# Agreement in Nuer Speech Reports*

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March 25, 2016

Nuer speech reports display a strange pattern when the report is about the matrix speaker. In these cases, the third person pronoun has the ability to control first person agreement morphology on the auxiliary.

(1) John c-ɛ wee [jɛn c-a̤ Mary
J.NOM AUX.PERF-3SG say.PERF.PART [he.NOM AUX.PERF-1SG M.OBJ
nɛɛn].
see.PERF.PART]
'John said he saw Mary.'

**Two questions:**

- How do we fit Nuer into the growing typology of embedded pronouns?
- How do we model this agreement where the controller and target appear to mismatch in features?

## 1 Background on Nuer

Nuer is a Nilo-Saharan language spoken in South Sudan and Ethiopia.
Verbs show agreement in person and number. Shown in (2) for 'call' (omitting tone).

(2) a. cɔaala̤
sing.1SG
'I sing'

b. cɔɔli
sing.2SG
'You sing'

c. cɔɔlɛ
sing.3SG
'He/she sings'

d. cɔalkɔ/nɛ
sing.1EXC/INC
'We sing"

e. cɔalɛ
sing.2PL
'You sing'

f. cɔalkɛ
sing.3PL
'They sing'

### 1.1 Agreement in embedded clauses

The agreement paradigm changes when embedded under speech and attitude verbs. When the matrix attitude holder co-refers with the subject of the embedded clause, the agreement that is controlled on he verb is first person.

(3) John c-ɛ wee [jɛn c-a̤ Mary
J.NOM AUX.PERF-3SG say.PERF.PART [he.NOM AUX.PERF-1SG M.OBJ
nɛɛn].
see.PERF.PART]
'John said that he saw Mary.'

(4) John c-ɛ caar [jɛn c-a̤
J.NOM AUX.PERF-3SG think.PERF.PART [he.NOM AUX.PERF-1SG
Mary nɛɛn].
M.OBJ see.PERF.PART]
'John thought that he saw Mary.'

This is not some sort of default/frozen form, but tracks the features of the controller, as shown in (5) with a plural embedded subject.

(5) John kɛnɛ Peter ci-kɛ wee [kɛn
J.NOM and P.NOM AUX.PERF-3PL say.PERF.PART [they.NOM
ca-kɔ Mary nɛɛn].
AUX.PERF-1PL.EXCL M.OBJ see.PERF.PART]
'John and Peter said that they saw Mary.'

This pattern is similar to indexical shift found in many languages, e.g., Amharic, Zazaki or Nez Perce. In these languages first person pronouns (and agreement morphology if the languages has it) can refer to matrix speakers/attitude holders

*Thanks to Jonathan Bobaljik and Magda Kaufmann for discussion of the data and analysis. Thanks especially to our Nuer consultant John Nguany Gai Yoh. This work was made possible by the Arts & Humanities Research Council (UK) (grant AH/L011824/1 "Morphological Complexity in Nuer"). Their support is gratefully acknowledged.

in embedded reports. (6) is from Zazaki (Anand & Nevins 2004).

(6) Hɛseni$_j$ va kɛ [ɛz$_j$ dɛwletia]
Hesen.OBL said that [I rich.be-PRES]
'Hesen said that he was rich.'

Unlike the languages with indexical shift, in Nuer embedded reports, the first person pronoun does not shift. (7) with an embedded first person pronoun can only report what John said about the current speaker. It cannot report what John said about himself.

(7) John c-ɛ wee [ɣan c-a̤ Mary
J.NOM AUX.PERF-3SG say.PERF.PART [I.NOM AUX.PERF-1SG M.OBJ
nɛɛn].
see.PERF.PART]
'John said that I saw Mary.'
#'John said that he saw Mary.'

This is also similar to embedded reports in Donno Sɔ and Tamil where a logophor or long distance anaphor can control first person agreement (Culy 1994; Sundaresan 2012).

*Donno Sɔ*

(8) Oumar [inyemɛ jɛmbɔ paza bolum] miñ tagi
Oumar [LOG sack.DF drop left.1SG] 1SG.OBJ informed
'Oumar told me that he had left without the sack'

One might suspect what we gloss as a third person pronoun is in fact a logophor, however the data suggest it truely is third person. Logophors can only occur in embedded speech acts and cannot occur as subjects in out-of-the-blue contexts. This is demonstrated for the logophor *yè* in Ewe (Pearson 2015).

(9) a. kofi be yè-dzo
Kofi say LOG-leave
'Kofi$_i$ said that he$_i$ left'

b. *yè dzo
LOG leave
Intended: 'He left'

Unlike the logopor, the pronoun *jɛn* in Nuer can be used in out-of-the-blue contexts indicating that it truly is a third person pronoun.

(10) jɛn c-ɛ Mary nɛɛn
he.NOM AUX.PERF-3SG M.OBJ see.PERF.PART
'He saw Mary.'

The pattern in Nuer embedded reports has been noted in other Nilo-Saharan languages: Karimonjong and Lotuko (Noveli 1985; Curnow 2002).

*Karimonjong*

(11) àbù papà tlim ɛbè [àlózì inèz morotó].
AUX father say that [1SG-go-NPST 3SG Moroto]
'The father said that he was going to Moroto.'

*Lotuko*

(12) a̤ati 'daŋ xul ojori 'tɔ [jojo ɛra isi a xobwok].
people all REL say PRT [COMP 1PL.be they PRT kings]
'Those who say that they are kings.'

Outside of Nilo-Saharan, this pattern also shows up in Telugu (Messick 2016).

(13) Raju [t̤anu parigeṯṯ-ææ-nu ani] cepp-ææ-Du
Raju [3SG run-PAST-1SG COMP say-PAST-M.SG
'Raju said that he ran.'

**Take away points:**

- In Nuer speech and attitude reports, if the matrix subject and embedded subject corefer then the agreement controlled on the embedded auxiliary is first person.
- Unlike indexical shift languages, pronouns themselves do not "shift", only the agreement morphology.
- The embedded pronoun in Nuer is not a logophor but a third person pronoun.
- We find the same pattern within the Nilo-Saharan family and also outside of it in Telugu.

## 2 Nuer in the typology of embedded pronouns

As hinted at the last section, there is a large amount of variation found in how languages express embedded pronouns. We find languages that fall into the following groups:

- **Logophors**: Ewe (Clements 1975; Pearson 2015), Yoruba (Anand 2006), Abe (Koopman & Sportiche 1989) among others
- **Indexical shift**: Amharic (Schlenker 1999), Zazaki (Anand & Nevins 2004; Anand 2006), Nez Perce (Deal 2014)
- **Third person pronouns with third person agreement**: English and most of Indo-European
- **Logophor with first person agreement**: Donno Sɔ, (Culy 1994), Tamil (Sundaresan 2012)
- **Third person pronouns-first person agreement**: Nuer, Telugu

### 2.1 Modeling the variation of pronouns

Putting aside agreement for the moment, we have three types of pronouns that occur in embedded speech/attitudes: third person pronouns. shifted indexicals, logophors.

Basic idea behind the analysis:

- Embedded pronouns when *de se* are simultaneously the author of the embedded speech or attitude event but not the author of the current speech event, i.e., they are both +AUTHOR and -AUTHOR cf. Schlenker (2003) on logophors.
- Variation lies in how languages handle this feature bundle.

Formally, we treat the embedded pronoun as minimal in the sense of Kratzer (2009).

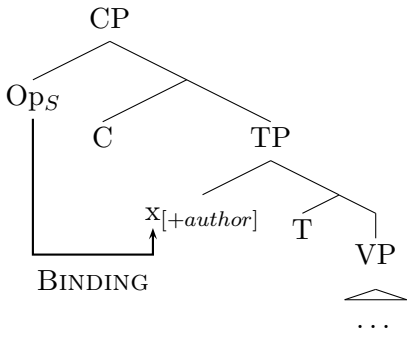
(14) X [$\phi$:___]

Following Baker (2008) among others, we treat embedded *de se* pronouns as bound by an operator (labeled S for speaker) in the left periphery of the embedded clause. It is assigned a +AUTHOR value by the rule in (15).

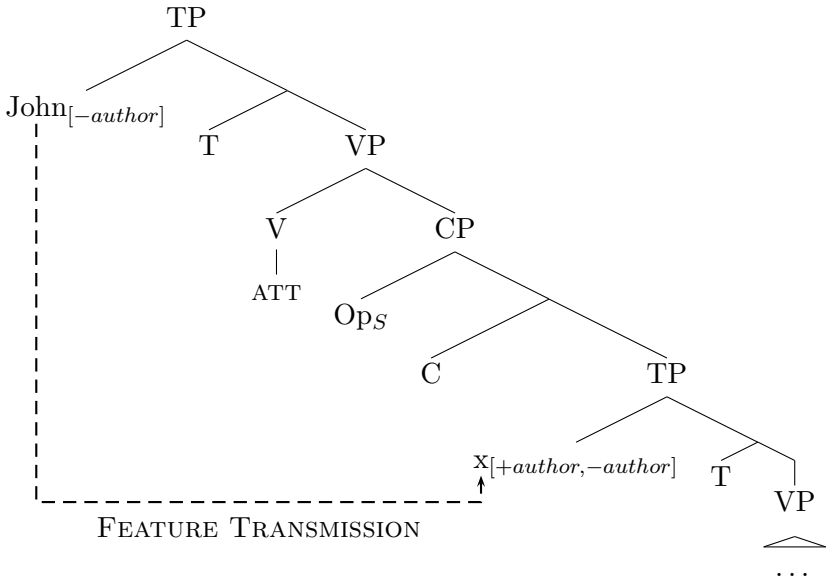
(15) The Person Licensing Condition
A DP bound by the S operator will receive a [+AUTHOR] feature otherwise the DP is assigned [-AUTHOR].

The pronoun also receives features from the matrix subject (i.e., gender and number) by the mechanism of Feature Transmission at PF (Heim 2008; Kratzer 2009; Landau to appear). If the the matrix subject, is third person, then it will also transmit a -AUTHOR feature to the pronoun as well.

(16)




(17)




At LF the operator translates to a $\lambda$-expression over individuals. Embedded clauses are then a property type and attitude verbs quantifier over individual world pairs (i.e., centered worlds).

(18) ATT [λx. λw. [. . . x . . . in $w$]]

(19) a. $[\![believe]\!]^g = \lambda P_{\langle e\langle s,t\rangle\rangle}.\lambda x_e.\ \lambda w_s.\ \forall\langle$y, w'$\rangle \in$ DOX(x, w)[$P$(y)(w')]
b. DOX($x$,$w$) = {⟨y, w'⟩: w' is compatible with x's beliefs in w and x identifies as y in w'}

(20) a. [$_{CP1}$ λw$_1$. [w$_1$ Pete believes [$_{CP2}$ λx$_2$. λw$_3$. [w$_3$ he$_2$ is smart]]]]
b. $[\![CP2]\!]^g$ = λx. λw. x is smart in w
c. $[\![CP1]\!]^g$ = λw. $\forall\langle y,\ w'\rangle \in$ DOX(Pete, w)[ y is smart in w'].

In languages with logophors, the spell out of the [+AUTHOR, -AUTHOR] is the logophor (cf. Schlenker 2003).

(21) [+AUTHOR, -AUTHOR] ↔ LOG

In other languages, the feature combination is marked and triggers a rule of *impoverishment* (Bonet 1991, 1995; Nevins 2011; Noyer 1997).

(22) *[+AUTHOR, -AUTHOR]

Languages with indexical shift impoverish the -AUTHOR feature and spell out the +AUTHOR feature.

(23) -AUTHOR → ∅ / [ ___ +AUTHOR]

Languages like English and Nuer where the pronoun is spelled out as third person impoverish the other feature leaving only the -AUTHOR feature.

(24) +AUTHOR → ∅ / [ ___ -AUTHOR]

This system has all embedded *de se* pronouns posses a [+AUTHOR] regardless of how they are eventually spelled out. This gives us a way to model the ability of third person and logophoric pronouns to control first person agreement.

## 2.2 Agreement and AGREE

Agreement is the result of the AGREE operation where the features of a goal are copied onto a probe (Chomsky 2000, 2001). The AGREE operation is decomposed into two sub-operations: MATCH and VALUATION.

(25) MATCHING is a relation that holds of a probe P and a goal G. Not every link induces VALUATION. To do so G must (at least) be in the domain D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown below:
a. Matching is feature identity.
b. D(P) is sister of P.
c. Locality reduces to "closest c-command"

MATCH takes place in the syntax, but the timing of VALUATION has been argued to be variable. This has been invoked to explain:

- (In)sensitivity to linear order (Bhatt & Walkow 2013)
- The interaction of agreement and impoverishment (Arregi & Nevins 2012)
- The possibility of purely semantic features controlling agreement (Smith 2015)

Variation across languages can then be modeled as variation in when VALUATION takes place in relation to our other operations.

(26) MATCH ≺ Binding ≺ (VALUATION) ≺ Feature Transmission ≺ (VALUATION) ≺ Impoverishment ≺ Vocabulary Insertion

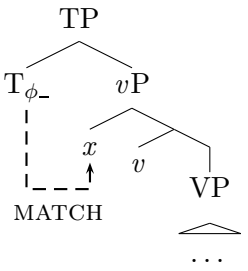
The parameters for Nuer would be the following:

(27) a. MARKEDNESS CONSTRAINT: *[+AUTHOR, -AUTHOR]
b. IMPOVERISHMENT RULE: +AUTHOR → ∅ / [ ___ -AUTHOR]
c. TIMING OF VALUATION: MATCH ≺ Binding ≺ VALUATION ≺ Feature Transmission ≺ Impoverishment ≺ Vocabulary Insertion

## 2.3 Sample derivation

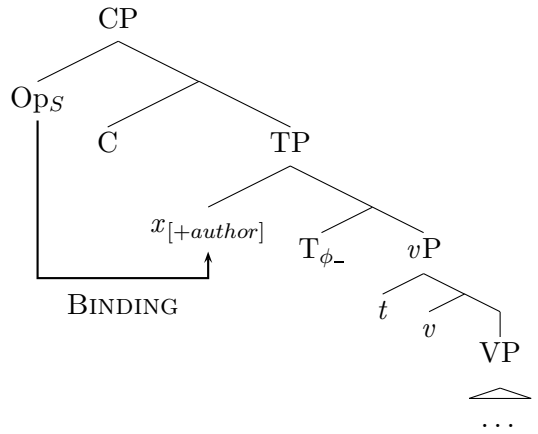
Begining when the $\phi$ probe is first merged into the structure (here on the T head). It searches and undergoes MATCH with the embedded pronoun.

(28)



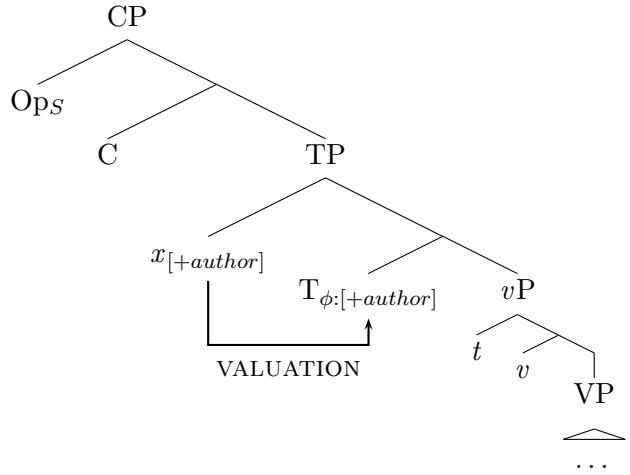
The pronoun will undergo movement to the specifier of TP and the left periphery of the embedded clause is constructed. The S operator is merged into the structure and binds the minimal pronoun. The pronoun inherits a +AUTHOR feature because of the PLC.

(29)

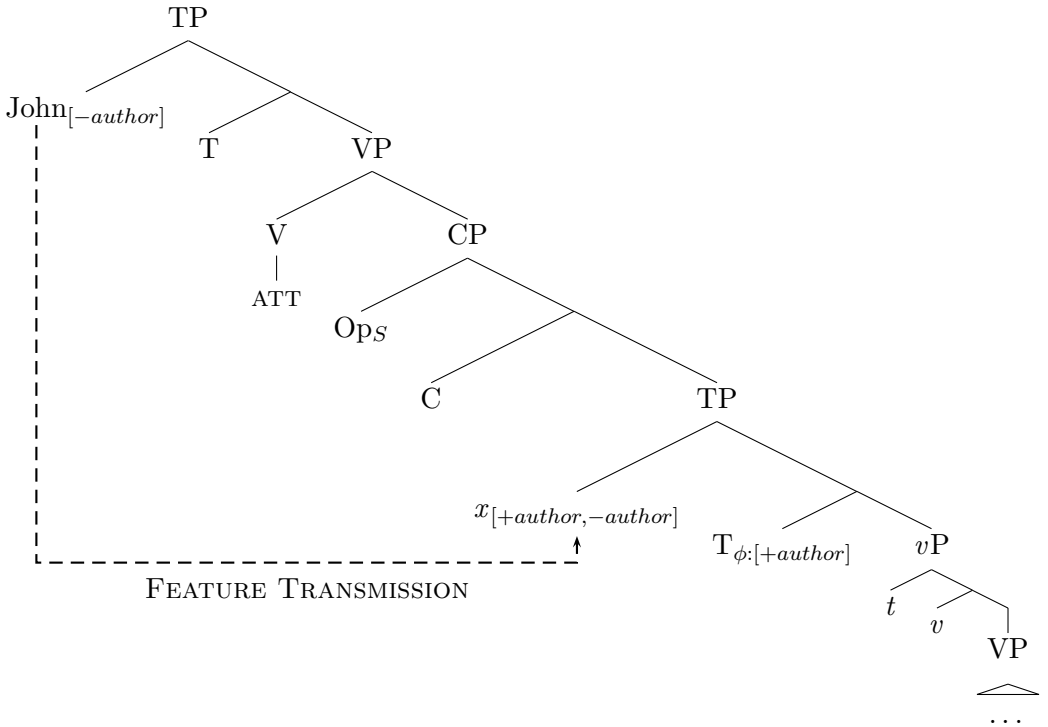



VALUATION takes place in the syntax when [+AUTHOR] is the only value on the pronoun. This leads to only the [+AUTHOR] feature being copied onto T.

(30)




The matrix clause is constructed and the representation is spelled out. In the post-syntax, the pronoun and matrix subject will undergo Feature Transmission, resulting in the pronoun receiving a [-AUTHOR] feature.




The impoverishment rule (repeated in (31)) will now remove the +AUTHOR from the representation, but since T only has a [+AUTHOR] feature, the rule will only apply to the pronoun. The vocabulary insertion rules in (32) will apply to the feature bundles.

(31) +AUTHOR → ∅ / [ ___ -AUTHOR]

(32) a. [-AUTHOR] / x ___ ↔ jɛn
b. [+AUTHOR] / T ___ ↔ -a̤

**Take away points**:

- Embedded pronouns are the author of a speech or attitude event but not the current speech event.
- Variation lies in the morphology of how languages express the features of the pronouns.
- The agreement mismatch in Nuer can be modeled by having agreement happen before impoverishment removes the +AUTHOR from the pronoun.

## 3 Conclusion

In this talk we analyzed an embedded pronoun agreement mismatch in Nuer.

(33) John c-ɛ wee [jɛn c-ä
J.NOM AUX.PERF-3SG say.PERF.PART [he.NOM AUX.PERF-1SG
Mary nɛɛn].
M.OBJ see.PERF.PART]
'John said he saw Mary.'

The two questions asked at the beginning:

Q:*How do we fit Nuer into the growing typology of embedded pronouns?*
Answer: Nuer teaches us that even languages that use third person pronouns in embedded attitudes the pronouns in question are in some way also first person. Variation observed across languages can be accounted for with parameters in: (i) the markedness of the feature bundle: [+AUTHOR, -AUTHOR], (ii) the repair used to resolve the markedness constraint, (iii) the timing of VALUATION.

Q: *How do we model this agreement where the controller and target appear to mismatch in features?*
Answer: The controller of the agreement in fact matched the features of the target at the point at which VALUATION takes place. This is obscured by later morphological operations.

Thank You!

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