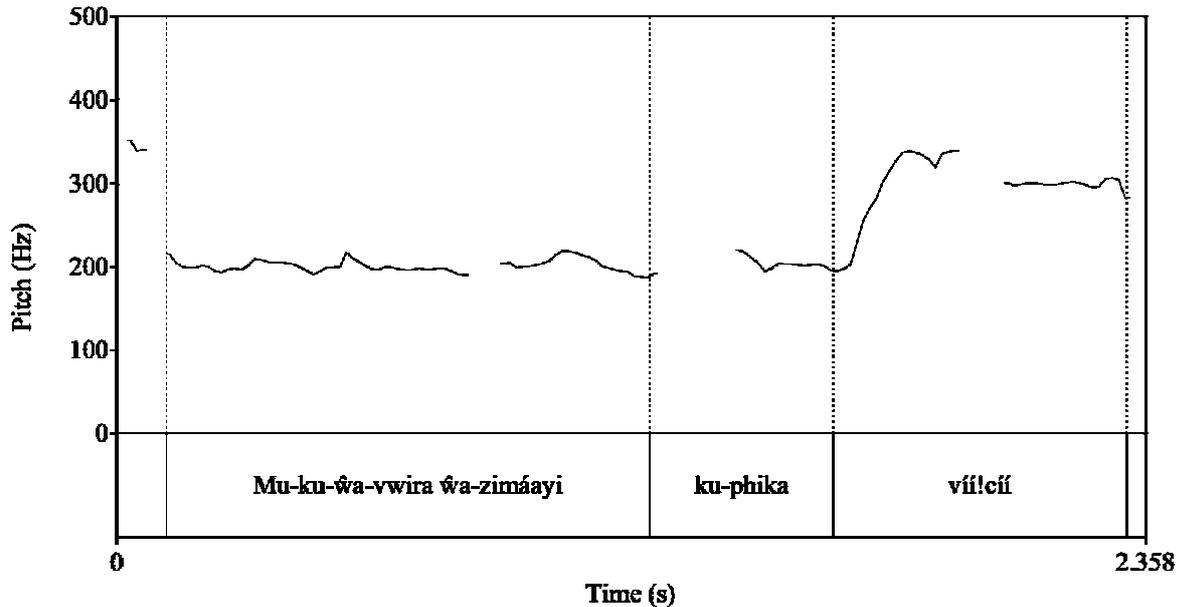
With this background in mind, in the next sections we survey the positions associated with particular wh-word types in Tumbuka and Chewa.

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 (Segerer 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-capa   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-capa   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-capa 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) (ŵa-dáada) (ŵa-ku-ghanaghana
COP because 7.of what 2-man 2SBJ-TAM -think

kuti ŵ-áaná) (ŵa-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); Bàsàa (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) (Jíini) (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)
    1SBJ-TAM-give   what   1.father

OR

   b. in situ
    (wa-á-pátsa   bambo   chiyáani)
    1SBJ-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)
    1SBJ-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:[4]

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

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We show that wh-words are a tool to investigate the prosodic structure of Bàsàa. Our claim is that the end of an Intonation Phrase (IP) can be identified by the presence of a long vowel on the wh-word. We propose that wh-words, which sometimes surface as CV́ and sometimes as CV́V́, are underlyingly of the CV́ form and they introduce a floating H. Whenever the association of this floating H with the first tone bearing unit that follows the wh-word is prevented by the presence of an IP boundary, a mora is created on the wh-word in order to realize the floating H. We briefly discuss the interface approach of Immediately After the Verb (IAV) focus (Costa and Kula, 2008) and we show that Bàsàa wh-questions and answers do not support this hypothesis. Finally, Bàsàa fronted wh-phrases, just like Hausa's fronted foci (Leben et al., 1989), seem to provide support to the idea that intonational effects are also at play in the present tone language.

1 Introduction

Bàsàa is a Western Bantu language spoken in Cameroon, in the Coastal region. Codified A43 by Guthrie (1948), this languages counts approximately 282 000 (according to SIL 1982). As far as description is concerned, Bàsàa can be considered as one of the best described languages in Cameroon (see Hyman, 2003; Makasso, 2008, and references therein).

The prosody of the language reveals the existence of two lexical tones, High (H / ´) and Low (L / `) that can be changed into Falling (HL / ^), Rising (LH / ˇ) and Downstepped (!H / ꜜ) depending on the context. The phonological processes reported in the language are: High Tone Spreading (HTS), floating tone and downstep.

On the segmental level, the phonology of Bàsàa points out a lexical contrast between long and short vowels. This contrast is illustrated in (1).

(1) a. ɓá 'to be' vs. ɓáá 'those'
   b. kàr 'to chase away' vs. kààr 'book'
   c. kúr 'blow' vs. kúúr 'tortoise'
   d. sɔ̀ 'to wash' vs. sɔ̀ɔ̀ 'to flow'
   e. tʃé 'disappear' vs. tʃéé 'his/her'

Bàsàa is thus distinct from a number of oft-discussed Eastern and Southern Bantu languages like Chichewa, Chitumbuka or Zulu. In these languages, vowel length is non-contrastive. Vowel lengthening targets the penultimate syllable of a word and tends to be conditioned by the position of this word within a prosodic domain. This process is well-known for being the most straightforward way to identify the presence of a Phonological Phrase and/or an Intonation Phrase in a number of Bantu languages (for instance, see Kanerva, 1990; Downing, 2006, respectively on Chichewa and Chitumbuka).

In contrast with these languages, Bàsàa has retained the Proto-Bantu vowel-length contrast (on this topic, see Hyman, 2009) and vowel lengthening is thus not surprisingly less available to signal prosodic boundaries. Interestingly, there however seems to be a restricted set of items whose vowel length is conditioned by their position within a prosodic domain. The wh-words listed in (2) belong to this set, and they thus provide us with useful information as to the presence or absence of some prosodic boundaries. As their form does not vary depending on their position, we leave aside other wh-phrases like 'why' or 'which'-phrases.

(2) •ndʒɛ́ɛ́ 'Who'

   •kíí 'What'

   •láá 'How'

   •hɛ́ɛ́ 'Where'

To the best of our knowledge, no work has yet investigated the prosodic phrasing in Bàsàa. The present article is a first endeavour in this direction.

This paper is structured as follows. In Section 2, Bàsàa wh-questions are introduced. We distinguish two types of wh-questions based on (i) the location of the wh-phrase and (ii) the type of answers the question is preferably associated with. In Section 3, we discuss the fact that the length of vowel of the wh-phrase varies depending on its location within the question, and particularly on whether

it is located at a certain prosodic edge, namely the right edge of an Intonation Phrase. We argue that the wh-words listed in (2) are underlyingly of the form CV́+H: they have a short vowel and introduce a floating High tone. Whenever the wh-word is non-final within an Intonation Phrase, the floating High tone associates with the first syllable of the word that follows it and the wh-phrase itself surfaces as short. Whenever the wh-phrase is final within its Intonation Phrase (which is also the case when it is pronounced in isolation, as in (2)), the necessity to realize this floating tone forces the lengthening of the wh-words vowel. Wh-phrases' length is thus an indicator of prosodic boundaries. Section 4 concludes the paper.

2   Bàsàa wh-questions

In Bàsàa, the canonical word order is the following:

Subject - TAM - Verb - Indirect Object - Direct Object - Adjuncts

The data we collected with the *SynphonI/BantuPsyn Questionnaire on questions* shows that when forming a wh-question, Bàsàa speakers have several strategies at their disposal. The surface positions in which the different wh-phrases can occur are summarized in Table 1.

Table 1 : Distribution of wh-phrases in Bàsàa

Wh-phrases	Fronted	IAV	In situ
Subject – ndʒɛ́(ɛ́)/kí(í)	✓	✗	✓
Direct Object – ndʒɛ́(ɛ́)/kí(í)	✓	✓	✗
Indirect Object – ndʒɛ́(ɛ́)/kí(í)	✓	✓	✗
Manner – lá(á)	✓	✓	✗
Temporal – kɛ́l ꜜkíí	✓	✗	✓
Locative – hɛ́(ɛ́)	✓	✓	✗

2.1   Fronted wh-questions

As shown in Table 1, all types of wh-phrases have in common that they can be extracted from their canonical position and located in clause-initial position. This is first illustrated with the non-subject wh-questions in (3) to (9).[1]

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[1]   Abbreviations: Cl: class; pl: plural; CONN: connective; DEM: demonstrative; DET: determiner; DISJ: disjoint; DS: dummy subject; EMPHPRO: emphatic pronoun; FV: final vowel; LOC: locative; NEG: negation; P₁: past 1; P₂: past 2; PRES: present; sg: singular; SM: subject marker.

(3) A: **kíí** màⁿŋgɛ́ à   ǹ-sɔ́mb?
         what child   SM3sg P₁-buy
         'What did the child buy?'

     B: **líkúβé ʤɔ́n**   à   ǹ-sɔ́mb .
         banana EMPHPRO SM3sg P₁-buy
         'He bought a banana.'

(4) A: **kíí** à   ŋ́-⁺áŋ?
         what SM3sg PRES-read
         'What is he reading?'

     B: **kààr ì   mɔ̀ndɔ́ jŏn**   à   ŋ́-⁺áŋ.
         book CONN new   EMPHPRO SM3sg PRES-read
         'He is reading this new book.'

(5) A: **kíí** à   ǹ-lɔ́⁺ná ɓés?
         what SM3sg P₁-bring us
         'What did she bring us?'

     B: **màkàlà mɔ́n**   à   ǹ-lɔ́⁺ná ɓés .
         doughnuts EMPHPRO SM3sg P₁-bring us
         'She brought us doughnuts.

(6) A: **nʤɛ́ɛ** à   m̀-ɓɔ́⁺má í   cinema?
         who   SM3sg P₁-meet   LOC movies
         'Who did she meet at the movies?'

     B: **Paul ɲɛ́n**   à   m̀-ɓɔ́⁺má í   cinema.
         Paul EMPHPRO SM3sg P₁-meet   LOC movies
         'She met Paul at the movies.'

(7) A: **kíí** màⁿŋgɛ́ à   ǹ-sɔ́mb ɲâɲ?
         what child   SM3sg P₁-buy   mother
         'What did the child buy to his mother?'

     B: **βìtámb gwɔ́n**   màⁿŋgɛ́ à   ǹ-sɔ́mb ɲâɲ.
         shoes   EMPHPRO child   SM3sg P₁-buy   mother
         'The child bought the mother shoes.'

(8) A: **hɛ́ɛ** màⁿŋgɛ́ à   ŋ̀-kɛ̂?
         where child   SM3sg P₁-go
         'Where did the child go?'

     B: **í   ɓòm ɲɛ́n**   màⁿŋgɛ́ à   ŋ̀-kɛ̂.
         LOC market EMPHPRO child   SM3sg P₁-go
         'The child went to the market.'

(9) A: **láá** à   m̀-ɓɔ́l ɲɔ̀ɔ̀?
         how SM3sg P₁-get here
         'How did he get here?'

B: **nì màkòò ɲɛ́n** à ̀m-ɓɔ́l ɲɔ̀ɔ̀.
    with foot   EMPHPRO SM3sg P$_1$-get here
    'He got here on foot.'

When a language shows different types of wh-interrogatives, the question often arises whether all the variants are equivalent, that is, (i) whether they can all be used in the same discourse context and (ii) whether they all call for the same type of answers. In Bàsàa, these variants are not equivalent. When a wh-phrase is fronted, the wh-question is characterized by the fact that it asks for a *precise* answer. It is appropriate when both speaker and hearer have an identified set in mind, that is when the wh-phrase is *D-linked* in the sense of Pesetsky (1987). In addition, the speaker who uses this type of wh-questions has strong expectations on the hearer to be able to provide an answer. This type of expectations has also been observed in Shingazidja (Bantu, G44d, spoken in La Grande Comore) by Patin (2011).

Bàsàa fronted wh-questions are preferably answered with an exhaustive answer, in which the item answering the question is located in clause-initial position and is followed by a so-called 'emphatic pronoun' in Hyman (2003)'s terminology.[2] Sentences with an initial focus and an 'emphatic pronoun', as the ones given in (3)B to (9)B, are also used in contrastive and corrective contexts as well as in alternative questions.

More importantly for the present discussion, when the wh-phrase is fronted, its vowel is long and its H is realized with a perceivably higher pitch than other sentence initial H tones. This point will be developed further in Section 3.

In languages in which the canonical position of a subject is clause-initial, it is sometimes difficult to determine the structural position of a subject wh-phrase, that is, whether it is in situ or whether is has been fronted to the same position as clause initial non-subject wh-phrases. Depending on the discourse context in which the question is uttered, that is, whether or not the wh-question requires a *precise answer*, Bàsàa subject wh-phrases exhibit either a long vowel, or a short one. We take it that the length of the subject wh-phrase indicates whether it is in situ (short vowel) or fronted (long vowel).

2.2 In situ and IAV wh-questions

Let us now turn to the other type of wh-questions found in this language. As shown by the table 1, Bàsàa is similar to other Bantu languages like e.g. Aghem (Watters, 1979) or Makhuwa (Van der Wal, 2006) in that the Immediately After

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[2]   Whenever the initial focus is a noun phrase, as in (3)B to (7)B, the 'emphatic pronoun' agrees in class with it. In all other cases, as with the prepositional phrases in (8)B and (9)B, it shows a class 1 agreement. See Hamlaoui and Makasso (in prep.) for a re-analysis of 'emphatic pronouns'.

the Verb (IAV) position has a special status. In these languages, focal elements occupy the IAV position. This is illustrated in (10) and (11), respectively with a subject wh-question/answer pair and a locative wh-question/answer pair in Aghem (SVO):

(10) Aghem

      A: à   mɔ̀ ñɨ́ŋ **ndúghɔ́?**
         DS P₂   run who
         'Who ran?'

      B: à   mɔ̀ ñɨ́ŋ **éná?**.
         DS P₂   run Inah
         'Inah ran.'(Watters, 1979, 144)

(11) Aghem

      A: fɨ́l   á mɔ̀ zɨ́ **ghɛ́** bɛ́-↓kɔ́?
         friends SM P₂   eat where fufu
         'Where did the friends eat fufu?'

      B: fɨ́l   á mɔ̀ zɨ́ **án ↓óm** bɛ́-↓kɔ́?
         friends SM P₂   eat in farm   fufu
         'The friends ate fufu at the farm.' (Watters, 1979, 147)

The following examples show that in Bàsàa too, in presence of a certain type of focal items, i.e. one of the wh-phrases given in (2), the canonical word order (S-V-IO-DO-Adjuncts) is abandoned so as to place this item right after the verb. Two things are worth noting concerning the type of sentences illustrated in (12a), (13a) and (14a). First, in this context, the wh-phrase takes a CV́ form. Second, the word following the wh-phrase gets a H tone on its first syllable – /ɲàŋ/ > [ɲâŋ], /kààr/ > [káár] and /màkàlà/ > [mákàlà], respectively – just like when it is located in the IAV position[3]. We will come back to this in Section 3.

(12) a. màò̀ŋgɛ́ à   ǹ-sɔ́mb **kí** ɲâŋ?
         child   SM3sg P₁-buy   what mother

      b. ?màò̀ŋgɛ́ à   ǹ-sɔ́mb ɲâŋ **kíí?**
         child   SM3sg P₁-buy   mother what
         'What did the child buy for his mother?'

(13) a. à   ǹ̀-kú↓húl **hɛ́**   káàr?
         SM3sg P₁-obtain   where book

      b. ?à   ǹ̀-kú↓húl káàr **hɛ́ɛ́?**
         SM3sg P₁-obtain   book where
         'Where did he get the book?'

---

[3] In Bàsàa, words with an underlyingly non-H first tone bearing unit show that items located in the IAV position receive a H tone at all tenses except for Past 3. This is discussed in Section 3.1.

(14)   a.   à   ḿ-ɓɔ̀ŋ   **lá**   mákàlà?
             SM3sg PRES-make how doughnuts

       b.   ʔà   ḿ-ɓɔ̀ŋ   mákàlà   **láá**?
             SM3sg PRES-make doughnuts how
             'How does he make doughnuts?'

The examples from (12b) to (14b), in which the wh-phrase is left in situ, are not completely ungrammatical, but strongly dispreferred. Example (12b) is appropriate as a rhetorical question, conveying the meaning 'The child didn't buy anything for his mother'.

Interestingly, the IAV position in Bàsàa differs from the one found in these other Bantu languages in that it only attracts a subclass of non-subject wh-words that is, the ones given in (2). Subject wh-words and temporal wh-phrases are either in situ or fronted, but never IAV. As illustrated in examples (15) to (18), whenever these wh-phrases are located IAV, the sentence is ungrammatical.

(15)   a.   **nʤέ** à   ǹ-tɛ́hɛ́ Juma?
            who   SM3sg P₁-see   Juma

       b.   *à   ǹ-tɛ́hɛ́ **nʤέ(έ)** Juma?
            SM3sg P₁-see   who   Juma
            'Who saw Juma?'

(16)   a.   **kí** í   ń-tímbá ńjàŋgà?
            what SM7 P₁-damage bridge

       b.   *í   ń-tímbá   **kí(í)** ńjàŋgà?
            SM7 P₁-damage what   bridge
            'What damaged the bridge?'

(17)   a.   à   βí-ꜜsómb í kààr ìní   **kɛ́lꜜkíí**?
            SM3SG P₂-buy   í book DEM when

       b.   *à   βí-ꜜsómb **kɛ́lꜜkíí** í kààr ìní?
            SM3SG P₂-buy   when   í book DEM
            'When did he buy this book?'

(18)   a.   mà!àŋgέ à   βíꜜtí   ńꜜsáŋ kààr **kɛ́lꜜkíí**?
            child   SM3sg p₂-give father   book   when

       b.   *mà!àŋgέ à   βíꜜtí   **kɛ́lꜜkíí** ńꜜsáŋ kààr?
            child   SM3sg p₂-give when   father   book
            'When did the child give the book to his father?'

When the subject wh-phrase is short, it is generally co-articulated with the subject marker {à}, giving rise to the form [nʤâ]:

(19)   **nʤâ**   ǹ-tɛ́hɛ́ Juma?
          who-SM3sg P₁-see   Juma
          'Who saw Juma?'

Incidentally, the fact that a subject can be questioned and focused in situ indicates that, in contrast with many Bantu languages, in Bàsàa there is no general ban on preverbal foci.

Another specificity of Bàsàa's IAV position is that this position is located immediately after the *tensed* verb. This is illustrated in (20) to (22). In the presence of a modal verb or an auxiliary, the wh-word appears *within* the verbal complex.[4]

(20)   ù   ń-sòmból **kí** ʤέ?
         SM2sg PRES-want what eat
         'What will you eat?'

(21)   mààngέ à   ń-là **kí** ɓôŋ?
         child   SM3sg P$_1$-can what do
         'What could the child do?'

(22)   ù   jè   **lá** í $^\downarrow$lámb gateau?
         SM2sg PRES-be how loc cook   cake
         'How are you baking the cake?'

Bàsàa wh-questions with an in situ or IAV wh-phrase do not come with the same presupposition and exhaustiveness requirement as fronted wh-phrases. Whereas a negative answer of the type "nobody" or "nothing" is odd with a fronted wh-question, it is perfectly acceptable for a wh-question with a wh-phrase IAV or in situ. As illustrated with the question-answer pairs in (23) to (30), these questions are preferably answered with a canonical sentence (instead

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[4]   The negation can be inserted between the tensed verb and the IAV wh-word, as in the following examples:

(i)   mààngέ à   ŋ-$^\downarrow$gwés **ɓé kí** tí ńsáŋ?
         child   SM3sg PRES-like NEG what give father
         'What doesn't the child want to give to his father?'

(ii)   à   ŋ-$^\downarrow$gwés há **ɓé kí** tí ńsáŋ?
         SM3sg PRES-like again NEG what give father
         'What doesn't he want to give to his father anymore?'

In the presence of the negation, the wh-phrase can also surface lower in the structure, right after the lexical verb:

(iii)   à   ɣá-là ɓé sɔ́mb **kí** jáání í ɓòm?
         SM3sg F$_2$-can NEG buy   what tomorrow loc market
         'What won't he be able to buy tomorrow at the market?'

This type of sentences are consistent with the other questions discussed here, in which the wh-word is IAV and non-final within the sentence. They will be discussed in Hamlaoui and Makasso (in prep.), which concentrates on the syntax of questions and focus in Bàsàa.

of a sentence with fronted focus). The fact that there is no requirement on the focused item within the answer to the wh-question to appear IAV means that the motivation for the wh-words in (2) to occupy the IAV position is not related to their focal nature.

(23) A: màà ŋgɛ́ à   ǹsɔ́mb **kíí**?
         child   SM3sg P₁-buy what
         'What did the child buy?'

     B: à   ǹ-sɔ́mb **líkúβé**.
         SM3sg P₁-buy   banana
         'He bought a banana.'

(24) A: à   ɲ́-⁺áŋ   **kíí**?
         SM3sg PRES-read what
         'What is he reading?'

     B: à   ɲ́-⁺áŋ   **káàr ì   mɔ̀ndɔ́**.
         SM3sg PRES-read book   CONN new
         'He is reading this new book.'

(25) A: à   ǹ-lɔ́⁺ná **kí**   ɓés?
         SM3sg P₁-bring what us
         'What did she bring us?'

     B: à   ǹ-lɔ́⁺ná ɓés **màkàlà**.
         SM3sg P₁-bring us   doughnuts
         'She brought us doughnuts.'

(26) A: à   m̀-ɓɔ́⁺má **nʤé** í   cinema?
         SM3sg P₁-meet   who LOC movies
         'Who did he meet at the movies?'

     B: à   m̀-ɓɔ́⁺má **Paul** í   cinema.
         SM3sg P₁-meet   Paul LOC movies
         'He met Paul at the movies.'

(27) A: màà ŋgɛ́ à   ǹ-sɔ́mb **kí** ɲâɲ?
         child   SM3sg P₁-buy   what mother
         'What did the child buy to his mother?'

     B: màà ŋgɛ́ à   ǹ-sɔ́mb ɲâɲ **βìtámb**.
         child   SM3sg bought   mother shoes
         'The child bought the mother shoes.'

(28) A: à   jè   **hɛ́**   lɛ̂n?
         SM3sg PRES-be where today
         'Where is he today?'

     B: à   jè   lɛ̂n í   ⁺**mbáj**.
         SM3sg PRES-be today LOC village
         'He is at the village today.'

(29)   A: màà ŋgɛ́ à   ŋ̀-kɛ́ ꜜ**hɛ́ɛ́**?
child   SM3sg P₁-go where
'Where did the child go?'

      B: à   ŋ̀-kɛ́ **í**   **ɓòm**.
SM3sg P₁-go LOC market
'He went to the market.'

(30)   A: à   m̀-ɓɔ́l **lá**   ɲɔ́ɔ̀?
SM3sg P₁-get how here
'How did he get here?.'

      B: à   m̀-ɓɔ́l ɲɔ́ɔ̀ **nì** **màkòò**.
SM3sg P₁-get here with foot
'He got here on foot.'

The examples (23), (24) and (29) show that an IAV wh-phrase is not obligatorily short, and that what determines the length of these phrases is whether or not it is sentence-final. This fact will be discussed in Section 3.

In sum, in this section we have shown that Bàsàa exhibits two types of questions which are not equivalent from a semantic and pragmatic perspective: on the one hand, questions with a fronted wh-phrase and on the other hand, questions with an in situ or IAV wh-phrase. We have briefly introduced the fact that wh-words vary in length. Let us now turn our account of this phenomenon.

3   Prosodic structuring in Bàsàa wh-questions

3.1   Short wh-words

As was shown in the previous section, there are several positions in which a wh-word can occur in Bàsàa and it can either surface as CV́V́ or CV́.

We propose that in Bàsàa, the wh-words given in (2) are underlyingly of the form CV́ + H. Whenever the wh-word is in a position in which it is phrased with the following word, the floating H is realized on the first syllable of this word. This has been observed in two contexts. The first context is within a constituent, as in 'where' ('where' + 'place') in (31) and 'which man' ('who' + 'man') in (32).

(31)
```
        hɛ́   ´   hòmá   →   hɛ́   hɔ́ꜜmá
         |        | |          |     |   |
         H    H   L H          H     H  !H
```

(32)
```
        nʤɛ́   ´   mùt   →   nʤɛ́   mût
          |         |         |     /|
          H     H   L         H     HL
```

The second context is when the wh-word is located in the IAV position and is non-final within the sentence. This is illustrated with the examples (12),

(13), (14) and (28) repeated below. Each wh-question is followed by the auto-segmental representation of the relevant part of the clause.

(12) màààŋgέ à   ǹ-sɔ́mb **kí** ɲâŋ?
  child   SM3sg P₁-buy   what mother
  'What did the child buy for his mother?'

$$
\begin{array}{cccccc}
\ldots & \textbf{kí} & \acute{} & \text{ɲàŋ} & \rightarrow & \textbf{kí} & \text{ɲâŋ} \\
 & | & & | & & | & /\!| \\
 & \text{H} & \text{H} & \text{L} & & \text{H} & \text{HL}
\end{array}
$$

(13) à   ǹ-kú⁺húl **hέ**   káàr?
  SM3sg P₁-obtain where book
  'Where did he get the book?'

$$
\begin{array}{cccccc}
\ldots & \textbf{hέ} & \acute{} & \text{kààr} & \rightarrow & \textbf{hέ} & \text{káàr} \\
 & | & & \|| & & | & \|| \\
 & \text{H} & \text{H} & \text{LL} & & \text{H} & \text{HL}
\end{array}
$$

(14) à   ḿ-ɓɔ̀ŋ **lá** mákàlà?
  SM3sg PRES-make how doughnuts
  'How does he make doughnuts?'

$$
\begin{array}{cccccc}
\ldots & \textbf{lá} & \acute{} & \text{màkàlà} & \rightarrow & \textbf{lá} & \text{mákàlà} \\
 & | & & |\,|\,| & & | & |\,|\,| \\
 & \text{H} & \text{H} & \text{L L L} & & \text{H} & \text{H L L}
\end{array}
$$

(28) à   jè   **hέ** lên?
  SM3sg PRES-be where today
  'Where is he today?'

$$
\begin{array}{ccccccccc}
\text{à} & \text{jè} & \text{hέ} & \acute{} & \text{lên} & \rightarrow & \text{à} & \text{jè} & \text{hέ} & \text{lên} \\
| & | & | & & | & & | & | & | & /\!| \\
\text{L} & \text{L} & \text{H} & \text{H} & \text{L} & & \text{L} & \text{L} & \text{H} & \text{HL}
\end{array}
$$

It has been argued that, at least for a subset of Bantu languages, including Bàsàa (Costa and Kula, 2008), the motivation for focal items to occupy the IAV position is prosodic. However, the data collected and presented in this paper does not corroborate this approach. Costa and Kula, the tenants of this position, have established a link between conjoint-disjoint distinction in verb forms (first observed by Meeussen, 1959), the prosodic marking associated with conjoint forms and focusing. The distinction between conjoint and disjoint verb forms indicates whether a verb is final within its clause or not. It can be expressed through the presence/absence of a morphological marker as in the Zulu data in (33) (Buell, 2006), where the morpheme {-ya-} marks the disjoint form.

(33) Zulu

  a. a-bafana   ba-**ya**-cul-a.
    DET-Cl2-boys SMCl2-DISJ-sing-FV
    'The boys are singing.'

    b.   a-bafana   ba-cul-a   i-ngoma.
          DET-Cl2-boys SMCl2-sing-FV DET-Cl9-song
          'The boys are singing a song.'

It can also be expressed tonally, as in the examples (34) from Tswana (Creissels, 1996, 110), where the tone on the last syllable of the verb indicates whether the phrase that follows the verb is part of the same clause/constituent.

(34)   Tswana

    a.   bá   bínè lé bòné.
          SM3pl dance with 3pl
          'They do not dance/are not dancing either.'

    b.   bá   bíné lé bòné.
          SM3pl dance with 3pl
          'They do not dance/are not dancing with them.'

    The idea is that by immediately following the conjoint verb, focused items obtain the prosodic marking necessary to satisfy interface conditions on the prosodic marking of focus. This prosodic marking can be tonal and/or phrasal depending on the language. It is illustrate for Makhuwa in (35). According to Costa and Kula (2008), in this language, this prosodic marking consists of the realization of tonal lowering (LHL → LLH).

(35)   Makhuwa

    a.   ni-m-váhá   enuní   maátsi.
          SM1pl-PRES-give Cl10-birds Cll6-water
          'We give the *birds* water.'

    b.   ni-m-váhá   maatsí enúni.
          SM1pl-PRES-give Cl6-water Cl10-birds
          'We give *water* to the birds.' (Van der Wal, 2006, 239–241)

In Bàsàa, final verbs are also distinguished from non-final ones. This is illustrated in (36), in which the verb 'selling' ends with a L when it is final and a H when it is non-final. The process is seen as the remnants of the conjoint-disjoint forms. In addition, the language exhibits a process of "metatony" (see Nurse, 2006), by which a *High tone spreads from the last vowel of the verb onto the following tone bearing unit*. This happens in (36b) and (36c): the word 'doughnuts', whose underlying representation is /màkàlà/, becomes [mákàlà] due to the fact that it is IAV. The item that immediately follows the verb is thus somehow prosodically distinguished, as it acquires a H tone.

(36)   a.   mὲ n-nùŋ**ù**l
              SM1sg PRES-sell
              'I'm selling.'

b. mὲ   n-nùŋ**ú**l m**á**kàlà.
    SM1sg PRES-sell doughnuts
    'I'm selling doughnuts.'

c. mὲ   n-nùŋ**ú**l w**έ** m**à**kàlà.
    SM1sg PRES-sell you doughnuts
    'I'm selling doughnuts for you.'

The wh-questions and answers presented in the previous section do not support the idea that the IAV position, the prosodic marking related to the conjoint-disjoint distinction and focusing are related in Bàsàa. First, placing the wh-word IAV does not ensure that it is aligned with the right edge of a prosodic domain. This is suggested by the fact that the floating H tone introduced by the wh-word associates with the following word. There is thus no prosodic boundary separating them.Second, both wh-words and focused items in declaratives suggest that focusing and metatony are two unrelated processes. As was shown with the examples (20) to (22), in Bàsàà, the exact position targeted by the wh-phrase is right after the *tensed* verb. In the process of "metatony", the *lexical* verb is the source of the H tone. Whenever the wh-word appears in a clause containing a periphrastic verb form, it precedes the lexical verb, and it is the item that follows the lexical verb that is prosodically distinguished by acquiring this H tone. This is illustrated in the following examples, in which /lìkúbé/ and /màkàlà/ are respectively realized as [líkúbé] and [mákàlà].

(37) Juma à   ŋ́-[↓]gwés **hέ**   ʤέ lík̠úbé?
      Juma SM3sg Pr-want   where eat banana
      'Where does Juma want to eat a banana?'

(38) Juma à   ɓé-là [↓]**lá** ɓ̠ɔ́[↓]ɔ́ŋ mákàlà?
      Juma SM3sg P₂-can how do   doughnuts
      'How could Juma make the doughnuts?'

As for focusing in declaratives, the answers to the wh-questions in examples (3) to (9) and (23) to (30), also militate against establishing a link between focusing and the tonal remnants of the conjoint-disjoint distinction, as the item corresponding to the wh-word is not located IAV. Leaving aside the answers with a fronted focus, the focused item only appears IAV when it is its canonical position, otherwise a discourse-given item ends up there and thus realizes the H tone spread by the verb. This is illustrated in the answer in (39)B, in which /ɓɔ̀ɔ̀ŋgέ/ is realized as [ɓɔ́ɔ́ŋgέ]. This discourse-given item realizes the H tone associated to the IAV position whereas the focus /màkàlà/ is simply realized [màkàlà].

(39) A: à   ǹ-lɔ́[↓]ná **kí**   ɓɔ́ɔ́ŋgέ?
          SM3sg P₁-bring what children
          'What did she bring to the children?'

B: à ǹ-ló⁺ná ɓɔ́ɔ́ŋgɛ́ **màkàlà**.
  SM3sg P₁-bring children doughnuts
  'She brought the children doughnuts.'

3.2 Long wh-words

Whenever the wh-word is fronted or final within the sentence (be it IAV or not), it exhibits a long vowel. Our contention is that this is due to the fact that it is final within its prosodic group, that is, it is right-aligned with a prosodic boundary. This boundary prevents the floating H introduced by the wh-word from associating with the next tone bearing unit. The need for tonal association of this floating H forces the vowel of the wh-word to be lengthened. This is illustrated with the questions (3), (8) and (30), repeated below, which exhibit a fronted wh-word.

(3) **kíí** màòŋgɛ́ à ǹ-sómb?
  what child SM3sg P₁-buy
  'What did the child buy?'

(8) **hɛ́ɛ́** màòŋgɛ́ à ŋ̀-kɛ̂?
  where child SM3sg P₁-go
  'Where did the child go?'

(30) **láá** à m̀-ɓól ɲɔ̀?
  how SM3sg P₁-get here
  'How did he get here?'

 This process of creating a mora in order to realize the floating H also occurs in sentence final position. This is illustrated with the question (29), repeated below, which presents an IAV wh-word. In this example the tense marker introduces a floating H, which associates with the lexical verb and forces the dissociation of the verb's lexical L. This L subsequently lowers the wh-phrase H, which is realized as a !H. This suggests that the verb and the wh-phrase are not separated by a prosodic boundary or, in other words, that they are phrased

together.

(29)   mà!àŋgɛ́ à   ŋ̀-kɛ́ ↓**hɛ́ɛ́**?
         child   SM3sg P$_1$-go where
         'Where did the child go?'

	(…)	à	ŋ̀	-kɛ̀	´	hɛ́	´	→	à	ŋ̀	-kɛ́	↓hɛ́ɛ́
		L	L	H	L		H	H		L	L	H	!H H

If one assumes that the sentence edge matches the edge of a major prosodic domain such as an Intonation Phrase (IP) boundary, then a sentence final wh-phrase is aligned with an IP boundary. The similarity in behaviour between fronted and sentence final wh-words suggests that the prosodic boundary with which they are aligned is of the same nature. For the time being, we assume that both types of wh-phrases are thus aligned with the right-edge of an IP.

Although they have in common that they are always long, fronted and clause-final wh-phrases differ with respect to their tonal realization. Fronted wh-phrases seem to exhibit an extra high tone, that is, they are realized with a higher pitch than other initial H tones. This phenomenon, for which systematic investigation still remains to be done, is reminiscent of the 'local H raising' observed in fronted foci in Hausa by Leben et al. (1989). They observe that in this Chadic tone language, a single H tone on a word can be raised to highlight this word.

As was briefly stated in Section 2.1, fronted wh-phrases are more pragmatically/semantically loaded than IAV/in situ wh-phrases. They are close to what has been described as a 'contrastive' or 'identificational' focus. Just like in Hausa, it is reasonable to say that fronted wh-phrases are thus associated with more emphasis than IAV/in situ wh-phrases (Hartmann and Zimmermann, 2007). We propose that Bàsàa's local H raising on fronted wh-phrases expresses this emphasis and suggests that there are intonational effects in the tone language discussed here. It is important to note that fronted wh-phrases are, so far, the only focal items exhibiting this extension of pitch, which suggests that it is not to be considered as focus marking.

4   Conclusion

In this paper, we have concentrated on wh-questions in Bàsàa. In this North-western Bantu language which has retained the Proto-Bantu vowel length contrast, a subset of wh-words' length varies depending on their position within the clause. As summarized below, they can either surface as CV́ or CV́V́:

- **WH**$_i$ SM$_i$-TAM-(AUX/MOD)-V-(XP)]$_{IP}$ → CV́

- Subject SM-TAM-AUX/MOD-**WH**-V-(XP)]$_{IP}$ → CV́

- Subject SM-TAM-V-**WH**-XP $]_{IP} \rightarrow$ CV́

- Subject SM-TAM-V-**WH** $]_{IP} \rightarrow$ CV́V́

- **WH** $]_{IP}$ Subject SM-TAM-(AUX/MOD)-V-(XP) $]_{IP} \rightarrow$ CV́V́

We have proposed that these wh-words are underlyingly of the CV́ form, and they introduce a floating H. Whenever the wh-word is aligned with a prosodic boundary, there is no other choice but creating a mora in order to ensure the realization of the floating H. Considering that both sentence final and fronted wh-phrases behave in the same way in surfacing as CV́V́, we assume that they are aligned with the same type of prosodic break, that is, the right edge of an Intonation Phrase. If this assumption is correct and if we assume that Intonation Phrase boundaries are aligned with clause boundaries, this suggests that the fronted wh-phrase is not part of the same clause as the rest of the wh-question. The prosody of Bàsàa wh-questions thus provides us with important evidence as to the syntactic structure of these sentences (Hamlaoui and Makasso, in prep.).

We have seen that the prosodic behaviour of IAV wh-words and the focused item that corresponds to them in the answer to the wh-question do not support the idea, put forward by Costa and Kula (2008) that the remains of the conjoint-disjoint distinction, the prosodic marking of the conjoint form and focusing are linked.

Finally, a local High Tone Raising on fronted wh-phrases, which differ from IAV and in situ wh-phrases in terms of emphasis, suggests that intonative effects are at play in yet another tone language, Bàsàa.

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The Tonology of WH Questions in Luganda

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The purpose of this paper is to show how WH questions interact with the complex tonal phenomena which we summarized and illustrated in Hyman & Katamba (2010). As will be seen, WH questions have interesting syntactic and tonal properties of their own, including a WH-specific intonation. The paper is structured as follows: After an introduction in §1, we successively discuss non-subject WH questions (§2), subject WH questions (§3), and clefted WH questions (§4). We then briefly present a tense which is specifically limited to WH questions (§5), and conclude with a brief summary in §6.

1   Introduction

According to Walusimbi (1996:65), there are three WH-question patterns in Luganda: "neutral", "cleft", and "pseudo-cleft". The examples in (1) are his, to which we have added tone marks and morpheme glosses:[1]

(1) a.   b-óógér-á =kí   'what are they saying?' (lit. 'they say what?')
             they-say   what
     b.   kì-kí kyè b-óógér-à   'what (it is that) they are saying?'
             what REL they-say

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[1]   In (1) and subsequent examples we gloss the /-e/ morpheme used in non-subject relative clauses and clefts as REL (for relativizer) and the /-ee/ morpheme used in subject clefts and certain copular constructions as COP (see Hyman & Katamba 1990 for discussion of both forms). As in many Bantu languages, these markers can be used in constructions with and without an overt head, e.g. *èkìkópò kyè yàgúlà* 'the cup (class 7) that he bought', *kyè yàgúlà* 'the one that he bought'.

c. kyè b-óógér-à kyèè= kí   'what they are saying is what?'
    REL they-say   COP what

In (1a) the WH enclitic *=kí* 'what' follows the verb, whereas a longer form *kì-kí* is clefted in (1b). The pseudocleft construction in (1c) contains both the non-subject relativizer *kyè* as well as the (copular) subject cleft proclitic *kyèè=*. These and other WH constructions are the subject of this paper. Since we will be concerned with whether WH questions are tonally marked the same as main clauses or relative clauses, or are marked a third way, we shall begin with a brief summary of the Luganda tone system, recapitulating some of the major points from Hyman & Katamba (2010).

As seen in (2), it is necessary to recognize three levels of representation in order to properly characterize the tonal system of Luganda, where the mora is the tone-bearing unit:

(2)   *level of representation*   *tonal contrasts*   *description*
    a. underlying input   /H/, Ø   privative
    b. intermediate   H, L, Ø   ternary
    c. surface output   H, L   binary

As indicated, Luganda has an underlyingly privative contrast between /H/ and Ø and a H vs. L contrast on the surface. (Underlyingly toneless moras will be realized H or L based on the various tone rules discussed in Hyman & Katamba 2010). At an intermediate level corresponding roughly to the output of the lexical phonology, there is, however, a ternary contrast between H, L, and Ø.[2] This is due to two processes, Meeussen's Rule (MR) and L tone insertion (LTI), which introduce L tones. These are formalized in (3) along with the rule of H tone plateauing (HTP):

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[2] The three levels might be identified as morphophonemic, phonemic, and (systematic) phonetic, respectively. It can be noted that Luganda allows a HL falling tone on a prepausal short vowel and on a long vowel which is either penultimate or followed only by toneless moras. A marginal downstep may also occur when a HL % H sequence is simplified to H-↓H at the boundary of two phonological phrases (%). Luganda does not permit LH rising tones, whether on short or long vowels.

(3) a. Meeussen's Rule (MR)

μ   μⁿ   e.g. /bá-láb-a/ →   bá-làb-a   'they see'
| | | |
H H   H H
  ↓   ↓
  L   L

b. H tone plateauing (HTP)

μ μⁿ μ   →   μ μⁿ μ   e.g. /bá-mu-láb-a/ → bá-mú-láb-a 'they
| | \|/ | | \|/   see
H   H   H   H   H   H   him'
                                                                      ↓
                                                                      L   (by LTI)

c. L tone insertion (LTI): Ø → L / __]_w

d. /ki-sikí/→   ki-sikîì (by LTI) →   ki-sikî 'log' (by FVS)
        H   HL   HL
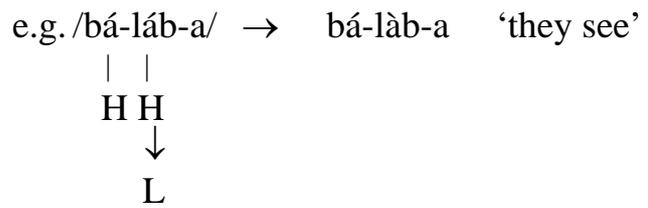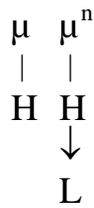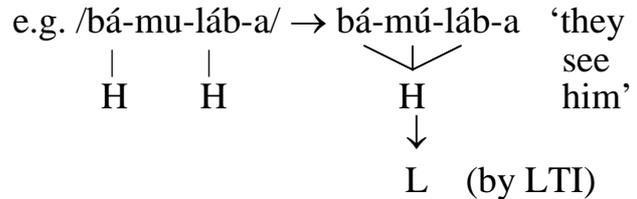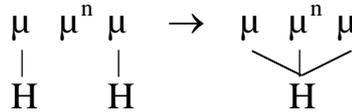
As seen in (3a), an underlying /H-H/ sequence will be realized H-L. (A longer /H+Hⁿ/ sequence will be realized H-Lⁿ, with all but the first H being lowered by MR.) In (3b) we see that when two Hs are separated by one or more toneless moras, a H tone plateau results. Finally, if after the application of MR and HTP a word has a H but no L, a L is inserted after the H. As a result, the form 'they see him' in (3b) surfaces as *bá-mú-láb-à*. In the derivation of ki-sikî 'log' in (3d), where neither MR nor HTP apply, LTI inserts a final L to create a final falling tone. As shown by Hyman & Katamba (1990a), this results in vowel lengthening, which is preserved before an enclitic, e.g. *ki-sikîì =kí* 'which log?', but which otherwise undergoes final vowel shortening (FVS). At the word level the first two moras of *ki-sikî* remain toneless. Whether they are realized H or L depends on the preceding tonal context, if any. (The word is realized *kì-sìkî* in isolation due to an initial %L boundary tone.)

Moving on to the postlexical level, a rule of L tone deletion (LTD) deletes any Ls which occur between two H tones in what we refer to as the tone group (TG) domain:

(4) Post-lexical L tone deletion (LTD)   :   Lⁿ→ Ø / [.... H __ H ...]_TG

        bá-làb-a + ki-sásìlo   →   bá-láb-á kí-sásìló   'they see *rubbish*'
        H H   H   \|/ | \
          ↓   ↓   H   L H%
   (MR:) L   L (by LTI)
          ↓
          Ø
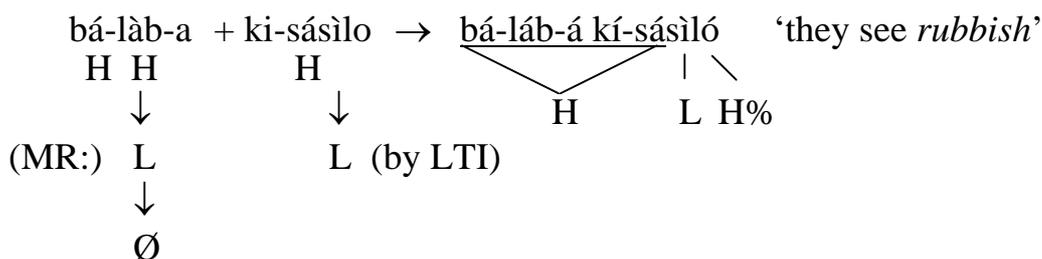
As indicated, MR first applies to /bá-láb-a/ to produce intermediate *bá-làb-a*. The resulting L is then deleted by LTD since it occurs between two Hs within the TG. The following noun /ki-sásilo/ undergoes LTI to become ki-sásìlo. As indicated, the final mora receives a H tone from the final H% boundary tone.

Having established the major tonal properties that will be important for our study, we can now turn to the tonology of WH questions.

2   Non-subject WH questions

We begin with non-subject WH questions. Adopting Walusimbi's (1996) terminology, in "neutral" non-subject questions, the WH element occurs in a position immediately after the verb (IAV), generally reserved to mark focus. The verb has the same morphology and tonology as in regular main clauses:

(5) a. bá-láb-á =ání   'who do they see?'
     b. bá-láb-á =kí (~ kí-kí) 'what do they see?
     c. bá-mú-láb-á =ddí   'when do they see him?'
     d. bá-mú-láb-á =wá   'where do they see him?'
     e. <u>bá-láb-á bá-méká</u> 'how many (cl.2) do they see?'

    H H   H
        ↓

      L → Ø   (MR + LTD + HTP)

In the above examples, the WH element forms a TG with the verb exactly as seen earlier in (4), hence LTD and HTP apply to the lexical output of the verb *bá-làb-a* 'they see'. An interesting point to which we will return is that these markers condition LTD and HTP, hence have a /H/, but this H does not become HL by LTI (cf. *bi-tabo bi-meká* 'how many books?', where the preceding word is toneless). Although all the WH elements in all but (5e) are enclitics, the first two have corresponding plural forms which are independent words:

(6) a. bá-láb-á bá-ání   'who (pl.) do they see?'
     b. bá-láb-á bí-kí   'what (pl.) do they see?'

The singular and plural pairs are easily identified as class 1/2 ('who') and class 7/8 ('what'), the latter singular having two forms: *=kí* and *ki-kí*.

As mentioned, the IAV represents a position identified with focus marking (Hyman & Katamba 1993). By IAV is meant the position after the verb and any non-WH enclitcs (P_2 = the general past):

(7) a. y-à-gí-téék-á =múù =kí   'what did he put in it?'
         he-P₂-it-put   in   what

    b. y-à-téék-á =kí mù-yô   (= marginal, but much better than (7c))
        he-P₂-put   what in-it

    c. *y-à-téék-á mú= yó =[↓]kí
        he-P₂-put   in   it   what

In (7a) we see that =kí follows the locative enclitic =múù, whereas it must precede non-enclitic mù-yô in (7b). Since the WH element in (7c) is preceded by a full word, it is ungrammatical—and would also be so with the longer WH forms *ki-kí/bi-kí*. The sentences in (8) also show that a full word locative follows a WH element, while a locative enclitic precedes:

(8) a. w-à-gúl-á =kí è-káámpálâ 'what did you buy in Kampala?'
         you-P₂-buy what at-Kampala

    b. w-à-gúl-á =yóò =kí   'what did you buy there?'
         you-P₂-buy there what

The sentences in (9) show that the IAV includes WH elements which are expressed via a noun phrase or conjugated verb *-tyá* 'to how':

(9) a. y-à-fúúmb-à mù= n-gélí =kí ò-mù-púùngá   'how did he cook rice?'
         he-P₂-cook   in 9-kind which   3-rice   ('in what manner'?)

    b. *y-à-fúúmbà ò-mù-púùngà mù= ngérí =kí

    c. bá-á-fúúmb-á bá-tyá òmùpúùngá   'how did they cook rice?'
         they-P₂-cook they-how   3-rice

    d. *bá-á-fúúmbà òmùpúùngà bá-tyá

(9b) shows that even a full NP WH expression must be in the IAV position, and similarly for the verbal WH *-tyá* 'to how' which agrees with the preceding subject (cf. *y-a-fúúmb-á á-tyá òmùpúúngá* 'how did he cook rice?).

   Perhaps because each would have to be in IAV position, multiple post-verbal WH are not permitted:

(10) a. *y-à-w-á   =ání =[↓]kí   (intended: 'who did he give what?')
         *y-à-wá =kí =àní

     b. *y-à-láb-á   =ání =[↓]ddí (intended: 'who did he see when?')
         *y-à-láb-á   =ddí =àní

On the other hand, WH words can co-occur in echo questions if one is preverbal, either as subject-WH, as in (11a), or clefted, as in (9b,c) (cf. §3, §4 below):

(11) a. àní è-y-à-láb-á =kí   'WHO saw WHAT?'
        who AUG-he-P2-see what

    b. àní gwè y-à-w-á =kí   'WHO did he give WHAT?'
        who REL he-P2-give what

    c. àní gwè y-à-láb-á =ddí   'WHO did he see WHEN?'
        who REL he-P2-see when

Although this needs to be studied more in detail, some cases have been observed where WH elements appear post-IAV in an echo question:

(12) a. y-a-sóm-á =kí [↓]ná-bò   'what did he read with them'?
        he-P2-read   what with-them

    b. y-a-sóm-á ná-bò kí   'he read with them WHAT?'
        he-P2-read with-them what

    c. y-à-fúúmb-íl-á =kí ò-mw-áàná   'what did he cook for the child?'
        he-P2-cook-APPL what   child

    d. y-à-fúúmb-ìl-à ò-mw-áànà kí   'he cooked WHAT for the child?'
        he-P2-cook-APPL   child   what

In addition, WH elements are not attracted to IAV in relative clauses, which are necessarily echo questions:

(13) a. è-y-à-fúúmb-ìl-à ò-mw-áànà kí   'the one who cooked WHAT
        AUG-he-P2-cook-APPL child what   for the child?'

    b. *è-y-à-fúúmb-íl-á =<u>kí</u> ò-mw-áàná
        AUG-he-P2-cook-APPL what   child

As mentioned in §1, enclitic status is determined based on whether the WH element preserves preceding vowel length:

(14) a. y-à-ly-á<u>á</u> =kí   'what did he eat?'
    b. y-à-ly-á kí-kí   'what did he eat?'
        he-P2-eat   what

In (14a), the long vowel of *-ly-áá* is is derived from underlying /lí-a/ via gliding and compensatory lengthening (Tucker 1962, Katamba 1974, Clements 1986). As seen, the length is preserved before the enclitic *=kí* 'what', but not by the full word form *ki-kí* in (14b) (cf. *y-à-lyá bí-kí* 'what (pl.) did he eat?'). In actual fact it is only *=kí* 'what' and *=wá*' where' which allow us to establish that these are phonological enclitics. This is because the /a/ of *=aní* fuses with a preceding vowel, automatically producing a long vowel, while the geminate consonant of *=ddí* 'when' automatically conditions vowel shortening. Still, we can generalize

that all of these short WH forms are enclitics, drawn as they are to the IAV position.

The main phonological issue we must address is how to account for the final H on *=ání* 'who', *=kí* 'what', *=ddí* 'when', *=wá* 'where'. Recall from (5) that these morphemes must have an underlying /H/ because they trigger LTD and HTP. However, if they end /H/, why don't they undergo LTI to become HL when final, as expected. Thus compare the two sentences in (15).

(15) a.   y-à-ly-áá =kí   'what did he eat?'
      b.   y-à-ly-áá =kô   'he ate a little'

In both cases the verb stem /-lí-a/ becomes *-lí-à* by LTI. The output of the lexical phonology is thus *y-à-ly-áà*, which then undergoes LTD and HTP before the H tone enclitics. As also seen, /=kó/ 'a little' undergoes LTI (becoming *=kóò*, then *=kô* by FVS), while /=kí/ does not. The question is why not?

First we note that final H of WH enclitics cannot be attributed to the H% boundary tone. As seen in (16a), H% links to all but the first of a sequence of toneless moras:

(16)	# syllables	underlying	%L without H%	%L with H%	
a.	monosyllabic	/ki-de/	kì-dè	kì-dé	'bell'
	bisyllabic	/ki-tabo/	kì-tàbò	kì-tábó	'book'
	trisyllabic	/ki-lagilo/	kì-làgìlò	kì-lágíló	'command'
	quadrisyllabic	/ki-sanilizo/	kì-sànìlìzò	kì-sánílízó	'comb'
b.	bisyllabic	/ki-jíiko/	kì-jîikò	kì-jîikó	'spoon'
	trisyllabic	/ki-sásilo/	kì-sásìlò	kìsásìló	'rubbish'
	quadrisyllabic	/ki-bónelezo/	kì-bónèlèzò	kìbónèlézó	'punishment'
c.	bisyllabic	/ki-kópo/	kì-kópò	*	'cup'
d.	monosyllabic	/ki-bé/	kì-bê	*	'jackal'
	bisyllabic	/ki-sikí/	ki-sikî	*	'log'

(16b) shows that H% can link to the final mora of a word with a /H/, but not if the word ends H-L, as in (16c). Finally, (16d) shows that H% fails to link if the word ends HL. Forms such as **kì-kópó*, **kì-bé*, and **kì-síkí* are thus ungrammatical. It is thus clear that the final H of WH elements cannot be related to H%.

The final H of *=aní, =kí* etc. also cannot be attributed to yes-no question intonation, which Stevick (1969:27) describes as follows:

> If the last word has a high tone, then this intonation is realized as rise in pitch followed
> by fall in pitch, beginning with the last tonic syllable. If the last tonic mora happens to

be in the final syllable, then this rise-fall is very rapid, but it is all there. If the final word has no tonic moras, then the final syllable is extremely low in pitch.

In the following transcriptions, S stands for "superhigh" tone (Hyman 1990:123):

(17) a. tu-ba-gulilil-a   →   tú-bá̋-<u>gùlìlìl-à</u>   'are we bribing them?'
          H   L H S   L
     b. a-ba-gulilil-a   →   <u>à-bà-gùlìlìl-à</u>   'is he bribing them?'
                                          L

Since normal yes-no question intonation ends in a low pitch, it is clearly unrelated to the final H of WH elements. Instead, Stevick's solution is to propose a separate "other question" (= WH) intonation:

> In these questions, a final tonic syllable which with [statement] intonation would have ^ is pronounced with high level pitch, phonetically identical with ´.

His example is *ò-kól-á =kí* 'what are you doing?', where the verb is underlyingly /o-kól-a/. About this form he adds (Stevick 1967:27):

> Thus, I have recorded no tonetic difference between this question and the citation form of a noun with four short syllables: òmúlímú 'work'.

There seem to be two approaches to the problem. First, we could block LTI on WH elements, thereby making /=aní/, /=kí/ etc. exceptions to LTI. As a result, their underlying /H/ would remain H in final position. The second approach, following Stevick, is to derive the expected HL by LTI, but introduce an intonation which deletes the L of the HL on WH elements when they occur in final position. Evidence for this second approach is seen from the fact that WH elements sometimes do undergo LTI when not in final position: although more frequently pronounced H, they can be realized HL if emphasized or followed by pause. Thus compare the following pairs of sentences:

(18) a. y-à-búúzá bá-ání à-bá-á-gw-à   'who (pl.) did he ask that fell?'
         y-à-búúz-á bá-á<u>nî</u> à-bá-á-gw-à   (i.e. 'who that fell did he ask?')
     b. y-à-lówòòz-à àní gwè tw-áá-làb-à   'he wondered who we saw'
         y-à-lówòòz-à à<u>nî</u> gwè tw-áá-làb-à
     c. sí-mányí wá gyè bà-bì-bàl-íl-à   'I don't know where they count them'
         sí-mányí <u>wâ</u> gyè bà-bì-bàl-íl-à
     d. sí-mányí ddí wè bà-bì-bàl-íl-à   'I don't know when they count them'
         sí-mányí <u>ddî</u> wè bà-bì-bàl-íl-à

Further evidence that non-final WH elements undergo LTI is seen in sentences such as those in (19), where the following input tone is H:

(19) a.   àní [↓]y-á-gú-ddè   'who fell?' (recent past)
    b.   y-a-wá =kí   [↓]Kígùndú   'what did he give Kigundu?'
            H   H L H L H%

After /aní/ and /=kí/ become *anî* and *=kî* by LTI, their HL undergoes contour simplification, delinking the L, which produces a following downstepped [↓]H. It seems that an A → B → A "Duke of York" derivation is motivated:

(20)   *underlying*   *LTI + V-length*   *FVS*   *"WH-intonation"*
    /a-gul-a =kí/   →   a-gul-a =kîi   →   a-gul-a =kî   →   a-gul-a =kí
           H   HL   HL   H
    'what is he buying'

    We thus propose that the HL of a WH element obligatorily becomes H finally, as it usually does in non-final position, perhaps by L-delinking. It is important to note that only the WH element is so affected. A final HL to its right will remain HL:

(21) a.   y-à-w-á =kí Kàtààmbâ   'what did he give Katamba?'
    b.   w-à-gúl-á =kí è-káámpálâ   'what did you buy in Kampala?'

The same final H realization is found in the noun phrase with =kí 'which':

(22) a.   y-a-láb-à bi-kópò =kí   'which cups did he see?'
    b.   bá-á-kúb-á mwáánà =kí   'which child did they beat?'

As seen in the above examples, the noun obligatorily lacks an augment before =kí (*e-bi-kópò =kí*, *o-mwáánà =kí)*. Since it also does not form a TG with *=kí*, LTD does not apply. As seen in (23) *=kí* tends to immediately follow the noun, from which it can be separated only by a possessive pronoun:

(23)   *N =kí + modifier*   *N + modifier =kí*
   poss.   bì-kópò =kí è-byáàngé   bì-kópò =byààngè =kí   'which cups of mine?
   adj.   bì-kópò =kí è-bì-nénè   ?*bì-kópò bì-nénè =kí   'which big cups?'
   num.   bì-kópò =kí è-bí-sàtú   ?*bì-kópò bì-sátù =kí   'which three cups?'

Not surprisingly, when modifying a noun phrase, *-aní* 'whose' also ends H, as does *-meká* 'how many':[3]

(24) a. à-gúl-á bí-kópó byáání   'whose cups is he buying?'
    b. à-gúl-á é-bí-kópò bì-mèká   'how many cups is he buying?'

While most non-subject WH elements occur in the IAV position, there are different ways of forming 'why' questions, some of which involve WH elements in non-IAV position. One way is to use *=kí* with an applicativized verb. (25a) thus literally means 'he cooked rice for what?':

(25) a. y-a-fúúmb-íl-á =kí ò-mù-púùngá   'why did he cook rice?'
       he-P2-cook-appl what   3.rice
    b. lwáá=kí y-à-fúúmbà ò-mù-púùngá   'why did he cook rice?'
        for-what he-P2-cook   3.rice
    c. *y-a-fúúmbà lwáá=kí ò-mù-púùngá
    d. *y-a-fúúmbà ò-mù-púùngà lwáá=kí
    e. y-á-jj-à lwàà= n-sóóngá =kí   'he came for what reason?'
       he-P2-come account.of reason what
    f. n-sóóngá =kí è-y-à-mù-léèt-á   'what reason brought him?'
       account.of what AUG-he-P2-him-bring

Another way of asking a 'why' question involves fronting the class 11 connective (genitive) *lwáá=* (from /lú-a/) + *=kí*. (25b) thus literally means '(on account) of what he cooked rice?'. The sentences in (25c,d) show that *lwáá=kí* cannot occur in IAV or post-IAV position. On the other hand, (25e) shows that a fuller expression involving the toneless noun *n-soonga* 'reason' can occur in the IAV position. When it is fronted, as in (25f), a relative clause form is used, hence with the literal meaning 'it's which reason that brought him' (i.e. that made him come).

With the above established we can now consider the ways of asking a subject WH question.

3   Subject WH questions

As seen in (26), subject WH questions require the WH element to precede the verb, which is often relativized:

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[3]   In (24a) the underlying representation of class 8 byaaní is /bi-a-aní/, literally 'those of whom'. As in the case of possessives do in general, it forms a TG with the preceding noun /bi-kópo/ 'cups', and both LTD and HTP apply.

(26) a. àní y-à-gw-â   'who fell?'
        who he-P₂-fall

   b. àní è-y-à-gw-â   'who (is it) that fell?'
        who AUG-he-P₂-fall

   c. bà-àní à-bá-géèndà   'who (pl.) is going?   (Walusimbi 1996:67)
        2-who AUG-he-P₂-fall

   d. kì-kí è-kí-kú-lúm-à   'what is biting/hurting you?'
        7-what AUG-it-you-bite

Further examples are provided in (27).

(27) a. kì-kí è-ky-áá-mú-fúúmb-ìs-à òmùpúùngà? 'what made him cook the
        7-what AUG-it-P₂-him-cook-CAUS   rice   rice' = 'why?'

   b. mu-púúngà =kí ò-gw-áá-fúúmb-ìbw-à 'which rice was cooked?
        rice   which AUG-it-P₂-cook-PASSIVE

These sentences might better be translated 'what is it/it's what that made him cook rice' and 'it's which rice/which rice is it that was cooked?'. As elsewhere in the grammar, the augment marks an NP, but is absent when a postverbal NP occurs within the scope of negation or narrow focus (Hyman & Katamba 1993).[4]

   Although we will not go into detail here, relative verb forms have their own morphology and tonology. One morphological difference concerns the shape and placement of negative morphemes: In main clauses *te-* precedes the subject marker, while in relative clauses *-ta-* follows:

(28) a. <u>tè</u>-bá-á-làb-à Kàtààmbâ   'they didn't see Katamba'
        NEG-they-P₂-see Katamba

   b. bà-àní   à-bá-<u>tá</u>-á-làb-à Kàtààmbâ 'who pl. didn't see Katamba?'
        2-who AUG-they-NEG-P₂-see Katamba

Since the subject relative verb begins an NP, it too can occur both with and without an augment:

(29) a. à-bà-kázì <u>à</u>-b-áá-làb-à <u>è</u>-bì-kópò   'the women who saw the cups'
        %L H L   H L L   H L

   b. a-ba-kázì <u>à</u>-bá-tá-á-làb-à bì-kópò   'the women who didn't see
        %L   H L   H   H L L   H L   the cups'

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4   In Luganda when a sentence begins with a noun without augment, an underlying null
    focus marker (or copula) is assumed; cf. *ò-mù-púùngá* 'rice' vs. *mù-púùngá* 'it's rice'.

   c. t-á-mányí bà-kázì b-áá-láb-á bí-kópò   'he doesn't know the women
       H   HL   H L   H Ø Ø   H L   who saw the cups'

   d. à-mànyí bá-kázì b-áá-láb-á bí-kópò   'he knows *the women who*
        HØ   H L   H Ø Ø   H L   *saw the cups'*

In (29a) the augment appears on the relativized verb and its object. On the other hand, the augment is missing on the object in (29b), since the relativized verb is in the negative. In (29c) the negation begins with the main verb and thus conditions the absence of an augment on every word that follows, including the relativized verb. The same is observed in (29d), where the absence of augments is conditioned by narrow focus on the object. These last two examples amply demonstrate that the augment does not specifically mark the subject relative, as sometimes mistakenly assumed.

4   Clefted WH questions

The third way to form a WH-question is by clefting. As seen in (30a,b), object WH elements can be clefted with the /-e/ marker used also in non-subject relative clauses, as in (30c).

(32) a. àní gwè bá-làb-á   'who do they see?' ('it's who that they see?')
      who REL they-see   (cf. (5a))
   b. kí kyè bá-làb-á   'what do they see?' ('it's what that they see?)
      what REL they-see   (cf. (5b))
   c. ò-mù-kázì gwè bá-làb-á   'the woman that they see'
      è-kì-kópò kyè bá-làb-á   'the cup that they see'

However, subject- and adjunct-WH elements cannot be clefted in a direct question (cf. Walusimbi 1996:67, 71):

(33) a. *àní yèè= y-à-gw-â   (intended: 'it's who that fell')
   b. *kí kyè= ky-áá-gw-à   (intended: 'it's what that fell')
   c. *wá gyè= bá-géénd-à   (intended: 'it's where that they are going?')
   d. *ddí lwè= bá-géénd-à   (intended: 'it's when that they are going?')

However, /-e/ can be used with all WH elements except subject WH in embedded WH questions:

(34) a. m̀-mànyí ání gwè bá-làb-á   'I know who (that) they see'
   b. m̀-mànyí =kí kyè bá-làb-á   'I know what (that) they see'
   c. m̀-mànyí =wá gyè bá-gééndà 'I know where (that) they are going'

    d. ḿ-mànyí =ddí lwè bá-gééndà 'I know when (that) they are going'

    e. *ḿ-mànyí =ání yèè y-à-gw-â 'I know who (that) fell'

    f. ḿ-mànyí =ání è-yà-gw-â   'I know who fell'

Non-subject clefted WH questions have the same morphology and tonology as relative clauses. However, a clefted answer to a WH question undergoes a left-edge H tone reduction (HTR) process which the WH question cannot (Hyman & Katamba 2010). This can be observed in the following question-answer pairs:

(35) a. Q: àní gwè bá-bál-íl-à è-bì-kópò   'who are they counting cups for?'
            who REL they-count-APPL cups   (*<u>bà-bàl-íl-à</u>)

      A: mwáánà gwè <u>bà-bì-bàl-íl-à</u>   'it's the child they are counting
           child REL they-them-count-APPL   them for'

   b. Q: bì-kí byè bá-bál-íl-à ò-mwáàná 'what (pl.) are they counting for
            8-what REL they-count-APPL child   the child?' (*<u>bà-bàl-íl-à</u>)

      A: bì-kópò byè <u>bà-mù-bàl-íl-à</u>   'it's the cups that they are
           cups REL they-him-count-APPL   counting for him'

As indicated by the underlining in (35), in non-WH non-subject clefts, HTR lowers a sequence of Hs to L at the beginning of the verb (see below for subject clefts). The result is a rather unique tonal property not found elsewhere in the grammar.

    Although we have said that adjunct WH elements cannot be clefted, their answers can be. As now expected, the verb undergoes HTR:

(36) a. Q: bá-mú-bál-íl-á =wá è-bì-kópò   'where are they counting cups
            they-him-count-APPL where cups   for him?'(*<u>bà-mù-bàl-íl-à</u>)

      A: wànò wè <u>bà-bì-mù-bàl-íl-à</u>   'it's here that they are counting
           here REL they-them-him-count-APPL them for him'

   b. Q: bá-mú-bál-íl-á =ddí è-bì-kópò   'when are they counting cups
            they-him-count-APPL when cups   for him?'(*<u>bà-mù-bàl-íl-à</u>)

      A: kààkátì bwè <u>bà-bì-mù-bàl-íl-à</u> 'it's now that they are counting
           now REL they-them-him-count-APPL them for him'

The HTR difference between WH questions and their answers is reminiscent of English, where the WH element, although the focus of the sentence, does not receive the main phrasal stress:[5]

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[5] *WHO is counting the cups?* would be an exclamation expressing doubt, e.g. following an assertion like *they are counting the cups*.

(37) a. Q: who is counting the CÚPS?
   A: the CHILD is counting the cups

   b. Q: what is it they are CÓUNTing?
   A: it's CÚPS they are counting

Similar to adjuncts, although a subject WH element cannot be clefted, its answer can be:

(38) a. Q: bà-àní à-bá-mú-bál-íl-à è-bì-kópò   'who pl. are counting cups
       who   AUG-they-him-count-APPL cups   for him'
   A: bá-ánà bèè= <u>bá-bí-mú-bál-íl-à</u>   'it's the children who are
       children REL= they-them-him-count-APPL   counting them for him'

   b. Q: bì-kí   è-by-áá-bál-íl-w-á Kátáámbâ   'what pl. were counted for
       8-what AUG-they-p2-count-APPL-PASS K.   Katamba?'
   A: bì-kópò byèè= <u>by-áá-mú-bál-íl-w-à</u>   'it's cups that were counted
       cups   REL= they-them-him-count-APPL   for him'

However, there are two differences with other clefts: First, HTR does not apply to the verb in a subject cleft. Second, the REL marker now functions as a proclitic, thereby retaining the underlying length of /ba-e/ and /bi-e/ in the above examples. The cliticization of /-e/ is probably responsible for blocking HTR.

While is tempting to view HTR as a kind of out-of-focus reduction process, it seems to be associated with the lack of augment. This can be observed in the realization of embedded WH clauses. Following an affirmative main clause verb in a neutral focus sentence, a [+A(ugment)] context, there is no HTR:

(39) a. m̀-mànyí =àní gwè bá-bál-íl-à
       'I know who (that) they are counting for'
   b. m̀-mànyí =kí kyè bá-mú-bál-íl-à
       'I know what (that) they are counting for him'
   c. m̀-mànyí =wá gyè bá-bí-mú-bál-íl-à
       'I know where (that) they are counting them for him'
   d. m̀-mànyí =ddí lwè bá-bí-mú-bál-íl-à
        I-know   when that they-them-him-count-APPL
       'I know when (that) they are counting them for him'

However, after a negative main clause verb, a [-A] context, HTR applies:

(40) a. sí-mányí =àní gwè <u>bà-bàl-íl-à</u>
       'I don't know who (that) they are counting for'
   b. sí-mányí =↓kí kyè <u>bà-mù-bàl-íl-à</u>
       'I don't know what (that) they are counting for him'

    c.   sí-mányí =[↓]wá gyè <u>bà-bì-mù-bàl-íl-à</u>

         'I don't know where (that) they are counting for him'

    d.   sí-mányí =[↓]ddí lwè <u>bà-bì-mù-bàl-íl-à</u>

         I.NEG-know when that they-them-him-count-APPL

         'I don't know when (that) they are counting for him'

As was shown in Hyman & Katamba (2010), HTR also optionally targets a subject relative verb whose head is [-A]:

(41) a. tú-làb-á á-bá-kázì à-bá-géénd-à   'we see the women [+A] who are
       H L   H L H H L   going'

    b. tè-tú-làb-à bà-kázì bá-géénd-à   'we don't see the women [-A] who
       %L H L L   H L H H L   are going'

    c. tè-tú-làb-à bà-kázì <u>bà</u>-géénd-à   'we don't see the women [-A] who
       %L H L L   H L L H L   are going'

Similarly, HTR also optionally targets an object relative clause verb whose head in [-A]:

(42) a. tú-gùl-á é-bí-kópò byè tú-làb-á   'we buy the cups [+A] that we
       H L   H L   H L H%   see' (*tù-làb-â)

    b. tè-tú-gúl-á bì-kópò byè tú-làb-á   'we don't buy the cups [-A] that
       %L H HL H L   H L   H%   we see' (< tú-làb-à + H%)

    c. tè-tú-gúl-á bì-kópò byè tù-làb-â   'we don't buy the cups [-A] that
       %L H HL H L   <u>L L</u>   HL we see'

While the above treatment is brief, the HTR process is one that provides an interesting window into the syntax-phonology interface—and requires more work—in Luganda.

5   A WH tense with its own morphology/tonology

In this brief section we simply mention a rather specialized tense marked by an /-áa-/ prefix and a toneless -i-e final (< *-id-e) requires a WH element after it (Hyman & Katamba 1990):

(43) a. w-áá-láb-y-èè =àní 'who have you seen yet?'   /o-aa-lab-i-e/
       you-TNS-see-TNS who   H   H

    b. w-áà-síb-y-éé =kí 'what have you tied up yet?' /o-aa-sib-i-e/
       you-TNS-sib-TNS what   H

As seen, this tense is marked by the prefix /-áa-/ and the perfective ending /-i-e/. This tense is the only construction in Luganda where /-i-e/ occurs without a suffixal tone. It also cannot occur without a WH element.

6   Summary

In the above sections we have seen the following concerning WH questions: (i) WH questions show important differences with corresponding declaratives and yes-no questions. (ii) Subject- and non-subject WH questions show important differences. (iii) One morphological tense requires the presence of a WH element. We have also seen that WH questions have their own intonation which is different from both declarative and yes-no interrogative intonation. This intonation, however, only occurs when a WH element is final in the clause.

Finally, we have seen that WH questions may be expressed via different grammatical structures with the following properties: (i) WH elements may be post-verbal (non-subject), pre-verbal (subject), clefted or pseudo-clefted. (ii) When WH elements occur post-verbally, the verb has main clause morphology/tonology, as in declaratives; the WH element must however be in IAV position. (iii) A subject WH element must be preverbal; unlike declaratives, the verb must have relative clause morphology/tonology. (iv) When a non-subject WH argument is clefted, the verb, which has relative clause morphology and tonology, may not undergo HTR—vs. the corresponding non-WH cleft, which may undergo HTR. (v) Echo questions often escape the properties of WH questions and more closely resemble yes-no interrogative utterances.

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Phonological Phrasing and Questions in Chimwiini[1]

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This paper examines how questions, both Wh-questions and yes-no questions, are phrased in Chimwiini, a Bantu language spoken in southern Somalia. Questions do not require any special phrasing principles, but Wh-questions do provide much evidence in support of the principle Align-Foc R, which requires that focused or emphasized words/constituents be located at the end of a phonological phrase. Question words and enclitics are always focused and thus appear at the end of a phrase. Although questions do not require any new phrasing principles, they do display complex accentual (tonal) behavior. This paper attempts to provide an account of these accentual phenomena.

1   Introduction

This paper provides a sketch of the phrasing of questions in Chimwiini, both "Wh"-questions and "yes-no" questions.

Chimwiini is a Bantu language, closely related to Swahili, spoken in the town of Brava in southern Somalia. In the 1970's, when we began working on the language, there were about 10,000 speakers, almost all of them residing in Brava. Chimwiini apparently had been the dominant language in Brava for some centuries and Brava's inhabitants (**wanthu wa Mwiini** 'the people of Mwiini [=Brava]') were part of the "Swahili" culture that had once extended from southern Somalia down to northern Mozambique. However, by the 1970's, a substantial number of Somalis from the surrounding Tunni clans had come to reside in the town; many of these became fluent in Chimwiini. The dominance of Chimwiini began to wane as the government relocated Somalis from other areas to Brava, and then the Somali civil war in the 1990's resulted in the

murder, pillaging, and rape of the **wanthu wa Mwiini**, forcing many to flee to Kenya and beyond. At the present time, there are significant communities of Chimwiini speakers in Kenya, the United Kingdom, the United States, and elsewhere.

Although Chimwiini is very closely related to Swahili, it is radically different from it in its prosody. It is the prosody of Chimwiini that forces one to conclude that Chimwiini sentences are exhaustively parsed into a sequence of phonological phrases. In this paper, we assume familiarity with the general issue of phrasing in Chimwiini, only summarizing the main outlines in the next section. For extensive background see Kisseberth (2005, 2010a, 2010b) and Kisseberth and Abasheikh (1974, 2004, in press). See Selkirk (1986) for the first attempt to formulate a theory of Chimwiini phrasing.

Our focus here is the formation of questions in Chimwiini. Once it is understood that the Wh-question words/enclitics are categorized as [+Focus], then there are really no special attributes to the phrasing of questions that would distinguish them from statements. But this does not mean that questions are not of great interest for the phonology of phrasing in Chimwiini. As we will see, phonological phrasing in Chimwiini determines two separate prosodic systems: vowel length and accent. Although questions do not have any notable special characteristics when it comes to vowel length, they do have considerable accentual effects. It is these effects that we will be surveying.

2   Preliminaries

There are two prosodic principles in Chimwiini whose scope of application is the phonological phrase. One of these systems involve an abstract stress that is assigned according to the Latin Stress Rule. Specifically, it stresses the penult syllable *in the phonological phrase* if it is heavy (i.e. has a bimoraic vowel or a coda consonant), and if the penult is not heavy but there is an antepenult syllable, then stress falls on the antepenult, regardless of weight. If there is no antepenult syllable, then stress falls on the penult regardless of weight. The only overt manifestation of this stress is the distribution of long vowels: a long vowel can be realized as long just in case it is located in a stressed syllable. A vowel that is underlyingly long or would be lengthened by general rule will be short if in an unstressed syllable. One can often determine the phrasing of a sentence by observing where long vowels surface and where expected long vowels fail to surface. But in the absence of (expected) long vowels, one cannot be certain of the phrasing if it is only vowel quantity that is taken into account.

Fortunately, there is a second prosodic system that always provides reliable evidence for the phrasing of a sentence. Each phonological phrase bears a single accent (realized as High tone). This accent always resides on the final prosodic

word in the phrase. In certain morphosyntactic environments, this accent is on the final syllable of the word. In the default case, it is on the penult syllable. If the prosodic word consists of a single syllable, then there is no contrast and the only available syllable is accented.

Final-accent triggers in Chimwiini include:
- First and second person subject forms in the present and past tense (in contrast to the third person subject forms where default accent prevails).
- Relative clauses.
- The conditional *ka* tense regardless of the nature of the subject prefix.
- The conjunction *na* 'and'.
- Certain lexical items.

If there is a final accent trigger in a phrase, then final accent appears on the last word in the phrase. If the accent in a phrase is the default penult accent, then it is the final word in the phrase that bears this accent.

The phrases that determine where abstract stress is located are exactly the same phrases that determine whether a word bears an accent or not. In other words, these two independent phonological phenomena operate in precisely the same phrases. The critical issue, of course, is how are these phrases determined? Does a sentence have just one possible phrasing, or are alternative phrasings available?

The two foremost principles of phrase formation are:

(1) ALIGN-XP-R
     Align the right edge of every (lexical) maximal projection with the right edge of a Phonological Phrase   (=PP).

(2) ALIGN-FOCR
     Align the right edge of every focused (alternatively: emphasized) element with the right edge of a PP.

A third constraint is given as (3):

(3) ALIGN-VERB$_{NEG}$ R
     Align the right edge right edge of a negative verb with the right edge of a PP.

One might argue that a negative verb is inherently focused, and thus (3) is simply a subcase of (2). A deeper look at the data shows that this inherent focus may be overridden, in which case the negative verb is not necessarily at the end of a PP.

There are some additional phrasing constraints – (a) particles that cannot be joined with other words at one or both edges; (b) special phrasings of modifiers connected to the definite/indefinite contrast; (c) variations in the phrasing of associative phrases and restructuring of these phrases when they have a possessive use – but we will not be discussing these here.

With this much background, we can turn to the matter of the phrasing of questions in Chimwiini.

3 Wh-questions and their phrasing

The effect of Wh-questions on phonological phrasing is in part easily expressed: a Wh-question word or enclitic element always stands at the end of a phonological phrase. This indicates that the question word or enclitic is [+Focus], and that ALIGN-FOCR (cf. (2) above) is at play. Other than this, Wh-questions do not raise any particular issues regarding phrasing. They do, however raise some significant issues with respect to the accentual system that works on the phrasing in a sentence. Specifically, under certain circumstances Wh-words trigger what we refer to as the pseudo-relativization of the verb. By this we mean that the verb assumes the overt shape of a relative verb: namely, in the case of active, affirmative tenses, a final vowel *-o*, and in all tenses, the relative verb is a final-accent trigger. As we shall see, the behavior of accent in pseudo-relatives is not the same as in true relatives.

3.1 *Naani*-questions

We begin our discussion with the question word ***naani*** 'who(m)'. ***Naani*** may occur in pre-verbal subject position, in which case the main verb is necessarily put into a pseudo-relative form. (4) illustrates extremely simple sentences where the VP consists of just a verb.[2]

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[2] A few words concerning the transcription and glossing of sentences are in order. There are five vowels – **i**, **u**, **e**, **o**, **a** – which appear both short and long. The long vowels are written with the vowel symbol repeated: **ii**, **uu**, **oo**, etc. Accent is indicated by an acute mark over the vowel. The transcription of consonants is irrelevant to this paper and will not be discussed. In the transcription, we separate prefixes from what follows by a hyphen; enclitics are separated from the preceding word by the symbol "=". We do not indicate the internal structure of the verb stem, due to its complexity. Second person singular and human third person singular subject prefixes are phonologically null in affirmative tenses, and we indicate such null prefixes by the symbol "Ø". The line below the example provides a word by word gloss. Only the structure of the verb is shown: each prefix is indicated by abbreviations like "SP" (subject prefix), "OP" (object prefix), "pres" (present tense marker), "fut" (future tense marker), "inf" (infinitive), "hab" (habitual), "cont" (continuous), "cond" (conditional), "neg" (negative). Each prefix is followed by a hyphen. The verb stem is glossed by the relevant English verb, and in parentheses after this verb

(4)

a. **náani/ Ø-kodheeló**
who/ SP-speak (perf, rel)
'Who spoke?'

b. **náani/ nth-a-kh-koodhá**
who/ neg-SP-inf-speak
'Who did not speak?'

c. **náani/ Ø-pishiló**
who/ SP-cook (perf, rel)
'Who cooked?'

d. **náani/ Ø-ṭagamanishiizó**
who/ SP-stretch (perf, rel)
'Who stretched it (e.g. he did a good job, it is fully taut)?'

e. **mw-ana w-a náani/ Ø-iló**
child of whom/ SP-come (perf, rel)
'Whose child came?'

It is obvious from the final *o* vowel and the final accent that the verb in these examples has the shape of a relative clause. The question word *naani* bears an accent and retains its lexical long vowel. These two facts indicate that *naani* is in a separate phrase from the pseudo-relative verb. This phrasal separation can be attributed to ALIGN-XP R on the basis of the fact that *naani* is an XP. This same phrasal edge also follows from considering *naani* to be the focus of the above sentences.

Since *naani* is the subject of the pseudo-relative verb (or is an element inside the subject as in (4e)), it is natural to ask how the phrasing of these sentences compares to the phrasing of true relatives. When the subject of a true relative clause is preverbal and not the head of the relative clause, then it is obligatorily phrased separately from the relative verb. This can be seen from the examples in (5).

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the stem is further classifed as "perf" (perfect) or "pass" (passive) or "rel" (relative) or a combination of these. The third line renders the example into English.

(5)

a. **chi-su ch-aa mí/ n-uuziló**
knife that I/ SP-buy (perf, rel)
'the knife that I bought'

b. **pesa z-a Núuru/ Ø-khirilo ki-zi-ruudá**
money that Nuuru/ SP-agree (perf, rel) inf-OP-return
'the money that Nuuru agreed to return'

c. **n-uzize chi-buku ch-a mw-aaná/ Ø-m-bozelo mw-aa<u>l</u>imú**
SP-buy (perf) book that child/ SP-OP-steal (perf, rel) teacher
'I bought the book that the child stole from the teacher.'

d. **Núuru/ Ø-inenzeze gari ya Háají/ Ø-uziló**
Nuuru/ SP-drive (perf) truck that Haaji/ SP-buy (perf, rel)
'Nuuru drove the truck that Haaji bought.'

The subjects of the pseudo-relative clauses in (4) thus are entirely parallel to those in (5) with regard to their phrasing (and thus can be accounted for in terms of Align-XP R without any necessary reference to focus). While ***naani*** in the sentences in (4) always has default penult accent, this is not necessarily the case with respect to the subject of a true relative clause. In (5c), for instance, the subject has final accent due to the fact that it forms part of a phrase containing a final-accent trigger. Further research is required to see whether it is possible for ***naani*** in subject position of a question to acquire final accent by virtue of being within the scope of a final-accent trigger. We expect that this is likely.

So far we have only looked at the phrasing of the subject of a relative clause when it is not the head. When it is also the head, then the subject immediately precedes the verb, and it may optionally be phrased with the verb or not, with apparently no particular difference in use.

(6)
head phrased with the verb
a. **mu-nthu Ø-ofe<u>t</u>o kh-faka<u>t</u>á/ Ø-na-kh-pumúla**
man SP-be tired (perf, rel) inf-run/ SP-pres-inf-rest
'the man who is tired from running is resting now'

b. **mw-a<u>l</u>imu Ø-bozelo chi-buukú/ ni Huséeni**
teacher SP-steal (perf, rel) book/ is Huseeni
'the teacher who stole the book is Huseeni'

c. **mu-nthu Ø-na-kh-su̱loowá/ ni úyu**
   person SP-pres-inf-want (pass)/ is this
   'the person who is wanted is this one'

head phrased separately from the verb

d. **ni-m-wene mw-aa̱limú/ Ø-bozelo chi-buku ch-a mw-aaná**
   SP-OP-see (perf) teacher/ SP-steal (perf, rel) book of child
   'I saw the teacher who stole the child's book'

e. **n-ṯhále/ i-̱laziló/ ha-y-rúu̱di/ chi-núme**
   arrow/ SP-leave (perf, rel)/ neg-SP-return/ back
   'an arrow/ that has left/ does not return/ back'

f. **múu-nthu/ Ø-na-kh-su̱loowá/ ni úyu**
   person/ SP-pres-inf-want (pass)/ is this
   'the person/ who is wanted/ is this one'

It remains to be seen how free this variation in phrasing is, but for our present purposes it is just important to point out that in the pseudo-relative case, we have not observed any variation: the subject has always been separated from the pseudo-relative verb. This lack of parallelism between (4) and subject-relativization could conceivably be attributed to the focused nature of ***naani***, but it could be taken instead to be evidence that unlike a true relative, a pseudo-relative is not modifying a head at all. Under that interpretation, the variation in (6) involves an aspect of modification.

Let us now return to the behavior of ***naani***. In the examples in (7), the pseudo-relative verb has a complement (in contrast to (4) above). The pseudo-relative verb, being a final-accent trigger, projects its final accent to the end of the complement.

(7)

a. **náani/ Ø-ilo gowolii=ní**
   who/ SP-come (perf, rel) meeting=loc
   'who/ came to the meeting?'

b. **náani/ Ø-tumi̱la Mkhodiishó**
   who/ SP-send (perf, pass, rel) Mogadisho
   'who/ was sent to Mogadisho?'

c. **náani/ Ø-uzilo chi-buukú**
    who/ SP-buy (perf, rel) book
    'who bought the book?'

d. **náani/ Ø-fuziloo n-guwó**
    who/ SP-wash (perf, rel) clothes
    'who washed clothes?'

e. **náani/ Ø-vunzilo m-laangó**
    who/ SP-break (perf, rel) door
    'who broke down the door?'

f. **náani/ h-a-t̲orat̲i chii-nthú**
    who/ neg-SP-be able thing
    'who is not able to do anything?'

g. **náani/ Ø-na-kh-sul̲o k-ula chi-t̲a ch-a n-goombé**
    who/ SP-pres-inf-want (perf, rel) inf-buy head of cow
    'who wants to buy the head of a cow?'

These examples illustrate first of all that a pseudo-relative verb behaves like any other verb in that it does not necessarily occur at the end of a PP. Second, these examples illustrate the general fact that when a verb triggers final accent, this accent does not occur necessarily on the verb but rather at the end of the phonological phrase that contains the verb.

In the examples in (8), the pseudo-relative verb is followed by two XP's. In these examples, *naani* is the subject of the verb and stands in PP-final position because it is at the end of an XP (and possibly also because it is [+Foc], but this has not yet been conclusively established). The verb, not being focused, is joined together with its immediately following complement into a phrase as a consequence of the Align-XP R principle. The second complement forms its own phrase as a consequence of Align-XP R as well. The final accent of the verb occurs at the end of each PP.

(8)

a. **náani/ Ø-pel̲a chibuukú/ na mwaal̲imú**
    who/ SP-give (perf, pass, rel) book/ by teacher
    'who was given a book by the teacher?'

b.   **náani/ Ø-l̲a̲t̲ilo i-ji-wé/ ch-olokoo=ní**
who/ SP-throw (perf, rel) stone/ window=loc
'who threw a stone at the window?'

c.   **náani/ Ø-weshelo zi-buukú/ n̲t̲hini y-a meezá**
who/ SP-put (perf, rel) books/ under of table
'who put the books under the table?'

d.   **náani/ Ø-m-bozelo mw-aal̲i̲mú/ chi-buukú**
who/ SP-OP-steal (perf, rel) teacher/ book
'who stole from the teacher a book?'

e.   **náani/ Ø-m-t̲indil̲i̲l̲o mw-aaná/ n̲amá**
who/ SP-OP-cut (perf, rel) child/ meat
'who cut for the child meat?'

The pseudo-relative verb phrases in (8) reveal the same phrasing as in non-relative verb phrase, as shown in (9). Specifically, there is a phrase break between the first and second complement to the verb. Of course, in non-relative sentences, the accent is default accent unless the verb is a final-accent trigger.

(9)
a.   **Omári/ Ø-pel̲a chibúuku/ na mwaal̲ímu**
Omari/ SP-give (perf, pass) book/ by teacher
'Omari was given a book by the teacher.'

b.   **mw-áana/ Ø-l̲a̲t̲ile i-jí-we/ ch-olokóo=ni**
child/ SP-throw (perf) stone/ window=loc
'The child/ threw a stone/ at the window.'

c.   **Hamádi/ Ø-weshele zi-búuku/ n̲t̲hini y-a méeza**
Hamadi/ SP-put (perf) books/ under of table
'Hamadi put the books under the table.'

d.   **ni-m-t̲indil̲i̲le mw-aaná/ n̲amá**
SP-OP-cut for (perf) child/ meat
'I cut meat for the child.'

However, there is one significant fact about the accent in non-relative verb phrases that must be discussed. Specifically, if the verb or some VP-internal

complement is focused, then final accent does not project past the focused element.

(10)

 a.   no focus: **ni-m-bozele mw-aaná/ chi-buukú**

                 SP-OP-steal (perf) child/ book

                 'I stole from the child/ a book'

b.   verb focus: **ni-m-boozelé/ mw-áana/ chi-búuku**

                 SP-OP-steal (perf)/ child/ book

                 'I *stole* from the child a book'

c.   focus *mw-aana*   **ni-m-bozele mw-aaná/ chi-búuku**

                 SP-OP-steal (perf) child/ book

These data illustrate what we call the ACCENTUAL LAW OF FOCUS:

(11) ACCENTUAL LAW OF FOCUS

    A focused element does not allow the projection of final accent across it.

In (10b) the verb is focused and thus final accent resides on the verb and not on either of the following complements. In (10c) it is the first complement that is focused, and thus final accent resides on it and not on the second complement. In contrast, there is no focus in (10a) and thus final accent occurs at the end of both complements.

    These data raise two significant questions. What is the formal analysis of why final accent appears at the end of both phrases in (10a)? And what is the formal analysis of the Accentual Law of Focus? Why is it the case that when there is focus the final accent is not extended further? We have suggested elsewhere (see, for example, Kisseberth and Abasheikh (in press)) an account that uses a more complex phrasing structure (specifically, recursive phrasing) and a reformulated ALIGN-FOC R constraint to predict these accentual facts. Discussion of this analysis is beyond the immediate concerns of this paper.

    Having seen how the Accentual Law of Focus works in non-relative clauses, let us turn to the case of pseudo-relativization (as seen in ***naani*** questions).

    The pseudo-relative verb may be focused, in which case it is at the end of a PP.

(12)

a. **náani/ Ø-someeló/ chi-búuku**
    who/ SP-read (perf, rel)/ book
    'who/ *read/* the book?'
    (cf., without focus, **náani/ Ø-somelo chibuukú** 'who read the book?')

b. **náani/ Ø-uziló/ chi-búuku**
    who/ SP-buy (perf,rel) book
    'who/ *bought/* the book?'
    (cf., without focus, **náani/ Ø-uzilo chibuukú** 'who bought the book?')

c. **náani/ Ø-ṭa-k-uuló/ faṭuura**
    who/ SP-fut-inf-buy (rel)/ car
    'who/ will *buy/* a car?'
    (cf., without focus, **náani/ ṭa-k-ulo faṭuurá** 'who will buy a car?')

d. **náani/ Ø-tumiiḻá/ Mkhodíisho**
    who/ SP-send (perf, pass, rel)
    'who was *sent* to Mogadisho?'
    (cf., without focus, **náani/ tumiḻa Mkhodiishó**
                         'who was sent to Mogadisho?')

What we see from these data is that when the verb is focused, it remains a final accent trigger, but the complement is outside the scope of the final accent. A pronunciation like ***náani/ Ø-ṭa-k-uuló/ faṭuurá** 'who/ *bought/* a car?' is apparently not acceptable, at least in the typical intonation (there seem to be intonational uses of a shift to final accent that we do not at present entirely understand, thus we hesitate to say categorically that final accent is impossible).

From (12), we can conclude that the pseudo-relativized verb is controlled by the ACCENTUAL LAW OF FOCUS. This contrasts, however, with the behavior of a true relative clause, where even in the presence of verb focus, the entire relative clause is in the scope of the final accent.

(13)

a. **mw-áana/ Ø-uziizó/ chi-buukú**
    child/ SP-sell (perf, rel)/ book
    'the child who sold a book'

b. **múu-nthu/ Ø-m-weenó/ mw-iizí**
    person/ SP-OP-see (perf, rel)/ thief
    'the person who saw the thief'

c. **mu-ke nth-a-m-fu<u>li</u>lá/ mw-aaná/ n-guwó/ ni Haliima**
    woman neg-SP-OP-wash for (perf, rel)/ child/ clothes/ is Haliima
    'The woman who did not wash for the child clothes is Haliima.'

The difference between (12) and (13) indicates that there must be a difference between pseudo-relative clauses and true relative clauses. We believe that the analysis of this difference may revolve around true relative clauses ranking ALIGN-FOCR below the constraint WRAP-XP (a constraint suggested in Truckenbrodt (1999) that plays a critical role in our account of the Accentual Law of Focus), while pseudo-relative clauses and non-relative clauses have the opposite ranking. This is speculative, however, and outside the scope of this paper.

So far, all of our examples have involved ***naani*** being located in pre-verbal position without any other pre-verbal elements. But it is possible for more complex structures to occur.

(14) **náani/ m-láango/ Ø-fungiiló**
    who/ door/ SP-open (perf, rel)
    'who opened the door?'

In this example, ***naani*** is again at the end of a PP both because it is an XP (and perhaps also because is is [+Foc]). It is followed by a preposed complement, which is an XP and thus forms a PP. The verb is also an XP and forms a PP. The verb is in pseudo-relative form. No special comment is required.

In the preceding examples, ***naani*** functions as the subject of the verb and occupies a pre-verbal position. It is not the case, however, that it is only when ***naani*** is a preverbal *subject* that we get the pseudo-relative form of the verb. Consider the following example:

(15)
a. **chi-buku ch-a náani/ Ø-peetó**
    book of who/ SP-find (perf, rel)
    'whose book did you find?'

b. **náani/ w-a Omári/ Ø-m-bozelo chi-buukú**
    who/ that Omari/ SP-OP-steal (perf, rel) book
    'who was it that Omari stole a book from?'

In (15a), the object ***chi-buku ch-a naani*** is preposed to sentence-initial position. The verb is in pseudo-relative form. In (15b), the question word ***naani*** is

questioning a complement of the verb, but it has been preposed to sentence-initial position. In this position, it requires the same morphology as does a true relative clause whose head is not the subject. Specifically, ***naani*** is linked by the ***AG-a*** particle to the subject of the verb. Given this pattern, then examples like (15b) support the analysis that ***naani*** is a [+Foc] element. Ordinarily, as shown in (5) above, the non-subject head of a relative groups phrasally with the ***AG-a NP*** structure. But in (15b), ***naani*** does not group with ***w-a Omari***. If this is indeed a necessary aspect of the behavior of ***naani***, as we believe, then we have clear evidence that ***naani*** is focused.

When ***naani*** is post-verbal and not a subject, the verb is not in the pseudo-relative form.

(16)

a. **chi-buku íchi/ n-chha náani**
   book this/ is-of who
   'this book is whose?'

b. **Múusa/ Ø-m-bozele náani/ chi-búuku**
   Muusa/ SP-OP-steal (perf) who/ book
   'Muusa stole from whom the book?'

c. **Jáama/ Ø-m-ṯindiḻiḻe náani/ náma**
   Jaama/ SP-OP-cut for (perf) who/ meat
   'for whom did Jaama cut meat?'

d. **Ø-m-bigiḻiḻe naaní/ ḻúti**
   SP-OP-hit with who/ stick
   'whom did you hit with the stick?'

e. **yé/ nth-a-ku-letela náani/ chi-búuku**
   he/ neg-SP-inf-bring-to who/ book
   'to whom did he not bring a book?'

f. **Omári/ Ø-m-patiḻiḻe náani/ gáari**
   Omari/ SP-OP-get for (perf) who/ car
   'whom did Ali get a car for?'

These data help to sort out the conditions under which the question word ***naani*** triggers pseudo-relativization. But (16d) also helps us to establish clearly that ***naani*** is [+Foc]. In (16d), the subject is second person singular and thus a final-accent trigger. This final accent appears on ***naani***, as it would appear on any

complement to the verb as long as the verb itself is not focused. However, the final accent does not occur on the second complement – *Ø-**m-bigi̱li̱le naaní/ lutí** – as would be expected if *naani* were not focused. Recall that the final accent triggered by a verb ordinarily extends to the final word in each PP in the verb phrase; the only thing that prevents this is a VP-internal focused element. Such elements, at least in non-relative clauses, serves to block the projection of the final accent onto elements to its right. As discussed earlier, we refer to this as the Accentual Law of Focus.

Having established that ***naani*** is focused, let us return to the issue of ***naani*** and the conditions under which it induces pseudo-relativization. We have seen that ***naani*** when pre-verbal triggers pseudo-relativization regardless of whether it is functioning as a subject or an object of the verb. We have also seen that when post-verbal and functioning as an object, ***naani*** does not trigger pseudo-relativization. The question that arises is what happens if ***naani*** is both post-verbal and also functioning as the subject of the verb? We do not presently have much data on this point, but the examples that we do have indicate that the verb is not shifted to a pseudo-relative form.

(17)

a. **Ø-wa-piki̱li̱la náani/ máangi**
    SP-OP-cook for (perf, pass) who/ ***maangi***'
    '**who (pl.) was cooked *maangi* for?**'

b. **Ø-talishiza náani/ zi-búuku**
    SP-make to take (perf, pass) who/ books
    '**who was made to take books?**'

c. **Ø-tumi̱la náani/ Mkhodíisho**
    SP-send (perf, pass) who/ Mogadisho
    'who was sent to Mogadisho?'

In (17), the postposed ***naani*** is phrasally grouped with the verb. Our consultant did not accept the case where a postposed ***naani*** is separated phrasally from the preceding verb: *****Tumíi̱la/ náani/ Mkhodíisho.** In our data from statements as opposed to questions, we also found that a subject that is postposed to a passive verb is ordinarily phrased with the passive verb. Although the postposing of a subject is by no means confined to passive verbs, it is well attested there in our materials.

We see in (17) that when the question word **naani** is post-verbal but is also the subject of the verb, it does not trigger the pseudo-relative form of the verb: *****Ø-talishiza naaní/ zibúuku**. Pseudo-relativization in these examples would be

signaled by final accent only, due to the fact that a passive verb in the relative form does not change its final vowel to *-o* but rather appears as it would in the corresponding non-relative version, here *-a.* (It should be noted that an active verb in the perfect has *-e* as its final vowel while the passive has *-a*.)

We can conclude from the discussion in this section, that pseudo-relativization of the verb is dependent entirely on whether **naani** is located before the verb or after the verb. We have also cited one data type, involving the ACCENTUAL LAW OF FOCUS, that supports the view that **naani** is [+Foc].

3.2 *Gani*-questions

The next question word that we will examine is **gani** 'which'. When **gani** modifies a pre-verbal NP, the verb is put in the pseudo-relative form. The modified noun may be the subject of the sentence, as in (18).

(18)
a. **chi-buku gáni/ chi-beeló**
   book which/ SP-be lost (perf, rel)
   'which book is lost?'

b. **w-ana gáni/ w-a Núuru/ wa-'olosheló**
   children which/ of Nuuru/ SP-go (perf, rel)
   'which children of Nuuru's went?'

We see that in each example, the verb is in a pseudo-relative form (indicated by the final vowel *-o* and by the final accent). We also see that **gani** is phrase-final (though it is perhaps worth noting that **gani** is exceptional in that a **CVCV** word at the end of a phrase ordinarily induces a lengthening of a preceding word-final vowel. The question that arises is whether **gani** is phrase-final merely because it is at the end of a XP or whether it is also phrase-final due to being focused. (18a) does not contribute any evidence with respect to this issue, but (18b) supports the view that **gani** is focused. This example involves questioning inside an associative phrase. The phrase **w-ana w-a Núuru** is regularly parsed into a single phrase, with **w-aana** 'children' grouping with **w-a Nuuru**. But notice in (18b) that **gani** is phrase-final (as indicated by the fact that it receives accent). As far as we know, it cannot be phrase-internal: *__w-ana gani w-a Núuru__. Thus the observed phrasing supports the position that **gani** is [+Foc].

The noun that **gani** modifies may be a preposed complement to the verb:

(19)

a. **chi-buku gáni/ karka z-aa wé/ Ø-uziló/ wé/ Ø-someeló**
book which/ among that you/ SP-buy (perf, rel)/ you/ SP-read (perf, rel)
'which book among those that you bought have you read?'

b. **chi-buku gáni/ Ø-m-pelo m-aaná**
book which/ SP-OP-give (perf, rel) child
'which book did you give the child?'

c. **chi-buku gáni/ Ø-teto nt̲hini y-a meezá**
book which/ SP-take (perf, rel) under of table
'which book did you take from under the table?'

d. **ch-a-kuja gáni/ wé/ Ø-na-kh-suul̲ó**
food which/ you/ SP-pres-inf-want (perf, rel)
'what food is it that you want?'

e. **fat̲ura gáni/ Núuru/ Ø-uziló**
car which/ Nuuru/ SP-buy (perf, rel)
'which car did Nuuru buy?'

f. **gari y-a l̲amna gáni/ wé/ Ø-uziló**
car of kind which/ you/ SP-buy (perf, rel)
'what kind of car did you buy?'

g. **nt̲hini y-a meza gáni/ Ø-weshelo zi-buukú**
under of table which/ SP-put (perf, rel) books
'under which table did you put the books?'

It is possible for the verb to be focused as well and thus be in PP-final position.

(20) **chi-buku gani/ Ø-teetó/ nt̲hini y-a meeza**
book which/ SP-take (perf, rel)/ under of table
'which book did you *take* from under the table?'

Observe that the complement to the focused verb is outside the scope of the final accent-triggering verb. This example suggests again that the pseudo-relative clause is controlled by the ACCENTUAL LAW OF FOCUS.[3] In contrast, the final

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[3]   However, our consultant considered it possible for the accent to be shifted to the final syllable in **nt^hini y-a meeza** for purposes of emphasis. It is not clear, however, whether

accent triggered by a true relative clause always extends to the end of the relative clause, even if the verb is emphasized; i.e. the ACCENTUAL LAW OF FOCUS does not control true relative clauses.

When the NP modified by *gani* is post-verbal and not a subject, then the verb is not switched to the pseudo-relative form.

(21)

a. **Ø-uzile gaarí/ l̲amna ganí**
    SP-buy (perf) car/ kind which
    'you bought what kind of a car?'

b. **maamé/ wáawe/ Ø-sh-fanya kazi gáni**
    my mother/ my father/ SP-cont-do work which
    'mother, what kind of work did my father do?'

c. **n-thile mandra ganí/ Ø-ka-piya m-konó**
    SP-put (perf) bread which/ SP-cond-burn hand
    'what kind of bread did I put (in the fire) that I burned my hand?'

At this point in our research, we can only say that *gani* and *naani* seem to be parallel in that (a) they are focused and (b) they trigger pseudo-relativization only when they are pre-verbal. The verb is in its non-relative shape when *gani* and *naani* are post-verbal. Furthermore, the pseudo-relative verb in both cases respects the ACCENTUAL LAW OF FOCUS.

3.3 *L̲iini*-questions

The third question word is *l̲iini* 'when'. Once again, in pre-verbal position, *l̲iini* requires pseudo-relativization.

(22)

a. **Omári/ l̲íini/ Ø-iló**
    Omari/ when/ SP-come (perf, rel)
    'Omari, when did he come?'
            (Or: **l̲íini/ Omári/ Ø-iló** 'ibid.')

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such examples represent an actual violation of the ACCENTUAL LAW OF FOCUS or whether a special assignment of final accent is involved. Only further research will resolve this issue.

b. **l̠íini/ n-jiiló**
   when/ SP-eat (perf, rel)
   'when did I eat?'

c. **l̠íini/ Omári/ Ø-iló**
   when/ Omari/ SP-come (perf, rel)
   'when did Omari come?'
        Or: **Omári/ l̠íini/ Ø-iló.**

d. **l̠íini/ n-t̠ha-k-eendró**
   when/ SP-fut-inf-go (rel)
   'when will I be going?'

e. **l̠íini/ Ø-olosheló**
   when/ SP-go (perf, rel)
   'when did he go?'

f. **l̠íini/ Hal̠íima/ Ø-pishiloo zi-jó**
   when/ Haliima/ SP-cook (perf, rel) *zijo*
   'when did Haliima cook *zi-jo*?'

g. **l̠íini/ ma-pol̠íisi/ wa-m-shishilo m-iizí**
   when/ police/ SP-OP-catch (perf, rel) thief
   'when did the police catch the thief?'

h. **l̠íini/ Súufi/ Ø-l̠at̠ilo i-ji-wé/ ch-olokoo=ní**
   when/ Suufi/ SP-throw (perf, rel) stone/ window=loc
   'when did **Suufi** throw a stone at the window?'

i. **l̠íini/ Faat̠ima/ Ø-fuziloo n-guwó**
   when/ SP-wash (perf, rel) clothes
   'when did Faatima wash clothes?'

j. **l̠íini/ maskíini/ Ø-bozelo peesá**
   when/ poor man/ SP-steal (perf, rel) money
   'when did the poor man steal money?'

k. **l̠íini/ yé/ h-a-t̠a-kh-fanya kaazí**
   when/ he/ neg-SP-fut-inf-do work
   'when won't he work?'

l. **l̠íini/ Hasáni/ Ø-uzilo faturaa mphiyá**
   when/ Hasani/ SP-buy (perf, rel) car new
   'when did Hasani buy a new car?'

m. **l̠íini/ Núuru/ Ø-uzilo gaarí**
   when/ Nuuru/ SP-buy (perf, rel) car
   'when did Ali buy a car?'

(Observe that although a negative verb is in the default case phrase-final, the pseudo-relative context here puts the complement into the same phrase as the negative verb. This is a general fact: a negative verb in a relative clause is not necessarily phrase-final.)

   If *l̠iini* is post-verbal, the verb is not put into pseudo-relative form.

(23)
a. **Ø-oloshele l̠íini**
   SP-go (perf) when
   'when did he go?'

b. **Omári/ Ø-ile l̠íini**
   Omari/ SP-come (perf) when
   'when did Omari come?'

c. **Ø-andishile l̠iiní/ kháṯi**
   SP-write (perf) when/ letter
   'when did you write a letter?'

d. **Ø-na-k-endra l̠iiní/ Mkhodiisho**
   SP-pres-inf-go when/ Mogadisho
   'when are you going to Mogadisho?'

e. **n-jile l̠iiní**
   SP-eat (perf) when
   'when did I eat?'
      (cf. Ø-**jile l̠iiní** 'when did you eat?' Ø-**jile l̠íini** 'when did he eat?')

f. **Muusa/ Ø-khu-wene l̠íini**
   Muusa/ SP-OP-see (perf) when
   'when did Muusa see you?'– i.e. 'Muusa did not see you'

g.   **wé/ Ø-uzile gaarí/ l̲iiní**
    you/ SP-buy (perf) car/ when
    'when did you buy a car?'
          Or: **wé/ uzile l̲iiní/ gáari**

h.   **Núuru/ Ø-uzile l̲íini/ gáari**
    Nuuru/ SP-buy (perf) when/ car
    'Nuuru/ bought when/ a car?'
          (Or: **Núuru/ Ø-uzile gáari/ l̲íini** 'ibid.'
          Or: **Núuru/ gáari/ uzile l̲íini** 'ibid.'
          Or: **Gáari/ Núuru/ Ø-uzile l̲íini** 'ibid.')

When pre-verbal, **l̲iini** triggers pseudo-relativization, but not when post-verbal. It is ungrammatical to say: *****Ali/ ilo l̲iiní.** Observe that **l̲iini**, when located immediately after a verb, phrases with the verb. The examples (23c,d,g) show that **l̲iini** is [+Foc], since it triggers the ACCENTUAL LAW OF FOCUS and blocks final accent from projecting past it. While it is correct that *****wé/ Ø-uzile l̲iiní/ gaarí** is unacceptable as an ordinary question, a final accent on **gaari** is possible if the speaker is seeking confirmation, e.g. that he heard correctly. (See our discussion of exclamatory yes-no questions below.)

When **l̲iini** follows a complement to the verb, it is phrasally separated from that complement (23g,h).

3.4   *Nini*-questions

The last question word is **nini** 'what'. As we will see below, there is also an enclitic alternative to **nini**. **nini** only occurs in pre-verbal position and it triggers pseudo-relativization. In the following examples, it questions the subject of the verb.

(24)
a.   **níni/ i-vundishiló**
    what/ SP-break (perf, rel)
    '**'what broke?'**

b.   **níni/ i-po̲teeló**
    what/ SP-fall (perf, rel)
    'what fell?'

c. **níni/ i-khu-peetó/ wé**
what/ SP-OP-get (perf, rel) you
'what happened to you?'

d. **níni/ ma'anaye**
what/ its meaning
'what is the meaning (of what you said)?'

e. **n-chhi-wa n-nazo peesá/ nini/ i-ṯa-ku-n-drebo k-ula gaarí**
SP-cond-be SP-have money/ what/ SP-fut-inf-OP-stop inf-buy car
'if I have the money, what is it that will prevent me from buying a car?'

The data in (24), with the exception of (24d), show that ***nini*** triggers pseudo-relativization of the verb. The example (24d) involves a zero form of the copula, thus there is no verb that can be put into a pseudo-relative form.

If ***nini*** questions the complement of the verb and is located in initial position, then it requires an ***-a*** link between it and the subject of the verb. The verb is in a pseudo-relative form.

(25)
a. **níni/ y-aa wé/ Ø-ṯukiiló**
what/ that you/ SP-carry (perf, rel)
'what are you carrying?'

b. **níni/ y-a Omári/ Ø-m-bozelo mw-aaḻimú**
what/ that Omari/ SP-OP-steal (perf, rel) teacher
'what is it that Omari stole from the teacher?'

Observe that ***nini*** is separated phrasally from the ***AG-a*** element that separates it from the subject of the verb. This phrasing suggests that ***nini*** is focused, since normally the element that is linked by the ***AG-a*** to what follows forms a single phonological phrase (or at least may form such a phrase).

The question word ***nini*** may not be used in post-verbal position. For example, *****wé/ Ø-ṯukilee niní** or **wé/ Ø-ṯukiilé/ níni** are unacceptable. This limitation on ***nini*** leads us to a consideration of one of the enclitics used to form questions.

3.5 *Ni-enclitic*

One can asks the identity of an inanimate noun by cliticizing ***=ni*** to the verb. In the following examples, the encliticized verb is final in the VP and thus would

be expected to be PP-final as a consequence of Align-XP R. We thus cannot glean from these examples any evidence that the encliticized verb is a [+Foc] element.

(26)
a. **y-uzíiza=ni**
   SP-sell (perf, pass)
   'what was sold'

   > Possible answers:
   > **y-uziza chi-búuku** 'a book was sold' ([cl.9] subject agreement)
   > or **ch-uziza chi-búuku** 'a book was sold' ([cl.7] subject agreement)

b. **Núuru/ Ø-bozelé=ni**
   Nuuru/ SP-steal (perf)=what
   'what did Nuuru steal?'

c. **n-faanye=ní**
   SP-do=what
   'what shall I do?'

d. **Jáama/ Ø-na-kh-fadhilá=ni**
   Jaama/ SP-pres-inf-prefer=what
   'what does Jaama prefer?'

e. **Jaama/ hu-kaha̲ta=ni**
   Jaama/ hab-dislike=what
   'what does Jaama dislike?'

f. **we/ Ø-t̲ukiile=ní**
   you/ SP-carry (perf)=what
   'what are you carrying?'

g. **we/ Ø-na-kh-suul̲a=ní**
   you/ SP-pres-inf-want=what
   'what do you want?'

h. **Ø-ile ku-meera=ní**
   SP-come (perf) inf-look for=what
   'you came looking for what?'

But what happens when the verb is followed by another word? The examples in (27) illustrate the case where the following word is a postposed subject.

(27)
a. **m-bozele=ní/ mí**
   SP-steal (perf)=what/ I
   'what did I steal?'

b. **Ø-bozelé=ni/ Núuru**
   SP-steal (perf)=what/ Nuuru
   'what did he steal, Nuuru?' (***bozele=ni Núuru** 'ibid.')

c. **wa-talishiizá=ni/ w-áana**
   SP-make take (perf, pass)=what/ children
   'what were they made to take, the children?'

d. **Ø-hadiilé=ni/ sul̲t̲áani**
   SP-say (perf)=what/ sultan
   'what did the sultan say?'

e. **Ø-fuzilé=ni/ Faat̲íma**
   SP-wash (perf)=what/ Faatima
   'what did Faatima wash?'
      A possible answer:
      Ø-fuzilee n-gúwo/ Faat̲íma 'washed clothes, Faatima'

f. **Ø-bozelé=ni/ maskíini**
   SP-steal (perf)=what/ poor man
   'what did the poor man steal?'
      A possible answer:
      Ø-bozele péesa/ maskíini 'stole money, the poor man'

g. **Ø-fungiilé=ni/ m-íizi**
   SP-open (perf)=what/ thief
   'what did he open, the thief?'
      A possible answer:
      Ø-fungile m-láango/ m-íizi 'opened the door, the thief'

These data show that the verb is in phrase-final position. If one could argue that the postposed subject is not part of the verb phrase, then one could argue that Align-XP R is responsible for the phrase edge at the end of the encliticized verb.

This is a somewhat dubious claim, however, as there are examples showing that a subject postposed to the verb may be followed by other VP elements. Thus it seems more likely that the enclitic is [+Foc] and as a consequence of ALIGN-FOCUS R, the verb is in phrase-final position.

Even stronger evidence for this claim comes from cases where the encliticized verb is followed by a complement.

(28)
a. **Ø-m-peele=ní/ Núuru**
SP-OP-give (perf)=what/ Nuuru
'you gave what to Nuuru?'

b. **Núuru/ Ø-m-bozelé=ni/ m-áana**
Nuuru/ SP-OP-steal (perf)=what/ child
'what did Nuuru steal from the child?'
(***Nuuru/ Ø-m-bozele=ni mw-áana**,
where ***mw-aana*** is joined into a phrase with the verb).

c. **Omári/ Ø-m-bozéle=ni/ mw-aalímu**
Omari/ SP-OP-steal (perf)=what/ teacher
'what did Omari steal from the teacher?'

d. **Ø-ṯinzile=ní/ kaa chí-su**
SP-cut (perf)=what/ with knife
'what did you cut with a knife?'
       (Or: **kaa chí-su/ Ø-ṯinzile=ní**)

e. **Ø-teete=ní/ nṯhini y-a méeza**
SP-take (perf)=what/ under of table
'what did you take from under the table?'

f. **Hamádi/ Ø-patiḻiiḻé=ni/ gáari**
Hamadi/ SP-get for (perf)=what/ car
'what did Hamadi get for the car?'

g. **Súufi/ Ø-m-patiḻiiḻé=ni/ Núuru**
Suufi/ SP-OP-get for (perf=what/ Nuuru
'what did Suufi get for Nuuru?'

In each of these examples, we see that the encliticized verb is phrasally separated from a following complement. When the verb is a final-accent trigger,

as in (18a,d,e), we see that the final accent does not project past the enclitic. These data confirm the [+Foc] nature of the enclitic.

While *=ni* is typically encliticized to the verb of which it is an argument, when this verb is in a sentential complement, it is possible for the *=ni* to be raised to the higher verb.

(29)

a.   **wé/ Ø-hadile kuwa i-vundishile=ní**
     you/ SP-say (perf) that SP-break (perf)=what
     'what did you say broke?'

but also:

b.   **wé/ Ø-hadiile=ní/ kuwa i-vundishíle**
     you/ SP-say=what/ that SP-broke (perf)
     'what did you say that it broke?'

c.   **wé/ Ø-na-kh-ṯosha (kuwa) Nuurú/ Ø-bozele=ní**
     you/ SP-pres-inf-think (that) Nuuru/ SP-steal (perf)=what
     'you thought that Nuuru stole what?'

but also:

d.   **wé/ Ø-na-kh-ṯosha=ní/ kuwa Núuru/ Ø-boozéle**
     you/ SP-pres-inf-think=what/ that Nuuru/ SP-steal (perf)
     'what did you think that Nuuru stole?'

When the *=ni* remains on the lower verb, we have essentially an echo-type question. The sentence with the *=ni* raised to the higher verb is a simple question. When the enclitic is raised to the higher verb, it is obvious that the verb is phrase-final and the Accentual Law of Focus comes into play. The (b) and (d) sentences show that the sentential complement is not within the scope of final accent, in contrast with the (a) and (c) sentences. In none of the examples illustrated is the verb placed in a pseudo-relative form.

The *=ni* is not necessarily encliticized to a verb. In the following example it is encliticized to the associative marker:

(30) **nṯhini y-a=ni/ Ø-weshelo zi-buukú**
     under of=what/ SP-put (perf,rel) books
     'under what did you put the books?'

Here we see a couple crucial points. First of all, the enclitic does not behave like a monosyllabic word (e.g. a pronoun). If it did, the vowel in the associative particle *y-a* would be lengthened. But we also have to explain why *y-a=ni* does not lengthen a preceding word-final vowel. Recall the discussion of *gani* earlier

for similar behavior. The second point that needs to be mentioned is that since **y-a=ni** is in pre-verbal position, the following verb is put into the pseudo-relative form.

The **=ni** may also be cliticized to the preposition **ka** to ask the question, 'with/by what' In pre-verbal position, the verb is in the pseudo-relative form.

(31)

a. **Hamádi/ ká=ni/ Ø-oloshelo Mkhodiishó**
    Hamadi/ by=what/ SP-go (perf,rel) Mogadisho
    'by what means did Hamadi go to Mogadisho?'

b. **ká=ni/ wé/ Ø-oloshelo Mkhodiishó**
    by=what/ you/ SP-go (perf,rel) Mogadisho
    'by what means did you go to Mogadisho?'

c. **ká=ni/ Ø-ṯinziloo <u>namá</u>**
    with=what/ SP-cut (perf, rel) meat
    'with what did you cut the meat?'

But in post-verbal position, **ka=ni** does not trigger pseudo-relativization.

(32)

a. **Ø-ṯinzile ka=ní/ <u>náma</u>**
    SP-cut (perf) with=what/ meat
    'what did you cut the meat with?'
        Or: **<u>náma</u>/ Ø-ṯinzile ka=ní**

b. **Ø-uzile ká=ni**
    SP-buy (perf) with=what
    'what did he buy it with?'

c. **wé/ Ø-oloshele ka=ní/ Mkhodíisho**
    you/ SP-go (perf) by=what/ Mogadisho
    'you went by what means to Mogadisho?'

d. **wé/ Ø-oloshele Mkhodiishó/ ká=ni**
    you/ SP-go (perf) Mogadisho/ by=what
    'you went to Mogadisho by what means?'

e. **yé/ Ø-oloshele ká=ni/ Mkhoodisho**
    he/ SP-go (perf) by=what/ Mogadisho
    'he went by what means to Mogadisho?'
          Or: **yé/ Ø-oloshele Mkhoodísho/ ká=ni**

f. **Omári/ Ø-m-finishile mw-áana/ ká=ni**
    Omari/ SP-OP-cover (perf) child/ with=what
    'Omari covered the child with what?'

In (32b), the second person past tense form triggers final accent; however, the scope of the final accent cannot go past the focus element **ka=ni**. This explains why **Mkhodiisho** has default rather than final accent.

In (32d), notice that *ka=ni* is not in the scope of the final accent of the verb. In Chimiini, immediate post-verbal position is the focus position for a verb complement. In (32d), the noun **Mkhodiisho** is focused and this focus triggers the Accentual Law of Focus, explaining why **ka=ni** is not included in the scope of the final accent triggered by the second person past tense verb.

The *=ni* may be encliticized to *ka khisa* to form the expression 'why; for what reason':

(33)

a. **ka khísa=ni/ Súufi/ Ø-l̲a̲tilo i-ji-wé/ ch-olokoo=ní**
    for reason=what/ Suufi/ SP-throw (perf, rel) stone/ window=loc
    'why did Suufi throw a stone/ at the window?'

b. **Núuru/ nth-a-ku-ya ka khisá=ni**
    Nuuru/ neg-SP-inf-come for reason=what
    'why didn't Nuuru come?'

Again, we see that in pre-verbal position, pseudo-relativization is triggered, but not in post-verbal position.

3.6 *Pi*-enclitic

In addition to the *=ni* enclitic, there is also an enclitic *=pi* 'where' which is attached to the verb. This enclitic puts the verb in PP-final position; we take this to be evidence that *=pi* is [+Foc].

In the examples in (34), the verb is final in the VP (i.e. there are no complements) and thus the PP-final position of the verb is not necessarily attributed to the [+Foc] nature of the enclitic.

(34)

a. **Ø-na-k-eendra=pí**
SP-pres-inf-go=where
'where are you going?'

b. **ndó/ ni-m-la̱t̲iile=pí**
come/ SP-OP-throw (perf)=where
'come, where have you (pl.) thrown him?'

c. **n-faanye=pí**
SP-do=where
'where shall I do it?'

d. **n-t̲ha-kh-patá=pi**
SP-fut-inf-get=where
'where will I get it?'

e. **Ø-m-weene=pí**
SP-OP-see (perf)=where
'where did you see him?'
    (An appropriate answer: **ni-mw-ene wowii=ní** 'I saw him in the river'.)

In (35), however, the verb has a complement, but in the presence of the enclitic, the complement is not phrased with the verb.

(35)

a. **Ø-weshele=pí/ zi-búuku**
SP-put (perf)=where/ books
'where did you put the books?'

b. **Ø-weshelé=pi/ zi-búuku**
SP-put (perf)=where/ books
'where did he put the books?'

c. **n-faanye=pí/ káazi**
SP-do=where/ work
'where shall I work?'

d.   **n-t̲ha-m-patá=pi/ nyúnyi/ mw-iingíne/ kama úyu**
     SP-fut-OP-get=where/ bird/ another/ like this
     'where will I get another bird like this one?'

In these two examples, we see that the enclitic **=pi** does not have any inherent accentual character. The verb form has final accent in the first example because the second person singular past tense verb is a final-accent trigger; in the second example, accent is penultimate since a third person past tense form has default accent. We know that the encliticized verb is the focus of the sentence because the complement **zi-buuku** stands in a separate phrase and is outside the scope of the final accent of the verb due to the Accentual Law of Focus which requires elements to the right of the focused verb to be outside the influence of the verb when it is a final accent-trigger.

In the following example, the encliticized verb is followed by a postposed subject. Once again, the verb is necessarily at the end of a phonological phrase due to the [+Foc] nature of the enclitic.

(36) **mbóna/ Ø-l̲azilé=pi/ maskíini**
     say/ SP-come from (perf)=where/ poor man
     'say, where did he come from, the poor man?'

The **=pi** enclitic does not trigger pseudo-relativization, presumably due to the fact that we have only observed it encliticized to the verb and thus it never occurs in the preverbal position that triggers pseudo-relativization.

3.7   *Yi*-enclitic

The next interrogative enclitic we will discuss is **=yi** 'how'. This enclitic is appended to the verb and due to its [+Foc] nature, places the verb in phrase-final position. It also lengthens the vowel in front of it. This lengthening is not a unique property of the **=yi** enclitic. Two of the enclitics with the shape **=ni** (locative and plural marker in the imperative) also lengthen a preceding vowel.

In the examples in (37), **=yi** is appended to a verb that is located at the end of a VP, i.e. has no complement following it.

(37)
a.   **chi-néema/ chi-walikóo=yi**
     movie/ SP-was=how
     'how was the movie?'

b. **Ø-fanyizée=yi**
    SP-do (perf)=how
    'how did he do it?'
        (cf. **Ø-fanyizee=yí.** 'How did you do it?')

c. **Ø-oloshelée=yi**
    SP-go (perf)=how
    'how did he go?'
        (cf. **Ø-oloshelee=yí.** 'How did you go?')

d. **Ø-panzilee=yí**
    SP-climb (perf)=how
    'how did you climb up?

e. **Ø-ṯa-k-asháa=yi**
    SP-fut-inf-light=how
    'how will he light it?'

When there is a complement to the verb, the [+Focus] nature of the encliticized verb forces the complement to be phrasally separated from the verb.

(38)
a. **Ø-ṯinzilee=yí/ náma**
    SP-cut (perf)=how/ meat
    'how did you cut/ the meat?'

b. **Ø-ṯukilee=yí/ i-juuníya**
    SP-carry (perf)=how/ bag
    'how did you carry the bag?'

c. **Ø-uzilee=yí/ gáari**
    SP-buy (perf)=how/ car
    'how did you buy/ a car?'

d. **waawé/ wé/ Ø-na-kh-fanyaa=yí/ ku-na khámri.**
    my father/ you/ SP-pres-inf-do=how/ inf-drink liquor
    'my father,why are you doing/ drinking liquor?'

We see from these examples that the presence of [+Foc] on the verb precludes a final-accent trigger verb from imposing its final accent on the complement.

The *=yi* enclitic does not trigger pseudo-relativization, presumably due to the fact that we have only observed it encliticized to the verb and thus it never occurs in the preverbal position that triggers pseudo-relativization.

4   Yes-no questions

Yes-no questions preserve the phrasing of their corresponding statements, as far as we can discover at present. As such, they do not contribute anything to the principles of phrasing in Chimwiini. However, any study of phrasing in Chimwiini is a study of the *phonology* of phrases – specifically, the issues of stress (i.e. the realization of vowel length) and accent. While we have not noted yes-no questions having any effect on vowel length, it turns out that they have significant impact on accent. It is this impact that we will explore here.

There are two types of yes-no question with different prosodic properties. One type we refer to as "simple" yes-no questions. They ask whether something did or did not occur. The second type is referred to as "exclamatory": they express surprise that something has or has not occurred, or seek confirmation.

4.1   Simple yes-no questions

Simple yes-no questions are characterized first and foremost by raised pitch in comparison to the corresponding statements. The precise nature of this raising is not a trivial matter, and the two speakers for whom we have data depart to some extent in details. We indicate the raising of simple yes-no questions by writing a superscript ^{Q} in front of sentences of this type.

The sentences in (39) illustrate statements that have no focused element. In the statements, there is what we shall refer to as "downstep" intonation: the initial accent is the peak pitch in the sentence, and each successive accented syllable is lowered in pitch. The simple yes-no question does not exhibit this downstepping, a critical aspect of the Q-raising associated with simple yes-no questions. (We should note that a final accent in Chimwiini typically has a falling character to it, but we do not ordinarily indicate this in our transcription. However, in yes-no questions, this falling character is quite prominent and we have indicated it by using the symbol ˆ above the final vowel of the sentence if it is accented.

(39)

a. **Bázi/Ø-m-pele mw-áana/ khalámu**
Bazi/ SP-OP-give (perf) child/ pen
'Bazi gave the child a pen'
> **ᑫBázi/ Ø-m-pele mw-áana/ khalámu?**
'did Bazi/ give the child/ a pen?'

b. **Núuru/ Ø-pakize gáari/ ma-jíwe**
Nuuru/ SP-load (perf) truck/ stones
'Nuuru loaded the truck with stones.'
> **ᑫNúuru/ pakize gáari/ ma-jíwe?**
did Nuuru/ load the truck/ with stones

c. **mw-aalímu/ Ø-m-andikilile mw-áana/ kháti**
teacher/ SP-OP-write for/to (perf.) child/ letter
'the teacher wrote a letter for/to the child'
> ᑫmw-aalímu/ Ø-m-andikilile mw-áana/ kháti?
'did the teacher write to/for the child/ a letter?'

d. **Háaji/ Ø-m-ulile mw-áana/ m-phúundra**
Haaji/ SP-OP-buy for (perf)/ donkey
'Haaji bought a donkey for the child'
> **ᑫHáaji/ Ø-m-ulile mw-áana/ m-phúundra?**
'did Haaji buy for the child/ a donkey?'

e. **mí/ n-jilee namá**
I/ SP-eat (perf) meat
'I ate meat'
> **ᑫmí/ n-jilee namâ?** 'did I eat meat?'

f. **sí/ chi-m-bozele mw-aalimú/ chi-buku ch-a hisaabú**
we/ SP-OP-steal (perf) teacher/ book of arithmetic
'we stole from teacher an arithmetic book'
> **ᑫsí/ chi-m-bozele mw-aalimú/ chi-buku ch-a hisaabû?**
'did we steal from teacher an arithmetic book?'

In these data, the phrasing in the question is the same as the phrasing in the corresponding statement. Furthermore, the location of the accent in each phrase in the question is the same as the accent location in the statement. Thus, if a phrase has final accent in the statement, as in (39e,f), then it has final accent in the question as well.

If, however, the verb is focused, we get a surprising result. Before looking at the relevant data, we should note that when a word is focused, it is raised in pitch and thus the usual downstep intonation does not hold for this element. We indicate this raised pitch below by locating the symbol **R** at the beginning of the affected phrase. (We did not, of course, indicate this raised pitch earlier in the paper since it was irrelevant to the discussion.)

(40)

a. **yé/ ᴿØ-jíile/ náma**
   he/ SP-eat (perf)/ meat
   'he *ate* meat.'
   ᴼyé/ ᴿØ-jíile/ namâ? 'did he *eat* meat?'

b. **Omári/ ᴿnth-a-kh-póowa/ chi-búuku**
   Omari/ neg-SP-inf-give (pass)/ book
   'Omari was not *given* a book'
   ᴼOmári/ ᴿntH-a-kh-póowa/ chi-buukû? 'was Omari given a book?'

c. **mí/ ᴿn-ṯhiinzilé/ náma/ kaa chí-su**
   I/ SP-cut (perf)/ meat/ with knife
   'I cut the meat with a knife'
   ᴼmí/ ᴿn-ṯHiinzilé/ namá/ kaa chi-sû?
   'did I cut the meat with a knife?'

d. **Hasáni/ ᴿ Ø-furahíile/ kh-pata péesa**
   Hasani/ SP-be pleased (perf)/ inf-get money
   'Hasani was *pleased* to get money'
   ᴼHasáni/ ᴿ Ø-furahíile/ kh-pata peesâ?
   'was(n't) Hasani pleased to get the money?'

What these data clearly show is that the out-of-focus verb complement is assigned final rather than the default penult accent! In the corresponding statements, the out of focus complement always has default accent since the focus on the verb prevents any final accent that the verb might trigger from projecting beyond the verb (due to the Accentual Law of Focus). The yes-no question, thus, completely reverses the tonal shape, putting final accent on the out-of-focus complement. We refer to this phenomenon as accent shift.

When a verb has two complements, and the first complement is focused, then the second complement undergoes accent shift in the yes-no question.

(41) **sí/ ᴿchi-m-bozele m-aa<u>l</u>imú/ chi-buku ch-a hisaabu**
    we/ SP-OP-steal (perf) teacher/ book of arithmetic
    'we stole from the *teacher* an arithmetic book'
        ᵕsí/ ᴿchi-m-bozele mw-aa<u>l</u>imú/ chi-buku ch-a hisaabû?
        'did we steal from the *teacher* an arithmetic book?'

In the statement, the verb is a final accent-trigger and thus a final accent appears at the end of the first complement. However, since the first complement is focused, the final accent may not project past it onto the second complement. However, in the yes-no question, the second complement undergoes accent shift and receives a final H tone.

    When an XP is preposed, however, it is not subject to accent shift in the simple yes-no question, but instead is assigned default accent. This indicates that preposing is not used to put an XP out of focus.

(42)
a.   **wó/ ᴿchi-buku ch-a hisáabu/ wa-m-bozele m-aa<u>l</u>ímu**
    they/ book of arithmetic/ SP-OP-steal (perf) teacher
    'the arithmetic book, they stole it from the teacher'
        ᵕwó/ ᴿchi-buku ch-a hisáabu/ wa-m-bozele m-aa<u>l</u>ímu?
        'did they steal the arithmetic book from the teacher?'

b.   **kaa chí-su/ <u>n</u>áma/ yé/ Ø-<u>t</u>iinzíle**
    with knife/ meat/ ye/ SP-cut (perf)
    'with a knife he cut meat'
        ᵕkaa chí-su/ <u>n</u>áma/ yé/ ᵕ Ø-<u>t</u>iinzíle? 'did he cut meat with a knife?'

When a subject is postposed after a verb, the postposed subject in the yes-no question undergoes accent shift.

(43)
a.   **Ø-léele/ mw-ana w-a Halíima**
    SP-sleep (perf)/ child of Haliima
    'slept, did Halima's child'
        ᵕØ-leele/ mw-ana w-a Haliimâ?

b.   **Ø-<u>t</u>ezéeze/ Núuru**
    SP-play (perf)/ Nuuru
    'played, Nuuru did'
        ᵕØ-<u>t</u>ezéeze/ Nuurû?

In these examples, the postposed subject is phrased separately from the verb and the simple yes-no question shows that it is treated the same as the out-of-focus elements discussed in (40): the accent is shifted to the final syllable.

It is possible for a postposed subject to be phrased with the verb. In this case, the postposed subject is not out-of-focus and does not shift its accent.

(44)

a. **Ø-pe̱la Omári/ chi-búuku**
   SP-give (perf, pass) Omari/ book
   '**Omari was given a book.'
     ^Q**Ø-pe̱la Omári/ chi-buukû?** 'was Omari given a book?'

b. **wa-piki̱li̱la w-áana/ máangi**
   SP-cook for (perf, pass) children/ beans
   'the children had beans cooked for them'
     ^Q**wa-piki̱li̱la w-aana/ maangî?**
     'did the children have beans cooked for them?'

4.2 Exclamatory yes-no questions

The exclamatory yes-no questions show a more extensive shift to final accent than do simple yes-no questions, a shift that is unconnected to focus. The phonetics of these questions is interesting. Like canonically phrased sentences in general, they show a downstep intonation. They differ from statements, however, in certain significant ways. In the speech of Mohammad Imam, they are systematically lower in the pitch register than the corresponding statements. This feature is not so clear in the speech of my current consultant, though he also seems to have special intonational features associated with the exclamatory questions. In any case, both speakers agree in that whereas in statements, a focused element is raised in pitch, this raising disappears in the exclamatory questions. Downstep occurs independently of the presence of focus or emphasis.

A particularly striking feature of exclamatory questions is that the accent is shifted to the final syllable in all phonological phrases in the VP, and also in pre-verbal position (although this seems to be a more variable phenomenon as far as our current understanding goes). Note that we have prefaced the exclamatory questions with a downward-pointing arrow to indicate the downstep intonation, and there is no use of the ^R symbol since raising is not employed.

(45)

a. **mw-ana w-a Halíima/ Ø-íle**
child of Haliima/ SP-come (perf)
'Haliima's child came'
simple yes-no question: ^Q**mw-ana w-a Halíima/ Ø-íle?**
exclamatory yes-no question: [↓]**mw-ana w-a Haliimá/ Ø-ilê!?**

b. **yé/Ø-jilee <u>n</u>áma**
he/ SP-eat (perf) meat
'He ate meat.'
simple yes-no question: ^Q**yé/ Ø-jilee <u>n</u>áma?**
exclamatory yes-no question: [↓]**yé/ Ø-jilee <u>n</u>amâ!?**

c. **Bazi/ Ø-m-pele m-áana/ khalámu**
Bazi/ SP-OP-give (perf) child/ a pen
'Bazi gave the child a pen'
simple yes-no question: ^Q**Bázi/ Ø-m-pele mw-áana/ khalámu?**
exclamatory yes-no question: [↓]**Bázi/ Ø-m-pele mw-aaná/ khalamû!?**

d. **Nuuru/ Ø-pakize gáari/ ma-jíwe**
Nuuru/ SP-load (perf) truck/ stones
'Nuuru loaded the truck with stones.'
simple yes-no question: ^Q**Núuru/ Ø-pakize gáari/ ma-jíwe?**
exclamatory yes-no question: [↓]**Núuru/ Ø-pakize gaarí/ ma-jiwê!?**

e. **Núuru/ Ø-m-bishile mw-ana w-a Halíima**
Nuuru/ SP-OP-beat (perf) child of Haliima
'Nuuru beat Halima's child.'
simple yes-no question: ^Q**Núuru/ m-bishile mw-ana w-a Halíima?**
exclamatory yes-no question: [↓]**Nuurú/ m-bishile mw-ana w-a Haliimâ!?**

If the verb is focused, then subsequent complements have final accent (as in the simple yes-no question), but so does the verb itself (in contrast to the simple yes-no question).

(46)

a. **yé/ ^R Ø-jíile/ <u>n</u>áma**
he/ SP-eat (perf)/ meat
'he *ate* meat'

          simple yes-no question: ^Qyé/ Ø-jíile/ <u>n</u>amâ?

          exclamatory yes-no question: [↓]yé/ Ø-jiilé/ <u>n</u>amâ!?

b.   **yé/ ^R Ø-<u>t</u>iinzíle/ <u>n</u>áma/ kaa chí-su**

    he/ SP-cut (perf)/ meat/ with knife

    'he *cut* meat with a knife'

          simple yes-no question: ^QYé/ ^R Ø-<u>t</u>iinzíle/ <u>n</u>amá/ kaa chi-sû?

          exclamatory yes-no question: [↓]yé/ Ø-<u>t</u>iinzilé/ <u>n</u>amá/ kaa chi-sû!?

A preposed complement shifts its final accent in the exclamatory yes-no question, unlike the simple yes-no question. Of course, the other elements in the sentence also undergo accent shift.

(47)

a.   **wó/ ^Rchi-buku ch-a hisáabu/ wa-m-bozele mw-aa<u>l</u>ímu**

    they/ book of arithmetic/ SP-OP-steal (perf) teacher

    'they stole the arithmetic book from the teacher'

          simple yes-no question: ^Qwó/ chi-buku ch-a hisáabu/ wa-m-bozele

                                     mw-aa<u>l</u>ímu?

          exclamatory yes-no question: [↓]wó/ chi-buku ch-a hisaabú/

                                       wa-m-bozele mw-aa<u>l</u>imû!?

b.   **kaa chí-su/ <u>n</u>áma/ yé/ Ø-<u>t</u>iinzíle**

    with knife/ meat/ he/ SP-cut (perf)

    'with a knife he cut meat'

          simple yes-no question: ^Qkaa chí-su/ <u>n</u>áma/ yé/ Ø-<u>t</u>iinzíle?

          exclamatory yes-no question: [↓]kaa chi-sú/ <u>n</u>amá/ yé/ Ø-<u>t</u>iinzilê!?

A postposed subject in the exclamatory question of course undergoes accent shift, just as does the phrase containing the verb. In contrast, in the simple yes-no question, only the out-of-focus complement undergoes accent shift:

(48)

a.   **Ø-léele/ mw-ana w-a Halíima**

    SP-sleep (perf)/ child of Haliima

    'slept, did Halima's child'

          simple yes-no question: ^Q Ø-léele/ mw-ana w-a Haliimâ?

          exclamatory yes-no question: [↓] Ø-leelé/ mw-ana w-a Haliimâ!?

b. **Ø-ţezéeze/ Núuru**
    SP-play (perf)/ Nuuru
    'played, Nuuru did'
    simple yes-no question: ↓ **Ø-ţezéeze/ Nuurû?**
    exclamatory yes-no question: ↓ **Ø-ţezeezé/ Nuurû!?**

5   Conclusion

In Wh-questions, all question words or enclitics show evidence that they are specified as [+Foc] and trigger application of Align-Foc R. If a question word or enclitic is pre-verbal, it triggers pseudo-relativization of the verb. If the question word or enclitic is post-verbal, then pseudo-relativization does not occur. There are no question words or enclitics in the yes-no questions we considered in section 3, and thus there is nothing to trigger Align-Foc R or pseudo-relativization. Simple yes-no questions show that out-of-focus complements trigger final accent. In exclamatory yes-no questions, the shift to final accent is more general and not restricted to out-of-focus complements. In these cases, accent shift simply signals the exclamatory nature of the question.

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On Relative Clauses and Prosodic Phrasing in Ciwandya

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The interaction between Syntax and Phonology has been one area of interesting empirical research and theoretical debate in recent years, particularly the question of the extent to which syntactic structure influences phonological phrasing. It has generally been observed that the edges of the major syntactic constituents (XPs) tend to coincide with prosodic phrase boundaries thus resulting in XPs like subject NPs, object NPs, Topic NPs, VPs etc. forming separate phonological phrases. Within Optimality Theoretic (OT) accounts, this fact has been attributed to a number of well-motivated general alignment constraints. Studies on relative clauses in Bantu and other languages have significantly contributed to this area of research inquiry where a number of parametric variations have been observed with regard to prosodic phrasing. In some languages, XPs which are heads of relatives form separate phonological phrases while in others they phrase with the relative clauses. This paper makes a contribution to this topic by discussing the phrasing of relatives in Ciwandya (a Bantu language spoken in Malawi and Tanzania). It shows that XPs which are heads of restrictive relative clauses phrase with their relative verbs, regardless of whether they are subjects, objects or other adjuncts. A variety of syntactic constructions are used to illustrate this fact. The discussion also confirms what has been generally observed in other Bantu languages concerning restrictive relatives with clefts and non-restrictive relative clauses. In both cases, the heads of the relatives phrase separately. The paper adopts an OT analysis which has been well articulated and defended in Cheng & Downing (2007, 2010, to appear) Downing & Mtenje (2010, 2011) to account for these phenomena in Ciwandya.

1   Introduction

The study of relative clauses has attracted considerable attention in recent years and a number of theoretical models have been proposed to account for this

phenomenon in several languages (cf. Cheng & Downing 2007, Downing & Mtenje 2010, 2011, Henderson 2006, Cheng & Kula 2006, Kanerva 1990, Morimoto 2007, Morimoto & Downing 2007, Selkirk 2000, Simango 2006, Truckenbrodt 1995, 1999, Zeller 2004 and others). This paper presents a description of the prosodic structure of relative clauses in relation to various syntactic structures in Ciwandya, a Bantu language spoken in Malawi and Tanzania. It is argued that the prosodic phrasing of restrictive relative clauses in this language, like in several other Bantu languages, is determined by syntactic structure. Particularly, it is shown that like in several other languages, restrictive relative clauses are right-bounded by a prosodic phrase break and that XPs which serve as heads of relative clauses, whether as subjects, objects (both direct and indirect), locatives, temporal or other adjuncts are normally phrased together with the relative clause. One major exception to this general pattern is when such XPs occur in non-restrictive relative clauses and in cleft constructions where they are invariably phrased separately from the relative verb. We follow the analyses of the prosodic phrasing of relatives and clefts as proposed by Cheng & Downing (2007, to appear) and Downing & Mtenje (2010, 2011) for Chichewa in accounting for these phenomena.[1]

2   Prosodic and segmental cues of relative clauses

Relative clauses may be distinguished from main clauses by both segmental and prosodic cues. In a number of Bantu languages, for example in Chichewa (spoken in Malawi and other neighbouring countries) and Cinsenga (spoken in Malawi and Zambia), a prosodic feature like tone can distinguish relative clauses from non-relatives. In Chichewa, a relative marker may be omitted and the only distinguishing cue for relativization would be a high tone on the subject prefix of a relative verb as seen in the examples in (1) below (an acute accent shows a high tone, the symbol " ˆ" on a vowel marks a falling tone and low tones are unmarked).[2]

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[1]   I would like to thank my Ciwandya informant, Mr. Simbowe for his time and patience during the recording of the data used in this paper. My other gratitude goes to many colleagues who attended the B4ntu Conference in Berlin, 7th-10th April 2011, for their comments on some aspects of the paper. Needless to say that none of them are responsible for any errors in the analysis, interpretation or presentation adopted in this paper.

[2]   The following abbreviations have been used in this paper: Adv = Adverb; Appl = Applicative; Cl = Class; Cop = Copula; Fut = Future; Hab = Habitual; Inf = Infinitive; Loc =

(1)   *Non-relative clause (subject prefix /i/ has a low tone)*
      a.   M-balá   i-ná-bá   n-dalámá   z-aángá
             cl9-thief   9subj-past-steal   cl10-money cl10-my
             'The thief stole my money.'

      Relative clause (subject prefix /i/ has a high tone)
      b.   M-balá í-ná-bá n-dalámá z-aángá
             'The thief who stole my money'

Cinsenga, like Chichewa, also has the option of prosodically marking relativization through tone. In (3), the high tone on the subject prefix /a/ signals a relative clause while its low tone counterpart in (2) shows a non-relative structure.

(2)   *Non- relative (transitive)*
      a-kú-lyá mûmbu
      s/he-hab-eats maize
      'She eats maize'

(3)   *Relative (transitive)*
      á-kú-lya mûmbu
      'S/he who eats maize'
      (Miti 2002)

Languages may also use segmental cues to mark relative clauses. In Chichewa, for example, relative clauses are also shown by the morphemes *-mene* and *-o* (with appropriate prefixes placed in front of them to signal agreement with the head of the relative verb). While these relative morphemes are optional, as seen in (1) above, when they are used, they are restricted to specific syntactic positions as shown below.

(4)   *-mene in front of relative clauses (} =relative clause boundary)*
      m-balá   i-méné í-ná-bá   n-dalámá   z-àángá}
      cl9-thief   cl9-rel 9subj-past-steal   cl10-money cl10-my
      i-ku-tháawa.

Locative; Neg = Negative; Obj = Object; Perf = Perfective; Plur = Plural; Prog = Progressive; Rc = Relative clause; Rel = Relative; Subj = Subject.

9subj-prog-run away

'The thief who stole my money is running away.'

(5) *-yo at the end of a relative clause*
     m-balá í-ná-bá n-dalámá zangáa-yo}

(6) *with both -mene and -yo*
     m-balá i-méné í-ná-bá n-dalámá zangáa-yo}
     (cf. Downing & Mtenje 2010, 2011 for these and other relevant data)

It is typical of relative morphemes to be positionally restricted. For example, -mene or -yo cannot occur in the positions shown below.

(7) a.   *m-balá í-ná-bá i-méné n-dalámá zàángá}
     b.   *m-balá í-ná-bá n-dalámá-yo zàángá}
     c.   *m-balá yo í-ná-bá n-dalámá zàángá}
     d.   *m-balá í-ná-bá n-dalámá zàángá i-méné}

3   A brief overview of Ciwandya

Ciwandya is a Bantu language spoken in Chitipa district in northern Malawi and the following areas of Tanzania: Mbeya, Rukwa, Mbozi and Simbawanga. It has been classified by Ethnologue as belonging to the Nyika-Safwa group in M20 and it is alternatively known as Wandia, Iciwanda, Vanda and Kiwanda. It is closely related to Icinamwanga and the lexical similarity between the two languages is estimated at 68%. The exact number of Ciwandya speakers in Malawi is not known but it is generally regarded as one of the "small" languages in the country. The data used in this paper is from the Malawi variety of Ciwandya.

4   The morphology of Ciwandya relative clauses

Relative clauses in Ciwandya are marked by the morpheme **-o** which usually occurs in front of the relative verb and has a consonant in front of it whose shape is determined by the noun class of the XP which serves as the head of the relative clause. This is exemplified in (8) below.

(8) u-mwívi **yó**   a-ki-wa   i-ndaláma zy-aane} a-ku-samáala
     cl1-thief cl1.rel   cl1- past-steal cl9 money cl9-my   cl1-prog-run away

'The thief who stole my money is running away'

This relative morpheme in Ciwandya is obligatory as shown in (9) where its omission results in an ungrammatical structure.

(9)   *u-mwívi a-ki-wa i-ndaláma zy-aane} a-ku-samáala

It is possible in Ciwandya to have more than one relative marker as shown in (10) where there is a second occurrence of the morpheme.[3]

(10)   u-mwívi **yó** a-ki-wa i-ndaláma zy-ane **úuyo**} a-ku- samáala

Like in other languages, there are restrictions with regard to the distribution of **-yo**. This morpheme cannot be at the end of a relative clause, except when it is repeated, as in (10) above, in which case it must be prefixed by a vowel, neither can it appear in any other position. This is illustrated below.

(11)   a.   *u-mwívi a-ki-wa i-ndaláma zy-aane-**yó**} a-ku-samáala
       b.   *u-mwívi a-ki-wa i-ndaláma **yó** zy-aane}   a-ku-samáala
       c.   *u-mwívi a-ki-wa **yó** i-ndaláma zy-aane}   a-ku-samáala
       d.   *u-mwívi a-ki-wa i-ndaláma zy-aane} a-ku-samálaa **yô**

4.1 Relative clauses and phonological phrasing

One of the major phonological characteristics of relative clauses, in most languages, is the fact that they are marked by a phonological phrase boundary on their right edge when they occur in different types of syntactic constructions. In a number of Bantu languages, such phrase edges are usually shown by prosodic features such as vowel length and contour tones on certain syllables. For instance, in Zulu, penultimate vowel length marks the right edge of a phonological phrase (cf. Cheng & Downing 2010) just as vowel length and contour tones on penultimate syllables indicate the right end of a phonological phrase in Chichewa (cf. Downing & Mtenje 2010, 2011). Likewise, in Chimwiini vowel length and pitch features like accent/stress or high tones on penultimate and final syllables serve as cues for phrasal edges (cf. Kisseberth 2010 for details). Cheng & Kula

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3   Here, the relative clause makes reference to a specific thief and, according to the informant, it is preferred that the second relative morpheme should have a prefix in front of it.

(2006) also argue that the location of high tones shows phrasal boundaries in Bemba.

In Ciwandya, the right edges of relative clauses are prosodically marked by long vowels on penultimate syllables and, wherever applicable, contour tones on those syllables. In this paper, we use data elicited through a structured questionnaire which involved relative clauses in the following syntactic constructions: clefts, headless relatives, coordinated and extraposed relative clauses, relatives whose heads are direct objects, indirect objects, locatives, temporal adjuncts and instrumentals.

We begin by looking at restrictive relative clauses (RCs) whose heads are subjects of the relative verb and show their prosodic phrasing (a square bracket shows the edge of a phonological phrase).

4.2 Subject relatives

In the constructions in (12) and (13) below, we see that the head of the RC (which is its subject) is phrased together with the relative verb and that there is a prosodic boundary at the right edge of the RC. The conclusion that the subject head of the relative clause phrases with the rest of the RC stems from the fact that this NP does not have a long penultimate syllable which, as stated above, marks phrasal boundaries in Ciwandya and many other Bantu languages. Using the same criterion of vowel length for detecting phrasal edges, we note that the right edges of the relative clauses have long penultimate syllables in the forms [zyaane] and [nkháani] in (12) and (13) respectively. This, therefore, shows that there is a phonological phrase break at the right of the relative clauses.

Head of relative clause is subject of relative verb
(12) u-mwívi   yó   a-ki-wa   i-ndálámá zy-aane}]   a-ku-samáala
      cl1-thief   1.rel   cl1-past-steal cl9-money cl9-my   cl1-prog-run away
      'The thief who stole my money is running away'

(13) u-m'mányisi yó   a-ka-kalalá   nkháani}]   a-ka-wa-welengera
      cl1-teacher   1.rel cl1-past-be angry   very much   cl1-past-obj-read to
      a-wana   a-sukúlu   u-kaláata
      cl2-children cl2-school   cl5-letter
      'The teacher who was very angry read the students a letter'

This phonological phrasing pattern holds even in cases where the head of the RC is an instrumental as observed in (13') below where the head, the instrumental NP [i-cipéni], phrases with the rest of the relative clause as seen in the fact that this NP does not have a long penultimate syllable, a characteristic of phrase-final elements in Ciwandya.

(13') i-cipéni   có   tu-ka-cek-ela   u-buléedi}] ca-búumpha
      cl7-knife   7.rel   we-past-cut-with cl3-bread   cl7-perf-be blunt
      'The knife with which we cut the bread has become blunt'

The prosodic pattern observed in (12) and (13) above also shows up in other Bantu languages. For instance, in Chichewa (cf. Downing & Mtenje 2010, 2011) and in Durban Zulu (cf. Cheng & Downing 2010) subjects of relative verbs phrase together with the RC. In Chimwiini, the situation is partially similar. According to Kisseberth (2010), the head of the RC in subject relatives may be phrased with the RC verb when it precedes it, but not always, while in Símákonde the situation is different since the subject NP of a relative clause never phrases together with the relative verb (cf. Manus 2010 for details).

While subjects of relative verbs in Ciwanndya phrase with the RC in restrictive relative clauses, non-restrictive relatives behave differently in that their heads always phrase separately from the RC. This is shown in the non-restrictive version of the sentence in (13) above which is repeated below as (14).

(14) u-m'mányiisi] yó a-ka-kalalá nkháani}] a-ka-wa-welengela a-wána a-sukúlu
      u-kaláata

As it can be seen here, there is a prosodic phrase boundary after the head of the RC (um'mányiisi) and, as expected, at the right edge of the relative clause. This prosodic phrasing is generally found in many other Bantu languages including Chichewa (cf. Downing & Mtenje 2010, 2011) and Zulu (cf. Cheng & Downing 2010).

4.3 Object relatives

Object relatives behave like subject relatives with regard to phonological phrasing. When the head of the relative clause is an object (direct or indirect), it phrases with

the relative verb regardless of whether it is topicalized or not. This is shown in (15) - (20) below.

4.3.1   Direct object relatives

(15)   *Head of RC is direct object of main clause*
u-mwána wa-sukúlu   a-ka-simba   u-kaláta   yó   u-m'mányisi
cl1-child of cl9-school   cl1-past-write   cl5-letter   5.rel   cl1-teacher
a-ka-weleng-ela   ku wa nyúuzi}]
cl1-past-read   to of newspaper
'The student wrote the letter which the teacher read for the newspaper'

(16)   *Head of RC is direct object of relative clause*
n-kha-wa-úzya yó   u-Mary   a-mu-ghán-iite}]
I-past-2obj-tell 1.rel   cl1-Mary   1-1obj like-hab
'I told them who Mary likes'

(17)   *Head of RC is topicalized direct object of RC*
u-kaláta   yó   u-m'mányisi a-ka-weléenga}]   yi-ka-mu-nena
cl5-letter   5.rel   cl1-teacher cl1-past-read   cl9-past-obj1-say
i-mfúumu
cl9-chief
'The letter the teacher read criticizes the chief'

(18)   a-wa-léndo wó   u-Bánda   a-ka-wa-línga m'-mawiíla}]   wa-úuka
cl2-visitors 2.rel   cl1-Banda cl1-past-obj-see   yesterday   cl2-perf-go
'The visitors who Banda saw yesterday have gone'

4.3.2   Indirect object relatives

Following the same phrasing pattern observed above, the indirect object NPs phrase with their relative verbs in (19) and (20) below.

Head of relative clause is indirect object of RC

(19) u-mú-luméndo yó   u-mú-nyaáwo u-ka-n-dangizya   úune}]
      cl1-boy   1-rel   1-his friend you.sg-past-me-show him
      a-li   pa-nóonye
      cl1-is here
      'The boy whose friend you introduced me to is here'

(20) a-wána wa sukúlu   wó   u-m'mányisi a-ka-wa-wereng-ela
      cl2-child of school   2.rel cl1-teacher cl1-past-2.obj-read-to
      u-kaláata}] wa-ka-fuma   mu kaláasi
      cl5-letter   cl2-past-leave   in class
      'The students who the teacher read the letter to walked out of class'

It is interesting to note that in other Bantu languages, the situation is different. In Chimwiini, for example, unlike subject relatives, non-subject relative heads which precede relative verbs are never phrased together with RCs (cf. Kisseberth 2010).

4.4 Headless relatives

There are different situations in which RCs may be headless. Here we will look at two cases. We will begin by examining simple relative clauses which have no overt XPs as heads and then look at stacked headless relatives. It will be observed that in both cases, the only prosodic break is the one which always marks the right edge of each relative clause. This is illustrated in the examples below.

4.4.1   Headless subject relatives

(21) wó   wa-ka-mu-linga   u-Bánda   m'-mawiíla}]   wa-wúuka
      2.rel cl2-past-1.obj-see cl1-Banda   yesterday   cl2-perf-go
      'The ones who saw Banda yesterday have gone'

(22) *Subject of RC is in embedded clause*
      tu-ta-m-ménye   yó   a-kw-angala pá mbali   pa-lu-sóoko}]
      we-neg.prog-1.obj-know 1.rel cl1-prog-play loc-by   loc-cl3-river
      'We don't know who is playing by the river'

4.4.2   Headless direct object relative

(23) wó   u-Bánda   a-ka-wa-linga   m'mawiíla}]   wa-wúuka
      2.rel   Banda   cl1-past-2.obj-see yesterday   cl2-perf-go
      'The ones who Banda saw yesterday have gone'

4.4.3   Headless indirect object relative

24) wó   u-Bánda   a-ka-wa-pa   i-mpháaso}] wa-ku-mu-salíifya
     2.rel   Banda   cl1-past-2.obj-give cl9-gift   cl2-past-1.obj-thank
     'The ones who Banda gave presents to, thank him'

4.4.4   Stacked headless relatives

When more than one relative clause occurs in a sentence, the same phrasing pattern noted above is observed, namely, the only phonological phrase break is at the end of each relative clause. This is shown in (25) below.

(25) ghó n-kha-lya m-mawíila}]   ghó gha-ka-wa   gha-kú-noona}]
      6.rel I-past-eat yesterday   6.rel cl6-past-be   cl6-prog-delicious
      n-ka-ya   nawo   ku-mu-ghúunda
      I-past-take   with.them   loc-cl4-field
      'Those which I ate yesterday, which were delicious, I took them to the field'

There are other Bantu languages which show the same prosodic phrasing for headless relatives as noted above for Ciwandya. In Cisena, for example, both subject and object headless relatives only have a prosodic break at the end of the relative clause (cf. Mtenje 2011). The same is true of Chichewa (cf. Downing & Mtenje 2010, 2011 for details).

5   Clefts

In Ciwandya, as in other Bantu languages, XPs in clefts are never phrased together with their corresponding relative clauses. This is regardless of whether such XPs are subjects or objects of their relative verbs (cf. Kisseberth 2010 for Chimwiini, Cheng & Downing 2010 for Zulu, Mtenje 2011 for Cisena, Downing & Mtenje 2011 for Chichewa for similar observations). We illustrate this with the examples below.

5.1 Direct object cleft

(26) wo wa-mányiisi] wó   a-ka-wa-linga   m-mawiíla}]
be cl2-teacher   2.rel cl1-past-2.obj-see yesterday
'It is teachers he saw yesterday'

Note that in the example above, there are two occurrences of the form [wo]. The low toned [wo] stands for the copula 'to be' while the one with the high tone represents the usual relative morpheme. In terms of prosodic phrasing, it can be observed that the object NP [mányiisi], which is clefted, has a long penultimate vowel showing that it is phrase final. Likewise, in the next example in (27), the same word, where it now serves as the subject of the relative clause, occurs with a long penultimate vowel, a clear sign that it is at the edge of a phrase break.

5.2 Subject cleft

(27) wo wa-mányiisi] wó   wa-ka-simba   u-kaláata}]
be cl2-teacher   2.rel cl2-past-write   cl5-letter
'It is the teachers who wrote the letter'

5.3 Indirect object cleft

Indirect object clefts behave like the subject and direct object cleft constructions discussed in examples (26) and (27) above. In (28), the indirect object NP [waléendo] is at the edge of a prosodic phrase boundary as noted by its long penultimate vowel and the falling tone on it.

(28) wo wa-léendo]   wó   tu-ka-wa-let-ela   i-mpháaso}]
be cl2-guest   2.rel we-past-obj1-bring-for cl9-gift
'It's visitors we brought the gifts for'

6   Locatives, temporal and other adjuncts

When the head of a relative clause is an XP which stands for a locative, temporal or any other adjunct, it phrases together with the RC, just like in all other non-cleft constructions. This is illustrated in the examples in (29)-(32) below where the only phonological phrase break, shown through the presence of a long penultimate vowel, is at the end of the relative clauses.

Head of RC is Locative

(29) i-sitólo   yó   mu-nga-ghulá-ko a-mabúuku}] yi-li pa-píipi
      cl9-store   9.rel you.pl-can-buy-loc cl6-book   cl9-be loc-near
      'The store where you can buy books is near'

(30) a-málo   ghó   n-ka-kumana náaye}] gha-li   pa-pípi na ku-nóonye
      cl6-place   6.rel I-past-meet with her 6-is   loc-near to here
      'The place where I met her is close to here'

Head of RC is temporal expression

(31) pí-siku   lyó   u-mwána wáne   a-ká-papíiwa}]   n-ka-womba
      on-cl5.day   5.rel cl1-child cl1-my   cl1-past-be.born   I-past-catch
      i-mbómbo   pá-ndawíndaawi
      cl9-work   in-morning
      'The day my child was born I worked in the morning'

Head of RC is other adjunct

(32) i-cifúkwa   có   i-zíle   kúuno}]   calí   ca-ku-lingana
      cl-7 reason 7.rel cl1-past-come here   cl7-was   cl7-inf-see
      ni   u-máma wáace
      with   mother her
      'The reason that she came here for was to see her mother'

The prosodic phrasing pattern shown by locative, temporal and other adjuncts in the data above also occurs even when these expressions are in embedded constructions where they serve as heads of relative verbs. In all these cases, the main clause and the relative morpheme phrase with the relative clauses. As seen in the examples below, there are no long penultimate vowels and contour tones in front of the relative clauses. This shows that the entire construction serves as one phonological phrase.

Locative as head of embedded relative clause

(33) n-tha-ménye kó   a-kw-íkhaala}]
      I-neg-know   loc.rel   cl1-prog-live
      'I don't know where she lives'

Temporal expression as head of embed relative clause

(34)   n-tha-ménye pó   wa-li-fíika}]
       I-neg-know   temp.rel   cl2-fut-arrive
       'I don't know when they will arrive'

Adverbial adjunct as head of embedded RC
(35)   n-tha-ménye mó   wa-ka-fik-ila   kúuno}]
       I-neg-know   adv.rel   cl2-past-arrive-appl here
       'I don't know how they got here'

As would be expected, however**,** when locatives, temporal or other expressions occur as heads of non-restrictive clauses, they phrase separately from the RCs as seen in (36) and (37) below where the NPs [Zóomba] and [sabáata], which are the heads of the relative clauses, have long penultimate syllables (with falling tones), a sign that they are phrase final.

Locatives in non-restrictive relative clause
(36)   ku Zóomba] kó   n-ki-kháala}]   ku-ku-wanga í-mvulá   nkháani
       loc-Zomba loc.reI I-hab-past-live   loc-hab-come cl9-rain   much
       'In Zomba, where I used to live, it rains a lot'

Temporal expression in non-restrictive relative clause
(37)   pa-sabáata] pó   n-ka-fika   kúuno}] i-mvula   yi-ka-wa
       loc-Sunday loc.rel I-past-arrive   here   cl9-rain   cl9-past-fall
       i-siku   lyoonse
       cl5-day   cl5-all
       'On Sunday, when I arrived here, it rained all day'

Another instance when locative and temporal expressions phrase separately from their relative verbs is, as would be predicted, when they occur in cleft constructions as noted in the example below where the NP for "Sunday", [sabáata] has a long penultimate vowel with a falling tone, showing its phrase finality.

(38)   po sabáata] pó   u-Mary   í-nti-íze   kúuno}]
       cop-Sunday loc.rel cl1-Mary   cl1-fut-come here
       'It's on Sunday that Mary will come here'

7   Coordinated relatives

When restrictive non-clefted relative clauses are coordinated, the expected phonological phrasing occurs. First, the head of each RC (regardless of whether it is the subject, object, locative, temporal or other expression) phrases with the relative verb and therefore no long vowels occur within the relative clause. Thus, each half of the conjoined relative clauses is wrapped as a phonological phrase. Second, we find the usual phonological phrase boundary at the end of each RC since their edges always mark the end of phonological phrases. This is illustrated in the examples below.

(39)   a-wána wa-sukúlu wó   wa-welénga i-búuku}] sóna   wa-malízya
         cl2-child cl2-school 2.rel cl2-read   cl5-book and   cl2-finish
         i-mbómbo   zyaawo}]   wa-nga-wéla   ku-nyúumba
         cl9-work   their   cl2-can-return   loc-home
         'The students who have read the book and have finished their work, can return home'

In this example, the head of the RC, [a wána wa sukúlu] (students) phrases with the verb in the first half of the coordinated relatives as seen in the fact that it does not have a long penultimate vowel and a falling tone on the word [sukúlu]. The only phrase break is at the end of the RC as noted in the falling long penultimate vowel in the word [ibúuku]. The second half of the coordinated RCs ("who have finished their work"), behaves in a similar manner in that we find only one position where there is a long vowel, namely, in the word [zyaawo]. Again, this is evidence that there is only one prosodic phrase boundary which, predictably, coincides with the right edge of this RC.

The same observations apply in the example in (40) where the head of the first relative clause [awalwale] phrases together with the relative verb and the only phrase break is at the end of the RC where we find a long penultimate vowel in the word [yaawo]. The second relative clause ("who have paid their bills") also has only one phonological phrase edge at the end of the clause as seen in the long vowel in the word [zyaawo].

(40) a-walwale   wó   wa-pokela   i-milémbo   yaawo}]   pámo   wa-lipila
      cl2-patients 2.rel   cl2-receive cl9-medicine their   or   cl2-paid
      i-ndaláma zyaawo}] wize   i-sabáta   yó-yi-kwíiza}]
      cl9-money their   should come cl9-week   9.rel-cl9-prog-come
      'The patients who have received their medication or who have paid their bills, should come back next week'

8   Extraposed relatives

When a relative clause is extraposed, the RC and the main clause are each wrapped as separate prosodic phrases. The example below illustrates this.

(41) The man came into the room, whom we all knew (extraposed from the sentence "We all knew the man who came into the room").
      u-múnthu a-ki-za   mu-ci-píinda] yó towónse tu-ka-mu-máanya}]
      cl1-person cl1-past-come   in room   1.rel all   we-past-obj1-know

In (41) above, the main clause [u-múnthu a-ki-za mu-ci-píinda] has a long and falling penultimate vowel on its final word [mu-ci-píinda] showing a phonological phrase break which separates that clause from the RC. The exraposed relative clause, [yó towónse tu-ka-mu-máanya] also has only one phonological phrase boundary in the expected position, namely on its right edge. All this shows that the two clauses are prosodically separated by a phrase break.

9   Long distance relativization

In long distance relativization, the whole relative clause is wrapped as one phrase, regardless of its length. This is not entirely surprising since Ciwandya seems to show a tendency of wrapping sequences of XPs into one phrase instead of each XP serving as a separate phonological phrase as is the case in other Bantu languages (cf. Manus 2010 for Símákonde, for example). The phonological phrasing in long distance relativization is shown in the examples in (42) and (43) below.

(42) u-mú-luméndo   yó   mu-ku-swigha u-ku-ti kali   u-nálúmé wane
      cl1-boy   1.rel cl1-prog-wonder that   if   cl1-uncle my
      nalóli a-ka-mu-manyisyáa-po}]   a-wina   i-mpháaso
      really cl1-past-1.obj-teach-really   cl1-won   cl9-prize
      'The boy who you wonder whether my uncle really taught (him) won a prize'

(43) u-múnthu yó   n-ku-mw-i-nong'on-ela u-kuti u-ka-nena   náaye}]
      cl1-person 1.rel   I-prog-1.obj-think.applic that   you-past-talk with.him
      a-ká-m-pusiika
      cl1-past-1.obj-fool
      'The person to whom I think you talked lied to me.'
      [Lit., 'The person who I am thinking of that you talked with him/her fooled me']

In (42) there is only one long penultimate syllable in the relative clause which also bears a falling tone. This is found in the form [a-ka-mu-manyisáapo]. The long penultimate syllable coincides with the right edge of the RC, where we find the only phonological phrase break in the entire construction. Likewise, in (43) the only long penultimate syllable is found at the right edge of the RC in the form [náa-ye], showing the only prosodic phrase boundary in the whole construction. Thus, we can conclude that in Ciwandya, the phonological phrasing of relative clauses is not influenced in any way by the distance between their heads and the rest of the clause.

10   Prosodic phrasing and syntax

There has been considerable attention in recent work on the syntax-phonology interface of the type discussed in the preceding sections particularly, the relationship between syntactic constituency and the phonological phrasing of relative clauses (cf. Truckenbrodt 1995, 1999, Kanerva 1990, Cheng & Downing 2007, Downing & Mtenje, 2010, 2011, Mtenje 2011, Kanerva 1990, Bresnan & Kanerva 1989, Selkirk 2000, Simango 2006 among others). What has been noted in this paper is that in Ciwandya, XPs which are heads of restrictive relative clauses do not form separate phonological phrases but phrase with the rest of the relative construction, whose right edge always coincides with a phonological phrase break. This shows that there is no XP edge following the head of the RC. A

similar situation has been noted and argued for in languages like Chichewa (cf. Downing & Mtenje 2010, 2011).

In this paper, we assume the analysis proposed by Cheng & Downing 2007, Cheng & Downing 2010, to appear, and Downing & Mtenje 2010, 2011 initially for Zulu and Chichewa but which has sufficient generality to apply to other Bantu languages with similar phonological phrasing patterns as well. Essentially, the analysis adopts a phase-based syntactic approach for such languages and proposes that the head of a restrictive relative is within the CP which is, itself, a complement of the D head. This syntactic structure, and the constraints given below in (44) and (45), account for why the right edge of a relative clause always coincides with a phonological phrase edge.

(45) ALIGN R [PHASE, INT PH]
      Align the right edge of every phase (vP/CP) with the right edge of an intonation phrase (IntPh).

(46) ALIGN R [INT PH, PHASE]
      Align the right edge of every intonation phrase (intPh) with the right edge of a phase (vP/CP).
      (Cheng & Downing 2010: 38)

Following these constraints, which require the right edges of intonation phrases to coincide with the right edges of vP/CP phases, we predict that the right edge of a restrictive relative clause in Ciwandya, whose head is within the CP phase, will have a phonological break since the right edge of that phase coincides with that of an intonation phrase.

The same syntactic structure given above accounts for cases where heads of relatives in cleft constructions phrase separately. The analysis argues that in a cleft structure, the pivot of the cleft is in a copular sentence to which is adjoined the headless DP which contains the relative clause. Since the constraint in (45) predicts that the right edge of a CP phase always conditions a phonological phrase break, the structure explains why clefts in relatives are phrased separately from their relative verbs in languages like Ciwandya.

11   Conclusion

In this paper, we have observed the following general patterns regarding the phonological phrasing of relative clauses when they occur in different syntactic

constructions in Ciwandya. The head of a relative clause is not set off by a phonological phrase break except when it is in a non-restrictive RC, in clefts or when it occurs in extraposed expressions. This is regardless of whether the head is a subject, direct object or indirect object of the RC or a locative, temporal, instrumental or other adjunct. We noted that by showing this phrasing pattern, Ciwandya differs from some other Bantu languages where heads of RCs do not phrase together with relative verbs which follow them. The right edge of relative clauses is always marked by a phonological phrase boundary. Headless relatives behave like ordinary relative clauses in that only the right edge of the RC is wrapped as a prosodic boundary. Extraposed relatives behave like clefts in that their main clauses are phrased separately from the RCs. In coordinated relatives, each half is wrapped as a phonological phrase. Even in long distance relativization, heads of RCs still phrase together with their relative verbs.

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Question structure and intonation in Fipa[*]

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This paper sketches the morphosyntactic and prosodic properties of questions in Fipa, discussing three varieties: Milanzi, Nkansi and Kwa. The general word order and morphological patterns relevant to question structures are outlined and different types of *wh*-question constructions are described and tentatively linked to the prosodic features of Fipa questions.

1 Introduction

Fipa is a *wh* in-situ language. While non-fronting of questioned elements is typical for the Bantu languages, Fipa differs from the patterns described for *wh*-questions in other Bantu languages in a number of ways: subjects can be questioned in the preverbal position (unlike in the vast majority of Bantu languages cf. Sabel & Zeller 2006; Riedel 2009); there are no special patterns for subject - or object marking associated with questions (cf. Bresnan & Mchombo 1987; Riedel 2009); there is no conjoint-disjoint distinction and only optional "movement" to the Immediately-After-the-Verb (IAV) position (on these see Watters 1979; Hyman & Watters 1984; Ndayiragije 1999; Hyman & Polinsky 2006; van der Wal 2006; Buell 2009; Cheng & Downing 2009).

In this paper we show that, based on the basic morphosyntactic properties described here, there are no systematic morphosyntactic differences between questions and non-questions in Fipa. We show that instead of marking the clause type by morphosyntactic means, Fipa uses prosody to mark questions.

To illustrate this we show how object marking and word order work Fipa before discussing different types of *wh*-questions and the prosody associated with them.

1.1 The Fipa language

Fipa, classified as M13, is a Bantu language spoken in South West Tanzania, in the Rukwa Region. There are five linguistic varieties which are associated with the Fipa ethnic group and which might be considered to be dialects of Fipa, especially by Fipa speakers themselves: Milanzi, Nkansi, Kwa and Lungu and Mambwe. According to some sources, Pimbwe and Nyiha are also sometimes included in this group by Fipa speakers (Woodward *et al.*, 2010) but not generally by linguists. Of these varieties, Milanzi, Nkansi and Kwa are only spoken in Tanzania and form one rather closely related group, whereas Mambwe and Lungu are spoken in Tanzania, where they are sometimes considered dialects of Fipa, and in Zambia, where they are considered to be separate languages, or a single language: Mambwe-Lungu. Speaker number estimates for Fipa as a whole are widely divergent, ranging from 195,000 (Lewis, 2009) (not including 230,000 Mambwe-Lungu speakers in Tanzania) to 712,803 (Mradi wa lugha za Tanzania, 2009). SIL researchers also estimated the number of speakers per dialect: Nkansi: 140 000; Kwa: 45 000, and Milanzi: 10 000. The locations of the different varieties of Fipa are shown in figure 1. Here we will only discuss Milanzi, Nkansi and Kwa (but some Mambwe data is used to illustrate basic patterns).

1.2 Fipa structure

Like the vast majority of the Bantu languages, Fipa has S V O word order, specifically S V IO DO, meaning that an indirect object must precede a direct object. This holds for all varieties described. However, as shown in this section, the different varieties differ in terms of which word orders are judged to be grammatical in double object constructions and in sentences that contain an object and a post-verbal adjunct, such as a temporal modifier.

1.2.1 Word order in Fipa Double Object Constructions

In Milanzi, the order of postverbal objects and adjuncts is invariable. Only S V IO DO is judged as acceptable (as in (1-a)),[1] unless the indirect object is

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[1] Abbreviations used in glosses: AUG = augment; APPL = applicative; DEM = demonstrative; FV = final vowel; IMP = imperative; INF = infinitive; LOC = locative; NC = noun class; NEG = negation; OM = object marker (numbers refer to noun classes); SM/OM1/2S/P = (person) singular/plural (numbers refer to person not class); PERF = perfect; POSS = possessive; PRES
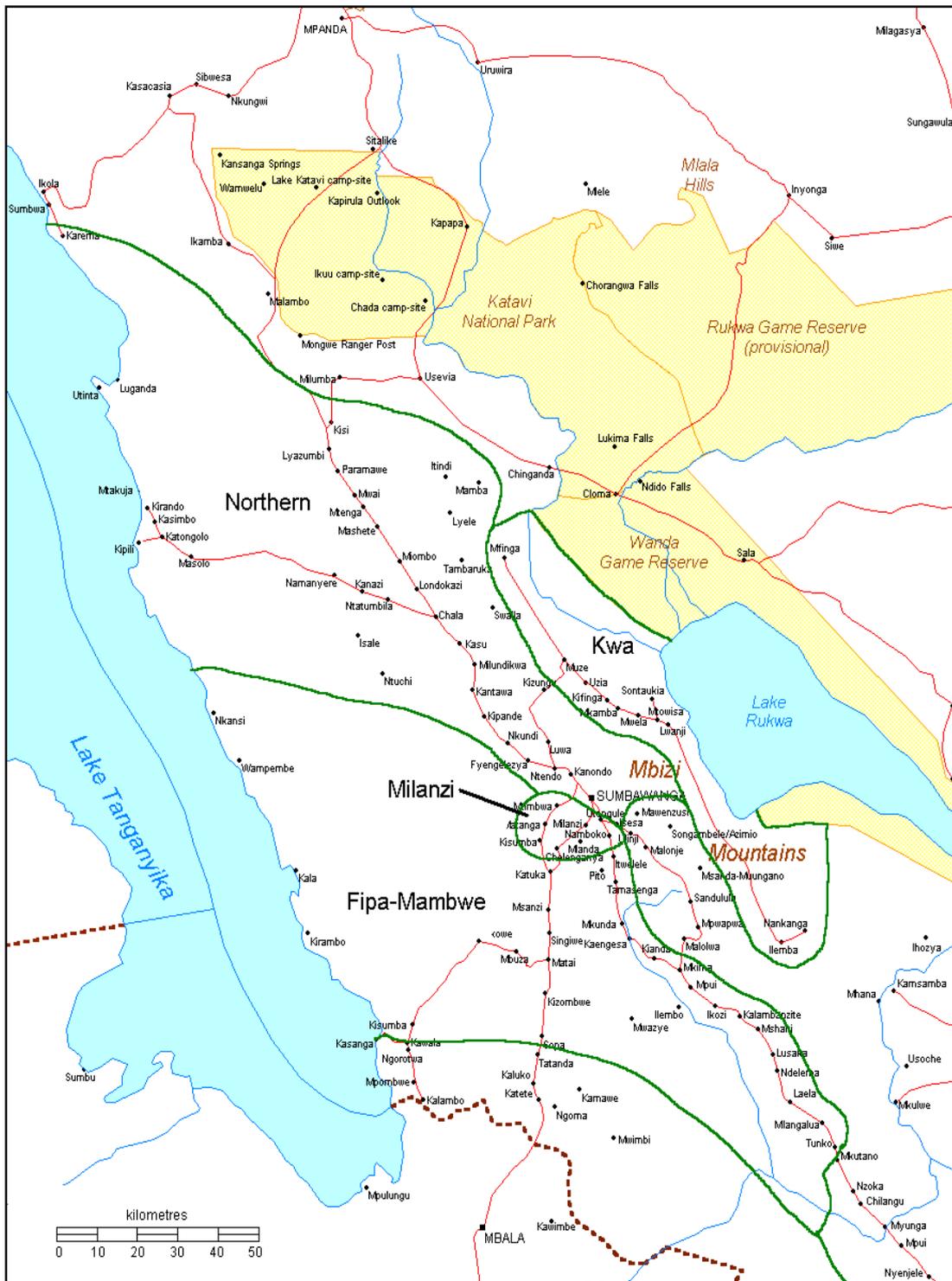
Figure 1: Fipa dialects (©SIL Tanzania 2009)

right dislocated (which requires object-marking as well as a pause[2] preceding the right dislocated element).

(1) a. N-aa-pile   ʊ-mw-aana ɪ-chɪ-taabu.
         SM1S-PST-give.PST AUG-1-child AUG-7-book

         'I gave the child a book.'[3]

     b. *N-aa-pile   ɪ-chɪ-taabu ʊ-mw-aana.
         SM1S-PST-give.PST AUG-7-book AUG-1-child

         Int: 'I gave the child a book.'

     c. N-aa-m-pile   ɪ-chɪ-taabu, ʊ-mw-aana.
         SM1S-PST-OM1-give.PST AUG-7-book   AUG-1-child

         'I gave her/him a book, the child.'   [Milanzi]

A temporal modifier cannot intervene between a verb and its object either.

(2) a. N-aa-wiine   ʊ-mw-aana iyuulu.
         SM1S-PST-see.PST AUG-1-child   yesterday

         'I saw the child yesterday.'

     b. *N-aa-wiine   iyuulu ʊ-mw-aana.
         SM1S-PST-see.PST yesterday AUG-1-child

         Int: 'I saw the child yesterday.'   [Milanzi]

Kwa has a much more flexible word order in double object constructions, where not only the word order of the direct and indirect object can be reversed but a temporal modifier can optionally precede an non-object marked object as well. This is illustrated in (3).

(3) a. N-aa-pile   a-ya-ana i-piipii   iyuulu.
         SM1S-PST-give.PST AUG-2-child AUG-10.sweet yesterday

         'I gave the children sweets yesterday.'

     b. N-aa-pile   i-piipii   a-ya-ana iyuulu.
         SM1S-PST-give.PST AUG-10.sweet AUG-2-child yesterday

         'I gave the children sweets yesterday.'

     c. N-aa-pile   i-piipii   iyuulu a-ya-ana.
         SM1S-PST-give.PST AUG-10.sweet yesterday AUG-2-child

         'I gave the children sweets yesterday.'   [Kwa]

Nkansi, like Milanzi, does not allow any modifications of the basic word order. Nkansi speakers even rejected sentences with object-marked indirect objects

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= present tense; PROG = progressive; PST = past; S = (person) singular; SM = subject marker

[2] Indicated by the comma in (1-c).

[3] All Fipa varieties are fully tonal. Milanzi, Nkansi and Kwa have 7 vowels: [a] [ɛ] [i] [ɪ] [ɔ] [u] [ʊ] (Lungu and Mambwe only have [a] [ɛ] [i] [ɔ] [u]). Vowel length is contrastive, but there is also syntactically conditioned penultimate lengthening. The tonal analysis of Fipa is incomplete, because of this we do not mark tone in the sections dealing with morphosyntax.

that deviated from the basic word order, as in (4-b) where the indirect object *ʊ-mw-aanafunzi* 'student' follows the direct object.

(4)   a.   N-aa-m-pile   ʊ-mw-aanafunzi ɪ-chɪ-taabu.
           SM1S-PST-OM1-give.PST AUG-1-student   AUG-7-book
           'I gave a/the student a/the book.'

       b.   *N-aa-m-pile   ɪ-chɪ-taabu ʊ-mw-aanafunzi.
           SM1S-PST-OM1-give.PST AUG-7-book AUG-1-student
           Int: 'I gave a/the student a/the book.'   [Nkansi]

Nkansi speakers also judged any temporal modifiers intervening between a verb and its object(s) as ungrammatical. Again, this even applied when the object was object marked, as in (5-b).

(5)   a.   N-aa-m-wine   ʊ-mw-aanafunzi iyuulu.
           SM1S-PST-OM1-see.PST AUG-1-student   yesterday
           'I saw a/the student yesterday.'

       b.   *N-aa-m-wine   iyuulu   ʊ-mw-aanafunzi.
           SM1S-PST-OM1-see.PST yesterday AUG-1-student
           Int: 'I saw a/the student yesterday.'

       c.   N-aa-wine   ɪng'oombe iyuulu.
           SM1S-PST-see.PST AUG-9.cow   yesterday
           'I saw a/the cow yesterday.'

       d.   *N-aa-wine   iyuulu   ɪng'oombe.
           SM1S-PST-see.PST yesterday AUG-9.cow
           Int: 'I saw a/the cow yesterday.'   [Nkansi]

Amongst the three core varieties of Fipa, Milanzi and Nkansi have similar word order properties, and these are the properties typically associated with strict word order Bantu languages, whereas Kwa differs drastically from these varieties, as well as the large number of Bantu languages which do not allow any temporals to intervene between a verb and its complements.

1.2.2   Object marking

In Fipa, only one object can be object-marked in a verb. Having two object markers in a verb, as in (6-b), is ungrammatical. In a double object construction, the object that is object marked must be the indirect object, as in (6-a), not the direct object, as in (6-c).

(6)   a.   N-aa-m-p-ile   u-wm-aana ɪ-chɪ-taabu mutondo.
           SM1S-PST-OM1-give-PST AUG-1-child   AUG-7-book yesterday
           'I gave the book to the child yesterday.'

       b.   *N-aa-chi-m-p-ile.
           SM1S-PST-OM7-OM1-give-PST

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             Int: 'I gave it to her/him.'

    c. *N-aa-chi-p-ile   u-wm-aana (ɪ-chɪ-taabu).
          SM1S-PST-OM7-give-PST AUG-1-child AUG-7-book
          Int: 'I gave it to the child.'   [Mambwe]

In Fipa, object marking is very common for object nouns referring to humans. This pattern is illustrated in (7). There is a strong preference to mark first and second person pronouns, as in (7-c) and (7-d), proper names (as in (7-e)), kinship terms, and similar types of nouns. Sentences without object marking are judged as degraded or ungrammatical if the object belongs to this semantic group.

(7)   a. W-aa-(m)-um-ile   ʊ-mw-aana.
          SM1-PST-OM1-hit-PST AUG-1-child
          'S/he[4] hit the child.'   [Kwa]

    b. W-aa-(y)-um-ile   a-y-aana.
          SM1-PST-OM2-hit-PST AUG-2-child
          'S/he hit the children.'   [Kwa]

    c. W-aa-*(n)-zan-ile   inene.
          SM1-PST-OM1S-meet-PST me
          'S/he met me.'   [Kwa]

    d. N-aa-*(ku)-lozile   uwewe.
          SM1S-PST-OM2S-see.PST you
          'I saw you.'   [Kwa]

    e. N-aa-[??](mu)-eni   Julius.
          SM1S-PST-OM1-see.PST 1Julius
          'I saw Julius.'   [Mambwe]

    f. N-aa-[?](m)-wine   mama   wane.
          SM1S-PST-OM1-see.PST 1a.mother 1my
          'I saw my mother.'   [Nkansi]

For non-humans objects that are not dislocated, as in (8-a) and (8-b), object marking is possible. In fact, in (8-c) it was preferred even for a non-human object like ɪ/i-ng'ombe 'cow(s)'. As can be seen in (8-c), object marking does not change the basic S V IO DO word order in double object constructions.

(8)   a. N-aa-(mb)-wine   teembo iyuulu.
          SM2S-PST-OM1-see.PST 1a.elephant yesterday
          'I saw the elephant yesterday.'

    b. A-ta-(fi)-lofya   i-fi-suumbi.
          SM1-PERF-OM8-lose AUG-8-chair
          'He lost the chairs.'

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[4] The class 1 subject marker appears as [a-] before a consonant, but as [u-] – which undergoes glide formation – before a vowel.

c. N-aa-shi-p-ile i-ng'ombe ɪ-chuulya iyuulu.
  SM1S-PST-OM10-give-PST AUG-10cow AUG-7food yesterday
  'I gave the cows food yesterday.'   [Milanzi]

In relative clauses, object marking the relativized object is grammatical. However, unlike in many other Bantu languages (cf. Henderson 2006; Marten *et al.* 2007; Riedel 2009), object marking is optional rather than obligatory for both human and non-human objects in Fipa relative clauses.

(9) a. Aa-sungu ya-na Male w-aa-(ya)-lozile ya-ile u-koola.
    AUG.2-girl 2-REL 1Mary SM1-PST-OM2-see.PST SM2-go.PST INF.swim
    'The girls who Mary saw are going swimming.'

  b. I-vi-ntu vi-na n-aa-(vi)-tozile vy-aa-nwaama sana.
    AUG-8-thing 8.REL SM1S-PST-OM8-hold.PST SM8-PST-be.heavy very
    'The things which I am holding are very heavy.' [Kwa]

2 *Wh*-questions

Wh-questions show the same subject- and object marking patterns as declarative sentences. Fipa does not have any special *wh*-morphology. The syntactic and intonational properties associated with questions do not differ across the three varieties discussed here.

2.1 Subject questions

In Fipa, a questioned subject appears in the preverbal position – analysable as specTP or equivalent projection – and agrees with the verb, just like a subject in a declarative clause. No relative morphology, demonstrative (as in the relative clauses in (9)) or copula (which might be indicative of a cleft structure) appears. Subject questions are shown in (10).

(10) a. Wɪnɪ a-kʊ-lw-ɪkala kuo?
    1who SM1-TAM-PROG-live DEM17
    'Who lives there?'

  b. Chaanɪ ch-onon-ile i-daraja?
    7what SM7-damage-PST AUG-5bridge
    'What damaged the bridge?' (Q6)

  c. Wɪnɪ na wɪnɪ yi-isile?
    1who and 1who SM2-come.PST
    'Who all came?' (Q149)

  d. Jirani chi w-aa-wine Juma?
    5neighbour which SM1-PST-see.PST 1Juma
    'Which neighbour saw Juma?' (Q62)   [Milanzi]

As the sentences in (10) show, this agreement pattern holds for all types of *wh*-elements that might question a subject, including +/− human agents, *which*-questions and coordinated question words.

2.2 Object questions

2.2.1 Word order and IAV (Immediately After the Verb) effects

A questioned object follows the verb. There are potentially different positions relative to other postverbal elements where a *wh*-object will appear: either in IAV position or in the position where it would appear as a non-questioned element if it is a direct object.

If a direct object is questioned in a double object construction both orders of the two objects are possible.

(11)   a.   A-lʊ-(ya)-langɪlɪzya chaanɪ a-y-aana?
               SM1-PROG-OM2-show 7what AUG-2-child
               'What is he teaching the children?' (Q29)

        b.   A-lʊ-(ya)-langɪlɪzya a-y-aana   chaanɪ?
               SM1-PROG-OM2-show AUG-2-child 7what
               'What is he teaching the children?'   [Kwa]

However, there is a gradient difference between the two sentences, with (11-b) being judged as "only being used by young people".

In Nkansi as well, a questioned direct object can precede an indirect object, in contrast to a non-questioned direct object, as in (4-b).

(12)   W-aa-p-ile   chaanɪ ʊ-mw-aanafunzi?
        SM2S-PST-give-PST 7what   AUG-1-student
        'What did you give the student?'   [Nkansi]

There is a preference for the questioned element to appear in the IAV position, and in particular for the indirect object to be left dislocated, as in (13-b).

(13)   a.   W-aa-p-ile   chaanɪ ʊ-mw-aanafunzi?
               SM1-PST-give-PST 7what   AUG-NC1-student
               'What did you give to the student?'

        b.   ʊ-mw-aanafunzi w-aa-m-p-ile   chaanɪ?
               AUG-NC1-student   SM1-PST-OM1-give-PST 7what
               'What did you give to the student?' (preferred to (13-a)) [Nkansi]

The same word order pattern is found with *which*-questions. Both possible orders are produced for a direct object *which*-question by the same speaker, as shown in (14).

(14)   a.   W-aa-m-p-ile   nyoko   ɪ-chɪ-taabu chi?
            SM2S-PST-OM1-give-PST 1your.mother AUG-7-book which
            'Which book did you give your mother?'

       b.   A-ku-nangɪzya ʊ-mʊ-chuumba chi   ʊkʊ-ya-zazi?
            SM1-TAM-show   AUG-NC3-place which LOC-2-parent
            'Which sights will she show (her) parents?'(Q73)   [Kwa]

With applied objects that are based on "promoted" adjuncts, such as the applied object in a reason applicative, both possible orders are produced, just as with non-applied objects. Compare the data in (15-a) and (15-b). In (15-a), the questioned applied object follows the direct object rather than appearing in the IAV position. In contrast, in (15-b), the *wh*-word is not an argument but an adjunct as there is no corresponding applicative but the same relative word order is found. Lastly, in (15-c), there is an applicative and the applied object precedes the direct object. (15-a) and (15-c) were produced spontaneously by the same speaker.

(15)   a.   Mu-lʊ-kalɪla   ɪ-chaakulya ʊkʊ-chaanɪ?
            SM2P-PROG-buy.APPL AUG-7food   LOC17-7what
            'For what are you (pl.) buying the food?' (Q25)   [Kwa]

       b.   U-lʊ-kala   ɪ-chakuulya ɪchaa chaanɪ?
            SM2S-PROG-buy AUG-7food 7ASSOC 7what
            'For what are you (sg.) buying the food?'   [Nkansi]

       c.   U-many-ile   ya-lʊ-kalɪla   chaanɪ ɪ-chaakulya?
            SM2S-know-PST SM1-PROG-buy.APPL 7what AUG-7food
            'Do you know what they are buying the food for?' (Q177) [Kwa]

While there is a preference for the questioned element to appear in IAV position, speakers of all dialects also produced sentences where a questioned-object does not appear in IAV position.

2.2.2   *Object marking*

In Fipa, object marking is optional but grammatical for any type of *wh*-object. Some *wh*-words, including *wɪnɪ* 'who' and *chaanɪ* 'what', belong to a particular noun class and have a singular/plural distinction which is reflected in the verbal agreement. The data in (16) shows a direct human *wh*-object (in a simple transitive clause) and an indirect human *wh*-object (in a ditransitive clause), both without object marking.

(16)   a.   W-aa-wine   wɪnɪ?
            SM1S-PST-see.PST 1who
            'Who did you see?'

       b.   W-aa-p-ile   wɪnɪ ɪ-chɪ-taabu?
            SM1S-PST-give-PST 1who AUG-7-book

'Who did you give the book?'   [Nkansi]

The data in (17) show sentences with singular and plural *who*-objects that are used with object marking.

(17) a. Maria a-lʊ-n-kalɪla   wɪnɪ ɪ-chɪ-taabu?
          1Mary SM1-PROG-OM1-buy.APPL 1who AUG-7-book
          'Who(m) is Mary buying a/the book for?' (Q23)

      b. U-lʊ-mw-elekela   wɪnɪ ɪ-keki?
          SM2S-PROG-OM1-cook.APPL 1who AUG-9cake
          'Who are you making a cake for?' (Q24)

      c. U-chi-li   w-aa-ya-pa   ya-mwi ɪ-keki?
          SM2S-PRES-be SM2S-PST-OM2-give 2-which AUG-9cake
          'Whom (pl.)[5] haven't you (sg.) given cake (yet)?'   [Nkansi]

Both patterns are produced spontaneously by speakers of all Fipa dialects.

Likewise, inanimate *wh*-objects can be object marked and must agree in noun class just like non-questioned objects.

(18) a. U-tu-chi-kala   chaanɪ?
          SM2S-PERF-OM7-buy 7what
          'What have you bought?'

      b. U-tu-vi-kala   vyaanɪ?
          SM2S-PERF-OM8-buy 8what
          'What (pl.) have you bought?'

      c. *U-tu-vi-kala   chaanɪ?
          SM2S-PERF-OM8-buy 7what
          Int: 'What (pl.) have you bought?'   [Mambwe]

While object marking is not commonly found with *wh*-objects that question an inanimate object, there are examples of this pattern from spontaneously produced speech, as shown in (19).

(19) Kunsi   ku-chi-vuna! Ta-chi-chita   chaanɪ na-cho?
      kunsi.IMP INF-OM7-break SM1S.NEG.PRES-OM7-do 7what and-7
      'Don't break it! I shouldn't do what with it?'[6] (Q160)   [Kwa]

2.3 Adverbial questions

Question words such as *how* or *when* may also appear in IAV position in all dialects of Fipa. However, this seems to be less common than with questioned ob-

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[5] *Ya-mwi* translates as 'which people' and is used in this context to elicit specific members of a known set.
[6] The morphology of the verb *kunsi* is not clear to us at this point.

jects. Again, questioning licenses an element in the IAV position which would not be acceptable in this position in a declarative sentence with an overt postverbal (indirect) object.

In a *where*-question with an object, both possible orders of the object and the *wh*-word are grammatical. This is illustrated with Kwa data in (20-a).

(20) a. A-lʊ-(ya)-langɪlɪzya kwɪ a-yaana?
    SM1-PROG-OM2-show where AUG-2child
    'Where is he teaching the children?'

  b. A-lʊ-(ya)-langɪlɪzya a-yaana kwɪ?
    SM1-PROG-OM2-show AUG-2child where
    'Where is he teaching the children?'   [Kwa]

In Nkansi, both possible orders for a question with an object and a questioned locative/temporal adjunct were produced spontaneously.

(21) a. Malia w-aa-pata kwɪ ɪ-chɪ-taabu chi?
    1Mary SM1-PST-get where AUG-7-book DEM7
    'Where did Mary get this book?' (Q39)

  b. W-aa-komengine n' iMali ʊ-waanda chi?
    SM2S-PST-meet.with.PST and 1Mary AUG-3day which
    'When did you meet Mary?' (Q47)   [Nkansi]

The same pattern is found in Milanzi, as illustrated with the *how*-questions in (22).

(22) a. Maria a-lʊ-eleka i-keki ya chocolate uli?
    1Mary SM1-PROG-cook AUG-9cake 9ASSOC 9chocolate how
    'How does Mary make her chocolate cake?'

  b. A-lʊ-koma inkwi uli?
    SM1-PROG-cut 10firewood how
    'How is he cutting the firewood?'

  c. Ya-n-china ul' apa-ntiyo?
    SM2-TAM-dance how LOC16-9wedding
    'How will they dance at the wedding?'   [Milanzi]

Again, both orders produced spontaneously in the same context:

(23) a. A-ta-tengenesha uli i-gari?
    SM1-PERF-repair how AUG-5car
    'How has (Mary) fixed the car? (Q52)'

  b. A-ta-tengenesha i-gari uli?
    SM1-PERF-repair AUG-5car how
    'How has (Mary) fixed the car? (Q52)'   [Milanzi]

As shown in (24) and (25-a), *why* and *how come* appear in clause-initial position just like their declarative counterparts (cf. (25-b)).

(24) Mbona u-ta-kashile   a-ma-ziiya?
      how.come SM2S-NEG-buy.PST AUG-6-milk
      'How come you didn't buy milk?' (Q60)   [Milanzi]

(25) a. Q: Kuno chaanɪ u-chi-li   w-aa-kala   a-ma-shiiya?
             why   SM2S-NEG.PERS-be SM2S-PST-buy AUG-6-milk
             'Why haven't you bought milk yet?'

      b. A: Kuno iy-aa-shila   umwi-duka.
             because SM5-PST-finish LOC18-5shop
             'Because they have run out at the shop.'   [Milanzi]

Question words that question adjuncts show the same relatively free word order as the adjuncts they question.

2.4 Multiple *wh*-questions

Fipa allows multiple *wh*-questions. These are grammatical with any combination of argument or adjunct questions. This is illustrated for a subject and an object in (26),

(26) Wɪnɪ a-lʊ-leeta   chaanɪ?
      1who SM1-PROG-bring 7what
      'Who is bringing what?' (Q154)   [Milanzi]

for two objects in (27-a),

(27) a. U-lʊ-kalɪla   wɪnɪ chaanɪ?
         SM2S-PROG-buy.APPL 1who 7what
         'Who(m) are you buying what?' (Q157)

      b. ?U-lʊ-kalɪla   chaanɪ wɪnɪ?
         SM2S-PROG-buy.APPL 7what 1who
         Int: 'Who(m) are you buying what?'   [Milanzi]

for an object and an adjunct in (28-a),

(28) a. W-aa-wine   wɪnɪ kwɪ?
         SM2S-PST-see.PST 1who where
         'Who(m) did you see where?' (Q155)

      b. *W-aa-wine   kwɪ wɪnɪ?
         SM2S-PST-see.PST where 1who
         Int: 'Who did you see where?'   [Milanzi]

and for two adjuncts in (29-a).

(29) a. W-aa-ile   kwɪ li?
          SM2S-PST.go.PST where when
          'Where did you go when?'

      b. W-aa-ile   li   kwɪ? (Q156)
          SM2S-PST.go.PST when where
          'Where did you go when?'   [Milanzi]

The fact that multiple *wh*-questions are grammatical might be considered to lend support to the analysis that question-elements are truly *in situ* in Fipa.

2.5   Question morphosyntax

Fipa does not generally require *wh*-words to appear in the IAV position or any other special position. However, there is a preference for postverbal *wh*-elements to appear in the IAV position. This also licenses word orders that are otherwise ungrammatical (eg. V Adj Obj, or V DO IO in Nkansi (12)) in Nkansi and Milanzi. To a large extent, *wh*-elements including subjects, predominantly have the same word order and morphological marking as their non-*wh*-counterparts. The fact that multiple *wh*-questions are grammatical seems to lend further support to that.

3   Question prosody

3.1   The boundary tone

The question, in Fipa, is generally expressed by a boundary H(L)% tone. The tone appears on the last syllable of the Intonational Phrase (see below), which is then lengthened – see (30) and Figure 2, or (31). In our data, the boundary tone mostly has a falling shape (HL%), but it can also appear as a high (H%).

(30) mw-ííle   **kwîː**
      SM2S-come where
      'Where did you come from?'

(31) m(ʊ)-lʊ́-kↈalíl(a)   ɪ-tʃ-á(a)-ku-ˈlyá   ʊ-kʊ́   (ɪ)-tʃ-aa**nîː**
      SM2S-TAM-buy(APPL) AUG-7-ASSOC-15-eat AUG-LOC17 AUG-7-what
      'For what are you buying the food?'

The boundary tone also appears on the last syllable when the *wh*-word is sentence-initial – cf. (32) and Figure 3.

(32) wɪní w-a-ŋ-kála   ɪ-tʃ-úu**lyâˑ**
      who SM1-TAM-OM1-buy AUG-7-food
      'Who bought him (the) food?'
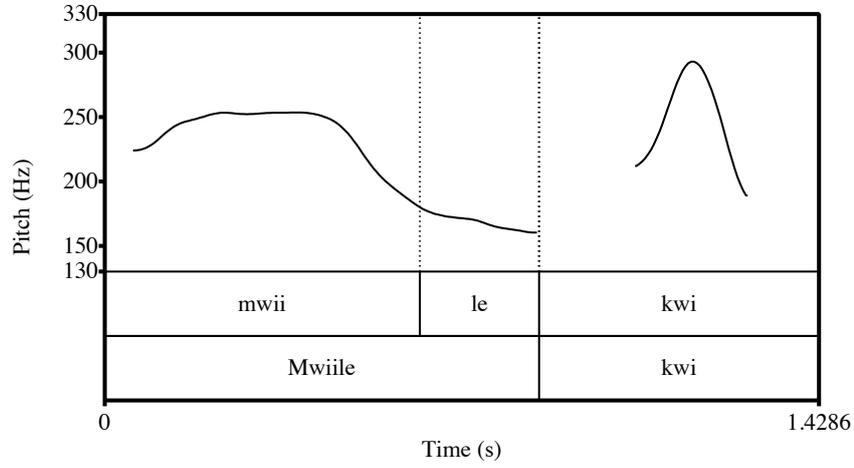
Figure 2: mwííle kwîː 'where did you come from?' – cf. (30)
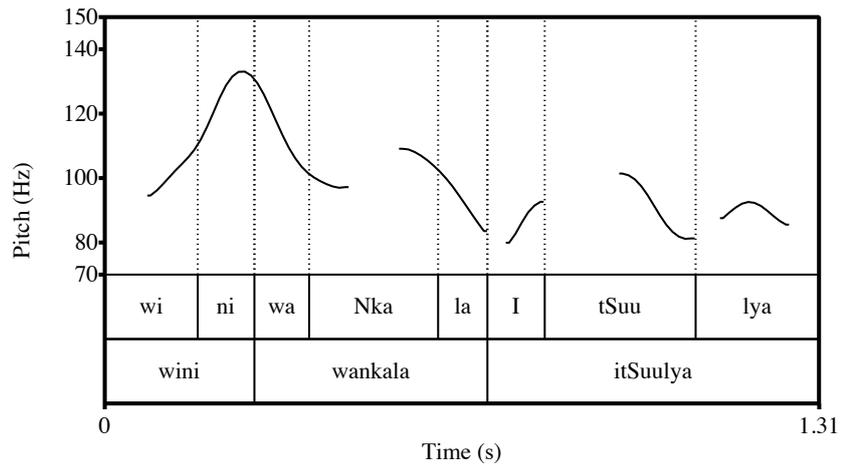
Figure 3: wɪní waŋkála ɪtʃúulyâˑ 'who bought him food?' – cf. (32)
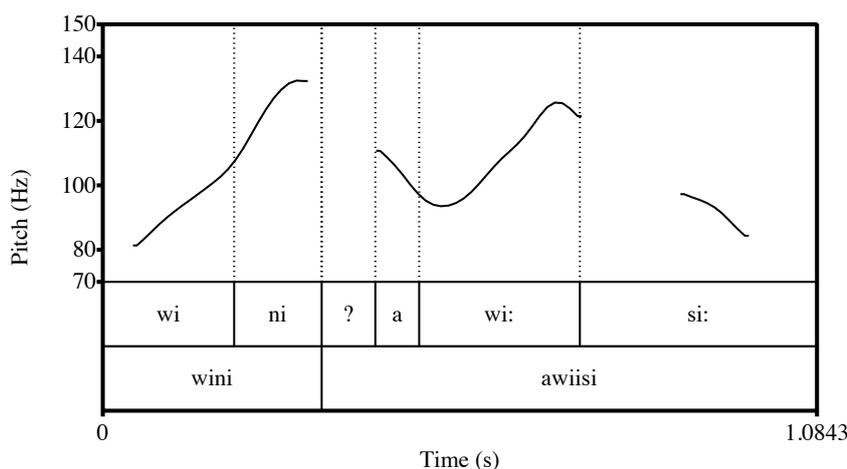
Figure 4: wɪní awíːsɪ̀ 'who fell asleep?' – cf. (33)

When there is a lexical high on the penult, the boundary H(L)% is maintained, but is downstepped – see (33) and Figure 4.

(33)   wɪní ˀa-wíːs-ˈîː
        who SM1-fall.asleep-TAM
        'Who fell asleep?'

The boundary H(L)% is associated with the last vowel an Intonational Phrase. In (34), the boundary tone appears on the last word of the utterance. In (35), where the indirect object 'the children' is dislocated, the boundary tone appears on both the last and the penultimate words of the utterance – see also Figure 5.[7]

(34)   [a-lʊ-láŋg(ɪ)lízya   a-yá-ana   tʃ-aa**nî**ː]ₗₚ
        SM1-TAM-teach(CAUS) AUG-2-child 7-what
        'What is he teaching the children?'[8]

(35)   [a-lʊ́-ya-laŋg(ɪ)lízya   **kwî**ː]ₗₚ [a-yá-a**nâ**ː]ₗₚ
        SM1-TAM-OM2-teach(CAUS) where   AUG-2-child
        'Where is he teaching them, the children?'

3.2   Other prosodic parameters

While the boundary tone, along with the lengthening of the final syllable, seems to be the main prosodic parameter associated with questions, other prosodic features also occur frequently in questions. None of these are obligatory. They may thus be considered as 'enhancement features'.

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[7]   NB: in (35), the second IP has an appendix realization: its register amplitude is reduced.

[8]   We do not know at this point of the research why the first tone appears on the third syllable, when it would have been expected on the second – cf. (35).
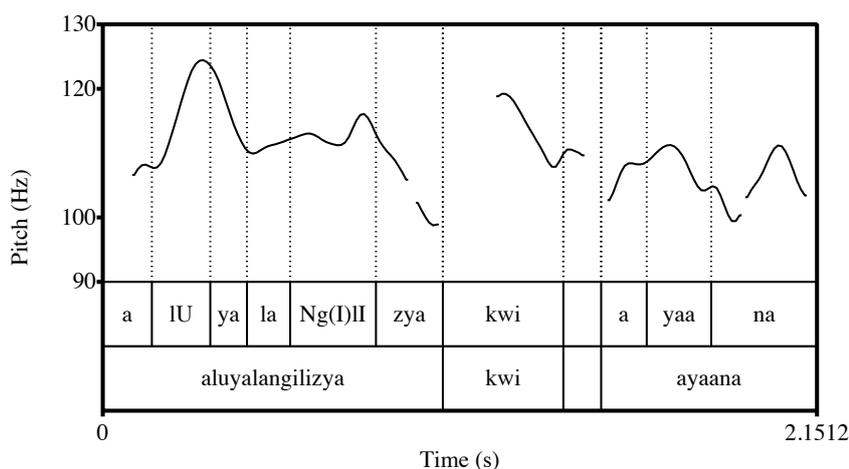
Figure 5: alóyalaŋg(ɪ)lízya kwîː, ayáanâː 'where is he teaching to them, the children?'
– cf. (35)

First, the *overall register* of the question tends to be higher than the one of the answer or a declarative clause. Figure (6) shows that the register of the question (solid line) is higher than the register of the corresponding answer (dashed line) – the F0 range is 70-200Hz. [9]

(36) a. tw-aa-vwáŋg-ile   na   wɪnɪ́ː ?
          SM2P-TAM-talk-TAM with 1who
          'Who did we speak to?'

      b. tw-aa-vwáŋg-ile   na   mam � á=ane
          SM2P-TAM-talk-TAM with mother=POSS
          'We spoke with my mother.'

Figure 6 further shows that there is *no downdrift* in the question, while it does occur in the answer. This parameter seems to be consistent in the data.

Finally, another aspect that distinguishes the question from the declarative is the fact that there is, most of the time, *no final devoicing* in the former case, while devoicing is frequent in the latter case.

3.3 Focus

The prosodic shape of a *wh*-word may vary depending on its informational status. The word *tʃ-aaní* 'what (7)?' for instance, receives a high tone on its last syllable when it occurs phrase finally – see (34) – or phrase initially – see (37) and Figure 7 – but it receives a high tone on its penult when it is the only new

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[9] One may consider that there is a high tone in the end of the question that is absent in the answer counterpart. However, it seems rather be the case that the syllables that precede the boundary H(L)% in the same prosodic word are lowered – see 38-b, for instance.
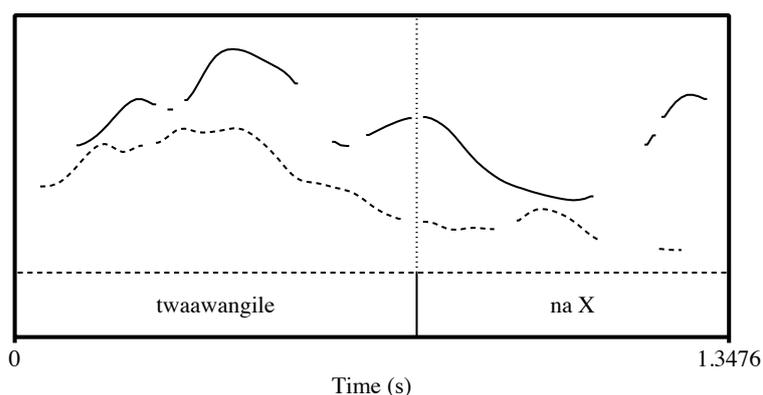
Figure 6: Comparison of the pitch tracks of the question (solid line) and answer (dashed line) in (36)
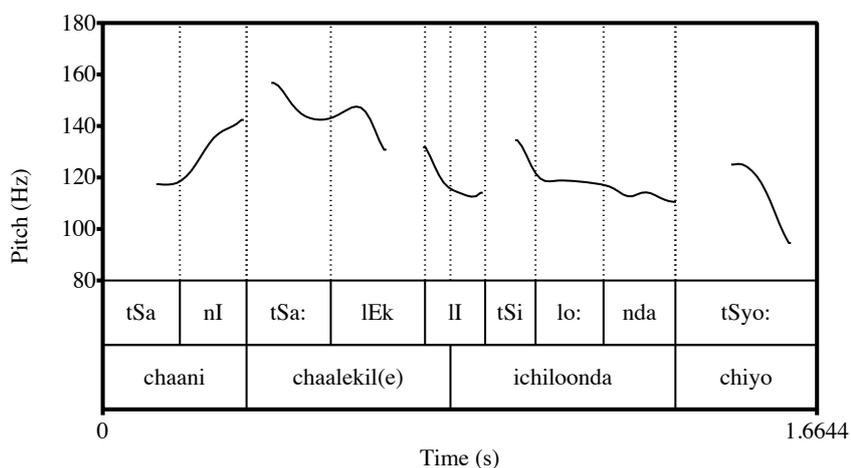
Figure 7: tʃaaní tʃálék(ɪ)l(e) ɪ(t)ʃɪloonda tʃ(i)yôː 'what caused that wound?' – see (37)

element in the sentence – (38-b) and Figure 8.

(37) tʃ-aa**ní** tʃ-á-lék(ɪ)l(e)   ɪ-(t)ʃɪ-loonda tʃ(i)yôː
   7-what SM7-TAM-leave(TAM) AUG-7-injury 7-this
   'What caused that wound?'

(38) a. *Do you know what happened?*

   b. aáwe, ɪ-**tʃ-áa**nɪ ˈtʃ-áá-fúmilêː
     no   AUG-7-what SM7-TAM-appear(TAM)
     'No, what happened?'

The same pattern seems to occur when the question is embeded – (39) and Figure 9.

157
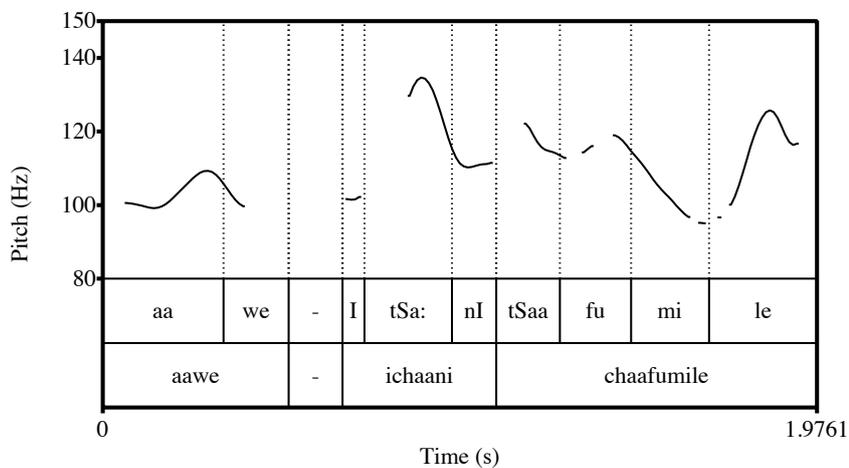
Figure 8: aáwe, ɪtʃáanɪ ˈtʃááfúmilê: 'no! what happened?' – see (38-b)
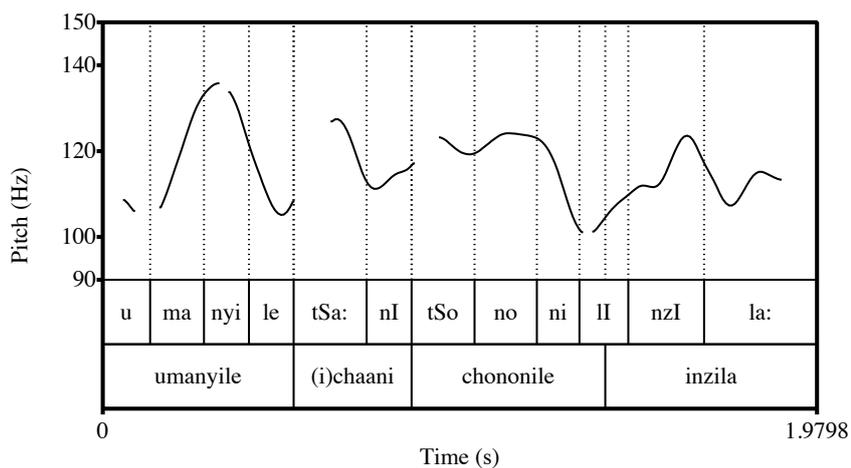
Figure 9: umányile (ɪ-)tʃáanɪ ˈtʃónónil(e) ɪnzɪ́ˈlâ: 'Do you know what damaged the road?' – see (39)

(39) u-mányile (ɪ-)**tʃ-áa**nɪ ˈtʃ-ónónil(e) ɪ-n-zíˈlâː
SM2S-know(TAM) (AUG-)7-what SM7[TAM]-damage(TAM) AUG-9-road
'Do you know what damaged the road?'

4   Conclusions

While Fipa shows some IAV effects, *wh*-questions are generally only marked by the boundary tone H(L)% and optionally the other prosodic patterns that are associated with questions. Questions related to all types of arguments and adjuncts seems to share the syntactic properties of their non-questioned counterparts and multiple wh-questions are grammatical. We therefore tentatively conclude that Fipa *wh*-words are never dislocated. Further research on prosodic phrasing in Fipa may give support to this claim.

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Appendix: Question Types Questionnaire

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This questionnaire is intended as an aid to eliciting different question types, including yes/no questions, alternative questions, and wh-questions on a range of constituents. We have taken care to include examples that allow one to test for common Bantu phenomena, such as a subject/non-subject asymmetry in wh-questions and an obligatory immediately after the verb (IAV) position for questioning verb complements. The questionnaire is intended as a guide, only, as every language will have its own set of possibilities and complications. At the end of the questionnaire is a checklist. While we had Bantu languages in mind in devising the questionnaire, we hope it will also be useful to linguists with an interest question constructions in other languages.

1 Overview

Comparison of question types covered in the questionnaire:

a.   What do you want to drink? (Wh-question)
b.   Do you want coffee? (Yes/no question)
c.   Do you want coffee or tea? (alternative question)/ with yes/no answer
d.   You want what? (echo question)
e.   You want coffee, don't you? (tag question)
f.   Say, do you want coffee? (question with an initial-question particle)
g.   Which drink do you want? (which-question)
h.   What drink do you want? (what NP question)

2 (Simple) *wh*-questions

2.1 Subject

(1) Who saw Juma? Ali saw him.
(2) What happened? There was a fire.
(3) Who arrived late? Mary arrived late.
(4) Who wants more cake? All of the children want more cake.
(5) Who will buy the food? Father will buy the food.
(6) What damaged the bridge? An overloaded truck.
(7) Who has fallen asleep? The baby has fallen asleep.
(8) Who didn't help to clean? Father didn't help.
(9) What caused that wound? A dog bit me.
(10) Who doesn't eat cake? My aunt because she is a diabetic.
(11) Who arrived there first? I did. (expletive?)
(12) Who lives there? John lives there. (expletive?)

2.2 Object

(13) What did Juma get for Eid /Christmas? A blue shirt.
(14) Who did you meet at the movies? My cousin.
(15) What did you (pl.) see in London? We saw Big Ben and the Tower of London.
(16) What has Salma brought for father? Today's newspaper.
(17) Who don't you like? I don't like my Kiswahili teacher.
(18) What will you eat for dinner? We will eat rice and meat for dinner.
(19) What is Hamisi reading to father? Hamisi is reading the newspaper to father.
(20) Who pl. did you see at the market this morning? I saw my friends at the market this morning.
(21) What don't you like about the book? The main character is too mean.

2.3 Double Object Construction (DOC) Indirect Object (IO)

(22) Who did you give the oranges to? I gave the oranges to my neighbor.
(23) For whom is Mary buying the book? She is buying the book for her friend.
(24) Who are you baking the cake for? We are baking the cake for the children.
(25) For what are you buying the food? We are buying the food for the party.
(26) Who will she teach French to? She will teach French to the neighbour's daughter.
(27) Whom haven't you given any cake yet? The people sitting in the back.

2.4   DOC Direct Object (DO)

(28)   What did you give your sister? I gave my sister some fruit from Lushoto.

(29)   What is he teaching the students? He is teaching the students mathematics.

(30)   What will you show the visitors? I will show the visitors the market and the university.

(31)   What did you forget to buy for your sister? I forgot to buy my sister the English textbook.

(32)   Which story haven't you read to this child yet? The one with the lion.

2.5   Reciprocal verbs (potentially, depending on the language)

(33)   Who did we talk to? We talked to my mother.

(34)   Who will she go there with? She will go there with my neighbour.

(35)   Who haven't you met yet? I haven't yet met the lady standing in the corner.

(36)   Who did the students argue with? They argued with their English teacher.

2.6   Locative

(37)   Where was the President born? He is from Bagamoyo.

(38)   Where are you (pl.) going? We are going to school.

(39)   Where did Mary get this book? She got this book in the capital.

(40)   Where are you thinking of building a house? I want to build a house in my home village.

(41)   Where wouldn't you agree to move? I would not like to work in a big city.

(42)   Where will you (pl.) send the children to school? We will send the children to school in Blantyre.

2.7   Temporal

(43)   When are you going on vacation? We are going on vacation in June.

(44)   What time did she arrive? She arrived at 8am.

(45)   When will the rains start? Probably next month.

(46)   What time do you want to meet? Let's meet at 3pm.

(47)   When did you see Mary? I saw Mary yesterday.

2.8   Manner/Instrumental

(48)   How did you (pl.) get here? We came by bus.
(49)   How does Mary make her chocolate cake? She makes her cake with grated chocolate and cinnamon.
(50)   How will they dance at the wedding? They will dance in the traditional style.
(51)   How did he find out (that they were talking about him like this)? He caught them.
(52)   How did Mary fix the car? She fixed the car with the tools that were in the boot.
(53)   How is she chopping (cutting) the firewood? She is chopping firewood with an axe.

2.9   Why/Reason

(54)   Why is it always so hot in March? Because of the humidity.
(55)   Why did the teacher not set any homework? Because tomorrow is a national holiday.
(56)   Why will you not go home for Christmas? Because I can't afford too.
(57)   What did you give her the money for? To pay her brother's school fees.
(58)   What are they inviting us for? It's a wedding.

2.10   How come (negative/surprise question)

(59)   How come the children are already at home? There was no school today.
(60)   How come you didn't buy milk? There was none.
(61)   How come we are eating cabbage again? There is so much of it in the garden.

3   Which-questions/what-questions/how many

(62)   Which neighbour saw Juma? Ali saw him.
(63)   Which student arrived late? All of them arrived late.
(64)   Which children want cake? Mary and Sue want cake.
(65)   Which adult will buy the food? Father will buy the food.
(66)   Which child has fallen asleep? Mary's son has fallen asleep.
(67)   Which of these books are you ordering? The entire list.
(68)   What time is the lecture? In the morning.
(69)   Which book do you want? I want the blue one.
(70)   Which book did you give your mother? I gave her the dictionary.
(71)   Which child did you make write on the board? Mary.

(72) Which friend did you drive home? John.
(73) Which boyfriend will she introduce to her parents? Maybe neither of them.
(74) What sights did you show them? The Zomba plateau and the national park.
(75) What name did they chose? They preferred Jane in the end.
(76) What place did you take them to? My mother's house.
(77) What shirt did you lend him? The green one.
(78) How many guests are invited? Twenty-five guests are invited.
(79) How many days are you staying there? Only three.
(80) How much water is left? Two large buckets.
(81) How many children do you want to have? Two, I think.
(82) Which guy did she marry? The banker? No, the teacher.

4 Yes/no-questions

(83) Does Juma want cake? Yes, he does.
(84) Did you buy the book? No, they didn't have it.
(85) Will you come back tomorrow? Yes.
(86) Do you think she is ready? Probably.
(87) Have you seen him? Not yet.
(88) Do you like the decorations? Yes, they are beautiful.
(89) Have you ever been to London? Not yet.
(90) Do you know why she came here? No, I have no idea.

5 Either/or questions

(91) Do you want a donut or a proper lunch? Lunch, I am hungry.
(92) Do you prefer the large one or the small one? I think the small one is more practical.
(93) Did he choose the job at the bank or with the big company? He chose the job at the bank.
(94) Does he want tea or coffee? Yes, please give him some hot water.
(95) Do you own or rent a house? No, I live with my parents.
(96) Did she go to church or mosque there? No, she is a Hindu.

6 Echo questions

(97) A: I like bananas. B: You like what? A: I said I like bananas.
(98) A: John is coming tomorrow. B: Who will come tomorrow? A: I said John will come tomorrow.

(99)   A: They will come at 7pm. B: What time will they come? A: I said at 7pm.

(100) A: They are running late. Their car has broken down. B: Why are they late? A: I saidthat their car has broken down.

(101) A: I live up in the hills. B: Where do you live? A: I said up in the hills.

7   Rhetorical questions

(102) A: Are you free tomorrow? Am I free tomorrow?! I have a million things to get done.

(103) A: Will they ever stop corruption? I just know they won't.

(104) A: Will this road ever be finished? I no longer believe it.

(105) A: Why don't you listen to me? It's driving me mad.

(106) Who would agree to go so far away? No one!

(107) Who would be able to afford to educate all these children? No one! There are too many of them!

(108) Who would touch a wild crocodile? No one! You/one would have to be crazy.

(109) Who said that it would be easy to do that? No one!

(110) What can they tell him? Nothing! No one can solve his problem.

(111) What are they going to do for him? Nothing! No one can solve his problem.

(112) What will she offer him? Nothing! She is so selfish/mean.

(113) Where will they find another teacher? Nowhere! No one wants to go to this village.

(114) Where will she meet such a brave man? Nowhere! Such a man doesn't exist.

(115) To whom will they sell such an ugly cow? No one! Nobody will buy it!

(116) Why would I do such a stupid thing?

(117) Why would I say that?

(118) When will this plane arrive? Never! These flights are always being cancelled!

(119) What has he ever done for you? And you keep helping him.

8   Surprise questions

(120) A: I bought it. B: You did WHAT? But it was ridiculously expensive.

(121) A: He sold the house. B: He did WHAT? How could he do that?

(122) A: I won the lottery. B: You what? That's amazing. Congratulations.

(123) A: He beat his wife up badly. B: He did WHAT? That's terrible. I hope he was reported to the police.

9 Embedded questions

(124) A: He asked what I wanted there. How rude of him!

(125) A: Mary wants to know what you would like for dinner. B: I would like some fish.

(126) A: We are wondering when they will come. B: Probably not until late.

(127) A: I don't know whom she will choose. B: Me neither. They are all good.

(128) A: I asked which book she liked. And she said the first one.

(129) A: I don't know who will arrive first. What do you think? B: I expect Mary will arrive first.

(130) I don't know whether they are coming to the wedding.

(131) I told them where we are going.

(132) They found out whom we voted for.

(133) They asked us when to leave.

(134) I noticed what time Mary got home.

(135) We are wondering whether to call them again.

10 Counter pairs to embedded questions

(136) I know that they are coming to the wedding.

(137) I told them we are going home.

(138) They found out that we voted for the opposition.

(139) I noticed that Mary got home at 10pm.

11 Tag questions

(140) A: You like coffee, don't you? B: Yes, that's my bad habit.

(141) A: He understands what it means, doesn't he? B: Yes, I think so.

(142) A: You know why there are here, right? B: Yes, I'm afraid so.

(143) A: She is beautiful, isn't she? B: Yes, absolutely.

(144) A: He was great in that movie, wasn't he? B: Well, I didn't really like him in that role.

12 Question-flagging particle/word

(145) A: Say, have you ever been to Dubai? B: Not yet.

(146) A: Tell me, do you like it? B: Yes, it's great.

(147) A: Excuse me, are you the new teacher? B: Yes, I am.

(148) A: So, are you going to buy it? B: I don't know yet.

13 Exhaustive questions

(149) Who all came to the dinner? John, Marry and Steve.
(150) What (all) food do you serve? We have bananas, rice and chapatti.
(151) Which (all) sodas do you have? Coca cola, Fanta and Pepsi.
(152) Which (all) countries have you visited? Only Kenya and Uganda.

14 Multiple questions

(153) Context: John came with Mary, and Sue came with Steve.
    Q: Who came with whom?
(154) Context: I will bring a salad, John will bring the drinks and Mary will bring a cake.
    Q: Who will bring what?
(155) Context: I saw Mary at the movies and John at the library.
    Q: Where did you see whom?
(156) Context: I went to Paris in 1980 and to Rome in 1995.
    Q: When did you go where?
(157) Context: I am buying the book for John and the game for Mary.
    Q: What are you buying for whom?

15 Imperatives

(158) A: Give me the milk! B: Give you what (what should I give you)?
(159) A: Stop whistling! B: I should stop what?
(160) A: Don't break it! B: I should not do what with it?

16 Wh-element as the only new element in context

16.1 Subject

(161) A: Do you know who saw Juma ? B: No, Who saw him? A: Mary.
(162) A: Do you know what happened? B: No, what happened? A: A waterpipe burst.
(163) A: Do you know who arrived late? B: No, who did/arrived late? A: Mary arrived late.
(164) A: Do you know who wants more cake? B: No, who does/wants more cake? A: The girl in the blue dress.
(165) A: Do you know who will buy the food? B: No, who will (buy the food)? A: Juma.
(166) A: Do you know what damaged the road? B: No what damaged it? A: The rains.

(167) A: Can you imagine who has fallen asleep? B: No, who has fallen asleep?
    A: The teacher.
(168) A: Do you know who didn't help to clean the house? B: No, who didn't
    help to clean the house? A: Hamisi didn't help.

16.2 Direct Object

(169) A: Can you imagine who he met at the movies? B: No, who did he meet?
    A: He met Asha and Juma at the movies.
(170) A: Do you know what they saw in London? B: No, what did they see?
    A: They saw a football match.
(171) A: Can you imagine what Salma has brought us? B: No, what has she
    brought? A: Oranges.
(172) A: Do you know who they don't like? B: No, who don't they like?
    A: They don't like Mary.

16.3 DOC IO

(173) A: Do you know what Juma got for Eid /Christmas? B: No, what did he
    get? A: A new shirt.
(174) A: Do you know who(m) she gave the oranges? B: No, who(m) did she
    gave the oranges? B: She gave the oranges to Hassan.
(175) A: Do you know for whom is Mary buying the book? B: No, for whom is
    she buying it? A: She is buying it for her mother.
(176) A: Can you imagine who we are baking the cake for? B: No, who are you
    baking the cake for? A: We are baking it for Juma. He is coming to visit
    tomorrow.
(177) A: Do you know what they are buying the food for? B: No, what are they
    buying it for? A: They are buying it for the celebration.
(178) A: Do you know who she will teach French to? B: No, who will she teach
    French to? A: The minister's daughter.
(179) A: Do you know who(m) she hasn't given any cake yet? No, who(m)
    hasn't she given any cake yet? A: The people sitting on that mat.

16.4 Others

(180) A: Can you imagine where I met Mary? B: No, where did you meet her?
    A: At the hospital, her neighbour just had a baby.
(181) A: Can you imagine how he fixed it?
(182) B: No, how did he fix it? A: He kicked it.

17   Checklist

- In subject questions, is subject marking possible? Is it obligatory? Are there any changes in the agreement pattern?
- Can a subject be questioned in situ (in preverbal position)? What about expletive constructions? Or embedded questions?
- In object questions, is object marking grammatical? If so, is it obligatory?
- Is there any conjoint/disjoint morphology? Are some tenses impossible in questions (particularly with the *wh*-word in the immediately post verbal position)?
- Does the *wh*-word appear in a specific position? Is there any flexibility in terms of word order? Do which-questions have a different word order from constituent questions?
- If your language has augments, does the augment appear on the noun in which-questions? Is there an augment(-like element) on the question word?
- Does your language have clitic *wh*-words? If so are they different from non-clitics in multiple questions?
- Are there any question flagging/introducing words? If so, where do they appear and do they affect the intonation pattern?
- Where do "why" words appear?
- Is there a difference in word order between which-questions and other types of *wh*-questions for objects (in Double object constructions this will be most visible)?
- Are you sure that you have recorded the right intonation pattern for each question (not a reading intonation? or any other non-natural or non-context appropriate intonation?)
- Try to use two speakers for question answer pairs if possible.

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Papers on syntax. Contributions by Artemis Alexiadou & Spyridoula Varlokosta, Elena Herburger, Paul Law, Alan Munn, Cristina Schmitt, Juan Uriagereka, Chris Wilder and Petra de Wit & Maaike Schoorlemmer.

ZASPiL 6   Artemis Alexiadou, Nanna Fuhrop, Paul Law and Sylvia Löhken (eds.):
Papers on clitics. Contributions by Artemis Alexiadou & Elena Anagnostopoulou, Piotr Banski, Monika Baumann, Loren A. Billings, Damir Cavar, Uwe Junghanns, Ursula Kleinhenz, Jaklin Kornfilt, Christine Maaßen, Cristina Schmitt, Petra de Wit & Maaike Schoorlemmer, Maaike Schoorlemmer, Chris Wilder and Ilse Zimmerman.

ZASPiL 7   Artemis Alexiadou, Nanna Fuhrop, Paul Law and Ursula Kleinhenz (eds.):
Papers on phonetics and phonology. Contributions by Loren Billings, Christina Kramer & Catherine Rudin, Janet Grijzenhout, T. A. Hall, Haike Jacobs, Peter M. Janker, Manuela Noske, Bernd Pompino-Marschall, Peter M. Janker and Christine Mooshammer.

ZASPiL 8   Artemis Alexiadou, Nanna Fuhrop, Paul Law and Ursula Kleinhenz (eds.):
Papers on syntax, semantics, phonology and acquisition. Contributions by Artemis Alexiadou & Elena Anagnostopolou, Artemis Alexiadou & Melita Stavrou, Dagmar Bittner, Hans-Olav Enger, Manuela Friedrich, Wladimir D. Klimonow and Heike Wiese.

ZASPiL 9   Artemis Alexiadou, Nanna Fuhrop, Paul Law and Ursula Kleinhenz (eds.):
Papers on focus and ellipsis. Contributions by Loren A. Billings, Horst-Dieter Gasde, Uwe Junghanns, André Meinunger, Kerstin Schwabe and Ning Zhang.

ZASPiL 10   Artemis Alexiadou, Nanna Fuhrop, Paul Law and Ursula Kleinhenz (eds.):
Papers on syntax of clefts, pseudo-clefts, relative clauses, and the semantics of present perfect Contributions by Artemis Alexiadou & Anastasia Giannakidou, Marcel den Dikken, André Meinunger and Chris Wilder, Caroline Heycock & Anthony Kroch, Jason Merchant, Renate Musan, Wolfgang Sternefeld, Peter Svenonius and Chris Wilder.

ZASPiL 11   Artemis Alexiadou, Nanna Fuhrop, Ursula Kleinhenz and Paul Law (eds.):
Papers on morphology and phonetics. Contributions by H.G. Tillmann, K.J. Kohler, P.A. Keating, F. Schiel & A. Kipp, Ch. Draxler, A. Mengel, R. Benzmüller & M. Grice, A. P. Simpson, L. Ellis & W. J. Hardcastle, K. Russell, E. Farnetani, M. Jessen, B. Kröger, L. Faust and B. Pompino-Marschall & P. M. Janker.

ZASPiL 12   Artemis Alexiadou, Nanna Fuhrop, Ursula Kleinhenz and Paul Law (eds.):
Papers on morphology and phonology. Contribution by Ursula Kleinhenz.

ZASPiL 13   Artemis Alexiadou, Nanna Fuhrop, Ursula Kleinhenz and Paul Law (eds.):
Papers on morphology. Contributions by Werner Abraham, Nanna Fuhrhop, Livio Gaeta, Rüdiger Harnisch, Heinrich Hettrich, Bernhard Hurch, Wladimir D. Klimonow, Ekkehard König & Peter Siemund, Elisabeth Leiss, Elke Ronneberger-Sibold, Peter Schrijver, Richard Schrodt, Anja Voeste and Wolfgang Ullrich Wurzel.

ZASPiL 14   Ewald Lang and Ljudmila Geist (eds.):
Papers on semantics of the copula. Contributions by Ewald Lang, Ljudmila Geist, Claudia Maienborn, Gerhard Jäger, Johannes Dölling, Ilse Zimmermann, Ning Zhang, Renate Musan, Renate Steinitz and Cristina Schmitt.