Left branch extraction, freezing and object shift in Tumbalá Ch’ol
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I argue that object shift in the Tumbalá dialect of Ch’ol (Mayan) can account for the possibilities for left branch extraction involving wh-possessors and numerals. That is, when object shift occurs, it bleeds left branch extraction. Numerals can extract from object position but wh-possessors may not. This parallels the fact that objects with overt possessors undergo object shift but numerals do not trigger object shift. While object shift has been noted before for Mayan languages (England 1991; Aissen 1996) including Ch’ol (Coon 2010), this paper argues that it can also capture the differences between left branch extraction of wh-possessors and numerals. I end with some syntactic and semantic implications for theories of left branch extraction and Diesing (1992)’s Mapping Hypothesis.

DATA: Left branch extraction has been noted in the literature for Ch’ol (Coon 2009, 2013; Bale et al. 2019), but an in-depth study has not been conducted on the full empirical picture. Here, I concentrate on comparing wh-possessor extraction with numeral extraction. As shown in (1–2), extraction of numerals and wh-possessors is possible from ergative and absolutive subjects.

(1) a. Cha’-kojty ta’ yajl-i wakax.  
   two-CL PRF fall-IV cow  
   ‘Two cows fell.’

   b. Ch’a-kojty ta’ i-k’ux-u-yoñ mis.  
   two-CL PRF A3-eat-TV-B1 cat  
   ‘Two cats bit me.’

(2) a. Majki ta’ yajl-i i-wakax ?  
   who PRF fall-IV A3-cow  
   ‘Whose cow fell?’

   b. Majki ta’ i-k’el-e-yety i-chich?  
   who PRF A3-see-TV-B2 A3-sister  
   ‘Whose sister saw you?’

Extraction patterns differ with objects: numerals may extract out of object position (3) but wh-possessors may not (4).

(3) Cha’-kojty ta’ i-k’el-e wakax aj-Wañ.  
   two-CL PRF A3-see-TV cow NC-Juan  
   ‘Juan saw two cows.’

(4) *Majki ta’ a-k’el-e i-chich?  
   who PRF A2-see-TV A3-sister  
   Int. ‘Whose sister did you see?’

Pied-piping of the noun with the wh-possessor or numeral is an available option for all data in (1–4).

ANALYSIS: I account for the asymmetry in wh-possessor extraction versus numeral extraction by arguing that object NPs with overt possessors are islands for extractions because they have undergone object shift. In other words, it is not possible to move something out of an already moved element (Ross 1974; Wexler & Culicover 1977). While NPs with overt numerals may remain in situ, NPs with overt possessors move in the familiar operation of object shift. Diesing (1992: 129) provides similar evidence for object shift blocking left branch extraction: shifted objects in German do not permit was-für extraction, while unshifted ones do.

Data on alternating VOS/VSO (discussed in full paper) and the placement of PP adjuncts shown in (5) provides further evidence of that object shift bleeds left branch extraction in Ch’ol. (Similar data has been discussed in the literature before (Coon 2010; Clemens & Coon 2018).) If a PP intervenes between a verb and an object with an overt numeral (5), subextraction is not possible.

(5) Cha’-kojty ta’ j-k’el-e (*tyi potreru ) wakax (√ tyi potreru ).  
   two-PRF PRF A1-see-TV PREP field cow PREP field  
   ‘I saw two cows in the field.’

In other words, when the object shifts (indicated by an intervening PP in (5)), subextraction of the numeral in (5) is blocked. Only numerals in unshifted objects may subextract out.
Furthermore, there is a difference in semantic interpretation of shifted and unshifted objects with numerical modifiers. Shifted objects may be specific, but unshifted objects can receive an existential interpretation. This is expected under Diesing (1992)’s Mapping Hypothesis: shifted objects are outside of the VP, and therefore outside of the domain of existential closure.

Interestingly, absolutive subjects with overt wh-possessors do not undergo object shift. In (6), the wh-possessor has been extracted, but the PP adjunct may not intervene between the verb and absolutive subject. (See Implications, below, for further discussion of (6).)

(6) Majki ta’ yajl-i (* tyi potreru) i-wakax (√ tyi potreru)?
   who PRF fall-IV PREP field A3-cow PREP field
   ‘Whose cow fell in the field?’

Ergative subjects in Ch’ol have been argued to be base-generated in Spec, vP and do not undergo movement (Coon 2010; Clemens & Coon 2018), therefore not blocking left branch extraction.

As discussed above, subextraction of a wh-possessor from object position is ungrammatical. However, there is a repair strategy for extraction of a possessor from object position. Namely, the addition of -be, the applicative suffix, allows for the extraction of the object possessor in (7a). The same -be suffix shows up to derive ditransitives in (7b).

(7) a. Majki ta’ a-k’el-be i-chich?
   who PRF A2-see-APPL A3-sister
   ‘Whose sister did you see?’

b. Majki ta’ a-choñ-be karu?
   who PRF A2-see-APPL car
   ‘Who did you sell a car to?’

Building on Coon & Henderson (2010), I analyze this as an external possessive construction where the possessor is generated externally. Indeed -be is also used in ditransitives like in (7b), indicating that it functions as a valency-increasing morpheme.

**Implications:** This proposal has both semantic and syntactic implications. Diesing (1992) argues that objects within the VP get mapped onto nuclear scope (i.e., are nonpresuppositional), objects that have shifted out of the VP get restrictive scope (i.e., they are presuppositional). Data from Ch’ol supports this with one caveat: only objects within the VP may get nuclear scope, but a presuppositional reading of objects within the VP is still available as in (6). In other words, moved objects always get presuppositional readings, but unmoved elements within the VP can get both (data shown in full paper). This suggests that i is an available type shifter in Ch’ol but indefinite, or existential, readings are more restricted.

Secondly, recent syntactic work has argued that the operation of Agree (Chomsky 2000, 2001) unlocks NPs, making it possible for elements within the NP to extract out (Rackowski & Richards 2005; Van Urk & Richards 2015; Branan 2018). For instance, Rackowski & Richards (2005) argue that for Agree to take place with an NP in Tagalog, the NP must shift—movement therefore feeds extraction in Tagalog. While the discussion in Rackowski & Richards (2005) concerns extraction and not left branch extraction, it is important to note that in Ch’ol Agree must occur before movement or shift (see also Coon (2017) for Agree in Ch’ol). This highlights that the ordering of Agree and movement operations like object shift vary crosslinguistically.

**Selected references:**
- Coon, Jessica. 2010. VOS as predicate fronting in Chol. *Lingua* 120.354–378