# Verbal grammatical tone in Northern Toussian

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August 9, 2024

University of California San Diego WOCAL 11 at the University of Nairobi

#### Slides



- Northern Toussian (Niger Congo, possibly Gur/Mabia; Burkina Faso)
  has grammatical tone which appears to mark intransitivity
  - Verbs surface with their lexical tones in transitive clauses (1a)
  - There is a tonal alternation with verbs in intransitive clauses (1b)
    - · H verbs surface with a LH contour

(1) a. /já/ 'watch' b. /pwó/ 'come'
ádámá bú já ádámá **pwö**Adama leopard watch Adama come
'Adama watched the leopard' 'Adama came'

- When a transitive verb is passivized (2b), it exhibits the same alternation
  - Northern Toussian has zero-coded passives, where patients are promoted to the subject without overt morphology (Cobbinah & Lüpke 2009)

- (2) a. ádámá búr tá Adama bread eat 'Adama ate the bread'
- b. búr tăbread eat'The bread was eaten'

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  - · The tone of the target verb
  - The tense, aspect, mood, and polarity (TAMP) markers before the verb
  - · The lexical properties of the verb

• In this talk, I describe the morphosyntactic distribution of the grammatical tone and its phonological properties

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- These data have implications on our theories of syntax-phonology interactions
- However, due to time constraints, I leave discussion of this to later work

• These data were collected during fieldwork, primarily with Karim Traoré

# Roadmap

Valency and transitivity

Argument structure in Northern Toussian

Northern Toussian verbal grammatical tone

Morphosyntactic distribution

Phonological properties

Conclusion

# Valency and transitivity

- I follow Dixon & Aikhenvald's (2000) typology of valency and transitivity (See Creissels 2016 for a similar approach)
- Valency refers to the number of core arguments a verb governs
  - Core arguments must be expressed or understood for the utterance to be grammatical
  - Peripheral arguments (adjuncts) are optional

# Valency and transitivity

- Transitivity relates to the type and function of core arguments in a clause
- Intransitive clauses have a single argument S (intransitive subject)
- Transitive clauses have two arguments, A (agent; transitive subject) and O (transitive object)
  - · A performs some action on O

# Valency and transitivity

- In some languages, intransitive and transitive clauses can be extended with an additional argument E (oblique argument)
  - · Often a recipient or beneficiary of an action
  - · It often behaves differently from other arguments
- (a) intransitive S
- (b) extended intransitive S E
- (c) transitive A O
- (d) extended transitive A O E

(Dixon & Aikhenvald 2000: p. 3)

# Roadmap

Valency and transitivity

## Argument structure in Northern Toussian

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- · Northern Toussian has SAuxOVX word order
  - Aux: Auxiliary elements, including TAMP particles, discourse markers, auxiliary verbs
  - X: Adverbials, postpositional phrases
- This is an areal feature of the Macro-Sudan belt (Güldemann 2007)

• In Northern Toussian, S, A, and O arguments are unmarked morphologically, i.e., they are bare nouns

(3) a. ádámá jē Adama sweep 'Adama swept' b. álímátā pàntó wé Alimata dog see'Alimata saw the dog'

- oblique and peripheral arguments pattern together
  - Nominal arguments must be objects of postpositions (except when used as locatives)
- - b. Transitive with peripheral argument álímátā bár péj ádámá sē Alimata work do Adama with 'Alimata worked with Adama'

- Oblique arguments can be distinguished from peripheral arguments:
  - · Only oblique arguments can be preposed before the object.
- (5) a. Extended transitive álímátā pàntó sē ábíbátá wlē Alimata dog with Abibata show 'Alimata showed Abibata the dog'
  - b. Transitive with peripheral argument
     \*álímátā ádámá sē bár péj
     Alimata Adama with work do
     'Alimata worked with Adama'

- Oblique arguments can be distinguished from peripheral arguments:
  - Sequences of peripheral arguments can occur in any order; an oblique argument precedes a peripheral argument in normal speech
- In (6), either order of peripheral arguments is possible
- (6) Transitive with peripheral argument
  - a. álímátā bár péj ádámá sē ntèně söŋ Alimata work do Adama with Monday under 'Alimata worked with Adama on Monday'
  - álímátā bár péj ntèně sōŋ ádámá sē
     Alimata work do Monday under Adama with
     'Alimata worked with Adama on Monday'

- Oblique arguments can be distinguished from peripheral arguments:
  - Sequences of peripheral arguments can occur in any order; an oblique argument precedes a peripheral argument in normal speech
- (7b) is illicit at fast rates of speech
  - It can only be produced if there is a pause after the verb
- (7) a. álímátā ábíbátá wlē pàntó sē ntèně sōŋ Alimata Abibata show dog with Monday under 'Alimata showed Abibata the dog on Monday'
  - sálímátā ábíbátá wlē ntèně sōŋ pàntó sē
     Alimata Abibata show Monday under dog with
     'Alimata showed Abibata the dog on Monday'

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# Morphosyntactic distribution

- In this section, I show that the grammatical tone is not a marker of intransitivity
- Instead, it indicates that there is no preverbal non-subject argument
  - I gloss this as APVA (absent preverbal non-subject argument)

· Recall the alternation from earlier:

(8) a. /já/ 'watch' sú búr tá father bread watch 'Father watched the bread' 'Father came'

b. /pwó/ 'come' sú **pwŏ** father come.APVA

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  - · There are constructions where transitive verbs receive this marking

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    - · Transitive phrases with elided objects

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  - There are constructions where intransitive verbs lack the marking
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  - · There are constructions where transitive verbs receive this marking
    - · Transitive phrases with elided objects
    - · Transitive phrases with auxiliary verbs

# Intransitive phrases without the marking

• First, let us consider intransitive contexts which lack the grammatical tone

#### **Extended intransitive phrases**

- When the oblique argument of extended intransitive clauses follows the verb, the verb is targeted by the APVA grammatical tone (9)
- (9) ádámá **pěj** sú sē Adama become.APVA father with 'Adama became a father'

#### **Extended intransitive phrases**

- Recall that the oblique argument can be preposed before the verb
  - · When this happens, the verb surfaces with its lexical tone
  - · It is not targeted by the APVA grammatical tone
- (10) ádámá sú sē péj Adama father with become 'Adama became a father'

#### **Extended intransitive phrases**

- Comparing the two phrases in (11), they have the same argument structure, but the grammatical tone only targets the verb in (11a)
  - This is indicative that linear order and adjacency of the argument and verb determines whether the grammatical tone is present, rather than transitivity
- (11) a. ádámá **pěj** sú sē Adama become.APVA father with 'Adama became a father'
  - b. ádámá sú sē péj
     Adama father with become
     'Adama became a father'

# Transitive phrases with the marking

• Now, I turn to transitive phrases where the verb is targeted by the grammatical tone

- When salient in the discourse, the object of a transitive verb can be elided (object drop)
- (12) Context: the interlocutor asks 'did you watch the match?'

m má **jǎ** yes 1sG watch.APVO

'yes, I watched (it)'

- This is elision, and not a transitive/intransitive alternation based on two criteria
  - Transitive verbs like já 'watch' are not interpretable without a discourse antecedent
- (13) Context: the interlocutor asks 'what did you do?'

\*má jǎ 1sg watch.APVA

Intended: 'I watched'

- This is elision, and not a transitive/intransitive alternation based on two criteria
  - Transitive verbs like #á 'watch' are not interpretable without a discourse antecedent
  - Only third person discourse antecedents can be elided
- a. Context: the interlocutor asks 'Did Adama watch you?' (14)

\*m ádámá tă yes Adama watch.APVA

Intended: 'yes, Adama watched (me)'

b. Context: the interlocutor asks 'Did Adama watch you?'

 $\check{m}$  ádámá  $\check{m} = i$ yes Adama 1sG = watch

Intended: 'yes, Adama watched me'

- (15) is therefore an example of a transitive verb targeted by the grammatical tone
- (15) Context: the interlocutor asks 'did you watch the match?'

m má **jǎ** yes 1sG watch.APVO

'yes, I watched (it)'

### **Auxiliary verb constructions**

- There is a class of auxiliary verbs which surface before the VP
- · These verbs are targeted by the AVPA marker
- (16) /kw\u00e1/ 'be able to'

émîl **kw5** pō mó Emile could.APVA xylophone put

'Emile could play the xylophone'

#### Transitive verbs

- There are multiple instances where verbs in transitive clauses are targeted by this grammatical tone
  - · Transitive verbs with elided objects
  - · Transitive phrases with auxiliary verbs

#### APVA marker

- The grammatical tone, then, does not mark intransitivity
- Instead, it appears to indicate that there is no non-subject argument immediately before the verb

# **Phonological properties**

• In this section, I detail the phonological properties of the grammatical tone

#### Phonological properties

- The APVA grammatical tone is a floating L tone
- However, its realization is dependent on multiple factors, including
  - · The tone of the target verb
  - · The TAMP marker before the verb
  - · The lexical properties of the verb
- It is, therefore, a type of construct tune (Rolle 2018)

### Phonological distribution

- Thus far, I have only shown how the APVA marker behaves with H verbs
- (17) shows its effects with verbs of different tonal melodies
  - · With H and HM tones, its effects are compositional
  - · With a HL tone, it becomes L
  - · M and L are unaffected

## Behavior with auxiliary elements

- Its realization also varies depending on the presence of certain TAMP particles
- With á PST, só IRR, and wú EVID, it surfaces as just seen
- (18) a.  $s\acute{u}$   $\acute{a}$   $pw\acute{o}$   $s\acute{u}$   $\acute{a}$   $^{\oplus}pw\acute{o}$  father PST come.APVA 'Father had come'
- b.  $s\acute{u}$   $s\acute{o}$   $k\acute{o}^$   $s\acute{u}$   $s\acute{o}$   ${}^{\oplus}k\acute{o}$ father IRR walk.APVA 'Apparently, father walked'

### Behavior with auxiliary elements

• With all other auxiliaries, H toned verbs are downstepped (19)

(19) a. sú kớ 'pwó sú kớ <sup>©</sup>pwó father NEG come.APVA 'Father did not come' b. sú rí kéj sú rí <sup>©</sup>kéj father SBJV go.APVA 'Let father go'

# Behavior with auxiliary elements

· Verbs of other tones are unaffected

(20) a. 
$$s\acute{u}$$
  $k\acute{\sigma}$   $\jmath \acute{a}$  sú  $k\acute{\sigma}$   $^{\textcircled{1}}\jmath \acute{a}$  father NEG search 'Father did not search'

b.  $s\acute{u}$   $r\acute{t}$   $J\bar{\epsilon}$   $s\acute{u}$   $r\acute{t}$   $^{\textcircled{\tiny }}J\bar{\epsilon}$  father SBJV sweep.APVA'Let father sweep'

- With the vast majority of verbs, the grammatical tone acts as just described
  - It docks onto the verb in some TAMP contexts, and causes downstep in others

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  - It docks onto the verb in some TAMP contexts, and causes downstep in others
- The locative copula  $p\acute{e}$  and progressive auxiliary verb  $p\acute{a}$  are always downstepped
  - · The tone cannot dock onto them
  - · The realization of the tone is lexically-conditioned

- In (21), the copula pé and progressive auxiliary verb pá are downstepped
- In parallel constructions in (22), other verbs are not downstepped, and instead surface with LH tones

- (21) a. ádámá 'pé ádámá <sup>©</sup>pé Adama COP.APVA 'Adama is there'
- (22) a. ádámá pwö ádámá <sup>©</sup>pwó Adama come.APVA 'Adama came'

- b. ábíbátá 'pá  $\eta k \delta$ ábíbátá <sup>©</sup>pá  $n=k\delta$ Abibata prog.Apva IPFV=walk
  - 'Abibata is walking'
- b. ábíbátá kw

   kó
   ábíbátá <sup>©</sup>kw

   kó
   Abibata could.APVA walk
  - 'Abibata could'

### **Realization summary**

- The grammatical tone docks onto the verb, forming a contour
  - · When there is no auxiliary element present
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- · The grammatical tone docks onto the verb, forming a contour
  - · When there is no auxiliary element present
  - With á PST, sớ IRR, and wú EVID
- The grammatical tone causes a H toned verb to be downstepped
  - · When the verb follows all other auxiliaries
  - In all contexts with the copula pé or the progressive auxiliary verb pá

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- Verbs in Northern Toussian are targeted by a floating L tone when there is no non-subject argument immediately before the verb
- It is a construct tone whose realization depends on the lexical and phonological properties of the verb as well as the morphosyntactic properties of the clause
- This distribution has parallels in other languages, as well as theoretical implications—I leave a discussion of this for future work

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# Roadmap

APVA alternation with extended transitives

Similarities with other languages

The imperfective marker

#### **Extended transitive phrases**

- Objects of extended transitive verbs can be dropped
  - Note the tone change on the verb in (23b)
- (23) a. álímátā ábíbátá kó kò sē Alimata Abibata give.APVA meat with 'Alimata gave Abibata meat'
  - b. álímátā kö kò sē
     Alimata give.APVA meat with
     'Alimata gave meat'

#### **Extended transitive phrases**

• The oblique argument can be preposed when the object is dropped, leading to the alternation in (24)

(24) a. álímátā **kɔ̃** kò sɛ̄ b. álímátā kò sɛ̄ kɔ́ Alimata give.APVA meat with Alimata meat with give 'Alimata gave meat' 'Alimata gave meat'

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  - The Senoufo 'intransitive prefix'
  - Languages which indicate a transitive verb has an object in a particular position
- These cases inform the types of syntax-phonology interactions attested cross-linguistically

#### Senoufo

- Senoufo languages have a nasal morpheme called the 'intransitive prefix' (IP)
  - Supyire (Carlson 1994: p. 126)
  - Syer (Dombrowsky-Hahn 2015: p. 201)
  - Kar (Wichser 1994: p. 41, called the indice objectal)
- (25) fyàablíí na ŋ-kúú-lí fish.def prog ip-tap-ipfv 'The fish are nibbling (lit. tapping)' (Carlson 1994: p. 312)

#### Senoufo

- In Supyire, if the object is fronted due to focus, the intransitive prefix is present even though it is a transitive phrase
- (26) a. Mìì ná m̀pà ta I PAST sheep get 'I got a sheep'
  - b. Mpà mìì ná ń-tá sheep I PAST IP-get 'It was a sheep I got' (Carlson 1994: p. 127)

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  - b. Mpà mìì ná ń-tá sheep I PAST IP-get 'It was a sheep I got' (Carlson 1994: p. 127)
  - Like Northern Toussian, this marker appears to reflect whether there is a preverbal argument, rather than intransitivity

- Conversely, there are languages which mark that an argument is present, rather than absent
  - Yoruba: L → M when a transitive object is present (Déchaine 2001)
  - Hausa: the final vowel of a verb is shortened when a transitive object is present (Hayes 1990, Crysmann 2005b,a),
  - Laal:  $M \rightarrow L$  when a transitive object is present (Lionnet 2015, 2022)

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- There is debate about the cause of these processes
  - Syntax-phonology interactions where the realization is dependent on the adjacency of the verb and object (Hayes 1990, Déchaine 2001)
  - Inflectional morphology reflecting whether the object has been extracted from where it was generated (Crysmann 2005a,b, Lionnet 2015)
- Lionnet (2015) questions whether all instances of this can be explained in terms of extraction

- Extraction does not explain the Northern Toussian and Senoufo cases
  - Both transitive and intransitive verbs can be targeted by the APVA marker
  - Intransitive verbs do not have an object to extract
- They can only be explained in terms of syntax-phonology interactions

### Roadmap

APVA alternation with extended transitives

Similarities with other languages

- The imperfective marker has two allomorphs
  - n = when the verb lacks a preverbal argument
  - $\hat{n}$  = when there is a preverbal argument
- The toneless allomorph is realized with the tone of the preceding syllable
- (28) a. sú n=búr já father IPFV = bread watch 'Father is going to watch the bread'
  - b.  $s\acute{u}$   $\acute{n}^{i}$   $\acute{j}\acute{a}$   $s\acute{u}$   $n={}^{\textcircled{\tiny 1}}$   $\acute{j}\acute{a}$ father IPFV.APVA = watch.APVA 'Father is going to watch'

- The APVA form of the prefix in instances where the grammatical tone conditions downstep
  - I.e., with particles like  $k\delta$  NEG
- (29) a.  $s\acute{u}$   $k\acute{\sigma}$   $n^{4}j\acute{a}$  sú  $k\acute{\sigma}$   $n=^{\textcircled{\tiny }}$   $j\acute{a}$  father NEG IPFV.APVA = watch 'Father is not going to watch'
  - b.  $s\acute{u}$   $k\acute{a}$  ' $\jmath\acute{a}$   $s\acute{u}$   $k\acute{a}$  ' $\jmath\acute{a}$ father search.APVA 'Father is going to search'

- It is also found in instances where the APVA grammatical tone is unrealized,
  - e.g., when a verb with a tone other than H follows a P2–6 auxiliary  $\,$
- (30) a.  $s\acute{u}$   $k\acute{a}$   $n^{4}j\acute{a}$   $s\acute{u}$   $k\acute{a}$   $n={}^{\textcircled{\tiny L}}}j\acute{a}$  father NEG IPFV.APVA = watch 'Father is not going to watch'
  - b. sú ká 'já
    sú ká <sup>©</sup>já
    father NEG search.APVA
    'Father did not search'

- It is also shares the same pattern as the grammatical tone with 'give' constructions
  - When a postpositional argument occurs before the verb, it surfaces as  $\hat{n}$ =
  - When there is no non-subject argument before the verb, it surfaces as n=
- (31) a. ádámá n=kò sē kó Adama IPFV=meat with give 'Adama is going to give meat'
  - b. ádámá n=kó kò sē Adama IPFV.APVA = give meat with 'Adama is going to give meat'