Multiple Exponence in Northern Toussian

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Toussian

Two/three languages

- Northern Toussian
- Southern Toussian
- Potentially another variety called Moami Kan

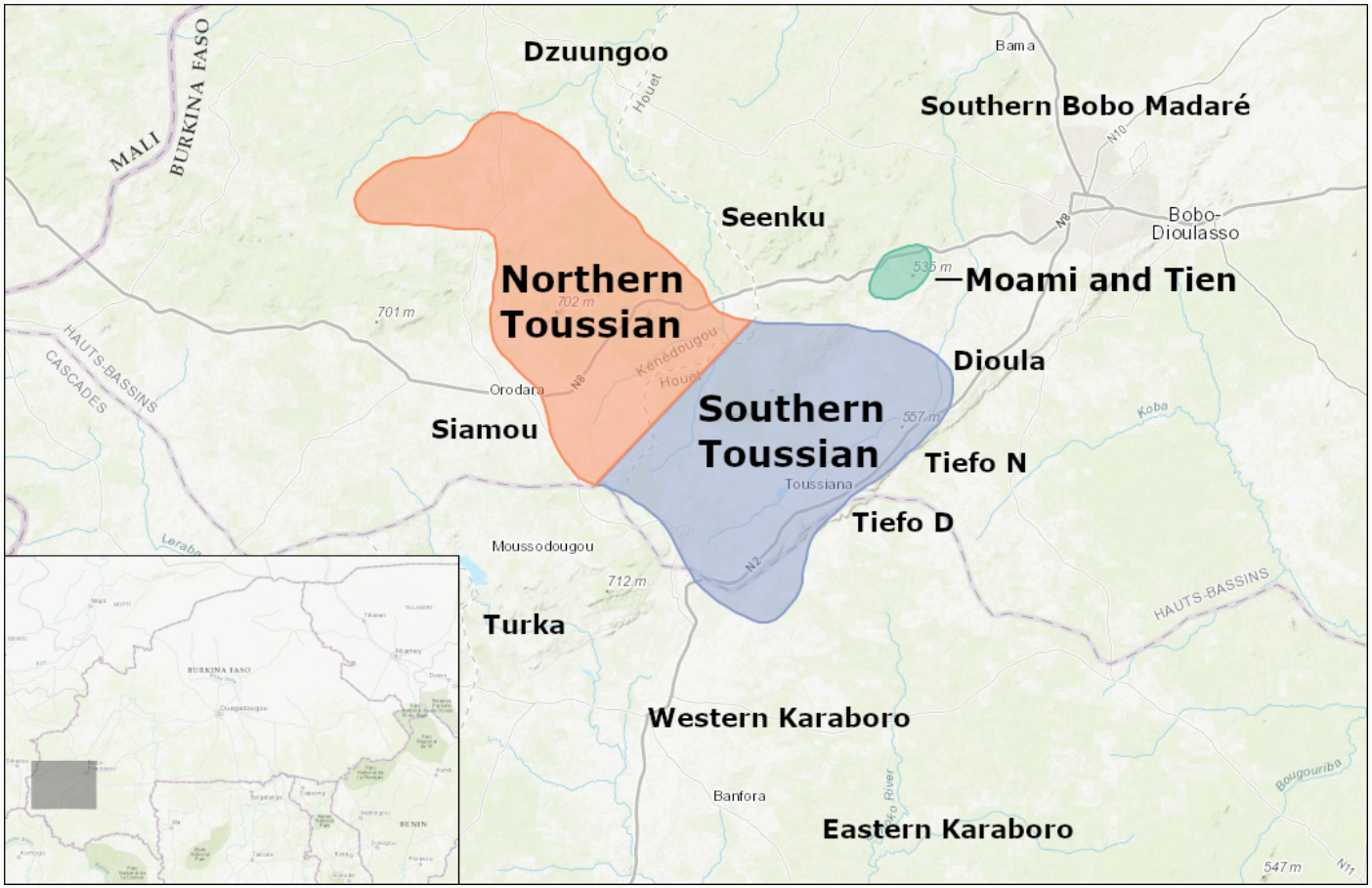
Genetic classification is uncertain

- Traditionally classified as a Gur language (Niger Congo) (Manessy, 1962; Naden, 1989)
- recent work has cast doubt on this classification (Güldemann, 2018)

Geography

Spoken in southwest Burkina Faso

~20,000 speakers of NT (last surveyed 1995) (Eberhard et al., 2020)



Phenomenon

The non-past tense morpheme can surface variably

- As a separate syllable *nə̀*
- As a clitic *ǹ=*
- As nasalization and a floating tone

This morpheme exhibits multiple exponence, where, in limited circumstances, the morpheme can surface in multiple places

Relevant information

The primary variety of Toussian I study is the Northern Toussian (NT) of Djigouera

- All data are from this variety
- My primary consultant for this variety is Karim Traoré

All NT glosses will be narrow transcriptions

Relevant information

Basic Tonology

3 tone system

- H, M, L, (á, ā, à)
- Monosyllabic lexical contours
  HM, HL, LH (á̄, â, ǎ)

Relevant information

Word order

S Aux O V

- Auxiliaries include tense, aspect, mood, and polarity (TAMP) markers, auxiliary verbs, etc.

(1) kàrímù wū ˈá kəmbɛ̄ wé
Karim EVID PST Kəmbɛ̄ see
‘(it is known that) Karim saw Kəmbɛ̄’

Relevant information

M and L triggers downdrift (automatic downstep)

- The pitch range of the speaker is compressed after each instance of M and L, lowering the pitches of H and M tones
- Indicated with the symbol ⟨ꜜ⟩

(2) a. sú púpó wé
father sheep see
'Father saw the sheep.'

b. pɛ̄ ꜜpī ꜜlɛ̰̄ ꜜná
husband child speech hear
'The husband heard the child's speech.'

Non-past morpheme realization—H subject, slow speech

(3) a. Perfective

púpó bú wé
sheep cheetah see

‘The sheep saw the cheetah’

b. Non-past

púpó nə̀ ˈbú wé
sheep NP cheetah see

‘The sheep will see the cheetah’

Realization—M subject, slow speech

(4) a. Perfective

pī ˈbú wé
child cheetah see

‘The child saw the cheetah’

b. Non-past

pī nə̀ ˈbú wé
child NP cheetah see

‘The child will see the cheetah’

Realization—L subject, slow speech

(5) a. Perfective

lè ˩bú wé
uncle cheetah see

‘Uncle saw the cheetah’

b. Non-past

lè nə̀ ˩bú wé
uncle NP cheetah see

‘Uncle will see the cheetah’

Realization—H subject, rapid speech

1. Two components of the morpheme, the nasal feature and L tone, appear on the subject, rather than as a separate segmental element. Nasalization is indicated under the vowel
2. When the L appears on the subject, H → HL

(6) a. Slow speech

púpó nə̀ ˩bú wé
sheep NP cheetah see

'The sheep will see the cheetah'

b. Rapid speech

púpô̰ ˩bú wé
sheep.NP cheetah see

'The sheep will see the cheetah'

Realization—M subject, rapid speech

1. No tonal change
   - Subject expected to be ML if the L of the non-past tense morpheme appears on the subject as it did with a H-toned subject, but ML is not a permissible tone in NT
2. Nasalization of the final vowel of the subject

(7) a. Slow speech

pī nə̀ ˬbú wé
child NP cheetah see

‘The child will see the cheetah’

b. Rapid speech

pḭ̄ ˬbú wé
child.NP cheetah see

‘The child will see the cheetah’

Realization—L subject, rapid speech

1. No tonal change
    - L already causes downdrift; the downstep on *bú* is not doubled, so the L is not perceptible
2. Nasalization of the final vowel of the subject

(8) a. Slow speech

lè nə̀ ꜜbú wé
uncle NP cheetah see

‘Uncle will see the cheetah’

b. Rapid speech

lə̀̃ ꜜbú wé
uncle.NP cheetah see

‘Uncle will see the cheetah’

Realization

Slow speech rate

It surfaces as the syllable nə̀

Normal/rapid speech rate

The final vowel of the subject is nasalized

If the tone of the final syllable of the subject is H:

- Then the tone of the non-past morpheme appears on the subject and the subject's final vowel becomes HL

Otherwise:

- Then the following word is downstepped
  - The downstep cannot be differentiated from downdrift
  - There is presumably an underlying L

Realization with added auxiliaries

Auxiliaries and TAMP markers surface between the subject and object (S Aux O V)

The following data will demonstrate how the non-past marker surfaces when auxiliaries are present

Realization with auxiliaries—slow speech

Instead of a separate syllable *nə̀*, nasalization surfaces as a homorganic nasal stop on the following word which bears the tone of the syllable which precedes it. Following elements are downstepped

(9) a. púpó sə́ ḿ=↓bú wé
sheep DUB NP=cheetah see
'(I doubt) the sheep will see the cheetah.'

b. púpó pɔ̄ m̄=↓bú wé
sheep IS[1] NP=cheetah see
'When the cheetah will see the sheep...'

[1] IS stands for 'immediate sequencing.' This morpheme indicates that the following clause occurs immediately after what happens in the current clause

Realization with auxiliaries—rapid speech

When auxiliaries are present in rapid speech, the nasalization and tone appear on them

- However, if the auxiliary is H, unlike subjects, it will not receive a falling tone; instead, the following morpheme will be downstepped

(10) a. púpó sə̰́ ꜜbú wé
sheep DUB NP.cheetah see
'(I doubt) the shee will see the cheetah.'

b. púpó pɔ̰̄ ꜜbú wé
sheep IS NP.cheetah see
'When the cheetah will see the sheep...'

Auxiliary realization—multiple auxiliaries

With most auxiliaries, when several co-occur in the auxiliary domain, the non-past morpheme will be realized at the right edge of the auxiliary domain

(11) à=á kə́ pɔ̄ m̄=↓pwó
3SG.HUM=PST NEG IS NP=come
'When he/she did not come.'

Multiple auxiliaries—rapid speech

(12) à=á kə́ pɔ̰̄ ↓pwó
3SG.HUM=PST NEG IS.NP come
'When he/she did not come.'

Multiple exponence

"Multiple (or extended) exponence is the occurrence of multiple realizations of a single feature, bundle of features, or derivational category in more than one position in a domain" (Caballero & Harris, 2012)

(13) Batsbi (Nakh-Daghestanian) (Harris, 2009)

y-ox-y-o-y-an^{w} k'ab
CM^{2}-rip-CM-PRES-CM-EVID dress.ABS

'Evidently she is ripping the dress'

Although multiple exponence is usually confined to within a word, it can pertain to syntactic domains—NT has a series of independent words within the auxiliary domain

[2]Class Marker: feminine gender (class II) singular; agrees with 'dress'

Multiple exponence

In certain contexts, the non-past morpheme exhibits multiple exponence

- The non-past morpheme is always found at the right edge of the auxiliary domain
- It is repeated on other elements to the left

Multiple exponence—slow speech

Surfaces as nasal stops, as before

The non-past morpheme appears on *pī/tó* as well

(14) a. With *tó* 'again'

púpó ń=↓tó ḿ=↓bú wé
sheep NP=again[3] NP=cheetah see

'The sheep will see the cheetah again'

b. With *pī*, a future tense morpheme

púpó ḿ=pī m̄=↓bú wé
sheep NP=FUT NP=cheetah see

'The bird will see the cheetah'

[3]Perhaps better glossed with an aspectual category; the distribution of this morpheme requires more research

Multiple exponence—slow speech

Here, there are three realizations of the non-past morpheme

(15) With *tó* and *pī*

púpó	ńt͡ʃ=↓tó	ḿp=↓pī	m̄b=↓bú	wé
sheep	NP=again	NP=FUT	NP=cheetah	see

‘The sheep will see the cheetah again’

Multiple exponence—rapid speech

Realized as nasalization and downstep, as before

(16) a. With *tó* 'again'

púpǫ́ ꜜtǫ́ ꜜbú wé
sheep.NP again.NP cheetah.NP see

'The sheep will see the cheetah again'

b. With *pī*, a future tense morpheme

púpǫ́ (ꜜ)pḭ̄ ꜜbú wé
sheep.NP FUT.NP cheetah.NP see

'The bird will see the cheetah'

Multiple exponence—rapid speech

(17) With *tó* and *pī*

púpǫ́ ↓tǫ́ (↓)pḭ̄ ↓bú wé
sheep.NP again.NP FUT.NP cheetah.NP see

‘The sheep will see the cheetah again’

Comparison of prior examples

Slow speech

(18) a. Perfective without any auxiliary
púpó bú wé
'The sheep saw the cheetah'

b. Non-past without additional auxiliary
púpó nə̀ ˬbú wé
'The sheep will see the cheetah'

c. Non-past with additional auxiliary
púpó ń=ˬtó ḿ=ˬbú wé
'The sheep will see the cheetah again'

Comparison of prior examples

Rapid speech

(19) a. Perfective without any auxiliary
púpó bú wé
'The sheep saw the cheetah'

b. Non-past without additional auxiliary
púpô̰ ˬbú wé
'The sheep will see the cheetah'

c. Non-past with additional auxiliary
púpó̰ ˬtó̰ ˬbú wé
'The sheep will see the cheetah again'

Analysis—copying

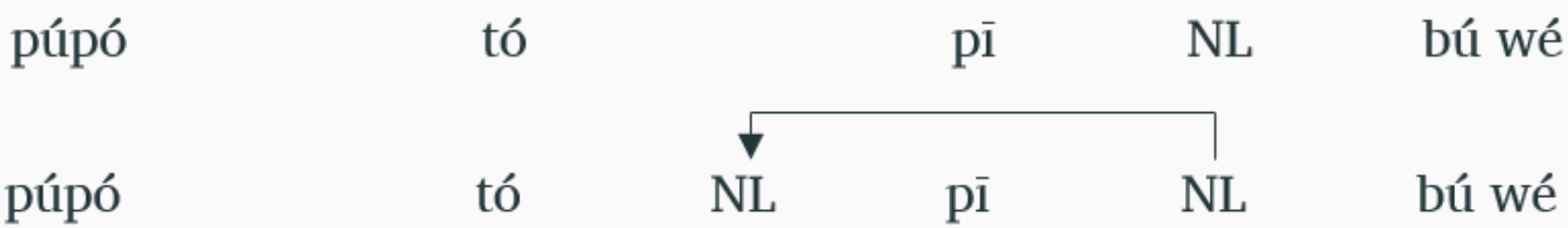
Several morphemes, notably the future morpheme *pī* and *tó* ‘again,’ will copy the non-past morpheme and transfer it to the left of themselves. When pī and *tó* are found next to each other, they will serially copy the morpheme

Other morphemes do not copy the non-past morpheme, and therefore the morpheme will not be found to the left of them

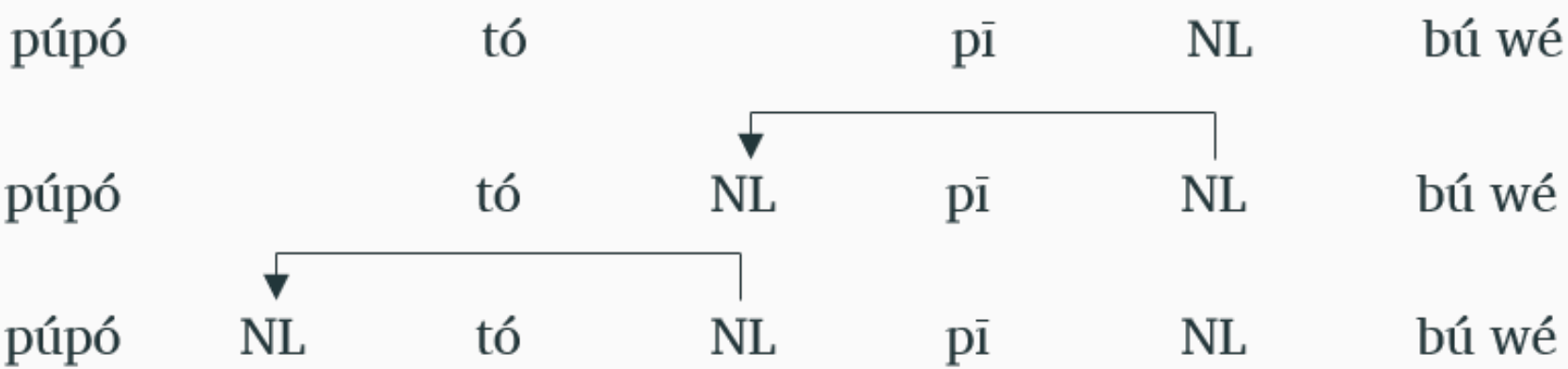
Copying mechanism—slow speech

púpó tó pī NL bú wé

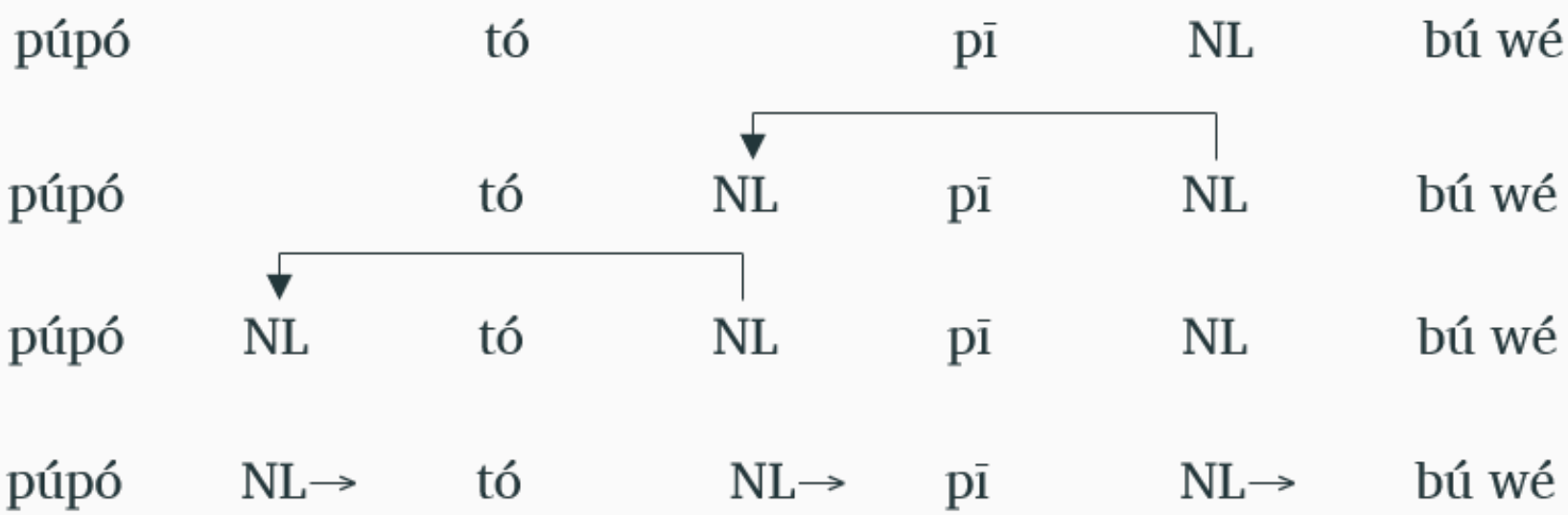
Copying mechanism—slow speech



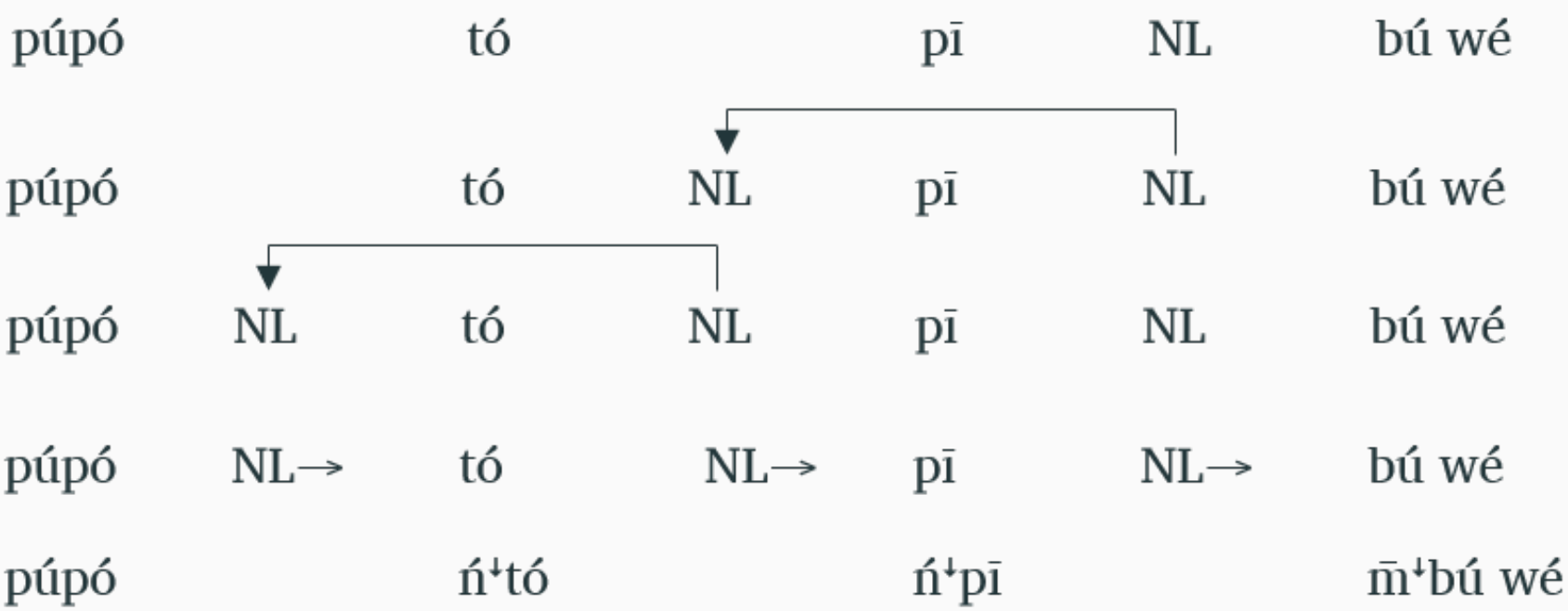
Copying mechanism—slow speech



Copying mechanism—slow speech



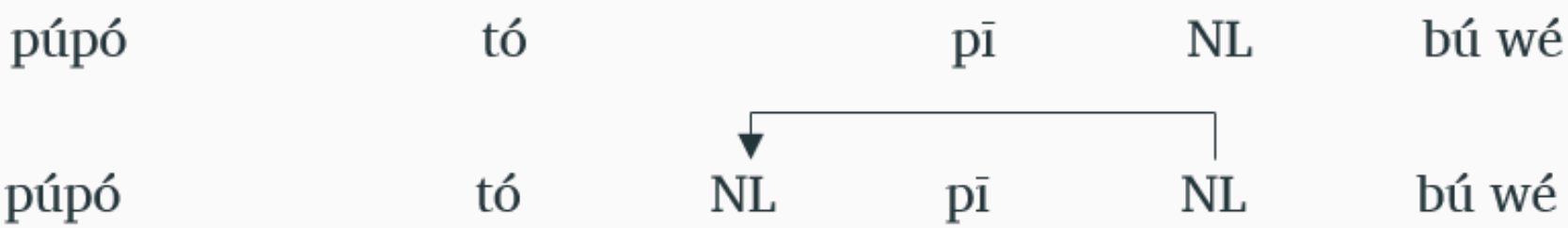
Copying mechanism—slow speech



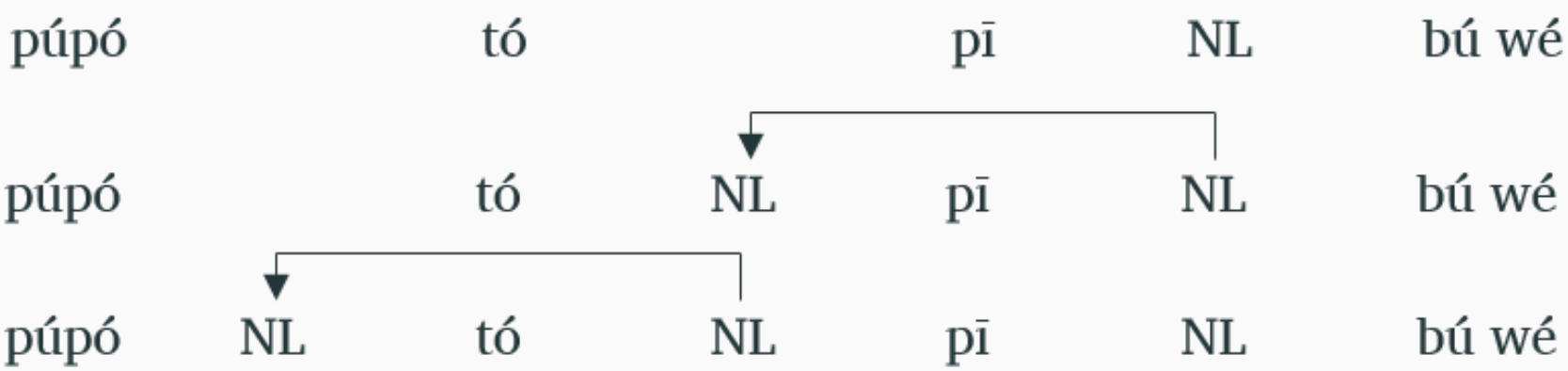
Copying mechanism—fast speech

púpó	tó	pī	NL	bú wé

Copying mechanism—fast speech



Copying mechanism—fast speech



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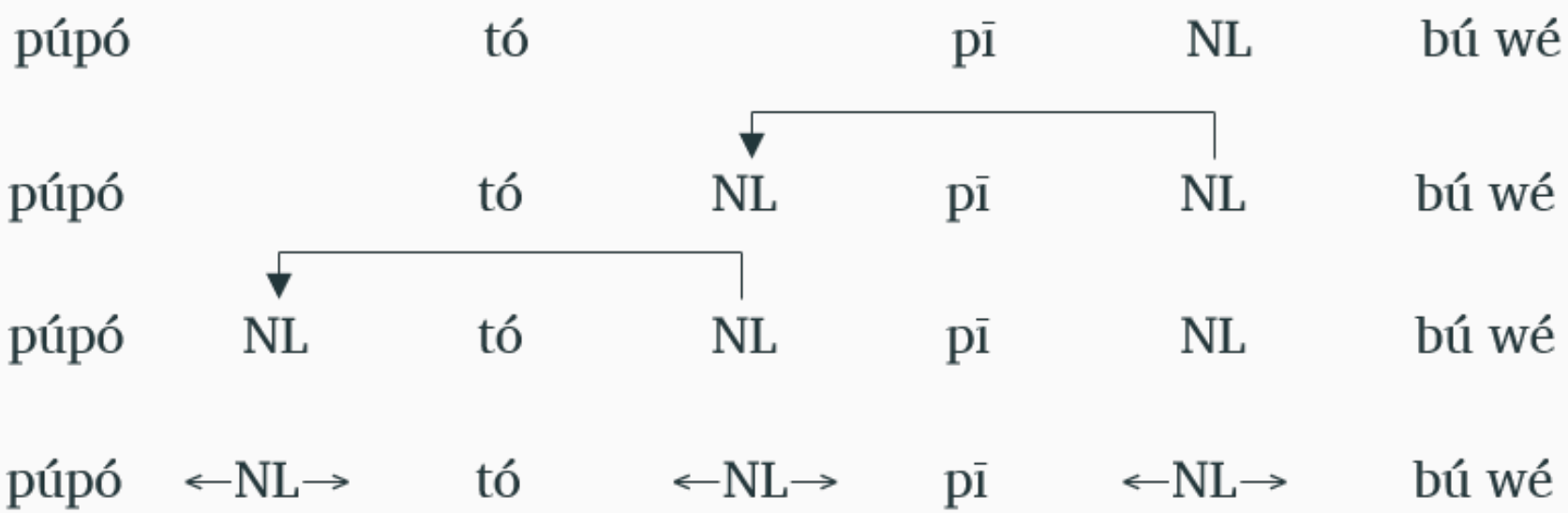
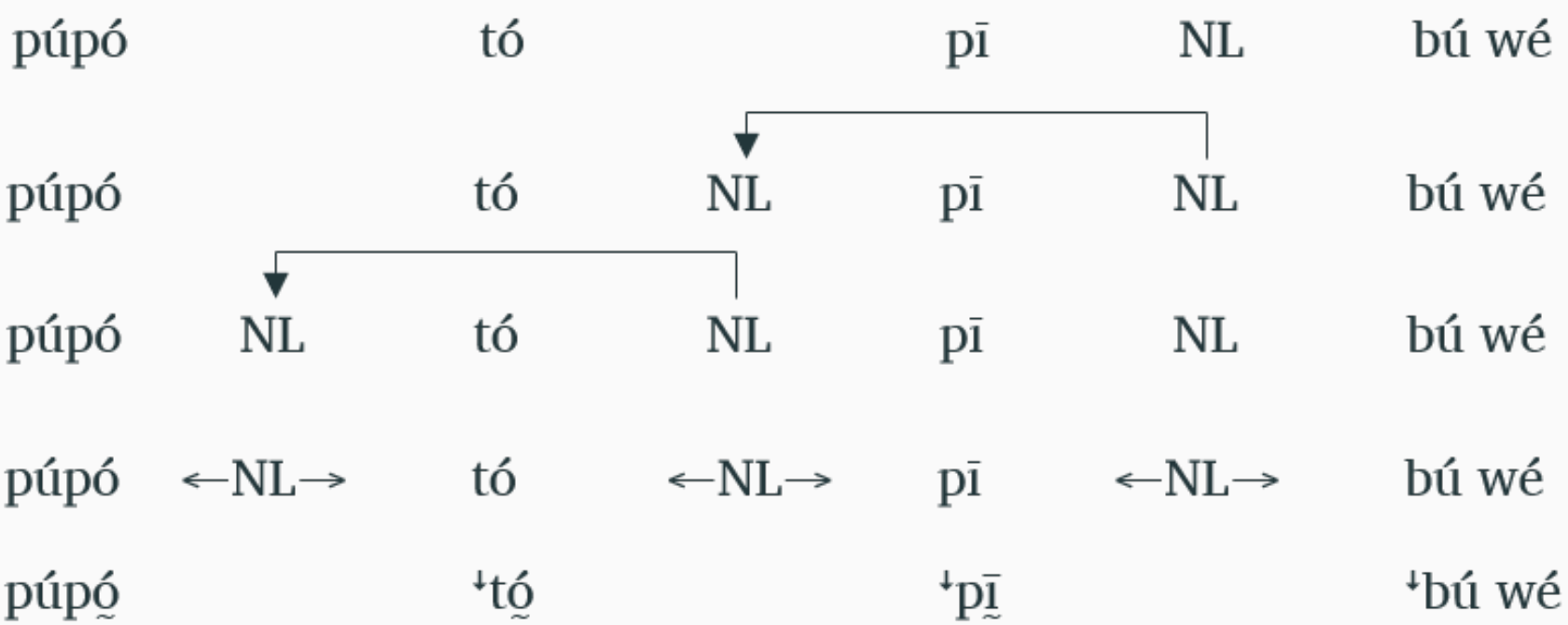


Copying mechanism—fast speech



Copying—extra auxiliaries

Multiple exponence only occurs with *tó* and *pī*; other morphemes do not copy or transfer the morpheme

Here, *tó* and *pī* copy the non-past morpheme to their left, but *sə́* does not copy it further

(20) à wū sə̰́ ˈtó̰ pḭ̄ kà
3SG.HUM EVID DUB.NP again.NP FUT.NP 3SG.NONHUM
pɛ̌y
do
“It’s as if he will do it again.”

Copying—phonological explanation?

The auxiliaries which copy the non-past morpheme share many phonological similarities with other morphemes

- copying *tó* vs non-copying *sə́*
- copying *pī* vs non-copying *pɔ̄*

Therefore, it does not appear that the multiple exponence is due to phonological processes such as harmony

Location of the non-past morpheme

It appears to be at right edge of the auxiliary complex

- Auxiliaries in the same column cannot co-occur, e.g. you cannot have both *ká* and *kàpá* in the same clause
- Auxiliaries highlighted in blue copy can copy the non-past morpheme to the left

wū EVID	á PST	sə́(nɔ́) COND (must occur with á)	rí JUSS	sə́ DUB	kə́ NEG	pɔ̄ IS	(tó 'again')	ˈpə́ IPFV	(tó 'again')	Ǹ NP
	à COND	pə́ COND (must occur with à)			kə́tò 'not again'			pī FUT		
					kə́mɛ̄ 'no longer'					
					kàpə́ NEG.IMP					

Location of the non-past morpheme

It appears to be at right edge of the auxiliary complex

- Although the domain of the copying appears to be the rightmost auxiliary elements, not all auxiliaries there can copy it
- There is no clear syntactic domain that contains these copying morphemes since *tó* ‘again’ is included
- Even if *tó* ‘again’ is included as an aspectual marker, why would the imperfective marker *ˈpá* not be a copying morpheme?

wū EVID	á PST	sá(nɔ́) COND (must occur with á)	rí JUSS	sá DUB	ká NEG	pɔ̄ IS	(tó ‘again’)	ˈpá IPFV	(tó ‘again’)	Ǹ NP
	à COND	pá COND (must occur with à)			kátò ‘not again’			pī FUT		
					kámɛ̄ ‘no longer’					
					kàpá NEG.IMP					

Conclusion

- The non-past morpheme can surface in multiple places
- Auxiliaries and subjects host this morpheme differently
- The repetition cannot be explained by strictly phonological process like harmony
- There is no clear, coherent syntactic consituent that can account for the distribution of this morpheme
- The repetition appears to be conditioned by direct adjacency of a small set of specific lexemes

Conclusion

- Therefore, this phenomenon appears to be an example of multiple exponence, where lexically specified copying morphemes will copy the non-past morpheme and transfer it to the left of them
- The copying morphemes are found towards the right edge of the auxiliary domain, though other non-copying morphemes are also found there.
- This copying can be chained, resulting in as many as three realizations of the non-past morpheme

Future work

- I need to explore more combinations of auxiliaries to see if there are any other copying morphemes
- There are some contexts where postpositional phrases can be drawn between the auxiliary domain and the object/verb. This phenomenon, and how it interacts with the non-past morpheme, needs to be better analyzed

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Appendix—nasalization and slow speech rate

(21) a. Phonemic transcription

kə̀ŋ = sɛ̄
buffalo = with

'With the buffalo'

b. fast speech

kə̀ŋsɛ̄~kə̀ŋnɛ̄

c. slow speech

kə̀ŋ ǹsɛ̄

Slight differences

[kə̀ŋ ǹsɛ̄] retains the /ŋ/. With the non-past morpheme, there is no nasalization on the left element