

# Reciprocals and Passives in Ndebele

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## 1 Introduction

Two types of reciprocals can be found across languages:<sup>1</sup>

i **Pronominal**, e.g. *each other* in English in (1):

(1) They helped *each other*.

ii **Verbal**, i.e. valency-reducing morphology, such as the morpheme *-aw* in Japanese:

(2) [John-to Mary]-ga home-at-ta.  
John-and Mary-NOM praise-REC-PAST  
'John and Mary praised each other.'

(Tatsumi 2017:536) *Japanese*

### This talk: Reciprocals in Zimbabwean Ndebele (S44)

(3) Abantwana ba-ya-nced-an-a.  
2.child 2.SBJ-PRS-help-REC-FV  
'The children are helping each other.'

### We argue that reciprocals in Ndebele...

- i. are verbal
  - \* verbal behavior, no evidence for a reciprocal DP
- ii. are subject to a syntactic restriction:
  - \* A DP must be present in the structure.

<sup>1</sup>See Siloni 2008 for an overview of pronominal reciprocal pronouns. For verbal reciprocals, see e.g. Nishigauchi 1992; Mchombo 1993; Bruening 2004; Tatsumi 2017, among others.

## 2 Ndebele reciprocals are verbal

### 2.1 Ndebele REC morpheme is part of the extended verb stem

The REC morpheme *-an*<sup>2</sup> is a verbal extension that occurs after the verbal root like other suffixal extensions e.g., the causative *-is*, the applicative *-el*: (Khumalo 2007:79; Sibanda 2004; Khumalo 2014)

(4) SBJ-TENSE-(OBJ)-verbal root-CAUS/APPL/**RECP**/PASS-FINAL VOWEL

(5) Abantwana ba-ya-zi-theng-is-el-an-a izimpahla.

2.children 2SBJ-PRS-8OBJ-buy-CAUS-APPL-REC-FV 8.clothes

‘The children are selling the clothes to each other’

(Khumalo 2014:144)

### 2.2 No reciprocal DPs in Ndebele

- Reciprocity can only be expressed through verbal morphology.
- There are no reciprocal DPs equivalent to *each other*.

Counterhypothesis 1: Ndebele does have a reciprocal DP but it is null

**Problem:** Null pronouns in the language trigger object agreement (6), but object agreement cannot coreference the reciprocal argument (7).<sup>3</sup>

(6) Ba-ya-**ngi**-nced-a.  
2.SBJ-PRS-1SG.OBJ-help-FV  
‘They are helping me.’

(7) Ba-ya-(\***ba**/\***ku**)-nced-an-a.  
2.SBJ-PRS-2OBJ/15.OBJ-help-REC-FV  
‘They are helping each other.’

Counterhypothesis 2: The REC suffix *is* the object marker linearized to the right of verb root.

**Problem 1:** OM-ing is impossible with in-situ subject as in (8), but *-an* is OK (9):

(8) \*Ku-ngi-nced-e abantu.  
15.SBJ-1SG.OBJ-help-FV 2.people  
‘People helped me.’

(9) Ku-nced-en-e abantu.  
15.SBJ-help-REC-FV 2.people  
‘People helped each other.’

<sup>2</sup>*-an* changes to *-en* when the final vowel of the verb is *e*.

(i) Abantu ba-nced-en-e.  
2.people 2SBJ-help-REC-FV  
‘People helped each other.’ (recent past)

(ii) Abantu ba-nced-an-a.  
2.people 2SBJ-help-REC-FV  
‘People helped each other.’ (distant past)

<sup>3</sup>Also see Mchombo 2004:83 for Chichewa.

**Problem 2:**

No double OM-ers in Ndebele (Pietraszko 2023), but *-an* can co-occur with one (Khumalo 2003).

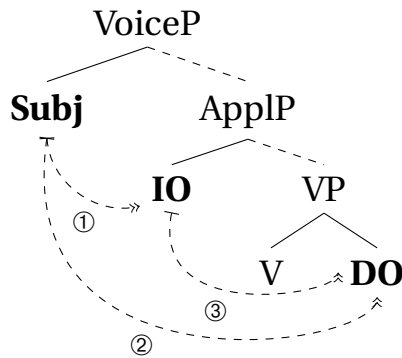
- (10) Abantwana ba-ya-zi-theng-is-el-an-a                      izimpahla.  
 2.children 2.SBJ-PRS-8OBJ-buy-CAUS-APPL-REC-FV 8.clothes  
 ‘The children are selling the clothes to each other’

(Khumalo 2014:144)

**2.3 Restrictions on the reciprocity relations**

- (11) Three logically possible relations in ditransitives like *give*:

- ① **We<sub>i</sub>** gave *each other<sub>i</sub>* children.
- ② **We<sub>i</sub>** gave mothers *each other<sub>i</sub>*.
- ③ We gave **mothers<sub>i</sub>** *each other<sub>i</sub>*.



**Only option ① is possible in Ndebele:**

- (12) Abantwana ba-mbul-el-an-a                      omama.  
 2.children 2.SBJ-reveal-APPL-REC-FV 2.mothers
- ① ‘**Children** revealed mothers<sub>DO</sub> to *each other<sub>IO</sub>*.’ ✓
  - ② ‘**Children** revealed *each other<sub>DO</sub>* to mothers<sub>IO</sub>’ ✗
  - ③ ‘Children revealed **mothers<sub>DO</sub>** to *each other<sub>IO</sub>*.’ ✗

The pattern in (12) implies two restrictions:

- \* **Restriction 1:** The binder has to be the agent.
- \* **Restriction 2:** The bindee has to be the argument immediately below the agent.

- Such restrictions are typical of verbal reciprocals e.g., Japanese (Bruening 2006).

**2.4 The reciprocal allows only sloppy reading under ellipsis**

Languages with pronominal reciprocals have been reported to allow both sloppy and strict interpretation under ellipsis :

(13) Greek (adapted from Paparounas 2023:80)

... i ðikastes laðonun o enas ton alo pio sixna  
 ... the.NOM.PL judge.NOM.PL oil.3.PL the.NOM one.NOM the.ACC other.ACC more often  
 apo tus astinomikus.  
 from the.PL police.officer.PL

*Sloppy*: ✓ ‘...the judges bribe each other more often than the policemen bribe each other.’

*Strict*: ✓ ‘... the judges bribe each other more often than the policemen bribe the judges.’

Ndebele reciprocals only allow the sloppy reading:

(14) Abazingeli b-a-nced-an-a okwedlula abagoli.  
 2.hunters 2.SBJ-PST-help-REC-FV that.which.is.beyond 2.fishermen.

‘Hunters helped each other more than fishermen.’

*Sloppy*: ✓ ‘Hunters helped each other more than fishermen helped each other.’

*Strict*: ✗ ‘Hunters helped each other more than fishermen helped hunters.’

The restriction to sloppy identity is typical of verbal reciprocals.

(Mchombo 1993; Bruening 2004, 2006; Keenan and Razafimamonjy 2004; Ishii 1989)

**Summary**

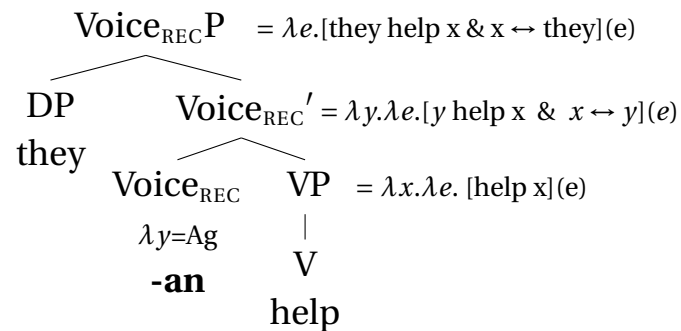
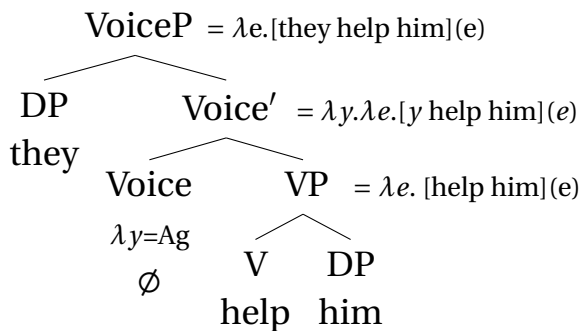
Ndebele reciprocals are verbal, not pronominal – no evidence for a null reciprocal DP.

**3 Bruening’s (2004) analysis of verbal reciprocals**

**3.1 The reciprocal -an is the head of a type of agentive Voice**

(15) **Agentive Voice**: ‘They helped him.’

(16) **Recip. Voice**: ‘They helped each other’



- **Agentive voice** (15) combines with a saturated VP (type <s,t>).
- **Reciprocal Voice** (16) combines with an unsaturated VP (type <e,<s,t>).<sup>4</sup>

<sup>4</sup>The denonations in (16) are simplified from Bruening’s original proposal.

- Voice<sub>REC</sub> **is also agentive**: it introduces the Agent role and merges a DP in its specifier.
- Verbal reciprocals are syntactically unergatives: the internal argument is not merged, though the theme  $\theta$ -role is still present.<sup>5</sup>
- There is no binding relation on this account.

### 3.2 Deriving the core facts from Voice<sub>REC</sub>

#### 3.2.1 The REC *-an* cannot be added to intransitive predicates

(17) ✗ Unaccusatives + an

Abantu b-a-f-(\*an)-a  
 2.people 2.SBJ-PST-die-REC-FV  
 ‘People died.’

(18) ✗ Unergatives + an

Abantu b-a-gid-(\*an)-a  
 2.people 2.SBJ-PST-dance-REC-FV  
 ‘People danced.’

- An unaccusative VP contains an internal argument → the VP is saturated ( $\langle s, t \rangle$ ) → wrong type for Voice<sub>REC</sub> (which requires  $\langle e, \langle st \rangle \rangle$ )
- An unergative V does not have an argument slot → the VP is also saturated ( $\langle s, t \rangle$ ) → wrong type for Voice<sub>REC</sub>

#### 3.2.2 Sloppy reading and lack of agreement

##### Lack of agreement:

- The "bindee" is not a DP, but rather a missing argument: no DP → no agreement

##### Sloppy reading under ellipsis:

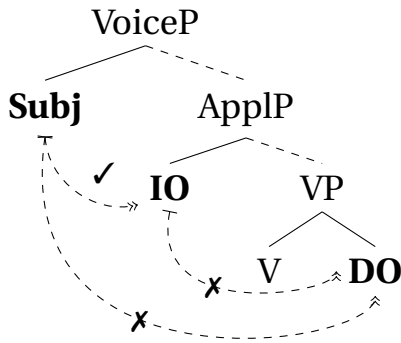
- Voice<sub>REC</sub> relates the Agent with the missing argument in the same clause.
- Ellipsis preserves this denotation, giving rise sloppy identity.

(19) Abazingeli b-a-nced-an-a okwedlula abagoli.  
 2.hunters 2.SBJ-PST-help-REC-FV that.which.is.beyond 2.fishermen.  
*Sloppy*: ✓ ‘Hunters helped each other more than fishermen helped each other.’  
*Strict*: ✗ ‘Hunters helped each other more than fishermen helped hunters.’

<sup>5</sup>There is a debate on reflexives in Romance as to whether they are unergative or unaccusative (Siloni 2008). We are not aware of an unaccusative analysis of Bantu reciprocals. We leave this possibility for further research.

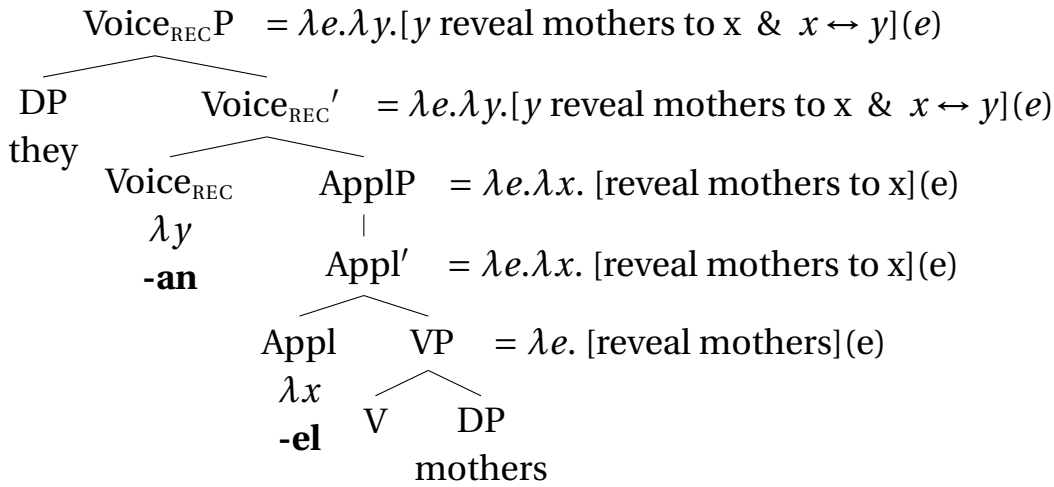
3.2.3 Restrictions on the binder-bindee relations

(20)



- (21) Abantwana ba-mbul-el-an-a omama.  
 2.children 2.sbj-reveal-APPL-REC-FV 2.mothers  
 ① 'Children revealed mothers<sub>DO</sub> to each other<sub>IO</sub>.' ✓

(22)



\* **Restriction 1:** The "binder" has to be an Agent

→ an is a type of agentive Voice; reciprocity is a special type of the agentivity.

\* **Restriction 2:** The "bindee" has to be the argument immediately below the Agent, i.e. the IO in ditransitives.

→ The "bindee" is a missing argument.

→ For the DO to be part of the reciprocal relation, the VP must be unsaturated

→ But Appl composes only with saturated VPs (type <s,t>).

## 4 Interactions between reciprocals and passives

- A transitive verb can be passivized (23a) or reciprocalized (23b).

(23) a. Umama u-nced-w-e ng-umntwana.  
 1.mother 1.SBJ-help-PASS-FV by-1.child  
 ‘The mother was helped by a child.’

*passive of transitives*

b. Abantwana ba-ya-nced-an-a.  
 2.children 2.SBJ-PRS-help-REC-FV  
 ‘The children are helping each other.’

*reciprocal of transitive*

- But it is not possible to have both as in (24).

(24) ??Kw-a-nced-an-w-a ng-abantwana.  
 15SBJ-PST-help-REC-PASS-FV by-2.children  
 ‘It was helped each other by the children.’

*reciprocal + passive*

- Why is (24) ungrammatical?

**Hypothesis 1:** PASS and REC are different types of the same head (Voice). It’s one or the other.

Problem: PASS and REC can co-occur in ditransitives:

(25) Izipho za-nik-an-w-a ng-abantwana. (c.f. (24))  
 10.gifts 10SBJ-give-REC-PASS-FV by-2.children  
 ‘The gifts were given to each other by children.’

*reciprocal + passive*

→ The REC and PASS are separate heads. (And REC is lower than PASS.)

**Hypothesis 2:** REC detransitivizes the verb, and intransitives can’t be passivized:

Problem: Intransitives *can* be passivized in Ndebele:

(26) Kw-a-gid-w-a ng-abantwana.  
 15.SBJ-PST-dance-PASS-FV by-2.children  
 ‘It was danced by the children.’

*impersonal passive*

### The puzzle

REC and PASS can co-occur with ditransitive (25), but not monotransitive (24), predicates.

### Toward an analysis

REC is subject to a syntactic restriction, requiring a DP in its domain.

## 5 Our analysis

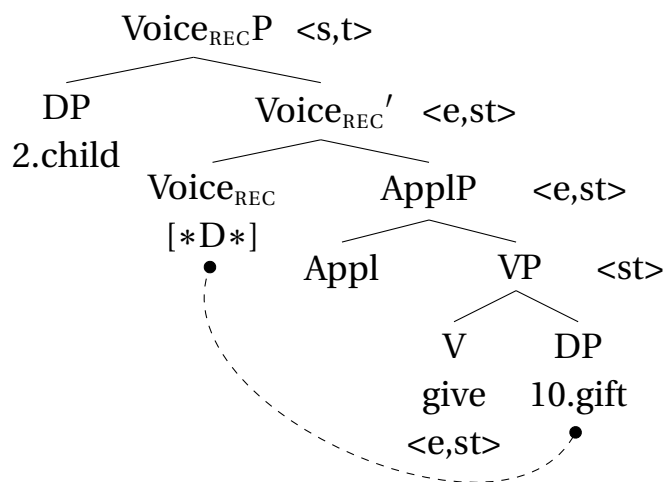
### 5.1 REC Voice is sensitive to transitivity

#### Proposal

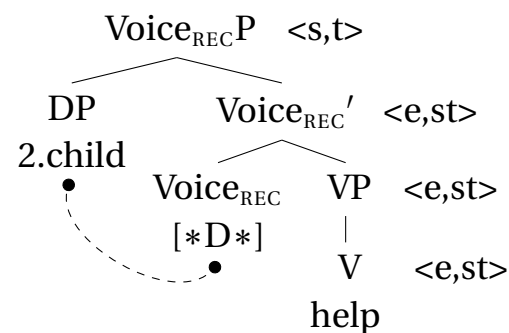
- Bruening’s (2006) analysis with one addition:
- Voice<sub>REC</sub> has a [\*D\*] feature that must be checked by a DP. (notation from Müller 2010)
- [\*D\*] checking is done via cyclic Agree: if the search of the complement fails, [\*D\*] is checked by the specifier. (Béjar and Rezac 2009)
- Failure to check [\*D\*] leads to ungrammaticality.

(27) Abantwana ba-nik-an-a          izipho.  
 2.children 2.SBJ-give-REC-FV 10.gifts  
 ‘The children gave each other gifts.’

(28) Abantwana ba-ya-nced-an-a.  
 2.children 2.SBJ-PRS-help-REC-FV  
 ‘The children are helping each other.’



→ [\*D\*] checked by a DP inside the complement



- No goal in the complement
- [\*D\*] checked by the specifier

### 5.2 Voice<sub>REC</sub> and Passive

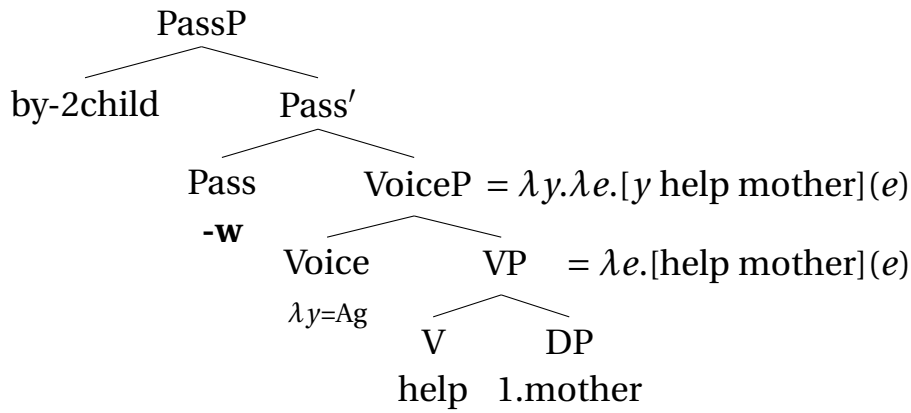
Assumed analysis of passives:

(Embick 2004; Bruening 2006, 2013; Schäfer 2017; Wurmbrand et al. 2021)

- Passive head merges with agentive VoiceP that lacks a specifier.
- The missing Agent argument is either saturated by the by-phrase or existentially closed.

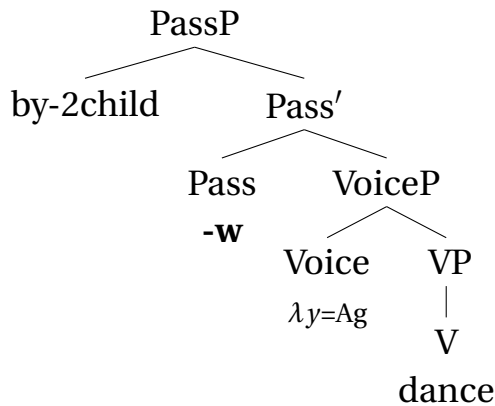
(29) Umama u-nced-w-e          ng-abantwana.  
 1.mother 1.SBJ-help-PASS-FV by-2.child  
 ‘The mother was helped by the children.’

(30)



- Like Voice<sub>REC</sub> in Ndebele, Pass combines with a complement of type <e,st>.
  - Unlike Voice<sub>REC</sub> in Ndebele, Pass does not require a DP in its domain.
- allowing passives of intransitives:

(31) Kw-a-gid-w-a ng-abantwana.  
 15.SBJ-PST-dance-PASS-FV by-2.children  
 Lit. 'It was danced by the children.'



(32) Comparison of Voice<sub>REC</sub> and PASS in Ndebele

	PASS	Voice <sub>REC</sub>
Complement type	<e<st>>	<e<st>>
Has [*D*]?	No	Yes

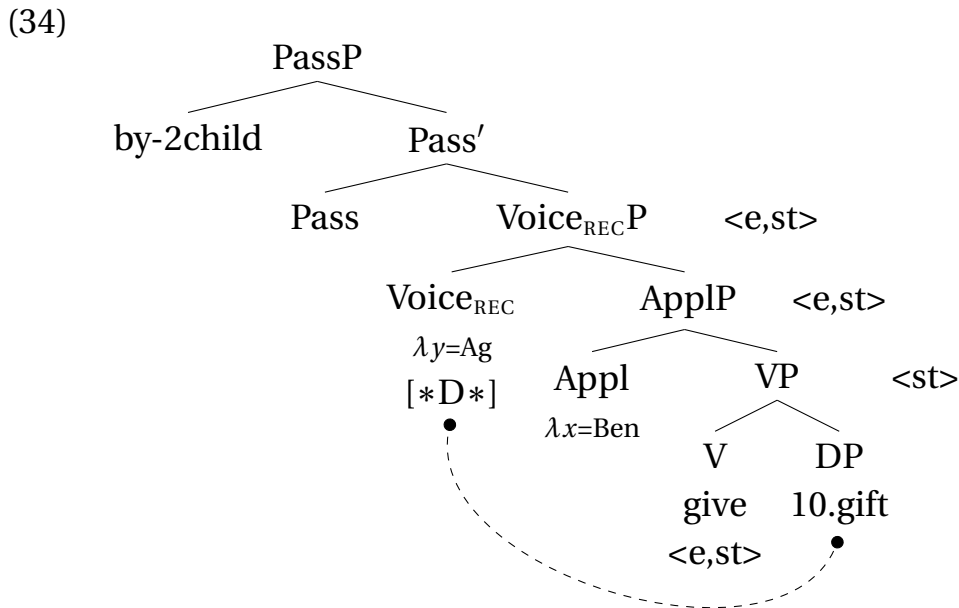
**The puzzle**

Why is the co-occurrence of REC and PASS restricted to ditransitive verbs?

**Answer**

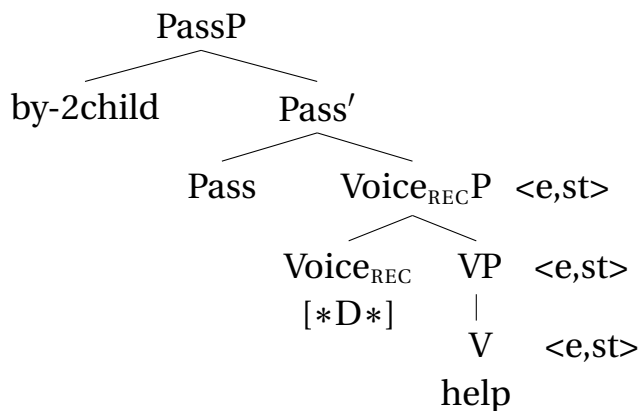
Only ditransitive verbs have enough DP arguments to satisfy [\*D\*].

- (33) Izipho z-a-nik-an-w-a ng-abantwana. *ditransitive verb*  
 10.gifts 10SBJ-PST-give-REC-PASS-FV by-2.children  
 ‘The gifts were given to each other by the children.’



- ApplP has an unsaturated argument → Voice<sub>REC</sub> can combine with it
- Voice<sub>REC</sub> has an unsaturated argument → PASS can combine with it
- [\*D\*] is checked by a DP inside the complement

- (35) ??Kw-a-nced-an-w-a ng-abantwana. *monotransitive verb*  
 15SBJ-PST-help-REC-PASS-FV by-2.children  
 ‘It was helped each other by the children.’



- Voice<sub>REC</sub> can combine with VP, which has an unsaturated argument
- PASS can combine with VoiceP, which has an unsaturated Agent
- **No DP in the complement or specifier to check [\*D\*] ✗**

## 6 Crosslinguistic Extensions and Conclusion

### Two claims about Ndebele reciprocals

1. They are verbal, not pronominal.
2. Voice<sub>REC</sub> requires the presence of a DP in its domain.

- The syntactic restriction of Voice<sub>REC</sub> in Ndebele resembles passives in English:

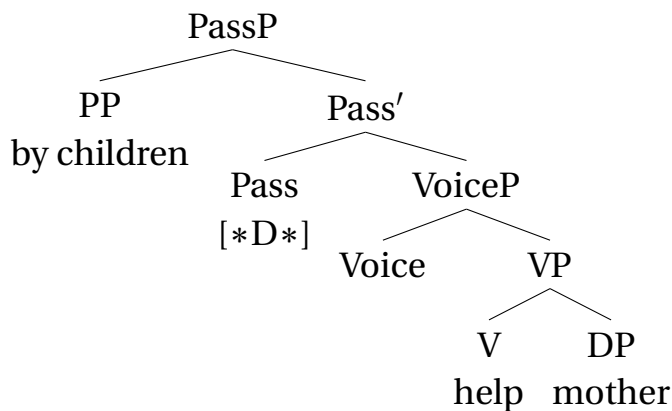
(36) Mother was helped by children.

(37) \*It was danced by children. → *no impersonal passives in English*

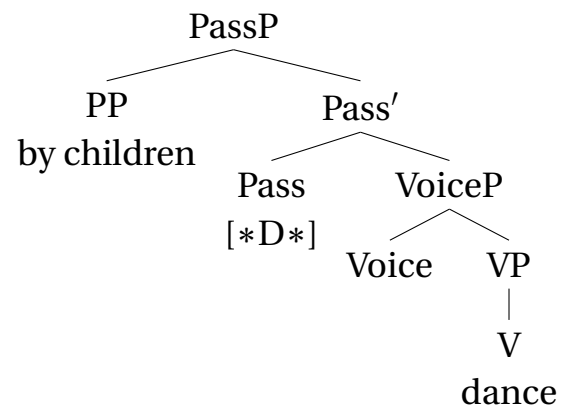
- On our implementation of the syntactic restrictions, PASS in English has [\*D\*]:

(38) Mother was helped by children.

(39) \*It was danced by children.



[\*D\*] checked by the DP 'mother' ✓



no DP to check [\*D\*] ✗

(40) Predicted Syntactic Restrictions for PASS and Voice<sub>REC</sub> across languages

	[*D*] (DP argument required)	no [*D*] (no DP argument required)
<b>Voice<sub>REC</sub></b>	Ndebele	?
<b>PASS</b>	English, Polish, etc.	Ndebele, Lithuanian, German, Dutch, etc.

UNTESTED PREDICTION:

The existence of a language with verbal reciprocals, but where Voice<sub>REC</sub> lacks [\*D\*].

→ impersonal passives with reciprocals:

(41) Lit: It was helped each other by the children.

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