Transitivity in Chol: A New Argument for the Split VP Hypothesis*

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1. Introduction

- In this talk we provide a new argument in favor of the *Split VP Hypothesis* (Chomsky 1995, Hale & Keyser 1993, Kratzer 1996, Marantz 1997, inter alia):¹
 - The idea that external arguments are base-generated outside the syntactic projection of the stem (i.e., outside of VP proper)
 - and more specifically, that external arguments are base-generated in the specifier of a projection that:
 - (i) endows the stem with its categorial status as verb
 - (ii) assigns structural Case to the complement of V⁰
 - (iii) assigns the external theta-role to the subject
 - \rightarrow Following others, we refer to this projection as vP ("little-v P(hrase)")
- While our argument shares some similarities with the one put forth by Kratzer (1996), the data we examine here establishes more directly that these three properties (i.e., (i)–(iii) above) are intrinsically interrelated

2. Puzzle: Interpretive asymmetries in Chol event nominals

- Chol (Mayan, southern Mexico) is a pro-drop, morphologically ergative language with verb initial word order
- Grammatical relations are head-marked on the predicate with two sets of affixes, traditionally labeled "set A" and "set B" in Mayanist literature:

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¹To be precise, Chomsky (1995) and Kratzer (1996) discuss the interdependency of properties (ii) and (iii), while Hale & Keyser (1993) and Marantz (1997) discuss the interdependency of properties (i) and (iii); to the best of our knowledge, the first time the interdependency of all three properties is explicitly pointed out in the literature is Harley (2009).

- The examples in (2) demonstrate the basic ergative person-marking pattern of Chol:²
- (2) a. Tyi **k**-mek'-e-**yety**.

 PRFV **A1**-hug-TV-**B2**'I hugged you.'
 - b. Tyi wäy-i-**yety**.

 PRFV sleep-ITV-**B2**'You slept.'
- In Chol, the progressive aspect is *periphrastic* (as in many other languages; see, for example, Bybee, Perkins & Pagliuca 1994)³
 - The progressive involves an *intransitive* aspectual verb (*choñkol*), and an embedded nominal/nominalized stem (see Coon 2010a)⁴
 - Like other intransitive verbs in the language, the progressive inflects for the person of its single argument via set B (absolutive) morphology
- (3) SCHEMATIZED PROGRESSIVE choñkol-ABS_i [NP]_i
 - In (4) we observe that the aspectual verb *choñkol* may combine directly with event-denoting nominals, like *ja'al* ('rain') or *k'iñijel* ('party')
- (4) a. Choñkol **ja'al**.

 PROG rain

'It's raining.'

b. Choñkol k'iñijel.

PROG party

'There's a party happening.'

NB: The *3rd-person* SET B marker is null.

²Chol is written in a Spanish-based practical orthography. Abbreviations in glosses are as follows: 1, 2, 3 – 1st, 2nd, 3rd person; A – "set A" (ergative, genitive); AP – antipassive; B – "set B" (absolutive); DET – determiner; DTV – derived transitive verb suffix; NML – nominal suffix; ITV – intransitive verb suffix; PREP – preposition; PRFV – perfective; PROG – progressive; TV – transitive verb suffix.

³We focus on the progressive for simplicity, though the same facts hold for the imperfective.

⁴For this topic in other Mayan languages see Larsen & Norman 1979 as well as Bricker 1981 on Yucatec; Ordóñez 1995 on Jakaltek; and Mateo-Toledo 2003 on Q'anjob'al. See also Laka 2006 on Basque.

- Alternatively, as in (5), it may combine with a thematic subject, in which case the event-denoting stem is introduced by the preposition *tyi*
 - o In (5a) the subject is an overt third person nominal—aj-Maria
 - In (5b) the subject is a second person pronoun, realized by the absolutive morpheme *ety* on aspectual verb
- a. Choñkol [tyi k'ay] aj-Maria.
 PROG PREP song DET-Maria
 'Maria is singing.' (lit.: 'Maria is engaged in song.')

 b. Choñkol-ety [tyi wuts'-oñ-el].
 PROG-B2 PREP wash-AP-NML
 'You're washing.' (lit.: 'You are engaged in washing.')

The central puzzle:

- Consider forms such as (6a-b):
- (6) THE PUZZLE: POSSESSED NOMINALS UNDER THE ASPECTUAL VERB
 - a. Choñkol [i-juch' ixim aj-Maria].

 PROG A3-grind corn DET-Maria
 'Maria is grinding corn.'
 - b. Choñkol [i-k'ay aj-Maria].

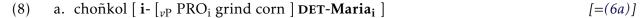
 PROG A3-song DET-Maria

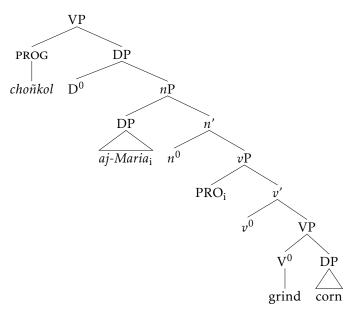
 'Maria's song is happening.' (e.g., if a song that Maria likes is playing on the radio)

 'Maria is singing.'
 - As above, the aspectual verb *choñkol* in (6a–b) combines directly with an event-denoting nominal
 - The difference is that both nominals in (6a–b) appear with a possessor
 - Possessors in Chol follow the possessum, and trigger "SET A" (ergative/genitive) agreement on the possessed nominal
 - cf. a "regular" possessed nominal, as in (7):
- (7) POSSESSIVE CONSTRUCTION
 i-bujk' aj-Maria
 A3-shirt DET-Maria
 - 'Maria's shirt'
- The bracketed forms in (6a–b) also behave distributionally and morphologically like regular nominals (Coon 2010a)
- Crucially, while the transitive in (6a) permits a reading in which the possessor is the thematic AGENT of the event, the unergative in (6b) does not allow an AGENT interpretation for its possessor
 - o This is notably different from the state of affairs in, e.g., English gerunds
- This contrast, which is systematic for all transitives and unergatives in the language, is what we seek to explain

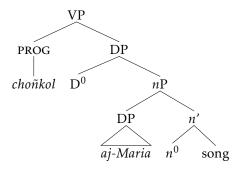
3. Our Proposal

• The form *juch' ixim* ('grind corn') in (6a) is a nominalized vP:





• The form k'ay ('song') in (6b), on the other hand, crucially lacks a vP layer:



Note: Here we are abstracting away from the actual surface word order, i.e. whether subjects and possessors are base-generated in right-side specifiers (Aissen 1992), or whether the possessum/predicate raises to a position above the possessor/subject (Coon 2010b).

\rightarrow THE POSSIBILITY OF AN AGENT INTERPRETATION IN (6a)/(8a):

- o In (6a)/(8a) the specifier of vP is occupied by PRO, which is controlled by the nominal possessor
- o In this respect, forms like (6a)/(8a) are akin to English *poss-ing* nominalizations (Abney 1987)
- \Rightarrow Because PRO can be merged in [Spec,vP], an AGENT interpretation is available

- **→** THE IMPOSSIBILITY OF AN AGENT INTERPRETATION IN (6b)/(8b):
 - o Unergative forms like k'ay ('song') in (6b)/(8b), on the other hand, do not (and we will show, *cannot*) contain a vP layer
 - Thus, neither the possessor itself (*aj-Maria*) nor a controlled PRO can be merged in external argument position
 - since there quite literally **is no** external argument position in the structure
 - ⇒ As a result, only a possessive interpretation (*Maria's song*) is available
 - while an AGENT interpretation (*Maria is singing*) can be coerced, it is not asserted (see APPENDIX, p. 13)
- → In order to achieve an AGENT interpretation in the progressive, the subject *Maria* must receive its Case and theta-role directly from the aspectual verb
 - o as in (9a), below:

- In (9a), *aj-Maria* stands in a predicate-argument relation with the aspectual predicate, *choñkol*
 - o and can therefore bear an AGENT role (in the vein of Perlmutter's 1970 discussion of "the two verbs *begin*")
- We know that the phrase structure of examples like (9a) differs in this way, because:
 - o varying the φ -features of the subject will give rise to overt agreement morphology on *choñkol*, as shown in (10a)
 - o and this crucially differs from the construction that lacks the preposition *tyi*, as demonstrated in (10b)
- (10) a. Choñkol-ety [PP tyi k'ay] [DP pro2sg].
 PROG-B2 PREP song
 'You are singing.' (lit.: 'You are engaged in song.')
 b. Choñkol [DP a-juch' ixim].
 PROG A2-grind corn
 'You are grinding corn.' (lit.: 'Your grinding corn is happening.')

- As it stands, of course, we have merely recast the availability of an AGENT interpretation in terms of the presence/absence of a *v*P layer
- The strength of the proposal therefore rests on providing *independent evidence* that the presence of a *v*P layer is indeed the relevant difference between (6a) and (6b)
 - o which is what we turn our attention next

4. Verbs and complementation in Chol

- In this section we show that the following phenomena are all co-extensive in Chol:
 - \circ The presence of a Case-requiring complement of V^0 (i.e., an internal argument)
 - The ability to inflect as a verb
 - The presence of a special suffix on the verb root $(=v^0)$
- ⇒ We'll call event-denoting stems which subcategorize for a DP complement "complementing forms", and those that do not "complementless forms"

4.1. Complementing vs. Complementless Stems

- Complementing forms include transitives (11a), passives (11b), and unaccusatives (11c)
- (11) COMPLEMENTING FORMS (=VERBS)
 - a. Tyi i-<u>mek'</u>-e-yety. PRFV A3-hug-TV-B2 'He hugged you.'
 - b. Tyi <u>mejk'</u>-**i**-yety.

 PRFV hug.PASV-ITV-B2

 'You were hugged.'
 - c. Tyi <u>majl</u>-i-yety. PRFV go-ITV-B2 'You went.'
 - Complement**ing** stems inflect as verbs:
 - In all of the forms in (11), the root (<u>underlined</u>) appears with a "theme vowel" suffix (which is **boldfaced**):
 - · a harmonic vowel for transitives, (11a)
 - the vowel -i for intransitives, (11b–c)
 - → We take these suffixes to be overt instantiations of a *verbalizing* syntactic head (Marantz 1997)
 - The internal argument is marked via a set B (absolutive) suffix, here 2nd person (-yety)

- Complementless forms include unergative roots (12a), and two types of antipassive:
 - o one indicated by the pan-Mayan antipassivizer $-o\tilde{n}$ (12b)
 - the second involving incorporation of a bare NP object (12c)
- (12) COMPLEMENTLESS FORMS (=NOUNS)
 - a. Tyi a-cha'l-e <u>k'ay</u>.

 PRFV A2-do-DTV song
 'You sang.'
 - b. Tyi a-cha'l-e <u>wuts'-oñ-el</u>.

 PRFV A2-do-DTV wash-AP-NML
 'You washed.'
 - c. Tyi a-cha'l-e <u>wuts'-pisil</u>.

 PRFV A2-do-DTV wash-clothes
 'You clothes-washed.'
 - Complement**less** stems inflect as nouns:
 - In order to predicate, these forms require a light verb—either the transitive light-verb *cha'l* (as in (12)), or the progressive *choñkol* (as in (6a), above)

4.2. Further Support: Alternations

- The split shown above is not a matter of idiosyncratic selection of different inflectional morphology by different stems
- → As shown in (13–14), a single root can manifest both behaviors—depending on the presence or absence of a Case-requiring complement
- (13) a. Tyi a-cha'l-e **soñ**.

 PRFV A2-do-DTV dance
 'You danced.'
 - b. Tyi a-**soñ**-i bals.

 PRFV A2-dance-DTV waltz

 'You danced a waltz.'
- (14) a. * Tyi **soñ**-i-yety.

 PRFV dance-ITV-B2

 intended: 'You danced.'
 - b. * Tyi a-cha'l-e **soñ**-iñ bals.

 PRFV A2-do-DTV dance-DTV waltz

 intended: 'You danced a waltz.'
- Moreover, some intransitive roots (known as "ambivalents"; Vázquez Álvarez 2002) can function either as unaccusative or as unergatives:⁵
 - When functioning as unergatives (=complementless) they receive agentive interpretations and require the light verb (as in (15a))
 - When functioning as unaccusatives (=complementing) the subject can be interpreted as non-volitional and the form inflects directly as a verb (as in (15b))
- (15) a. Tyi a-cha'l-e **wäy**-el.

 PRFV A2-do-DTV sleep-NML

 'You slept.' (on purpose)
- b. Tyi wäy-i-yety.PRFV sleep-ITV-B2'You slept.' (possibly accidentally)

- Finally, we find alternations between transitive roots which take full Case-requiring complements, and those which incorporate bare NP complements:
 - When taking a full Case-requiring DP, (=complementing) the form inflects directly as a verb (as in (16))
 - When incorporating a bare noun (=complementing)—and only then—the stem requires the light verb (as in (17a))
- (16) Tyi k-**mel**-e jiñi waj.

 PRFV A1-make-TV DET tortilla
 'I made the tortillas.'
- (17) a. Tyi k-cha'l-e **mel**-waj.

 PRFV A1-do-DTV make-tortilla
 'I did tortilla-making.'
 - b. * Tyi k-cha'l-e **mel** jiñi waj. PRFV A1-do-DTV make DET tortilla intended: 'I did the-tortilla-making.'
- These same types of contrasts can be observed with progressive forms, of the kind presented at the outset:
- (18) a. Choñkol-oñ tyi soñ.

 PROG-B1 PREP dance

 'I'm dancing.' (lit. ~ 'I'm engaged in dancing.')
 - b. Choñkol k-soñ-iñ bals.PROG A1-dance-DTV.SUF waltz 'I'm dancing a waltz.'
 - o In (18a), the light verb *cha'l* is not present; instead, the person marking attaches directly to the intransitive aspectual predicate, *choñkol*
 - The lexical root ($so\tilde{n}$ "dance") is introduced by the preposition tyi

⁵This pattern has led some to characterize Chol as a "Split-S" or "active" language (Gutiérrez Sánchez 2004, Gutiérrez Sánchez & Zavala Maldonado 2005). Note, however, that the distinction is not between agentive vs. non-agentive subjects, as Split-S systems are commonly characterized, but rather between forms which take internal arguments and forms that do not.

4.3. Complementation and Verbhood in Chol: A Bi-Conditional

- The data surveyed throughout §4.1–§4.2 all exemplify a strong bi-conditional that exists in Chol between *verbhood* and *taking an internal argument*
- Given that those stems that behave as verbs actually carry additional morphology (namely, a vocalic suffix; see (11a–c) and subsequent discussion)
 - it is quite natural to assume that this morphology is the overt expression of a *verbalizing head*—in other words, of v^0
 - especially since the phonological content of the morpheme in question varies depending on the transitivity of the verb
 - · a harmonic vowel for transitives (see (11a))
 - the vowel -i for intransitives (see (11b–c))
- What is unique to Chol, then, is that the presence of such a head is *co-extensive* with complement-taking
 - One way to capture this is by appealing to the Case-theoretic properties of internal arguments:

(19) CHOL little-v BI-CONDITIONAL

- i. all internal arguments must be assigned (absolutive) Case by a v^0 head
- ii. all v^0 heads must assign absolutive Case to an internal argument

Note:

- component (19i) is run-of-the-mill Case theory
- component (19ii)—while operative in Chol and not in, e.g., English—recalls the *Inverse Case Filter* of Bošković (1997)

5. Deriving the Interpretive Difference

• Let us now return to the original puzzle—given in (6a-b) and repeated in (20a-b):

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(20) a. Choñkol [i-juch' ixim aj-Maria ].

PROG A3-grind corn DET-Maria
'Maria is grinding corn.'
b. Choñkol [i-k'ay aj-Maria ].

PROG A3-song DET-Maria
'Maria's song is happening.' (e.g., if a song that Maria likes is playing on the radio)

*'Maria is singing.'
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• A crucial difference between (6a) and (6b)—independently of the availability of an AGENT interpretation, which is the puzzle we aim to solve—is that the form in (6a) takes a complement (*ixim* 'corn'), whereas the form in (6b) does not

- → Indeed, these forms are representative of a broader pattern in the language:
 - o In the progressive, *complementing* forms appear as *poss*-ing nominalizations
 - the nominalization then serves as a complement to the aspectual verb (e.g., the progressive *choñkol*)⁶

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(21) a. TRANSITIVE
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Choñkol [k-mek'-ety].
   PROG
            A1-hug-B2
   'I'm hugging you.' (lit. ~ 'My hugging you is happening.')
b. UNACCUSATIVE
   Choñkol [k-majl-el].
   PROG
            A1-go-NML
   'I'm going.' (lit. ~ 'My going is happening.')
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c. PASSIVE

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Choñkol [ k-mejk'-el
PROG
         A1-hug.PASV-NML
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'I'm being hugged.' (lit. ~ 'My being hugged is happening.')

- Given the Chol little-v bi-conditional (given in (19), above), complementless forms cannot include a vP layer
 - o Thus, in order to receive an agentive interpretation, their subjects must receive their theta-roles directly from the aspectual verb (as shown in (9a) above)
 - The complementless stem is then introduced separately, by the preposition tyi
 - see Laka (2006) on a related construction in Basque, in which the predicate also surfaces within an oblique phrase

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(22) a. UNERGATIVE
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Choñkol-oñ [ tyi ty'añ ].
               PREP word
   PROG-B1
   'I'm talking.' (lit. ~ 'I am engaged in talking.')
b. ANTIPASSIVE
  Choñkol-oñ [tyi
                    mäñ-oñ-el
   PROG-B1
                PREP buy-AP-NML
   'I'm buying.' (lit. ~ 'I am engaged in buying.')
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- Given the discussion culminating in (19), this would lead us—independently of the different interpretive possibilities—to conclude that (6a) can involve a vP layer, while (6b) cannot
- → This, as shown earlier, provides a natural explanation for the contrast between the availability of an AGENT interpretation in (6a), and its unavailability in (6b)

⁶In examples (21b–c), we assume that the possessor controls a PRO in complement position.

- Crucially, this explanation would be unavailable if the external argument were introduced within the same syntactic projection as the lexical stem
- ⇒ The data in question thus constitute an argument in favor of the Split VP Hypothesis

6. Summary

In this talk, we:

- Presented a puzzle, concerning interpretive asymmetries Chol nominalizations (§2)
 - Specifically, the possibility vs. impossibility of an AGENT reading for the *possessor*
- Proposed that this asymmetry arises as the result of the ability vs. inability of different nominalizations to contain a vP layer (§3)
- Moved on to provide independent evidence that the presence/absence of v (P) is indeed the relevant factor distinguishing the construction in question (§4)
 - First, we presented the basic data showing that *verbhood* and *complement-taking* are coextensive in Chol (§4.1)
 - Next, we showed several alternations in which a single stem can exhibit two kinds of behavior:
 - (i) taking a complement and inflecting as a verb
 - (ii) not taking a complement, not inflecting as a verb, and consequently being selected/introduced by a light-verb/auxiliary
 - ⇒ demonstrating that this bi-conditional is indeed an active part of the Chol grammar (§4.2)
 - We argued that the vocalic suffix found only on the verbal/complement-taking forms (which alternates based on the transitive-vs.-unaccusative distinction) is the realization of v^0 in Chol (§4.3)
 - and that what is special about Chol is that the absolutive Case on v^0 must be discharged (in addition to the standard assumption that the complement of V^0 must be assigned Case)
 - → yielding what we have called the *Chol little-v Bi-Conditional*
- Finally, we showed how this *Chol little-v Bi-Conditional*—motivated independently of the puzzle we set out to solve, concerning interpretive asymmetries—facilitates a simple account of those asymmetries (§5)
 - o In particular, it predicts that a *v*P layer would be present exactly in those nominalizations where we observed that the *possessor* was able to receive an AGENT interpretation

Appendix: On Asserted vs. Reconcilable Components of Meaning

- As noted above:
 - while the possessor of a complementless event nominal like k'ay 'song' is not incompatible with an agentive interpretation, the agentive interpretation is not part of the asserted content
- This can be seen in the following dialogue—a response like the one given in (23B) is inappropriate:
- (23) A: Choñkol [DP i-k'ay aj-Maria].

 PROG A3-song DET-Maria

 'Maria's song is happening.'

 B: # Mach ch'ujbil! Uma' aj-Maria.

 NEG true mute DET-Maria
- This contrasts with a form where *Maria* receives a theta-role from the aspectual verb *choñkol*, as in (24):
- (24) A: Choñkol [PP tyi k'ay] [DP aj-Maria].
 PROG PREP song DET-Maria
 'Maria is engaged in song.'
 B: Mach ch'ujbil! Uma' aj-Maria.
 NEG true mute DET-Maria

'That's not true! Maria is mute.'

'That's not true! Maria is mute.'

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