

## LANGUAGE BACKGROUND

- Rutooro (E/J.12) is a Bantu language spoken by approx. 500,000 in Western Uganda near Fort Portal (1991 census).
- Closely related languages in the Nyooro/Ganda group are Luganda, Runyankore, Ruciga, Nyooro, Soga, and Gwere.
- Resources include a dictionary (Kaji 2007), a brief article on tone (Kaji 2008), and a Runyooro-Rutooro grammar (Rubongoya 1999).
- Data from a 26 year old field methods consultant from Fort Portal, who speaks L1 Rutooro and L2 Luganda.

## PROMINENCE

- Prominence (H) in isolation surfaces on the penult:
 

1. ku-sóm-a	'to read'	4. o-mu-lími	'farmer'
2. ba-hik-íre	'they arrived'	5. mpóra	'slowly'
3. éé-n-go	'alligator'	6. bi-sátu	'three (C8)'
- However, not all words are assigned prominence in context:
 

7. E-ki-tábu	ky-áánge.	8. e-ki-tabu	ky-áánge
AUG-C7-book	C7-my	AUG-C7-book	C7-my
'The book is mine.'			
		'my book' (Kagi 2008)	
- |   |              |        |                    |              |
|---|--------------|--------|--------------------|--------------|
| 9. Íijo   | a-bá-ána     | b-óóna | ba-ka-sóm-a        | múú-n-ju.    |
| yesterday                                       | AUG-CI-child | CI-all | 3SG.SM-TAM-read-FV | LOC-C9-house |
| 'Yesterday all the children READ in the house.' |              |        |                    |              |
- |  |             |               |          |             |
|--|-------------|---------------|----------|-------------|
| 10. Nii-n-j-a                                    | kw-eend-a   | ba-taandik-e  | ku-som   | ee-bi-tábu. |
| ISG.SM-TAM-go-FV                                 | INF-want-FV | SM-start-SBJV | INF-read | AUG-C7-book |
| 'I will want that they start to read the books.' |             |               |          |             |
- Taking-off point: prominence is assigned to the penult of the  $\phi$ -phrase, not phonological- $\omega$ .

## DISTRIBUTION OF H TONES

- A H marks the subject and the right-edge of the VP: the verb in intransitive and the object in transitive clauses.
 

11. [DP Kajúúmba] [VP a-irúk-a].
Kajumba 3SG.SM-run-FV
'Kajumba runs.'
- |   |
|---|
| 12. [DP Kajúúmba] [VP a-raa-gur [DP ee-n-káito]]. |
| Kajumba 3SG.SM-FUT-buy AUG-CIO-shoe               |
| 'Kajumba will buy the shoes.'                     |
- If there are multiple post-verbal XPs (direct and indirect objects, adverbs, etc.) each one is marked with a H tone.
 

13. [VP Ba-ka-h [DP oo-mw-áán] [DP ee-by-ookúlya]].
3PL.SM-PST-give AUG-CI-child AUG-C8-food
'They gave the child food.'
- |   |
|---|
| 14. [VP Ba-ka-vog-a [DP matóka]] [PP ha-Sabiiti]. |
| 3PL.SM-PST-drive-FV car CI6.LOC-sunday            |
| 'They drove the car on Sunday.'                   |
- In cases of restructuring, the same patterns are found:
 

15. [VP Ni-ny-eend [DP oo-mu-lími] [VP a-som-e [DP e-ki-tábu]]].
PROG-ISG-want AUG-CI-farmer 3SG.SM-read-FV AUG-C7-book
'I want the farmer to read the book.'

- Assuming that  $\phi$ -phrases correspond to XPs, we can account for these data by assigning prominence to the right edge of every  $\phi$ -phrase with any number of theories of the syntax-phonology interface (i.e. Edge Alignment, Match Theory, etc.)

## OVERVIEW

- In general, XPs in Rutooro correspond to  $\phi$ -phrases with a penult bearing a H tone. We demonstrate this fact with words in isolation and intransitive, transitive, ditransitive, and restructuring clauses, where the verb is only marked H at the right edge of a  $\phi$ -phrase.
- In adnominal phrases we find two patterns: 1) the head noun does not bear a H when it is modified by an augment-less adjective or a 'weak' determiner (e.g., numerals, possessors, certain quantifiers) or when it is modified by a reduced RC; and 2) the head noun is marked H when it immediately precedes or follows a 'strong' determiner (e.g., demonstratives, certain quantifiers) or when it is modified by a full RC or an adjective or 'weak' determiner with an augment vowel (see Milsark 1974 for strong vs. weak determiners).
- Building on Carstens' (2000, 2008) account of Bantu DP structure, we capture the distribution of H tones in Rutooro by positing that type 1 adnominals are generated in DP-internal positions, and type 2 adnominals are adjoined in a DP external position.

## NON-CLAUSAL MODIFICATION

- Pattern #1: No H on head**
- Parallels between the nominal and verbal domain: the head is not marked with H, but post-nominal XPs are.

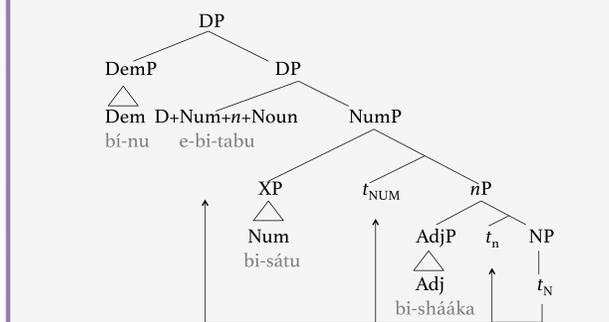
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|---|-------------|-----------|
| 16. e-bi-tabu                                       | bi-sátu     | bi-shááka |
| AUG-C8-book   | C8-three    | C8-new    |
| 'three new books' (also 'The three books are new.') |             |           |
| 17. e-bi-tabu                                       | by-áánge    | bí-íngi   |
| AUG-C8-book   | C8-POSS.ISG | C8-many   |
| 'many books of mine' (also 'My books are many.')    |             |           |

- Pattern #2: H on head**
- An exception occurs with demonstratives and other 'strong' determiners, which surface to the left or right of the noun.
- The noun gets an H (i8-21), unless there is also a post-nominal augmentless modifier, as in (22).
- Prosodically, strong determiners behave like subjects.

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|-----------------|---------------|-------------------|---------|
| 18. bí-nu       | e-bi-huguhúgu | 19. e-bi-huguhúgu | bí-nu   |
| C8-DEM          | AUG-C8-bat    | AUG-C8-bat        | C8-DEM  |
| 'these bats'    |               | 'these bats'      |         |
| 20. by-óón      | ee-bi-tábu    | 21. e-bi-tábu     | by-óóna |
| C8-all          | AUG-C8-book   | AUG-C8-book       | C8-all  |
| 'all the books' |               | 'all the books'   |         |

- |  |             |          |           |           |         |
|--|-------------|----------|-----------|-----------|---------|
| 22. (bí-nu)  | e-bi-tabu   | bi-sátu  | (#bí-nu)' | bi-shááka | (bí-nu) |
| C8-DEM   | AUG-C8-book | C8-three | C8-DEM    | C8-new    | C8-DEM  |
| 'these three new books' ('These three books are new.') |             |          |           |           |         |

- We can account for the distribution of H tones by placing them at the right edge of XP, by adopting Carstens (2000, 2008).



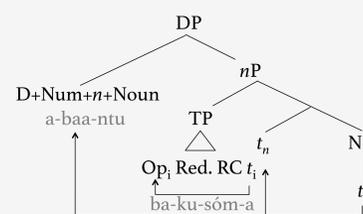
- When preceded by an augment vowel, pattern #1 modifiers trigger a H on the head noun; these examples are often translated as relative clauses (see next section for analysis).
- This is the only option after a post-nominal demonstrative

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|---|-----------------------|
| 24. e-bi-tábu                               | e-bi-shááka           |
| AUG-C8-book                                 | AUG-C8-new            |
| 'the new books'                             |                       |
| 26. e-bi-tábu                               | bí-nu (#e-)'bi-shááka |
| AUG-C8-book                                 | C8-DEM AUG-C8-new     |
| 'these new books.' ('These books are new.') |                       |

## CLAUSAL MODIFICATION

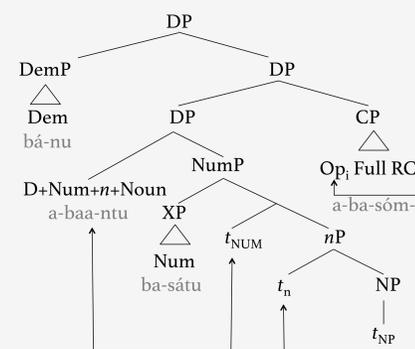
- Pattern #1: No H on head**
- Reduced RCs (TPs – see “More RC Syntax”) behave like augmentless modifiers: the RC head is not marked H
- 'High' determiners cannot intervene between the head and the reduced RC (compare to full RCs below).
- Subsequently we place the reduced RC in spec,nP.
- Reduced RC template: SubjCM-Neg-T-Root-FV

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|----------------------------------|--------------------|
| 26. a-baa-ntu                    | ba-ku-sóm-a        |
| AUG-C2-person                    | C2.SM-PROG-read-FV |
| 'the people who are reading'     |                    |
| 27. o-mw-aana                    | ba-ta-góónz-a      |
| AUG-CI-child                     | 3PL.SM-NEG-like-FV |
| 'the child that they don't like' |                    |



- Pattern #2: H on head**
- Full RCs (CPs – see “More Relative Clause Syntax”) have the same prosodic patterns as non-clausal modifiers with the augment vowel: the RC head is marked with H.
- 'High' determiners can follow the relative clause, precede the relative clause, or precede the head (as shown).
- We adjoin full RCs to DP.
- Full Subject RC: RM-SubjCM-Neg-T-Root-FV
- Full Object RC: RM-ObjCM-SubjCM-Neg-T-Root-FV

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|-------------------------------|--------------------------|----------|-------------------|
| 28. bá-nu                     | a-baa-ntu                | ba-sátu  | a-ba-sóm-a        |
| C2-DEM                        | AUG-C2-person            | C2-three | REL-C2.SM-read-FV |
| 'those three people who read' |                          |          |                   |
| 29. a-ka-téga                 | a-ka-ya-guz-ire          |          |                   |
| AUG-CI2-bracelet              | REL-CI2.OM-3SG.SM-buy-FV |          |                   |
| 'the bracelet that he bought' |                          |          |                   |



## MORE RC SYNTAX

- Evidence supporting an analysis that full RCs are CPs, while reduced RCs only project as high as TP:
    - Both full RCs and reduced RCs have TAM makers and subject agreement (agreement between subject and T<sup>0</sup>), although the form of 1<sup>st</sup> and 2<sup>nd</sup> person agreement is distinct in all RCs.
    - Full object RCs, but not reduced object RCs, show class agreement with object heads (agreement between Op and C<sup>0</sup>).
    - High adverbs can intervene between the subject and the verb in full object RCs and matrix clauses, but not in reduced RCs.
- |  |               |                                     |                       |
|--|---------------|-------------------------------------|-----------------------|
| 30. e-bi-tábu                          | a-ba-lím      | íijo                                | *(e-bi)-ba-a-som-ére  |
| AUG-C8-book                            | AUG-C2-farmer | yesterday                           | RM-C8-C2-PROG-read-FV |
| 'the books the farmers read yesterday' |               |                                     |                       |
| 31. Ti-ba-li                           | *(a)-ba-lími. | 32. Ti-ba-li                        | *(a)-ba-ku-lím-a.     |
| NEG-C2-COP                             | AUG-C2-farmer | NEG-C2-COP                          | AUG-C2-farmer         |
| 'They aren't farmers.'                 |               | 'They aren't ones who are farming.' |                       |

- For these reasons, we argue for an analysis where reduced RCs are TPs and full RCs are CPs. We adopt matching analyses for both, for the following reasons:
  - Raising analyses of RCs are incompatible with head-movement in the DP domain.
  - There is no evidence of movement in either case types of RCs (see also Pak 2007 for Luganda).

## OPEN QUESTIONS

- There are no cases of reduced RCs immediately following a right-edge boundary, i.e. the word preceding a reduced RC never has a H.
    - Headless RCs *must* be full relative clauses.
    - Certain high adverbs in the initial position of reduced RCs (a dispreferred position for these adverbs) phrase with the RC.
    - Overt subjects in reduced object RCs phrase with the RC, but in these contexts the object head is phrased separately.
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|---|----------------|----------------|
| 33. o-mw-áána                           | a-ba-lími      | ba-ta-góónz-a  |
| AUG-CI-child                            | AUG-C2.-farmer | C2-NEG-like-FV |
| 'the child that the farmers don't like' |                |                |
- Should an ad-hoc constraint suppressing right-edge boundaries before reduced RCs replace our syntactic account? If so we'd lose
    - the parallel between clausal and non-clausal modification, and
    - an explanation for why 'high' determiners can intervene between the head and the full RC but not reduced RC.

## REFERENCES

- Carstens 2000: Concord in Minimalist Theory. *LI*. Carstens 2008. DP in Bantu and Romance. In *The Bantu-Romance Connection*. Kaji 2007: A Rutooro Vocabulary. Tokyo: Research Institute for Languages and Cultures of Asia and Africa. Kaji 2008. Tone and syntax in Rutooro, a toneless Bantu language of Western Uganda. *Language Sciences* 31: 239-247. Milsark, Gary. 1974. Existential sentences in English. Ph.D. thesis, MIT. Pak 2008: The Postsyntactic Derivation and its Phonological Reflexes. PhD thesis, UPenn. Rubongoya 1999: Modern Runyooro-Rutooro Grammar. Köln: Rüdiger Köppe Verlag. Selkirk 2011: The syntax-phonology interface. In *The Handbook of Phonological Theory*. Thanks to our language consultant Barbara Balinda; Michael Diercks, Arsalan Kahnemuyipour, Claire Halpert, Larry Hyman, Jochen Zeller, and Jason Zentz; and audiences at ACAL 47 and Toronto's Syntax/Semantics Research Group.