

The Ndebele relative marker as a nominal linker

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1 Intro

- In Ndebele¹ relative clauses, the verb bears special agreement prefix, called *relative agreement* (2).

(1)	<u>subject agreement</u>	(2)	<u>relative agreement</u>
	i- si- lwane si -yagijima.		i- si- lwane esi -gijimayo
	7aug- 7- lion 7s-run		7aug- 7- lion 7rel-run
	'The lion is running.'		'the lion that is running'

- The relative agreement is typically viewed as bi-morphemic: relative COMP "a-" + subject marker.

Proposal:

- The relative agreement prefix comprises three, rather than two, morphemes, as shown in (3):

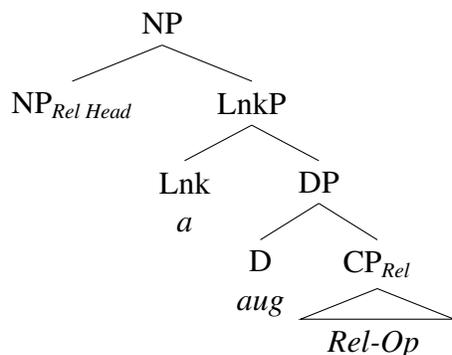
(3) Relative agreement: the linker a- + augment vowel + subj-agreement

- The variable form of the *rel-agreement* results from regular vowel coalescence:

noun class	a-	+ augment	+ subj-agr	⇒ rel-agr
class 2	a-	a	ba-	aba-
class 11	a-	u	lu-	olu-
class 8	a-	i	zi-	ezi-

- The augment² is present because embedded clauses have a nominal layer.
- The linker is present because it is required when combining two nominals.

(5) The syntax of relativization in Ndebele:



- The relative clause is not a CP, but a DP
- In order for a DP to syntactically combine with a noun, it must be introduced by a functional head – the linker

¹ Bantu, Nguni, Zimbabwe (S44)

² the augment vowel is a property of DPs – an exponent of D⁰ (or K⁰ (Halpert, 2012))

Plan:

2. Analysis: *relative agreement* = LINKER + AUGMENT + SM
3. Evidence for a DP-shell in embedded clauses
4. DP-shell and clausal complementation
5. Coordination of embedded clauses
6. Conclusion

2 Analysis

- The proposed analysis builds on a previously observed connection between possessive and relative syntax (e.g. Cheng (2006) makes an explicit connection between Shona and Chinese in this respect).
- In Ndebele, too, possessives involve the same kind of linker as relative clauses

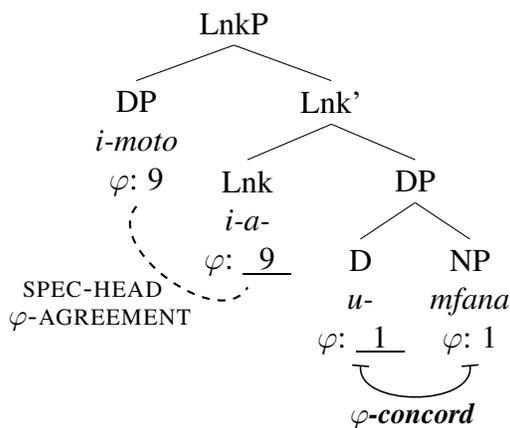
(6) i-moto i- a- u- mfana (> yomfana) *Possessive DP*
 9-car 9- LNK- 1- boy
 ‘the boy’s car’

(7) i-si-lwane a- i- si- gijimayo. (> e-sigijimayo) *Relative clause (P-Strategy)*
 7aug-7-lion LNK- 7aug- 7s- run.REL
 ‘the lion that is running’

- Cheng proposes that the linker in Shona and other Bantu languages may select either a DP (possesives) or a CP (relative clauses).
- I argue that the structures of possessives and relatives are even more uniform:
 → **the linker takes a DP complement in both**

2.1 The linker in possessives

(8) Possessives (adapted from Cheng (2006))



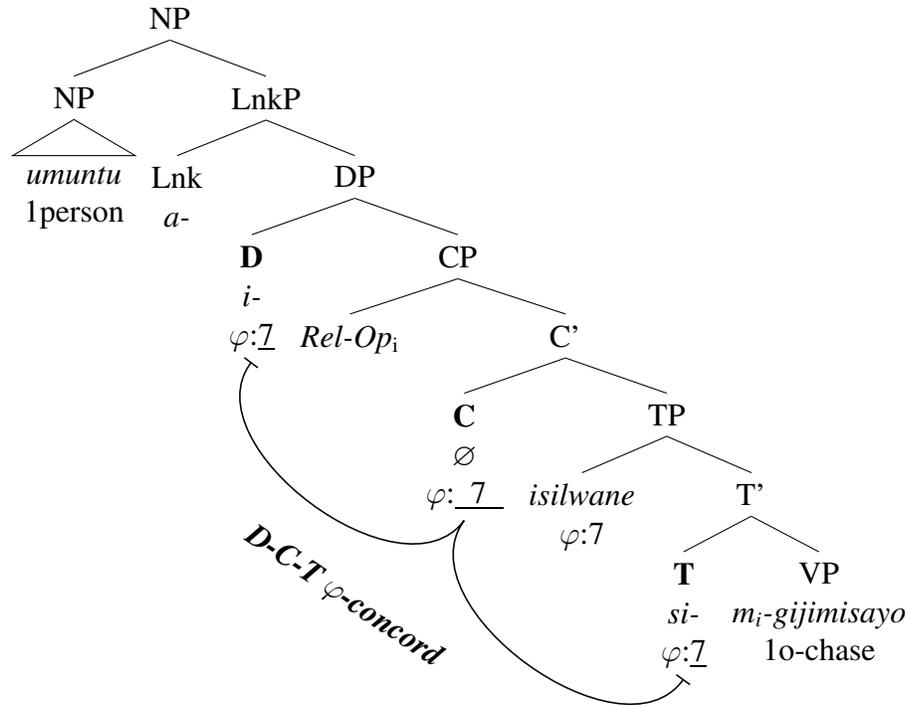
(9) i-moto i- a- u- mfana (> yomfana)
 9-car 9- LNK- 1- boy
 the boy’s car

- (i) D⁰ agrees with the possessor’s class.
- (ii) The linker agrees with the possessum.

2.2 The linker in relative clauses

(10) u-mu-ntu i-si-lwane [a] i- si- m- gijimisayo. (> e-sigijimsayo)
 1aug-1-person 7aug-7-lion LNK- 7aug- 7s- 1o- chase.REL
 ‘the person that the lion is chasing’

(11) Syntax of relativization



- C-T agreement in Bantu relative clauses (Henderson, 2013)
- D-C agreement – independent evidence in section 3
 ⇒Consequently, the augment in a RC always covaries with the RC-internal subject.
- the linker and the following augment are subject to regular vowel coalescence rules (12)

(12) Vowel coalescence (hiatus resolution)

- a + a → a
- a + u → o
- a + i → e

- The analysis in (11) explains the form of "relative agreements" (13)

	noun class	LNK-	+	D	+	T	⇒ "rel-agr"
	class 6	a-		a-		a-	a-
	class 2	a-		a-		ba-	aba-
(13)	class 1	a-		u-		u-	o-
	class 11	a-		u-		lu-	olu-
	class 9	a-		i-		i-	e-
	class 8	a-		i-		zi-	ezi-

- Relative clauses in Bantu have nominal properties (esp. work on anti-agreement), e.g.:
 - Cheng (2006): C-agreement in Bemba RCs has a pronominal form.
 - Diercks (2010): Fin⁰ is nominal, and in relative clauses it surfaces as a nominal prefix.
 - Henderson (2013): C_{Rel}-agreement is in a nominal feature ([ref]), and surfaces as the augment.
 - Van der Wal (2010): nominal outer syntax of non-subject relatives (Makhuwa)
- Present analysis: the nominal nature is implemented as a DP-shell
- The rest of the talk: Motivation for the DP-shell analysis
 - the nominal nature of clauses is not a peculiarity of relative clauses
 - D and C can have separate exponents
 - and show syntactic independence

3 Evidence for a DP shell in embedded clauses

- There is evidence that Ndebele embedded clauses, in general, show nominal properties.
- Relative clauses, being a type of embedded clause, require a DP shell as well.

3.1 CPs have an augment

(14) Ngicabanga **u-kuthi** u-ya-m-thanda.
 think.1sg aug-Comp 1s-pres-1o-like
 ‘I think that she likes him.’

- The complementizer *ukuthi* is etymologically a nominalization of the verb "say": *u-ku* is the class 15 prefix.
- The initial vowel of the complementizer (*u-kuthi*) can be dropped in the same configurations that allow augmentless nominals (15), (16).

(15) a. Ngifuna [DP *(i)-sinkwa.
 1sg.want aug-7bread
 ‘I want bread.’

b. Angifuni [DP (i)-sinkwa.
 1sg.neg.want aug-7bread
 ‘I don’t want bread.’

(16) a. Ngifuna [DP *(u)-kuthi uSipho apheke
 1sg.want aug-15comp 1Sipho 1cook
 ‘I want Sipho to cook.’

b. Angifuni [DP (u)-kuthi uSipho apheke
 1sg.neg.want aug-15comp 1Sipho 1cook
 ‘I don’t want Sipho to cook.’

- The parallel between (15) and (16) shows that:
 - The complementizer *ukuthi* is not monomorphemic
 - it has an *active* augment...
 - ... that has the same distribution as the augment in other DPs.

3.2 Clauses as objects of prepositions

- Assumption: Prepositions select for nominal phrases³
- CPs in Ndebele can be objects of prepositions (aka "augment-permitting prefixes" (Halpert, 2012))

(17) Objects of prepositions

- a. Si-khuluma *nga-* [DP **u-**muntu omdala. (*>ngo-*muntu)
 1pl-talk about- aug-1person old
 'We are talking about an old person'.
- b. Si-khuluma *nga-* [DP **u-**kuthi abantu babambane. (*>ngo-*kuthi)
 1pl-talk about- DP **u-**kuthi abantu babambane.
 1pl-talk about- aug-15comp people be.united
 'We are talking about *(the fact) that people are united'.

3.3 Clauses with oblique case markers

- oblique case prefixes⁴ appear with DPs (18-a) and clauses (18-b) alike.

(18) Oblique case prefix:

- a. Umama **u-**dan-is-w-e **yi-**lokho.
 1mother 1-worry-CAUS-PSV-PST by-this
 'Mother was worried by this.'
- b. Ngi-dan-is-w-e **yi-**kuthi u-sukile.
 1sg-worry-CAUS-PSV-PST by-15comp 2sg-left
 'I was worried by *(the fact) that you left'

3.4 Clauses control φ -agreement

- (19) a. Ngi- *(ya)- **ku-**funa u-kudla
 1sg- T- 15o-want aug-15food
 I want food.
- b. Ngi- *(ya)- **ku-**funa u-kuthi uSipho apheke
 1sg- T- 15o-want aug-15comp 1Sipho 1cook
 I want Sipho to cook.

–Ndebele embedded clauses control class 15 object agreement.⁵

–They obey the same dislocation condition on object marking as DPs (the disjoint form marked by *ya* is required).

³ A consequence of the claim that CPs cannot be assigned case Stowell (1981)

⁴ Unlike prepositions, which may combine with an augmented noun, oblique markers *replace* the augment ("augment-replacing prefixes" in Halpert (2012)).

⁵ This fact was also observed for Zulu by Halpert (2012)

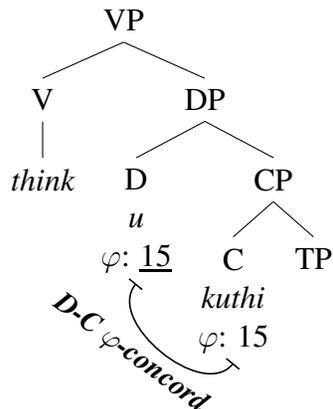
4 Consequences of the DP-shell for clausal complementation

(20) Two types of clausal complements:

- a. Verb complement clauses
- b. Noun complement clauses

- Being DPs, clausal complements may be directly selected by verbs:

(21) The syntax of verb complement clauses:



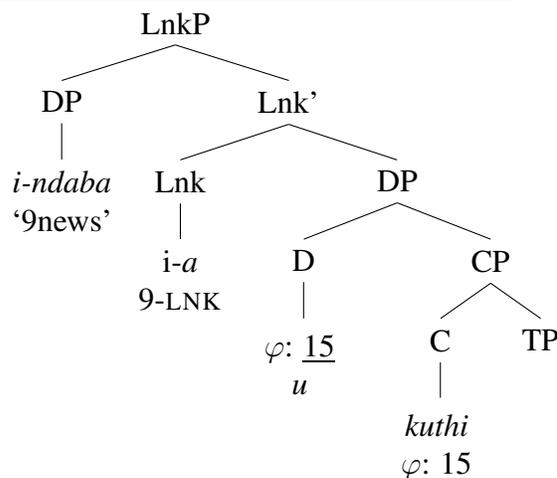
- The nominal status of the embedded clause prevents it from being selected by a noun (22-a)
- Instead, N-complements involve a linking structure (22-b), (23).

(22) N-complement clause

a. *Indaba [DP **u-** kuthi u-ya-m-thanda.
 9news 15aug- 15comp 1s-TAM-1o-like
 ('the news that she likes him'.)

b. indaba i- [a]- [DP **u-** kuthi u-ya-m-thanda.
 9news 9- LNK- 15aug- 15comp 1s-TAM-1o-like
 'the news that she likes him.'

(23) The syntax of noun-complement clauses



- the head noun is the specifier of the linker and controls predicate-argument agreement on the linker.

So far we've seen that:

- V-complement clauses show a range of nominal properties
- N-complement clauses behave like DPs in that they require a linker
- Relative clauses look like DPs: they have an augment

All embedded clauses: V-complement, N-complement and relative clauses, have a DP-shell

5 More evidence for a DP-shell: coordination

- **Additional evidence:** all types of embedded clauses are coordinated like DPs
- Unlike VP/TP/CP coordination, DP coordination requires the conjunction *la-* (lit. 'with')

- (24) a. [UJohn u-dlile] (la) [uMary u-nathile]. *matrix CP coordination*
 1John 1-ate (&) Mary 1-drank
 'John ate and Mary drank'
- b. UJohn [_{VP} u-dlile] ∅ [_{VP} u-nathile]. *VP/TP coordination*
 1John 1-ate & 1-drank
 'John ate and drank'
- c. UJohn u-dle [_{DP} isuphu] *(**la-**) [_{DP} isinkwa]. *DP coordination*
 1John 1-ate 9soup &- 9bread
 'John ate soup and bread'
- d. i-moto i- [a]- [_{DP} umama] *(**la-**) [_{DP} ubaba]. *Possessor DP coordination*
 9-car 9- LNK- 1mother &- 1father
 'mom and dad's car'

5.1 Clause coordination: V-complement

- (25) a. Ngizwe [_{DP} u-kuthi uMary uyahlabelela] *(**la-**) [_{DP} u-kuthi uJohn udlala ibhola].
 heard.1sg aug-comp Mary sings &- aug-comp John plays soccer
 'I heard that Mary sings and that John plays soccer'
- b. Ngizwe u-kuthi [_{TP} uMary uyahlabelela] [_{TP} uJohn udlala ibhola.]
 heard.1sg aug-comp Mary sings John plays soccer
 'I heard that Mary sings and John plays soccer'.

- The null conjunction cannot be used to coordinate CPs because they have a DP-shell
- Instead, the comitative *la-* must be used.
- The null conjunction is possible if the second conjunct does not contain a complementizer
 →TP-coordination (25-b)

5.2 Clause coordination: N-complement

(26) (*indaba yokuthi* – ‘the news that...’)

- a. Indaba i- [a]- [DP u-kuthi uMary uyahlabela] *(**la-**) [DP u-kuthi uJohn uyadlala
9news 9- LNK- aug-comp Mary sings &- aug-comp John plays
ibhola]
soccer
‘the news that Mary sings and that John plays soccer’
- b. *Indaba [i- [a]- u-kuthi uMary uyahlabela] (**la**) [i- [a]- u-kuthi uJohn uyadlala
9news 9- LNK- aug-comp Mary sings (&) 9- LNK- aug-comp John plays
ibhola]
soccer
(‘the news that Mary sings and that John plays soccer’)
- c. Indaba i- [a]- u-kuthi [TP uMary uyahlabela] [TP uJohn uyadlala ibhola]
9news 9- LNK- aug-comp Mary sings John plays soccer
‘the news that Mary sings and John plays soccer’

- (26) shows that
 - N-complement clauses also require the nominal conjunction *la-*
 - coordination site is below the linker (26-b)
 - like with V-complementation, two coordination sites are available: the complement DP (26-a) or the TP (26-c)

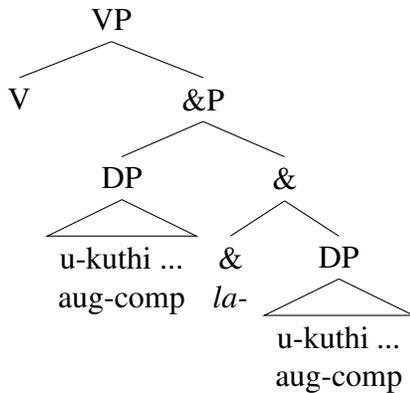
5.3 Clause coordination: relative clause

- The facts in relative clauses are the same as in N-complement clauses:

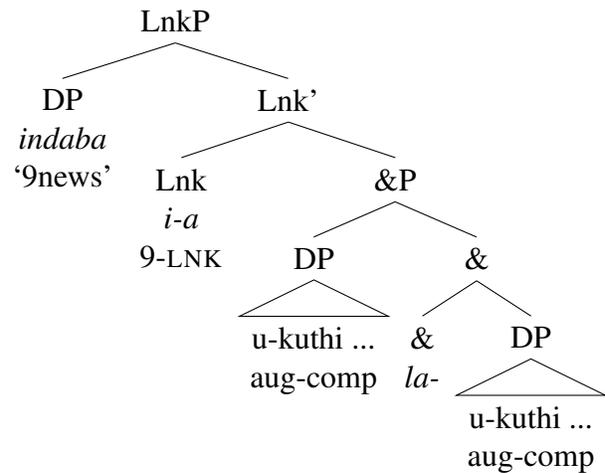
- (27) a. Ngidinga isilwane [a]- [DP i- sadla inkomo] *(**la-**) [DP i- sabulalainja.]
look-for.1sg 7lion LNK- 7aug- 7ate 9cow &- 7aug- 7killed 9dog
‘I’m looking for the lion that ate the cow and killed the dog’
- b. *Ngidinga isilwane [[a]- i- sadla inkomo] [[a]- i- sabulalainja].
look-for.1sg 7lion LNK- 7aug- 7ate 9cow LNK- 7aug- 7killed 9dog
(‘I’m looking for the lion that ate the cow and killed the dog’)
- c. Ngidinga isilwane [a]- i- [TP sadla inkomo] [TP sabulalainja.]
look-for.1sg 7lion LNK- 7aug- 7ate 9cow 7killed 9dog
‘I’m looking for the lion that ate the cow and killed the dog’

- All cases are instances of DP coordination (28)-(30)

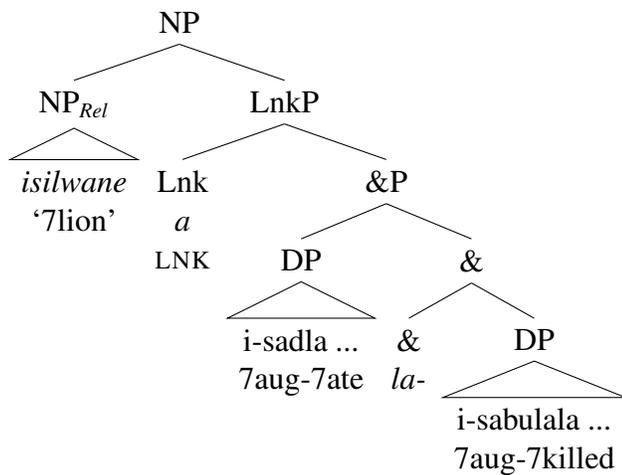
(28) V-complement CP coordination



(29) N-complement CP coordination



(30) Relative CP coordination



6 Conclusion and remaining issues

- Ndebele embedded clauses, including RCs, have a DP-shell.
- The D-layer in embedded CPs is realized as an augment co-varying with C⁰.
- predictable form of the *relative agreement* (the variation is derived from regular vowel coalescence)
- Possessives, relatives and noun-complement clauses all involve a linking structure →
- this correlates with their common property – combining two nominal elements.

Remaining issues:

1: There *no* agreement on the linker in Ndebele relative clauses (cf. Shona (31-b)).

- (31) a. i-doda [a]-a-ba-za-yi-bona (Ndebele)
 9-man LNK-2aug-2s-fut-9o-see
 ‘the man who they will see.’
- b. ndimi dz-[a]-va-notaura (Shona, Cheng (2006))
 10language 10-LNK-2s-TNS-speak
 ‘the languages which they speak’.

- Within Ndebele: What correlates with the agreement asymmetry between N-complement clauses and possessives on the one hand, and relative clauses on the other?
- Crosslinguistically: What correlates with the agreement asymmetry in Ndebele and Shona RCs?

2: Relation to linkers in other Bantu languages

- (32) What makes the linking structure necessary?
- a. Case licensing (Baker & Collins, 2006)
 - b. Copula involved in predication/symmetry breaking (Schneider-Zioga, 2015a, b)
 - c. A functional head facilitating predicate inversion (Den Dikken, 2006)
- Does the linker have the same function on all linking structures?

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