

Domain restriction and noun classifiers in Chuj (Mayan)

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1. Introduction

- Chuj (Mayan) has a system of 16 noun classifiers (CLF), not to confuse with *numeral* classifiers.
- Which classifier appears depends on the physical properties of the nominal referent.

(1) Ix-w-il [*(**winh**) presidente]. (2) Saksak [*(**k'en**) uj].
 PFV-A1s-see CLF president white CLF moon
 'I saw the (male) president.' 'The moon is white.'

QUESTION
 What role does the noun classifier play in the composition of the DP?

PROPOSAL
 Noun classifiers are definite determiners (following Buenrostro et al. 1989; Domingo Pascual 2007).

(3) *Denotation of definite determiner* (e.g. Heim & Kratzer 1998)
 $[\text{CLF}] = \lambda f_{(\text{et})} : \exists! x \in C [f(x)]. \forall y \in C [f(y)]$

- But, the distribution of CLFs is surprisingly broad:

(4) <i>occurrence as pronouns</i> : §2	(5) <i>occurrence with demonstrative</i> : §4
Saksak [*(nok')]. white CLF 'It (the dog) is white.'	Saksak *(nok') tz'i' chi. white CLF dog DEM 'This/the dog is white.'
(6) <i>occurrence with indefinite</i> : §3	(7) <i>appearance in \exists constructions</i> : §3
Ix-kot [jun (winh) winak]. PFV-arrive INDF CLF man 'A man arrived.'	Ay [jun (winh) winak] t'atik. EXT INDF CLF man here 'There's a man here.'

- Note that (6) and (7) are not partitive, since:

- (i) partitives are cross-linguistically disallowed in existentials like (7) (Milsark 1974; Enç 1991).
- (ii) partitives require a plural marker: *jun heb' winh winak* 'one of the men'.

GOAL
 Argue that despite (4-7) CLFs in Chuj have the semantic denotation of the definite article (3).

- Optional NP deletion accounts for (4).
- DPs can type-shift to occur as overt domain restrictors of quantifiers, accounting for (6-7).
- Anaphoric definites are composed of a (unique) definite and a demonstrative (5).

2. Pronouns

- Postal (1966), Elbourne (2005; 2013): pronouns = determiners + deletion of sister NP.

(8) we (linguists)...; us (Québécois)...; you (amazing people)...
 (9) Saksak [**nok'** tz'i'].
 white CLF dog
 'It (i.e. the dog) is white'

(see (4) above)

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3. Indefinites with definite domain restrictors

- Problem: in (6) and (7), there are *too many determiners* (indefinite *jun* + definite CLF).
- Observe: noun classifiers force specific "wide-scope" interpretations of indefinites:

(10) Ha' ix Malin tejunk'o'ol ix tato tz-s-jaw [jun **winh** icham].
 TOP CLF Malin happy CLF if IPFV-A3-come INDF CLF elder
 'Malin will be happy if an elder comes.' (adapted from Mathewson 1999)
 → *Felicitous if there is a specific elder, for example Xun, such that if that elder comes, Malin will be happy.*
 → *Not felicitous if Malin wants any elder to come and she doesn't care which.*

CLASSIFIERS AS DOMAIN RESTRICTORS

Noun classifiers type-shift to overtly restrict the domain of the quantifier to a singleton.

Singleton indefinites (Schwarzchild 2002):

specific indefinites = domain restriction of an existential quantifier to a singleton.

(11) jun nok' tz'i'
 INDF CLF dog
 'a dog'
 ① picks out a single entity
 [DP₁] = $\exists x$ [the speaker has x in mind]
 ② ident shifts the singleton set containing that entity
 [Ident DP₁] = $\lambda y. y = \exists x$ [the speaker has x in mind]
 ③: the set in ② restricts the \exists to a singleton
 [jun Ident DP₁] = $\lambda f_{\text{et}}. \exists y [y = \exists x \text{ [the speaker has } x \text{ in mind} \wedge f(y) \wedge g(y)]]$
 ④: Some dog that I have in mind is in g.
 [DP₂] = $\lambda g_{\text{et}}. \exists y [y = \exists x \text{ [the speaker has } x \text{ in mind} \wedge y \text{ is a dog} \wedge g(y)]]$

Predictions

① CLFs should not be allowed when domain restriction to a singleton is not possible.

- Modal indefinites with an anti-singleton constraint (Alonso-Ovalle & Menéndez-Benito 2018):

(12) Yalnhej tas (***anh**) itajil ix-in-yam-a.
 FC WH CLF herb PFV-B1s-pick-TV
 'I picked a random herb.' (cf. English ??I picked a specific random herb').

- Domain widening with NPIs incompatible with singletons (Kadmon & Landman 1993) (the addition of irrealsis *-ok* triggers the NPI reading):

(13) Ma-j chax laj jun-ok (***ch'an**) libro.
 NEG-PFV find NEG INDF-IRR CLF book
 'I didn't find any book(s).' (cf. English *I didn't find any certain book').

- **WHAT** + nominal domain (question is trivial if singleton domain):

(14) Tas (***anh**) itajil ha-gana?
 WH CLF herb A2s-desire
 'What herb do you want?' (cf. English *What certain herb do you want')

② With indefinites, CLFs should not necessarily presuppose uniqueness relative to the overt NP:

(15) Context: *There are five priests in Yuxken and the speaker and hearer know it.*
 Ix-in-lolon yet' [jun (**winh**) Paleh].
 PFV-B1s-speak with INDF CLF priest
 'I spoke with a priest.'
 → [DP jun (\exists) [Ident [DP CLF one I have in mind]] [NP priest]]

- This contrasts with cases of CLFs appearing alone with nouns:

(16) Context: *There's only one priest in Yuxken and the speaker and hearer know it.*
 Ix-in-lolon yet' [*(**winh**) Paleh].
 PFV-B1s-speak with CLF priest
 'I spoke with the priest.' (not felicitous with context of (15))
 → [DP CLF [NP priest]]

③ CLFs should be optional with indefinites (=15)), but not on their own (=16)).

- With indefinites, the CLF can alternate with a covert C variable (von Fintel 1994).

Open question: NP ellipsis with no linguistic antecedent?

- But this is a general issue about the implicit domain restriction approach to specific indefinites.

(17) **PRIVACY PRINCIPLE** (Schwarzchild 2002: 52, 307)

It is possible for a felicitous utterance to contain a restricted quantifier even though members of the audience are incapable of delimiting the extension of the (implicit) restriction without somehow making reference to the utterance itself.

4. Anaphoric definites

- Chuj distinguishes between *unique* definites, as in (1), (2) and (16), and *anaphoric* definites, as in (18) (see Schwarz 2009; Jenks 2018 on unique vs anaphoric definites).

- The demonstrative determiner, *chi*, is obligatory with anaphoric definites:

(18) **ANAPHORIC DEFINITE**

Ay jun nok' tz'i' yet' jun nok' mis t'atik. Saksak **nok'** tz'i' #(**chi**).
 EXT INDF CLF dog with INDF CLF cat here. white CLF dog DEM
 'There's a dog*i* and a cat here. The dog*i* is white.'

- The co-occurrence of a definite article (in Chuj: a CLF) with a demonstrative fits with other languages which do the same, e.g. Greek, Hungarian, and Spanish (Alexiadou et al. 2007):

(19) **HUNGARIAN**

ez a haz {afoto} to vivlio {afoto} (20) **GREEK** this the book this

el libro este the book this

- I propose structure (21) for demonstratives and anaphoric definites:

(22) nok' tz'i' chi
 CLF dog DEM
 'this/the dog'
 DP
 D
 NP
 nok'
 CLF
 thing I have in mind

(23) Saksak [**k'en** uj].
 white CLF moon

'The moon is white.'

• Though more work is required, I suggest that Chuj CLFs are *unique* definites at their core.

• Anaphoric definites are derived compositionally: CLF + NP + DEM = anaphoric definite (perhaps DEM is of type <e,e> and introduces a familiarity presupposition on the referent of the unique NP).

- Chuj fits in Jenks' (2018) typology of definiteness marking as a *bipartite* language, except that it is special in deriving the anaphoric definite from the unique definite.

5. Conclusion and further questions

- A unified analysis of noun classifiers in Chuj as definite determiners, that can type-shift to appear with a quantifier to restrict its domain.

Table 1: Noun classifier configurations

sequence	result
[CLF + NP]	pronoun
[CLF + NP]	unique definite
[INDF + CLF + NP]	specific indefinite
[CLF + NP + DEM]	anaphoric definite

Further questions:

① If the analysis is correct, why not English "I want to buy **some** **the/it** book"?

- Perhaps only non-familiar (unique) definites (like Chuj CLFs) can restrict an indefinite.

② Could this analysis be extended to other (numeral/noun) classifier languages?

- Maybe! Many have noted that classifiers mark notions of specificity in Southeast Asian languages such as Vietnamese, Malay, and Cantonese (Pacioni 1996; Aikhenvald 2000).