Switch-reference and quantification in Yawanawa (Panoan)

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1 Introduction

- The main goal of this talk is to explore the relation between switch-reference and quantification in Yawanawa:[1]
  - Switch-reference is conceived as a system that tracks the *reference* of arguments across clauses.
  - I ask: what happens when the subject being tracked is a non-referential expression like 'nobody'?
  - The puzzle: same-subject marking is licensed in these contexts.
  - I'll argue that treating quantified expressions as variables bound by sentential operators is a possible solution to this puzzle.

  The plan:

  - how switch-reference works in Yawanawa;
  - an update to Finer (1984)'s account of the syntax of switch-reference;
  - how quantification works in Yawanawa;
  - how the two systems interact.

2 The Yawanawa language

- Spoken in the Rio Gregório indigenous reservation in the state of Acre, Brazil.
- Central-Southern branch of the Panoan family, Subgrup 2: "Pano de las Cabeceras" (c.f.Valenzuela and Guillaume in press)
- 160 self-declared active speakers in 2010 (ProDocLin, 2010). [2]

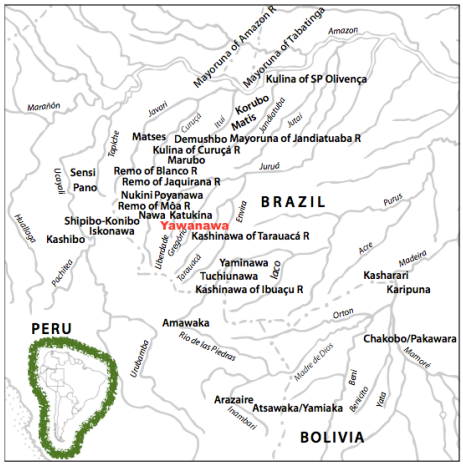


Figure 1: Map of Panoan Languages (adapted from Fleck 2013, p. 8)

[1] I'd like to thank Mark Baker, Sam Alkhatib, Rafael Nonato, Simon Charlow, and Ümit Atlamaz for helpful discussions and comments. I'd like to thank my Yawanawa friends and consultants for their invaluable help and generosity. All errors are mine.

[2] All data presented here – naturalistic and elicited – were originally collected in the context of two language projects: 1. Yawanawa language documentation project: *Yawanawahãu xinã*, ProDocLin (Museu do Índio/UNESCO, 2010–2013); 2. Línguas indígenas ameaçadas: pesquisa e teorias linguísticas para a revitalização (CNPq, 2014 –)

3 What is Switch-Reference again?

3.1 SR in Yawanawa

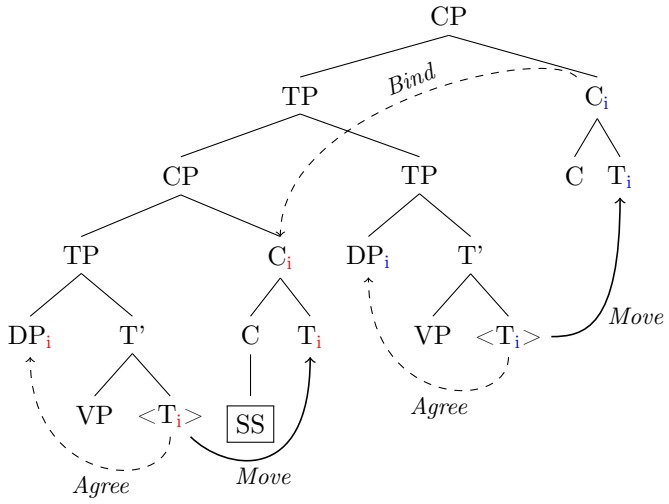
- Switch-reference (SR; c.f. Jacobsen 1967): syntactic system in which (non-)correreference between subjects of adjacent clauses – matrix and adverbial clauses in the case of Panoan languages – is overtly signaled by a morpheme.[3]

(1) [Shukuvenã$_i$ yumãi ũi-**ashe**] *pro*$_i$ itxu-a.
Shukuvena.ERG jaguar see-SS.PRF.NOM pro.NOM run-PRF
'When/after Shukuvena$_i$ saw a jaguar, he$_i$ ran away.'

(2) [Shukuvenã$_i$ yumãi ũi-a-**kẽ**] *pro*$_k$ itxu-a.
Shukuvena.ERG jaguar see-PRF-DS.PREV pro.NOM run-PRF
'When/after Shukuvena$_i$ saw a jaguar, s/he$_k$ (somebody else) ran away.'

4 The standard account of switch-reference

- Finer (1984)'s proposal updated by Watanabe (2000):



1. T(INFL) establishes a relation to its local subject is each clause;
   - coindexation in Finer (1984)
   - *Agree* in Watanabe (2000)
2. Via T/INFL's relation to C, each complementizer establishes a relation with its local subject (C gets the ϕ features of its local subject via T-to-C movement);
3. Finer (1984): Adverbial clause complementizers have a binding feature that indirectly links the subject of an adjoined clause to the subject of a matrix clause (note that neither nominal c-commands the other);
4. Binding Theory is extended beyond the domain of nominals: complementizers can be pronominal or anaphoric.
   - an *anaphoric* C is obligatorily co-referential with an antecedent (a superordinate complementizer) – Principle A;

[3]Crosslinguistically, switch-reference systems encode a link between *subjects*. One of the challenges that Panoan languages bring to a theoretical account of SR is the possibility for *objects* to enter the SR calculation as well:

[Shukuvenã$_i$ yumãi$_j$ ũi-**a**] *pro*$_j$ itxu-a.
Shukuvena-ERG jaguar see-O=S pro.NOM run-PRF
'When/after Shukuvena$_i$ saw a jaguar, it (the jaguar) ran away.'

- a *pronominal* C is obligatorily non co-referential with the antecedent – Principle B.

5. Derivation convergence depends on anaphoric (SS) complementizers co-occurring with co-indexed arguments and pronominal (DS) complementizers co-occurring with non co-indexed arguments.

⋆ Empirical limitations:

– assuming switch-reference is a unified phenomenon crosslinguistically, this mechanism is not generalizeable to the full range of constructions in which SR is found:

* coordinate constructions (see Kĩsêdjê)
* complement clauses (3)

(3) SR in complement clauses

a. Choctaw (Broadwell 2006: 271)

Lynn-at ik-ikháan-o-h [iy-aachi̱-ka-**t**].
Lynn-NOM AGR-KNOW:L-NEG-TNS go-IRR-COMP-SS
'Lynn does not know that she will go'

b. Chickasaw (Munro 2005:140)

Hattak-at [ihoo-at okissa' tiwwi-to(k)-k**a**] nokfónkha
man-NOM woman-NOM door open-PT-COMP.DS remembers
'The man remembers that the woman opened the door.'

⋆ A subject that doesn't Agree with T may still enter the SS calculation:

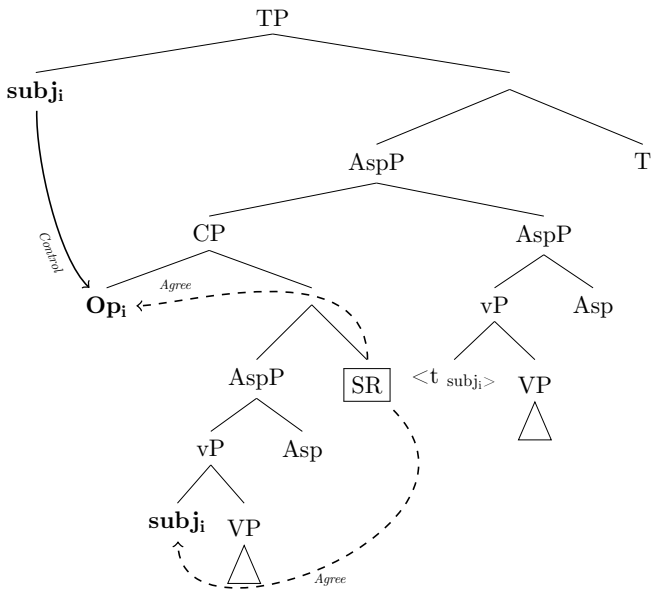
(4) Agreement/SR mismatch in Imbabura Quechua (Cole 1985):

kunan tuta **ñuka-ta** puñu-naya-**n** [kaya maymi trabaja-**ngapaj**] (*-chun)
now night I-ACC sleep-DESID-3SG tomorrow a.lot work-SS DS
'I'd like to sleep tonight in order to work a lot tomorrow.'

(5) No agreement in Yawanawa SR-marked clauses:

[Awĩhu=hãu yuma atxi-(*a)-(*hu)-**shũ**], *pro* pi-*(a)-*(hu)
woman=PL.ERG fish catch-PRF-PL-SS.PRF.ERG pro.ERG eat-PRF-PL
'After the women caught fish, they ate it.'

⋆ A revision to Finer's structure that does better with respect to these issues[4]:



[4]For the full set of arguments and a detailed account of the system, see Baker & Souza in prep.

- No Complementizer binding assumed;
- SS clauses have an Operator in Spec,CP controlled by the superordinate subject;
- subordinate C probes its specifier and its c-c domain;
- *Agree-link* (c.f. Arregi and Nevins 2012) between C and the nominals it finds;
- Derivation convergence depends on SS being linked to elements with the same indices.[5]

⋆ What this revision buys us:

  - No novel syntactic mechanism introduced: reminiscent of analysis of logophors (Koopman and Sportiche, 1989), allocutive agreement (Miyagawa, 2012), indexical shift (Anand and Nevins, 2004);
  - generalizable to a broader range of constructions: high and low adverbial adjuncts, complement clauses, coordinate constructions.

⋆ In what follows, I will assume this structure and ask, 'what happens when one of these elements in the SS relation is a quantifier, as in (6)?'

(6) [**Tsua** munu-shũ] *pro* mamã aya-ma.
INDET.HUM.NOM dance-SS.PRF.ERG pro.ERG yucca.drink drink.PRF-NEG
'Nobody danced and drank caiçuma (yucca drink).'

  - If *tsua* is treated as an actual quantifier, the literal translation of (6) amounts to something like: *After *nobody* danced, s/he drank caiçuma.
  - So how can we make sure that the *pro* in (6) gets properly interpreted?
  - How should we treat expressions like *tsua* in Yawanawa and how can SR help us determine it?

5 Quantification in Yawanawa

- Indeterminate pronouns – similar to quantification in Japanese (c.f. Kuroda 1965; Kratzer and Shimoyama 2002; Shimoyama 2006, a.o.).
- The interpretation of an item like *tsua* varies according to the sentential operator it associates with: ¬ in (7-a), interrogative in (7-b), ∃ in (7-c).

(7) *tsua* as an indeterminate phrase

a. Tsua u-a=**ma**.
INDET.HUM.NOM come-PRF-NEG
'Nobody came.'

b. Tsua u-a=**mẽ**?
INDET.HUM.NOM come-PRF=INT
'Who came?'

c. Tsua=**ra** u-a.
INDET.HUM.NOM=EP.IGN come-PRF
'Someone arrived (I don't know who).'

- The same operator may associate with two indeterminate phrases in the same clause:

(8) a. Tsuã tsua/awea ũi-a=**ma**
INDET.HUM.ERG INDET.HUM.ACC/INDET.IN.ACC see-PRF-NEG
'Nobody saw anyone/anything.'

b. Tsuã tsua/awea ũi-a=**mẽ**?
INDET.HUM.ERG INDET.HUM.ACCINDET.IN.ACC see-PRF=INT
'Who saw who/what?'

[5] Clausal extraposition and adjunction to TP must be the last step of the syntactic derivation. This is necessary in the assumed structure because otherwise it would lead to a Principle C violation in cases where the lexical DP is in the subordinate clause. Empirical data shows that clausal extraposition is possible (see for instance, (10)), but the claim here is that it is obligatory.

- Back to the SR construction:
  - Long-distance association between an operator and an indeterminate phrase;
  - Indet. phrase binds *pro* in the superordinate clause.

(9) a. [**Tsua** munu-shũ] *pro* mamã aya-ma.
INDET.HUM.NOM dance-SS.PRF.ERG pro.ERG yucca.drink drink.PRF-NEG
'Nobody danced and drank caiçuma (yucca drink).'

- Why not assume that *tsua* takes sentential scope and binds *pro* as in sentences like, 'Nobody did his homework'?

6 Preliminaries

⋆ SR-clauses are adverbial

- SR-morpheme forms a constituent with the clause to its left;
- the order of clauses is interchangeable without affecting meaning.

(10) SR clauses are adverbial:
a. [Ẽ shanaihu-ve tsãik-**ashe**], *pro* mai kiri ka.
1SG.NOM chief-COM speak-SS.PRF.NOM pro.NOM down river go.PRF
'After I spoke with the chief, I went down river.'
b. Ẽ mai kiri ka, [*pro* shanaihu-ve tsãik-**ashe**].
1SG.NOM down river go.PRF pro.NOM chief-COM speak-SS.PRF.NOM
'I went down river after I spoke with the chief.'

⋆ SR-clauses are islands

- Adverbial clauses are islands for extraction crosslinguistically (c.f. Huang 1982);
- extraction of a *wh*-element from a SR-clause is illicit in Yawanawa;
- extraction of a *wh*-element from a matrix clause (in a SR-construction) is grammatical.[6]

(11) No extraction from the SR clause, ok from the matrix clause:
a. *Awea=mẽ [Shukuvenã _ pi-ashe] *pro* mai kiri ka?
INDET.IN.ACC=INT Shukuvena.ERG eat-SS.PRF.NOM pro.NOM down-river go.PRF
'What did Shukuvena go down river after eating _?'
b. Tsua=mẽ [*pro* yuma pi-ashe] _ mai kiri ka?
.INDET.HUM.NOM=INT pro.ERG fish eat-SS.PRF.NOM down-river go.PRF
'Who after eating fish went down river?'

⋆ The indeterminate phrase is *indeed* in the adverbial SR clause. Evidence from case-marking:

- the unmarked form *tsua* must be the subject of the intransitive verb *munu*, 'dance', in (12) (previously (9));
- had it been the subject of the transitive matrix verb, it would have received ergative case marking as in (13):

(12) [**Tsua** munu-shũ] *pro* mamã aya-ma.
INDET.HUM.NOM dance-SS.PRF.ERG pro.ERG yucca.drink drink.PRF-NEG
'Nobody danced and drank caiçuma (yucca drink).'

(13) **Tsuã** mamã aya-ma.
INDET.HUM.ERG yucca.drink drink.PRF-NEG
'Nobody drank caiçuma (yucca drink).'

[6] This is expected to be ungrammatical in coordinate constructions: CSC, c.f. (Ross, 1967).

⋆ The assumed *pro* actually exists:

- the position may host the lexical DP, (14-b);
- *pro* agrees in case with the SS marker (as immediate superordinate subjects do in Panoan languages, c.f. Baker 2013)

(14) a. [*pro* yuma pi-**ashe**] Shukuvena mai kiri ka.
pro.ERG fish eat-SS.PRF.NOM Shukuvena.NOM down-river go.PRF
'After eating fish, Shukuvena went down river.'

b. [Shukuvenã yuma pi-**ashe**] *pro* mai kiri ka.
Shukuvena.ERG fish eat-SS.PRF.NOM pro.NOM down-river go.PRF
'After Shukuvena ate fish, he went down river.'

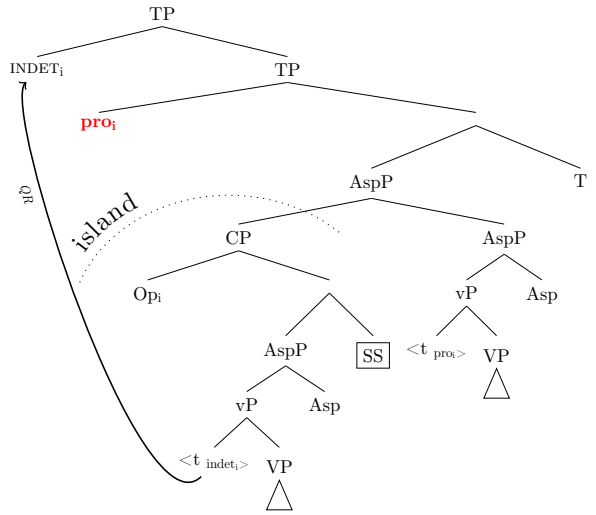
• The dilemma:

- SR clauses are islands: indet. phrases are trapped in them.
- Indet. phrases need to take sentential scope to bind *pro*.

7 A treatment of indeterminate phrases

⋆ Indet. phrases as quantifiers:

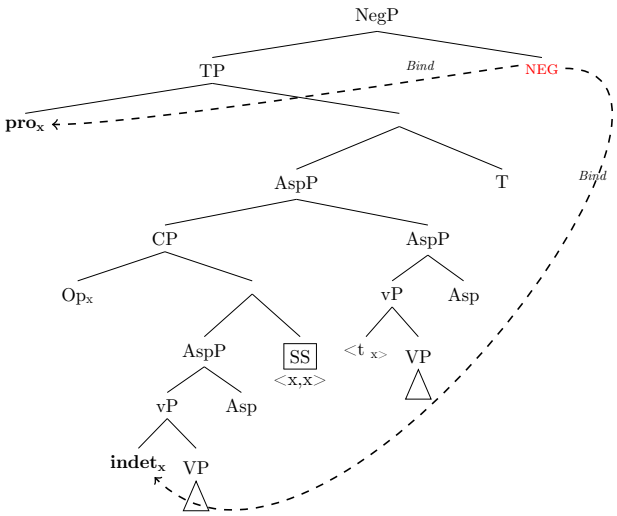
- islandhood violation
- crossover violation,



(15) [**Tsua** munu-shũ] **pro** mamã aya-ma.
INDET.HUM.NOM dance-SS.PRF.ERG pro.ERG yucca.drink drink.PRF-NEG
'Nobody danced and drank caiçuma (yucca drink).'

⋆ Indet. phrases as variables (Nishigauchi, 1990)

- Heim (1982)'s treatment of indefinites as variables: no quantificational force, receive interpretation from operators that bind them:
- indet. phrase receives interpretation in situ;
- in (15), the ¬ operator binds two identical variables: ¬∃ x (x a person) [dance(x) & drink(x)]
- The SS morpheme links to two variables, derivation only converges if they are identical.



8 Conclusion

- SR: variable binding + complementizer agreement;
- Nominals linked to SS morpheme are coindexed and must point to the same referent.
- A treatment of indeterminate phrases as variables bound by operators allows for coindexed indet. phrase and *pro* to feed the switch-reference mechanism.

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