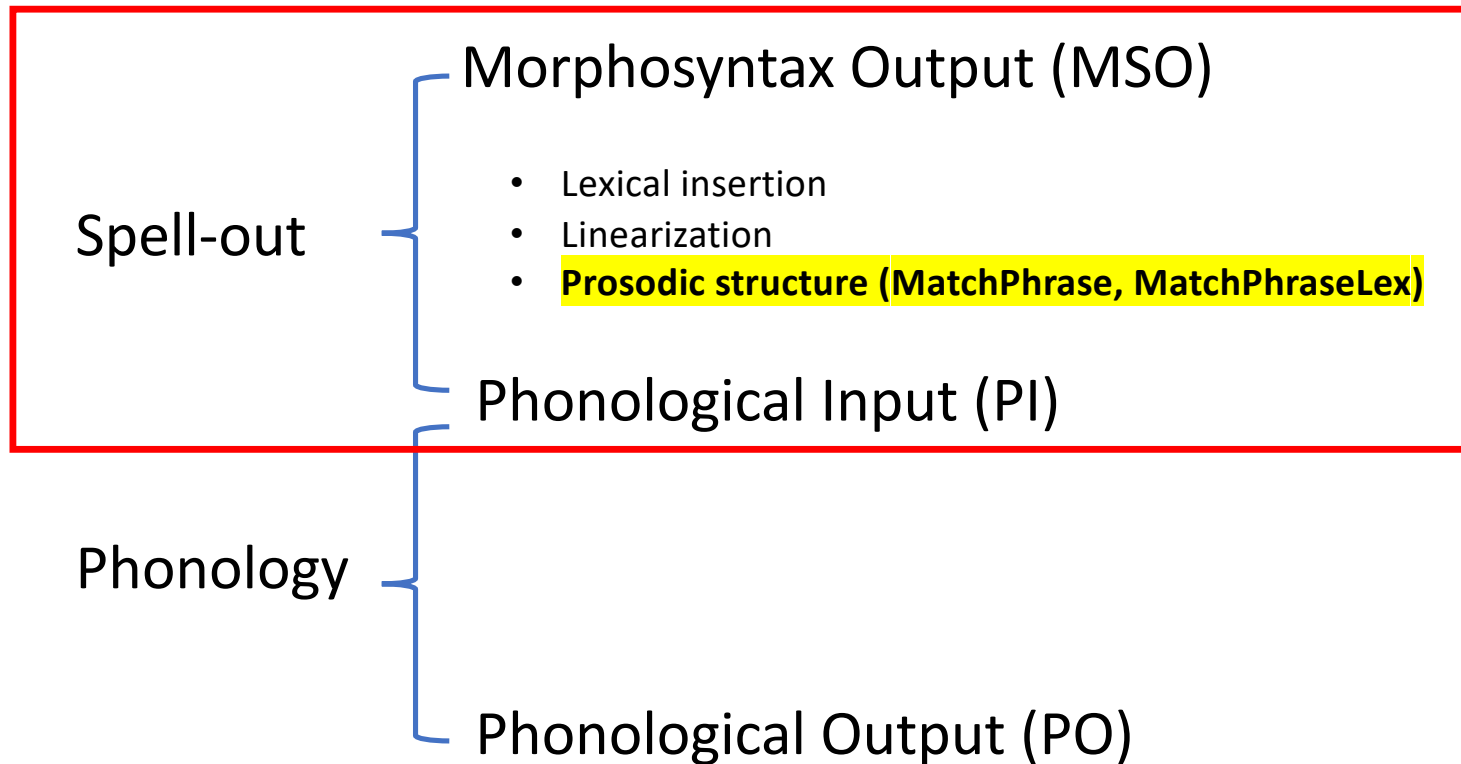# The prosody of weak and strong pronouns in Xitsonga

Seunghun J. Lee

(International Christian University & University of Venda)

[Collaboration with Crous M. Hlungwani, University of Venda]

Syntax and Prosody

(Kratzer & Selkirk 2020, Lee & Selkirk, to appear)

Spell-out

Morphosyntax Output (MSO)

- Lexical insertion
- Linearization
- **Prosodic structure (MatchPhrase, MatchPhraseLex)**

Phonological Input (PI)

Phonology

Phonological Output (PO)

This talk …

- What are the H tone patterns in the pronominal agreement vs. noun class agreement markers in Xitsonga?
  - Pronominal agreements display superhigh tone (upstep)

- What is the distribution of this super high tone?

- How can we explain the presence of this superhigh tone?

Xitsonga (S53)

- Southern Bantu
  - one of the 11 official languages of South Africa

- About 2 million speakers

  (South Africa, Zimbabwe, Mozambique, Lesotho)

- Data in this talk comes from Malamulele in the Limpopo province

Pronominal elements in Xitsonga

Pronominal agreement

- 1sg   ni (ndzi)
- 2sg   u
- 3sg   ú
- 1pl   hi
- 2pl   mi
- 3pl   vá

Independent (= Strong pronouns)

- 1sg   miná
- 2sg   wená
- 1pl   hiná
- 2pl   n'winá [ŋʷina]

- Cl 1   yená
- Cl 2   voná
- Cl 3   woná
- Cl 4   yoná
- Cl 5   roná
- Cl 5a   dyoná
- Cl 6   woná

- Cl 7   xoná
- Cl 8   swoná
- Cl 9   yoná
- Cl 10   toná
- Cl 11   roná
- Cl 14   byoná
- Cl 15~18   koná

Basics of Xitsonga Phonology

H tone spreading and PL

- H tone spreads rightward in an unbounded manner

  ni xava masa:ngu 'I buy sleeping mats'

  vá xává másá:ngu 'They buy sleeping mats'

- Penultimate lengthening is most prominent before an intonational phrase boundary

Blocking of H tone spreading

- OCP
- Non-finality
- CRISPEDGE(ϕ, Left)

Constraints on the prosodic structure

- BINARITY(ϕ) $(\omega \; \omega)_\phi$
- MAX(ϕ), DEP(ϕ)
- STRONGSTART $*\omega \; \phi$

Tonal patterns

Toneless /u/ 'you'

- toneless verb
  - u-xava   ngulu:ve

    2sg-buy   9.pig

    'You buy a pig.'

- H tone verb
  - u-<u>vóná</u>   <u>ngúlú</u>:ve

    2sg-see   9.pig

    'You see a pig'

H tone /ú/ 's/he'

- toneless verb
  - <u>ú</u>-<u>xává</u>   <u>ngúlú</u>:ve

    3sg-buy   9.pig

    'She buys a pig.'

- H tone verb (*Upstep*)
  - ↑<u>ú</u>-<u>vó</u>ná <u>ngúlú</u>:ve

    3sg-see   9.pig

    'She sees a pig'

the blue color represents H tone spreading span; the red color represents super high tone span.

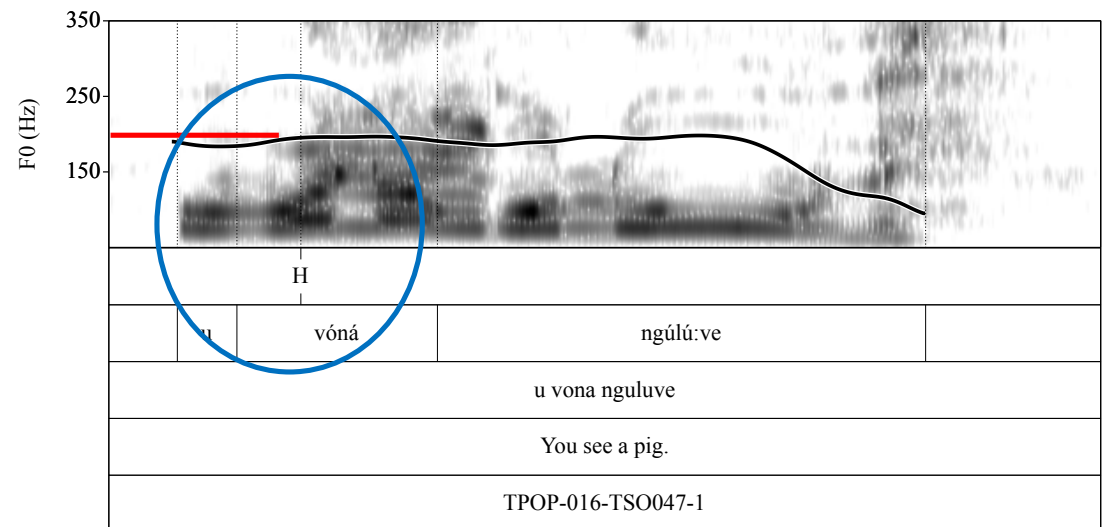# H tone spreading and penultimate lengthening

- H tone subject - toneless verb
  - u-vóná ngúlú:ve

    2sg-see   9.pig

    'You see a pig.'

the blue color represents H tone spreading span; the red color represents super high tone span.

H tone spreading:
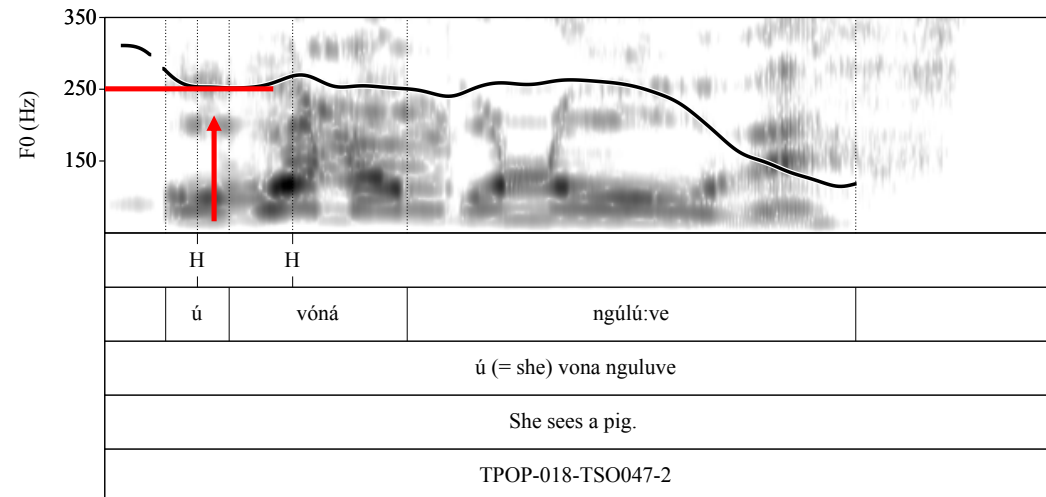# High tone plateau and upstep

- H tone subject - H tone verb
  - ↑<u>ú</u>-v<u>ó</u>ná ngúlú:ve

    3sg-see   9.pig

    'She sees a pig'

the blue color represents H tone spreading span; the red color represents super high tone span.
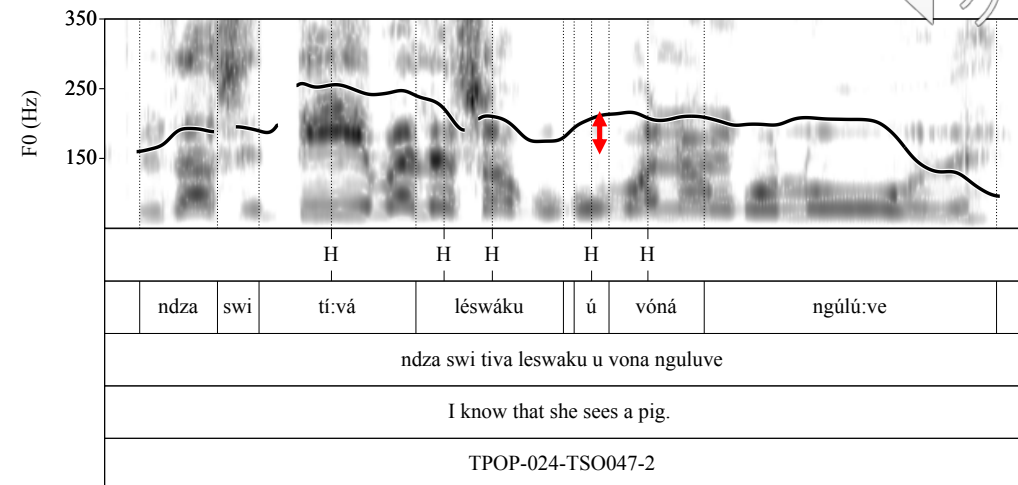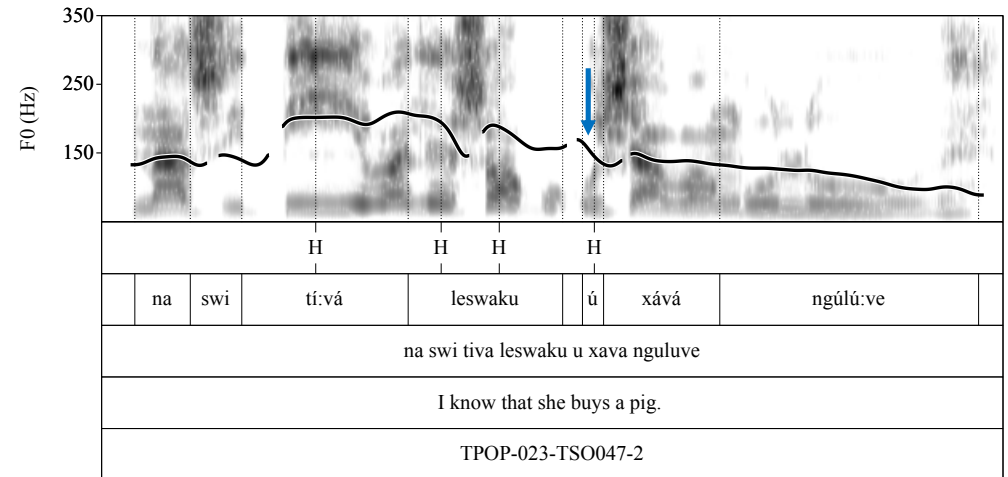
Subordinate clause:
léswáku '(conj.) that'

- **toneless verb**
  - na swi tívá lé⁺swáku <u>ú-xává</u> ngúlú:ve

    1sg OM8 know that   3sg buy   9.pig

    'I know that she buys a pig.'

- **H tone verb**
  - na swi tívá lé⁺swáku ↑<u>ú-vóná</u> ngúlú:ve

    1sg OM8 know that   3sg   see   9.pig

    'I know that she sees a pig'

		H		H	H		H		
na	swi	tí:vá		leswaku		ú	xává	ngúlú:ve	

na swi tiva leswaku u xava nguluve

I know that she buys a pig.

TPOP-023-TSO047-2

		H		H	H		H	H	
ndza	swi	tí:vá		léswáku		ú	vóná	ngúlú:ve	

ndza swi tiva leswaku u vona nguluve

I know that she sees a pig.

TPOP-024-TSO047-2

the blue color represents H tone spreading span; the red color represents super high tone span.

More upstep data

after subject with a final toneless syllable

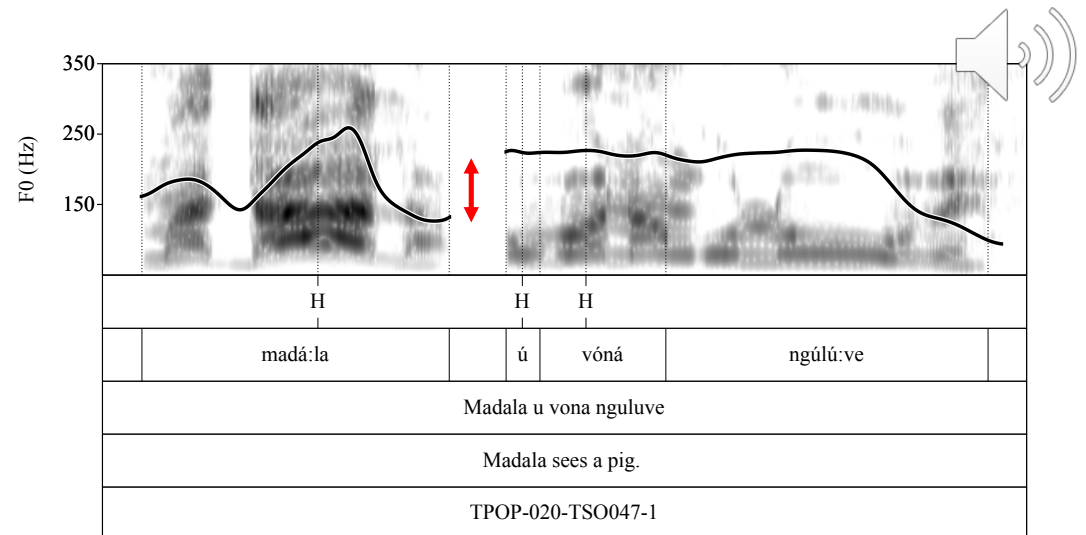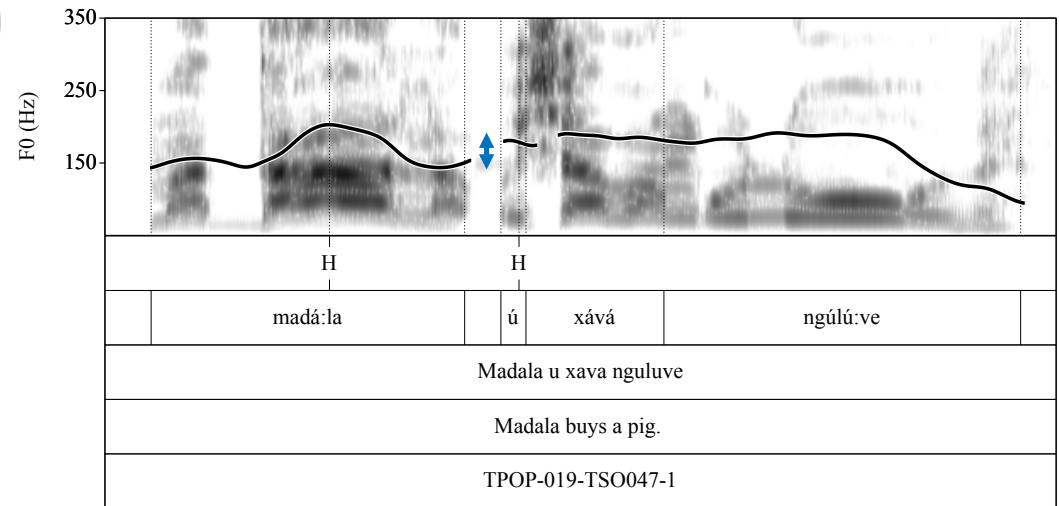- Mad<u>á</u>:la, ú-xává   ngúlú:ve

  Madala   3sg-buy   9.pig

  'Madala, he buys a pig.'

- Mad<u>á</u>:la, ↑ú-v<u>ó</u>ná ngúlú:ve

  Madala   3sg-see   9.pig

  'Madala, he sees a pig'

F0 (Hz)

350
250
150

| H | H | |
| madá:la | ú | xává | ngúlú:ve |

Madala u xava nguluve

Madala buys a pig.

TPOP-019-TSO047-1

F0 (Hz)

350
250
150

| H | H | H | |
| madá:la | ú | vóná | ngúlú:ve |

Madala u vona nguluve

Madala sees a pig.

TPOP-020-TSO047-1

the blue color represents H tone spreading span; the red color represents super high tone span.

11

More upstep data

after a subject with a final H tone

- h<u>ó</u>:sí, ú-xává   ngúlú:ve
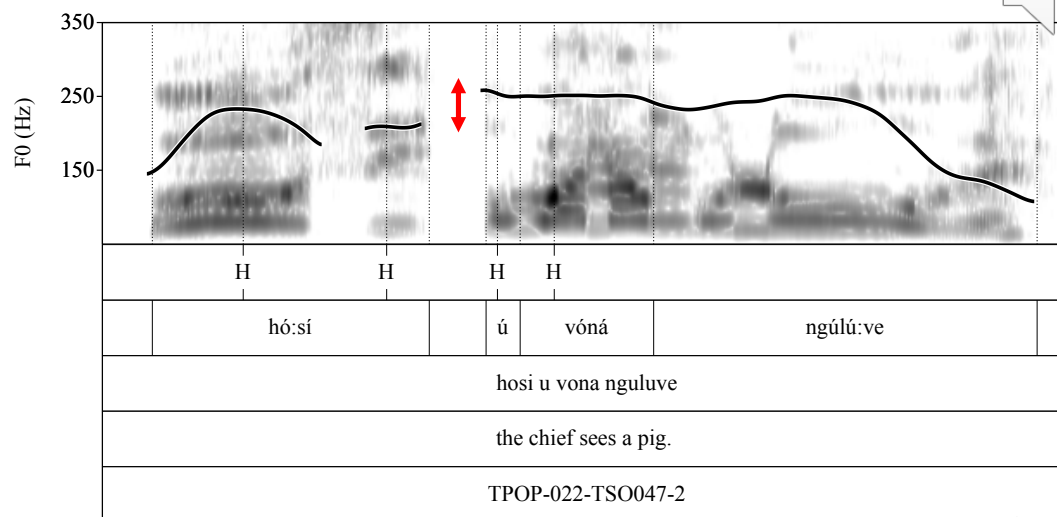
  9.chief   3sg-buy   9.pig

  'The chief, he buys a pig.'

- h<u>ó</u>:sí, ↑ú-v<u>ó</u>ná ngúlú:ve
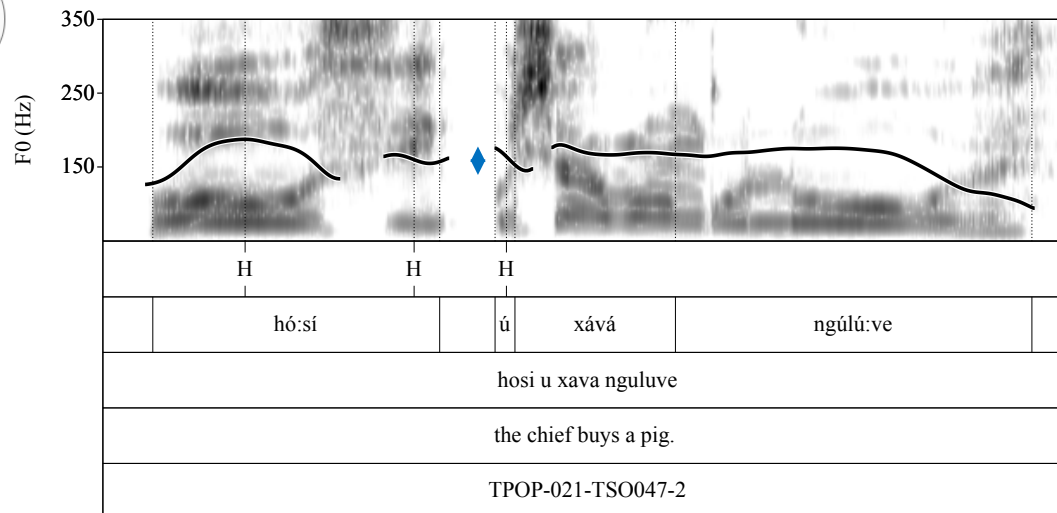
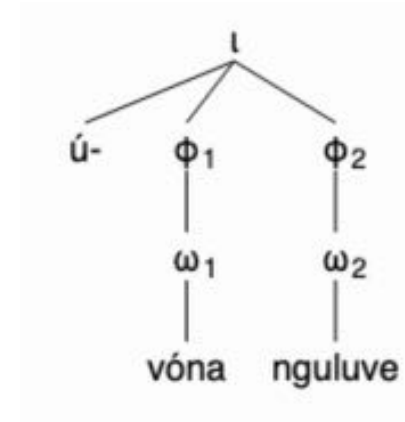 9.chief   3sg-see   9.pig

  'The chief, he sees a pig'

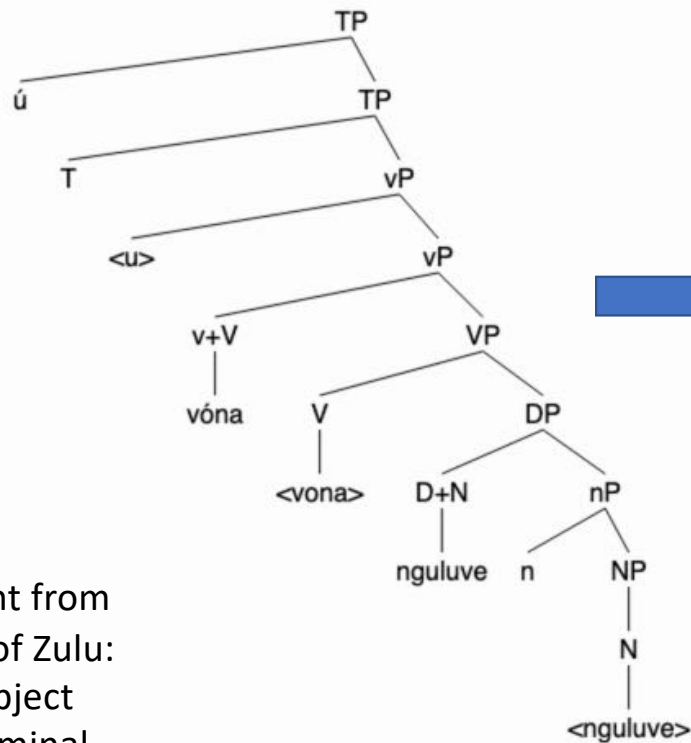*Note that the final tone of /hósí/ is not upstepped.*

the blue color represents H tone spreading span; the red color represents super high tone span.

H	H	H
hó:sí	ú	xává	ngúlú:ve

hosi u xava nguluve

the chief buys a pig.

TPOP-021-TSO047-2

H	H	H H
hó:sí	ú	vóná	ngúlú:ve

hosi u vona nguluve

the chief sees a pig.

TPOP-022-TSO047-2

12

Syntactic structure

- MSO: [ú- [T [$_{vP}$ [v**o**na]$_{v+V}$ [nguluve]$_{DP}$]$_{vP}$]$_{TP}$
- PI: (ú- ((v**o**na)ω)ɸ ((nguluve)ω)ɸ)ι

This structure is different from Zeller's (2008) analysis of Zulu: "the omission of the subject DP gives rise to a pronominal interpretation"

á la Lee & Selkirk (to appear)

- MatchPhraseL$_{EX}$
  only lexical phrases in the MSO are mapped to a ɸ in the PI

13

The source of upstep:
# Locus of the procliticization

- Hypothesis 1: recursive ω in PO

$((({}^{\uparrow}$ú- (vóná)$_{\omega2})_{\omega1}$ (ngúlú:ve)$_{\omega3})_{\phi})_{\iota}$

  - /ú/ is procliticized to the following prosodic word
  - Upstep in /ú/ as a repair to OCP violation to avoid two H tone within a non-minimal prosodic word (ω1)

- Hypothesis 2: recursive ϕ in PO

$((({}^{\uparrow}$ú-((vóná)$_{\omega1}$ (ngúlú:ve)$_{\omega2})_{\phi2})_{\phi1})_{\iota}$

  - /ú/ is procliticized to the following phonological phrase
  - Upstep in /ú/ as a repair to OCP violation to avoid two H tone in the surface within a non-minmal phonological phrase (ϕ1).

14
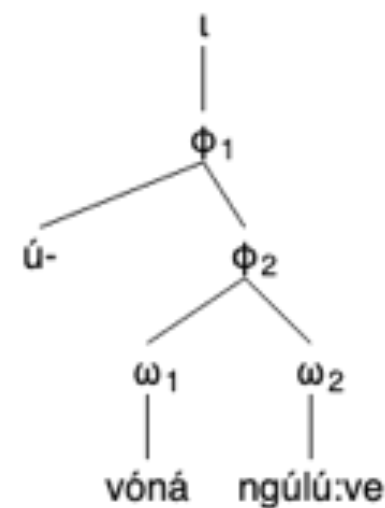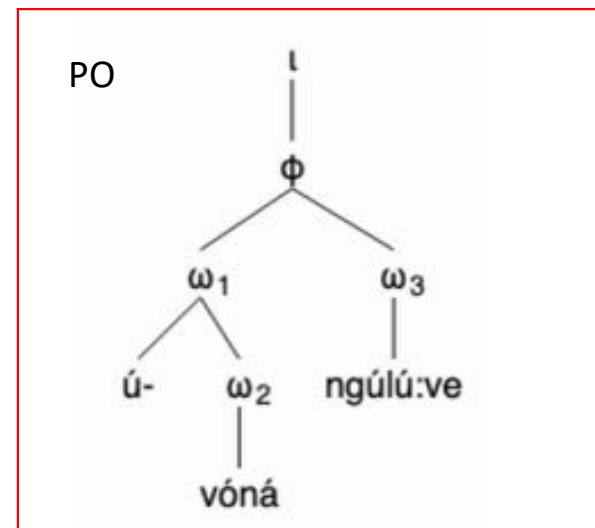
The source of upstep

a non-minmal phonological phrase (φ1)

- Unexpected (wrong) predictions

- If the /ú/ procliticizes to the φ, no H tone spreading is expected due to the CRISPEDGE(φ, Left)

- (ú-((xává)$_\omega$ (ngúlú:ve)$_\omega$)$_\phi$)$_\phi$

  'He buys a pig'

  - It predicts no H tone spreading
  - as in (ú-((xava)$_\omega$ (ngulu:ve)$_\omega$)$_\phi$)$_\phi$

a non-minimal prosodic word (ω1)

- (($^\uparrow$ú-(vóná)$_{\omega1}$)$_{\omega2}$ (ngúlú:ve)$_{\omega3}$)$_\phi$

  'He sees a pig'

  - /ú/ is procliticized to the prosodic word
  - Upstep is

- ((ú-(xává)$_\omega$)$_\omega$ (ngúlú:ve)$_\omega$)$_\phi$

  'He buys a pig'

15

Agreement prefix

- Prefixes tend to be more independent from the stem (and may form a separate prosodic word)

- Herbert (1992) argues the class agreement prefix in DP-initial position is separate from the rest of the NP in Xitsonga.

- H tone spreading data supports such a syntactic structure (cf. Lee & Selkirk, to appear)

  - ni xava ma-[sangu   ma-ntsó:ngó]

    1sg buy   cl6-sleeping.mat cl6-small

    'I buy small sleeping mats.'

  - vá xává má-[sangu   ma-ntsó:ngó]

    3pl   buy   cl6-sleeping.mat cl6-small

    'They buy small sleeping mats.'

If pronominal agreements are independent from the following verb, do other noun class agreement prefixes pattern in the same way?

agreement prefixes

PI

- MSO

[[ti-hom<u>ú</u>] [t<u>í</u> [v<u>ó</u>na] [nguluve]]]
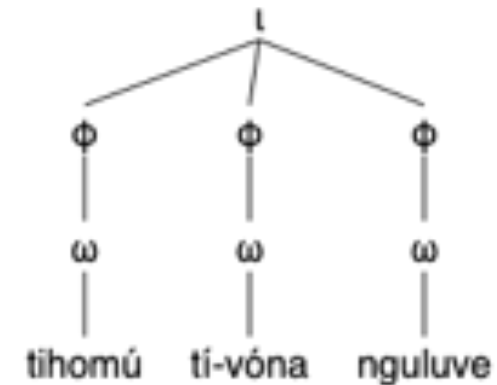
   cl10-cow   SM10   see   9.pig

   'The cows see a pig.'

- PI:
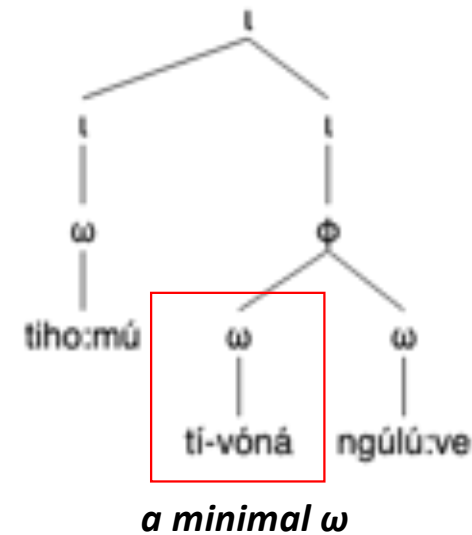
((((ti-hom<u>ú</u>)ω)ɸ (t<u>í</u> v<u>ó</u>na)ω ((nguluve)ω)ɸ)ι

PO

- PO:

(((ti-ho:m<u>ú</u>)ω)ι (((t<u>í</u> v<u>ó</u>ná)ω (ngúlú:ve)ω)ɸ))ι)ι

a minimal ω

Predictions

- When the subject does not show PL, no upstep is expected.

- (*predictions: future investigation*)
  Mad<u>á</u>la ú-v<u>ó</u>ná ngúlú:ve

  Madala   3sg-see   9.pig

  'Madala sees a pig'

- (*compare with*)
  Mad<u>á</u>:la, ↑ú-v<u>ó</u>ná ngúlú:ve

  Madala   3sg-see   9.pig

  'Madala, he sees a pig'

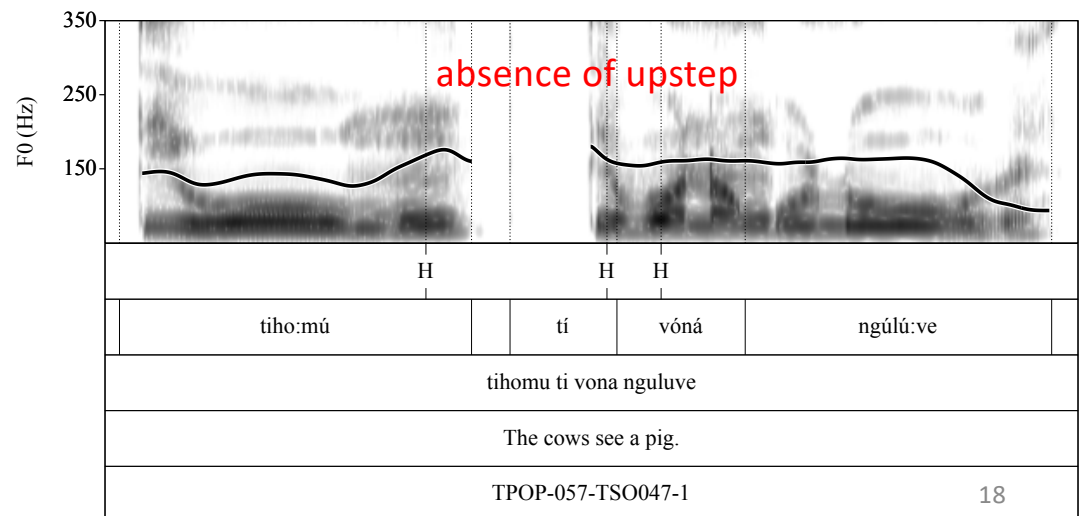- In sentences, with other noun class markers, no upstep is expected.

  ti-ho:m<u>ú</u>, t<u>í</u>   v<u>ó</u>ná ngúlú:ve

  cl10-cow   sm10 see   9.pig

  'The cows see a pig.'

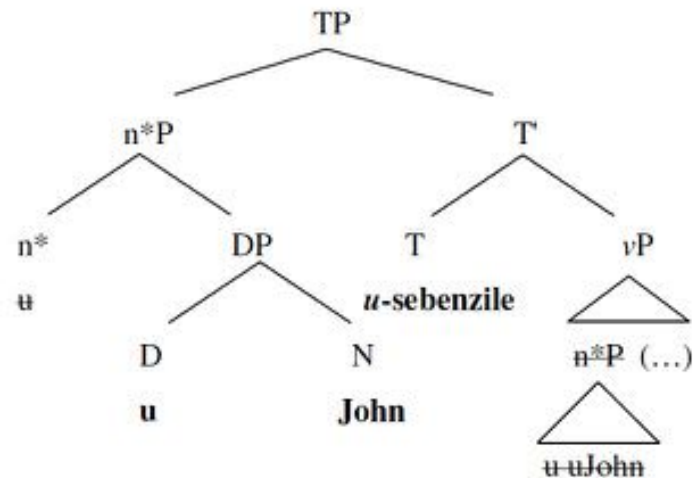absence of upstep

TPOP-057-TSO047-1

18

Alternative
Zeller (2008: 228-230)

UJohn <mark>u</mark>-sebenz-il-e. (Zulu)

John1a   SM1a-work-DIS-PST

'John worked.'

- "the omission of the subject DP gives rise to a pronominal interpretation"

  <mark>U</mark>-sebenz-ile. (Zulu)

  SM1a-work-DIS-PST

  'He worked.'

The prosodic status of the pronominal agreement in Xitsonga

- The H tone pronominal agreement markers /ú/ 's/he' and /vá/ 'they' in Xitsonga display upstep when they precede a H tone verb.

  - We argue that these pronominal agreements are located in a different syntactic position from other agreements (contra to the analysis of Zulu in Zeller 2008)
  - Upstep results from the prosodic procliticization of pronominal agreements to the following prosodic word (i.e. the verb).
  - Other agreement markers do not show such upstep of H tone.

- The pronominal agreements in Xitsonga are better analyzed as 'weak pronouns'.
  - Why are these weak pronouns not followed by a subject agreement marker?
    -> The agreement markers would be phonologically identical to the pronominal agreement (and undergo haplology, an active process in Xitsonga).

Penultimate lenthening and strong pronouns

Pronominal elements in Xitsonga

Agreement (= Weak pronouns)

- 1sg   ni (ndzi)
- 2sg   u
- 3sg   ú
- 1pl   hi
- 2pl   mi
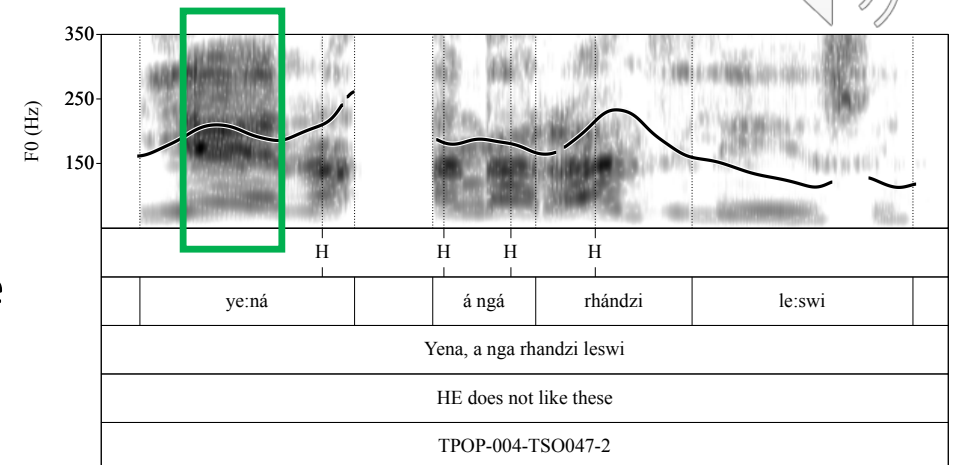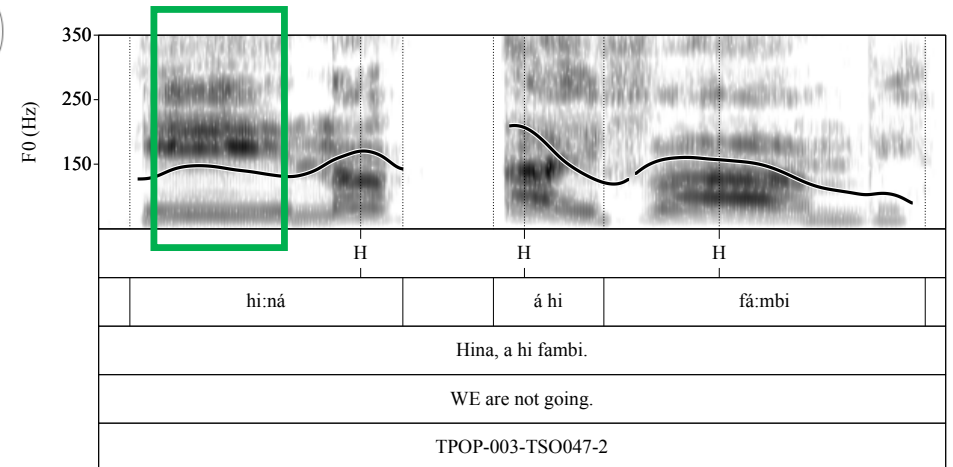- 3pl   vá

Independent (= Strong pronouns)

- 1sg   miná
- 2sg   wená
- 1pl   hiná
- 2pl   n'winá [ŋʷina]

Cl 1	yená		Cl 7	xoná
Cl 2	voná		Cl 8	swoná
Cl 3	woná		Cl 9	yoná
Cl 4	yoná		Cl 10	toná
Cl 5	roná		Cl 11	roná
Cl 5a	dyoná		Cl 14	byoná
Cl 6	woná		Cl 15~18	koná

Strong pronouns

- **Emphasis** (Baumbach 1987 : 160)
  - Hi:ná, á   hi   fá:mb-i
    1pl.prn   neg 1pl   go-neg
    'WE are not going.'
    (cf. a hi nga fambi 'we are not going')

  - Ye:ná, á   ngá rhándz-i   le:-swi
    3sg.prn   neg pot   like-neg   this-cl8
    'HE does not like these'
    (cf. a nga rhandzi leswi. 'he does not like these)

Note: Tone and penultimate markings are from our own data

Hina, a hi fambi.

WE are not going.

TPOP-003-TSO047-2

Yena, a nga rhandzi leswi

HE does not like these

TPOP-004-TSO047-2

Strong pronouns (Penultimate Lengthening, PL)

- **Locative** (cf. Baumbach 1987, 175)

  - hi   vón-án-á   ↓éká ye:↓ná

    1pl   see-recp-fv   loc   3sg.prn

    'We see each other at her place'.

  - vá   vúlávúl-án-a   ↓éká mi:↓ná

    3pl   speak-recp-fv   loc   1sg.prn

    'They speak to each other at my place'

- **Passive**

  - ti-homú tá xáv-íw-a ↓hí ye:↓ná

    10-cow   SM10 buy-pass-fv   by   3sg.prn

    'The cows are bought by him'.

  - ma-sangu má vón-íw-a ↓hí vo:↓ná

    6-sleeping.mat   SM6 see-pass-fv   by 3pl.prn

    'The sleeping mats are seen by them.'

These strong pronouns appear as the final prosodic word of an intonational phrase.

24

Non-emphatic use of Strong pronouns
(no penultimate lengthening)

Ditransitive

- hi nyı̱́ká ye⁺ná má-sá:ngu

  1pl give 3sg.prn 6-sleeping.mat

  'We give her sleeping mats'.

- hi nyı̱́ká ye⁺ná nyı̱́:⁺kó̱

  1pl give 3sg.prn 9.present

  'We give her a present.'

Applicative

- hi xav-el-a yená̱ má-sá:ngu

  1pl buy-appl-fv 3sg.prn 6-sleeping.mat

  'We buy sleeping mats for her'.

- hi xav-el-a yená̱ nyı̱́:⁺kó̱

  1pl buy-appl-fv 3sg.prn 9.present

  'We buy a present for her.'

Non-emphatic use of Strong pronouns
(no penultimate lengthening)

Causative

- hi lángút-ís-á   ye⁺ná   má-sá:ngu

  1pl   look.at-caus-fv   3sg.prn   6-sleeping.mat

  'We make her look at sleeping mats'.

- hi lángút-ís-á   ye⁺ná   nyí:⁺kó

 1pl look.at-caus-fv   3sg.prn   9.present

  'We make her buy a present.'

- Strong pronouns do not introduce a prosodic boundary that triggers PL
  - ditransitive
  - applicative
  - causative

Strong pronouns

- **Contrastive focus** (Baumbach 1987 : 160)

  - yená mu- ↓fá:na a nga láv-i   ku tirha laha

    3sg   cl1-boy   neg pot want-neg to work here

    'THIS boy does not want to work here.'

  - hi   rima   éká yo↓ná   nsí:mu

    1pl plough   in   cl9.prn   field

    'we plough in THIS field (not in another one)'

Strong pronouns with the contrastive focus do not show lengthening.

Note: Tone and penultimate markings are from our own data

| yená | mufána | á ngá | lávi | ku | tirha | la:ha |

yena mufana a nga lavi ku tirha laha

THIS boy does not want to work here.

TPOP-001-TSO047-2

| hi | rima | éká | yoná | nsí:mu |

hi rima eka yona nsimu

we plough in THIS field.

TPOP-002-TSO047-2
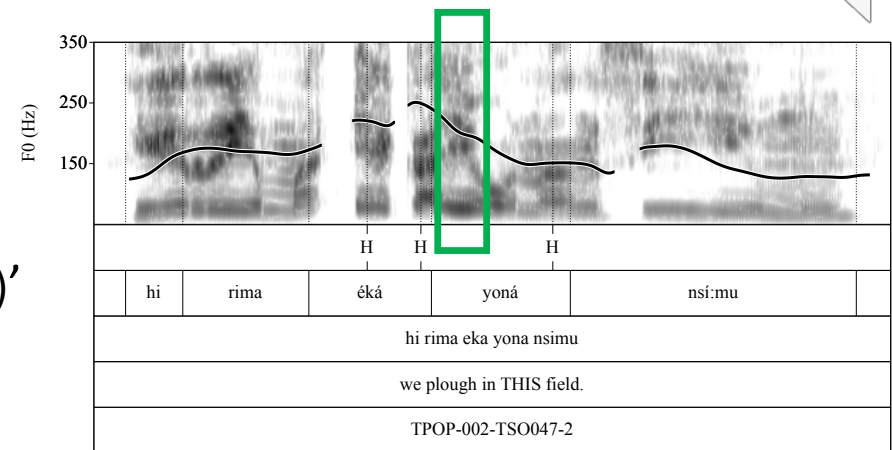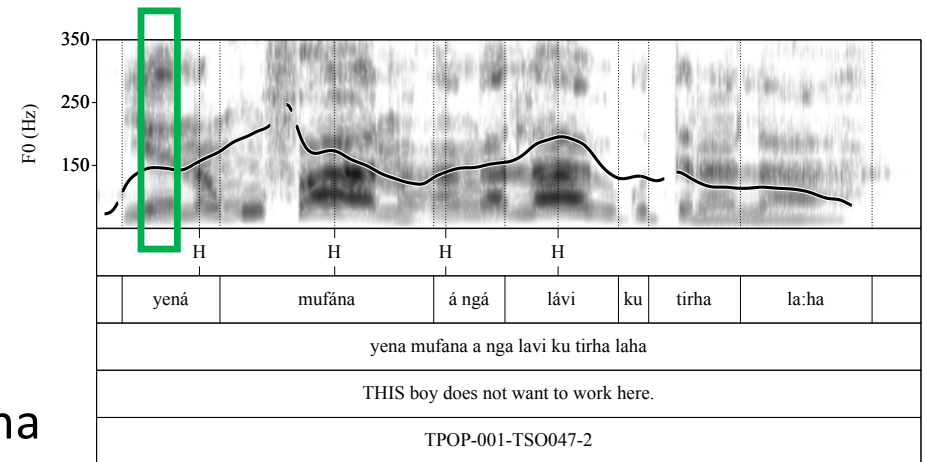
Prosody of strong pronouns

- The strong (emphatic or non-emphatic) pronouns in Xitsonga pattern together with other H tone final nouns.

- Penultimate lengthening of strong pronouns are observed
  - in emphatic left-dislocation
  - but
    - not in contrastive focus condition
    - nor in ditransitive, applicative, causatives

Summary

- Morphologically, pronominal agreement markers are grouped together with other noun class agreement markers as a verbal prefix.

    - The superhigh tone patterns, however, suggest that pronominal agreement markers are syntactically in a higher position than other noun class agreements.

    - We argue that the presence and absence of superhigh is due to the difference in the prosodic structure.
        - Non-minimal prosodic word (pronominal markers)
        - Minimal prosodic word (other agreement markers)

- The penultimate lengthening in strong pronouns is the realization of prosodic structure (rather than due to emphasis).
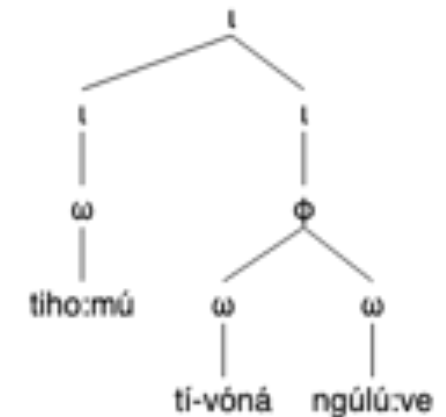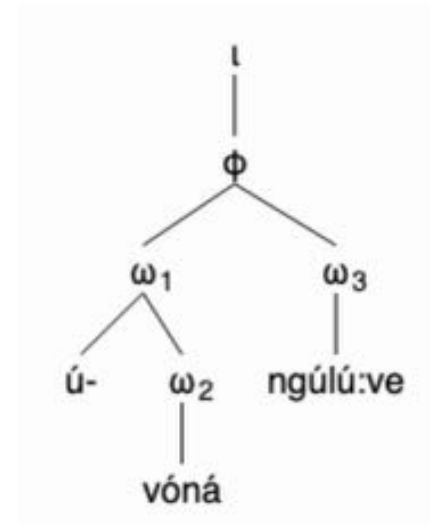
References

- Baumbach, E. J. M. (1987). *Analytical Tsonga grammar*. University of South Africa.

- Cuenod, R., J. A. (1967). *Tsonga-English Dictionary*. Sasavona.

- Kratzer, A., & Selkirk, E. (2020). Deconstructing information structure. *Glossa: A Journal of General Linguistics*, *5*(1), 113. https://doi.org/10.5334/gjgl.968

- Lee, S. J., & Selkirk, E. (to appear). A modular theory of relation between syntactic and phonological constituency. In J. Ito, A. Mester, & H. Kubozono (Eds.), *Prosody and Prosodic Interfaces*. Oxford University Press.

- Zeller, J. (2008). The subject marker in Bantu as an antifocus marker. *Stellenbosch Papers in Linguistics*, *38*, 221–254. https://doi.org/10.5774/38-0-31

Acknowledgements

The source of upstep: Alternative account

Message Oriented phonology

(Hall et al. 2017)

- Phonological patterns emerge due to needs to communicate

- Upstep is a response to distinguish the sequence of H tone /ú/ and the H tone verb /vóna/ from other sequences

- ↑ú-vóná ngúlú:ve. 'He sees a pig.'

  - H deletion of the verb
    ú-vona ngulu:ve
    -> pattern not attested in Tsonga

  - H deletion of the agreement
    u-vóná ngúlú:ve
    -> [u] means 'you'