
The occurrence of quantifiers in switch-reference clauses in Yawanawa (Panoan, Brazil) raises issues for standard accounts of quantification based on quantifier-raising.

- Switch-reference (c.f. Jacobsen 1967): syntactic system in which coreference between subjects of adjacent clauses – matrix and adverbial clauses in the case of Panoan languages – is overtly signaled by a same-subject (SS) morpheme (1). Non-coreference between subjects is signaled by a different-subject (DS) morpheme, (2).

- (1) [Shukuvenã_i yumãi uĩ-**ashe**] *pro*_i itxu-a.
 Shukuvena.ERG jaguar see-SS.PRF.NOM pro.NOM run-PRF
 ‘After Shukuvena_i saw a jaguar, he_i ran away.’
- (2) [Shukuvenã_i yumãi uĩ-a-**kẽ**] *pro*_k itxu-a.
 Shukuvena.ERG jaguar see-PRF-DS.PREV pro.NOM run-PRF
 ‘He/she_k ran away after/because Shukuvena_i saw a jaguar.’

The occurrence of quantifiers in SR clauses in Yawanawa points towards an account of quantification involving indeterminate pronouns bound by sentential operators (c.f. Kratzer and Shimoyama 2002).

- The interpretation of an item like *tsua* varies according to the operator it associates with: $\neg$ in (3-a), interrogative in (3-b), $\exists$ in (3-c).

- (3) *tsua* as an indeterminate pronoun
- 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?’ / ‘Did anyone come?’
- c. Tsua=**ra** u-a.
 INDET.HUM.NOM=EP.IGN come-PRF
 ‘Someone arrived (I don’t know who).’

- The same OP may bind two indeterminate phrases in the same clause (resumptive quantification?):

- (4) Tsuã awea uĩ-a=**ma**
 INDET.HUM.ERG INDET.INAN.ACC see-PRF=NEG
 ‘Nobody saw anything.’
 $\neg \exists x \exists y$ [human(x), thing(y)] [x saw y]

Quantifiers may occur in SR clauses, (5)

- SR-marked clauses are adverbial clauses;
- adverbial clauses are islands for extraction crosslinguistically;
- QR wouldn’t work
- K&S’s theory of quantification would

- (5) [**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 caçuma (yucca drink).’

The indeterminate pronoun 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 (5);
 - had it been the subject of the transitive matrix verb, it would have received ergative case marking,(6):

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- (6) **Tsuã** mamã aya=ma.
 INDET.HUM.ERG yucca.drink drink.PRF=NEG
 ‘Nobody drank caçuma (yucca drink).’

The assumed *pro* actually exists:

- structural evidence (7)
 - the position may host the lexical DP
 - evidence from Case agreement, (8-b).
 - The SS marker in Panoan agrees in case with the immediately superordinate subject (c.f. Baker 2013)
- (7) a. [Shukuvena mai kiri ka-**shũ**] *pro* yuma pi-a.
 Shukuvena.NOM down-river go-SS.PRF.ERG pro.ERG fish eat-PRF
 ‘After going down river, Shukuvena ate fish.’
 b. [*pro* mai kiri ka-**shũ**] Shukuvenã yuma pi-a.
 pro.NOM down-river go-SS.PRF.ERG Shukuvena.ERG fish eat-PRF
 ‘After going down river, Shukuvena ate fish.’
- (8) 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 eating fish, Shukuvena went down river.’

- *pro* in (5) can only be interpreted if the indeterminate pronoun takes scope over the sentence as a whole
- quantification by means of an operator-variable mechanism rather than QR
- indeterminate phrases introduce sets of alternatives that keep expanding via pointwise functional application until they meet the closest available operator to associate with.
- the alternatives created by indeterminate phrases in this analysis can expand across island boundaries

In SR constructions, derivation convergence depends on a SS marker cooccurring with coindexed subjects (c.f. Finer 1984)

- the only possible interpretation of (5) is one in which the $\neg$ operator binds two identical variables:
 - $\neg \exists x$ [person(x) & dance(x) & drink(x)]
 - $*\neg \exists x$ [person(x) & dance(x)] $\neg \exists y$ [person(y) & drink(y)]

K&S propose that the OP-variable mechanism can account for all quantification.

- but why wouldn’t such a structure converge in e.g. English?
 - *When/after nobody danced, (s)he/they didn’t drink beer.
 - *Nobody danced and then (s)he/they didn’t drink beer.
 - Nobody_i danced after he_i drank beer.
 - *After he_i drank beer, nobody_i danced.
 - Nobody [danced and drank beer].
 - Nobody_i danced [after PRO_i (?not) drinking beer]
- do we need 2 universal strategies for quantification?