Possessor extraction and categorical subject in Tseltalan[*]

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1 Introduction

1.1 Goals

One of the notable features of Tsotsil and Tseltal, languages which make up the Tseltalan subbranch of Mayan, is that they permit two options for extracting the possessor in wh-questions. From an intransitive clause like (1) with a possessed theme argument, wh-movement can either move the entire possessive phrase (2a), or it can move the possessor alone, leaving the possessum in situ, (2b). We refer to these two options as 'pied piping' and 'stranding'.[1]

(1) *Bejk'aj* **x-nich'an** *te Xun=e.*
cp.be.born a3-child.of.male det Juan=enc

'Juan's child was born'. / 'Juan had a child born'. Oxchuc Tseltal {elic}

(2) a. Pied piping[2]

[***Mach'a x-nich'an***]$_i$ *bejk'aj* t_i?
who a3-child.of.male cp.be.born

'Whose child was born?' ('¿De quién es el hijo que nació?')

[1]Except for the following abbreviations, we follow the Leipzig Glossing Rules: a1,2,3: Set A 1st (etc.) person; af: agent focus; b1,2: Set B, 1st (etc.) person; cl: clitic; cp: completive; exis: copula; deic: deictic; dir: directional; enc: enclitic; icp: incomplete; ncls: noun class suffix; p: preposition; par: particle.

[2]Translations from the original source (Polian, 2013) are given in parentheses.

b. Stranding

Mach'a**$_i$ bejk'aj*   ***x-nich'an   *t*$_i$?
who   CP.be.born   A3-child.of.male

'Who had a child born?' ('¿A quién le nació un hijo?')

<div align="right">Oxchuc Tseltal (Polian, 2013, 230)</div>

As is well-known, Ā-extraction of an internal possessor ('Ā-subextraction') is disallowed in many languages. Gavruseva (2000) proposes that it is possible only if the possessor can reach the left edge of the possessive phrase in the overt syntax, from where it is accessible to wh-movement. For Gavruseva, this left-edge position is Spec,DP, which functions then as an 'escape hatch' in nominals, parallel to Spec,CP in clauses.

Tsotsil and Tseltal appear to support this proposal as there is visible evidence that a wh-possessor can reach a left-edge position within the nominal (indeed Tsotsil is one of the languages that Gavruseva discusses). While non-wh possessors follow the possessum in declaratives, (1), wh-possessors precede it in questions with pied piping, (2a). This inversion has been analyzed as the result of nominal-internal wh-movement to Spec,DP (see below, §3.2).

Appearances notwithstanding, we argue in this paper that Tsotsil and Tseltal do not, in fact, permit Ā-subextraction and that when a possessor extracts alone, it does not pass through Spec,DP. We propose instead that a possessor which extracts alone has undergone a prior movement to an A-position outside the possessive phrase, and extracts from that external position. That is, we will be defending the claim in (3).

(3)   An extracted possessor in Tseltalan is always an external possessor.

Possessor extraction in Tseltalan always involves then two steps: movement to an A-position followed by movement to an Ā-position. A corollary is that if a possessor cannot reach an A-position, it cannot extract (§4.2, §6). In the case of the possessor of the internal argument in a transitive clause, it is fairly clear that (3) is correct because the possessor can only be extracted as an applicative object. Little (2020b) has already observed this for Ch'ol, a language closely related to Tsotsil and Tseltal, and we will briefly summarize the situation in §4 and show that it is is true in Tseltalan as well. What is less obvious, because there is no applicative involved, is that the possessor of the internal argument in an *unaccusative* clause, as in (2b), also extracts from an external position. Nonetheless we will present evidence that such a possessor *can* externalize (§5) and further, that when it is extracted, it *must* have externalized (§6).

A starting point for our analysis is the observation, from Polian (2013), that pairs like (2a), (2b) in Tseltal are not equivalent.[3] Polian describes the difference between them in terms of 'specificity' and 'aboutness'.

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[3]This was already suggested for Tsotsil in Haviland (1981, 58-59).

The difference between [(2a)] and [(2b)] has to do with information structure: in [(2a)] with extraction of the possessed noun, information about a specific child who is known to have just been born is sought, while in [(2b)], without extraction of the possessed noun, the question is about who had a child, but not with reference to any specific child. [p. 230, translation by the authors]

Our analysis depends on these two properties: specificity and 'aboutness'.

Regarding specificity, in §2, we will consider in a little more detail the claim that the possessum is interpreted as specific when it is pied piped and as non-specific when it is stranded. That possessor extraction with stranding is not possible for specific possessives has also been discussed by Little (2020b) for Ch'ol. Little's account of this restriction combines a Diesing-style approach to specificity (Diesing, 1992) with the Freezing Principle (Wexler and Culicover, 1980): Little assumes that specific objects in transitive clauses, as well as specific subjects of unaccusative clauses, obligatorily shift out of VP and are then frozen for further extraction (see §4 for details). While this is an elegant account, it cannot account for the fact (assuming it is a fact) that Ā-subextraction is also impossible from *non-specifics*. One of our goals then is to establish that possessor extraction is in fact blocked from non-specifics, as well as from specifics.

Regarding 'aboutness', we will suggest that the externalization of the possessor in unaccusative clauses which allows its subequent extraction is related to the interpretation of the possessor as *subject of a categorical judgment* (Kuroda, 1972), a notion related to 'aboutness'. We will propose that the dedicated position for categorical subjects in Tseltalan is Spec,TP and therefore that when the possessor in an unaccusative clause externalizes, it does so to Spec,TP. Crucially, this step is possible only when the possessive itself is non-specific and therefore the subsequent extraction step is possible only when the possessive is non-specific. If this analysis is correct, it reveals an important role in these languages for Spec,TP, a position which has been underutilized in analyses of Mayan syntax, and for the notion *categorical subject*.

The rest of the paper is organized as follows. In §2, we contrast the discourse contexts in which pied piping and stranding occur, and suggest that these contrasts can be understood, at least in part, in terms of the specificity of the possessum. In §3, we introduce the structural assumptions that underlie the rest of the paper. §4 describes Little's 2020b Ā-subextraction analysis of possessor extraction in Ch'ol and some of the issues that it raises when applied to Tseltalan. In §§5-6, we develop our proposal that any possessor which extracts does so as an external possessor, per (3), and we relate possessor extraction with stranding to the 'aboutness' of the possessor. §7 addresses several remaining issues and §8 concludes.

1.2 Background

Tsotsil and Tseltal form the Tseltalan subgroup within Western Mayan. See Polian (2017) for a sketch of the two languages and Kaufman (2017) on the classification of the Mayan
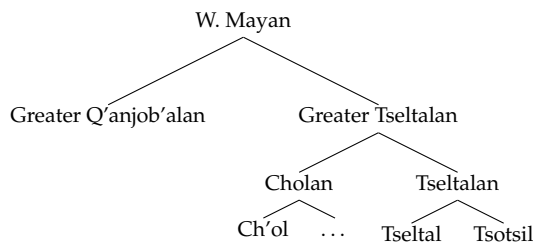
3

family.

Figure 1: Position of Tseltal and Tsotsil in Western Mayan (Kaufman, 2017)

Both languages are spoken in Chiapas, Mexico, both show a moderate degree of dialect differentiation (Polian, 2017) and each has over 500,000 speakers in the 2020 census.[4] The data we discuss here come primarily from the Zinacantec dialect of Tsotsil, and from the Oxchuc, Petalcingo, Tenango, and Tenejapa dialects of Tseltal. For reasons of economy and convenience, and because we are not aware of differences between the two languages that are relevant here, we will cite examples from both languages and will not provide evidence for every point from each language. That is, for the purposes of this paper, we treat Zinacantec Tsotsil and the various dialects of Tseltal as though they were dialects of the same language.[5] As indicated in Figure 1, Ch'ol is a first-cousin to Tsotsil and Tseltal.

2   Pied piping vs. stranding[6]

Recall that Polian (2013) describes the interpretive difference between pied piping and stranding partly in terms of specificity: a pied piped possessum is interpreted as specific and a stranded one as non-specific. We understand this difference in terms of existential presupposition: a pied piped possessum is associated with an existential presupposition, a stranded one is not.

The question in (2a), with pied piping (*Mach'a xnich'an bejk'aj?* 'Whose child was born?'), is understood to be about a particular child who the speaker and addressee already have in mind, i.e., one whose existence is presupposed by the discussants. The discourse referent coresponding to the child which is established by the question is thus anaphoric to one already in the common ground. In the framework of Farkas and Brasoveanu (2021),

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[4]https://en.www.inegi.org.mx/temas/lengua/#tabulados

[5]Unless otherwise indicated, the Tsotsil and Tseltal data cited this paper come from the authors' fieldwork. Elicited data is cited as '{elic}'. Our principal methodologies involved translation tasks (from Spanish to the target language and vice versa), grammaticality judgment tasks, judgments regarding the appropriateness of utterances in particular contexts, and discussions with speakers to clarify the meanings of particular utterances. Except as noted, the data reported here are not controversial and have been confirmed with multiple speakers of both languages.

[6]Discussions with Donka Farkas have been very helpful in clarifying the issues dealt with in this section.

the value assigned to the possessum in any felicitous answer to (2a) will therefore be the same, i.e., will remain constant. At issue in the question is who the parent (father) of that child is. In contrast, the question with stranding, (2b) (*Mach'a bejk'aj xnich'an?* 'Who had a child born?'), does not presuppose the existence of any child. In the framework of Farkas and Brasoveanu (2021), the value assigned to the possessum in the set of felicitous answers to (2b) will vary, depending on the value assigned to the wh-phrase.

To understand the presuppositional/anaphoric status of the possessum in the two constructions, it is helpful to look at naturally-produced questions, as these come with a discourse context. Example (4) shows a naturally-produced question with stranding.

(4) Context: A group of men are discussing a community work project. They say, "we are going to fix a potable water system." One of them asks, "Who can provide a car?"

Q: ***Mach'a$_i$ x-bajt s-karo** t$_i$?*
who   ICP-go A3-car
'Who can provide a car?' (lit: who goes his car?)   Tenejapa Tseltal {text}

Here, the larger question under discussion is how the men will get to their worksite, with one of the possibilities being by car. It is not a question about any particular car and there is no presupposition that any car exists.

Nor does the question in (4) presuppose that someone can provide a car. It is well-known that the 'presupposition' associated with most wh-questions is relatively weak and can be easily denied. Wh-questions with stranding, like (4), share this property. The speaker may have some reason to think that someone can provide a car, but this is at best an 'epistemic bias' (Romero and Han, 2004; Fitzpatrick, 2005), or a 'supposition' (Büring, 2004; Onea and Zimmermann, 2019).[7] Because this bias or supposition need not be shared by the addressee, it can be denied and a negative response to (4), e.g., *ma'yuk* 'there isn't anyone/anything', is felicitous.

Example (5) presents a naturally-produced question with pied piping (the wh-possessive here is the internal argument of a transitive verb).

(5) Context: A group of people are in the kitchen. A woman is cooking meat which was obviously not purchased. The speaker believes that the woman hadn't killed her own cow, saying, "you didn't kill your own cow, did you?" He continues: "Whose cow did they kill?" (the 3rd person plural pronominal is understood as an indefinite pronoun).

Q: *[**Mach'a x-wakax**]$_i$ la s-mil-ik t$_i$?*
who   A3-cow   CP A3-kill-PL
'Whose cow did they kill?'   Oxchuc Tseltal {text}

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[7]In some cases, this bias is so weak that a wh-question with stranding seems to be interpreted as a sequence of two questions: the first, a polar question (e.g., 'can someone provide a car?') and the second, a wh-question,

The question in (5) is about a specific cow. Although there has been no mention of that cow in the prior discourse, the cow is contextually salient, with the attention of both speaker and addressee directed to the meat which is being cooked and to the cow which is the source of that meat. By virtue of its salience, a discourse referent corresponding to the cow is part of the common ground and the discourse referent introduced by the pied piped wh-phrase is thus anaphoric to one in the common ground.[8]

In contrast to questions with stranding, questions with pied piping are not easily denied and speakers regard a negative answer to (5), e.g., *ma'yuk* 'there isn't anyone/anything', to be non-sensical. This is a consequence, we suggest, of the fact that in questions with pied piping, the proposition associated with the question (=someone's cow was killed) *is* presupposed, i.e., is part of the common ground. Thus, the speaker assumes, and the speaker assumes that the addressee assumes, that the cow which is being cooked belonged to someone and was killed (note that the speaker's assertion+tag,'you didn't kill your own cow, did you?', is presumably based on this presupposition). But if speaker and addressee both presuppose that someone's cow was killed, an answer which denies that presupposition is infelicitous.

We have not investigated whether all questions with stranding and pied piping behave this way with respect to the possibility/impossibility of denial answers, but our impression is that these are general features. In particular, it appears that in wh-questions with pied piping, all that is at issue is the identify of the possessor, as everything else in the question is presupposed.

Our main concern in this paper is on the claim in (3), that is, on the syntax associated with stranding, not pied piping. In §3.2, we will, though, discuss the analysis of pied piping and relate the specificity of a pied piped possessive to our syntactic analysis. That a stranded possessum is interpreted as non-specific follows from the analysis we develop in §§4-6.

3 Typological features and structural assumptions

Tsotsil and Tseltal share a range of typological features with other Mayan languages (Polian, 2017). They are verb-initial and, more generally, head-initial. Canonical word order is VOA, though transitive clauses with both arguments realized overtly (and post-verbally) are rare.[9]

('if so, who can provide a car?'). See Onea and Zimmermann (2019).

[8]See Karttunen (1968, 16) (cited also in Heim (1982, 201)).

> Anything in the immediate environment of the speaker and hearer towards which their attention is directed becomes a discourse referent whether it has been explicitly mentioned or not.

[9]Abbreviations used below for grammatical relations:

(6) *Ta s-k'el-ik   ve'elil li   jkusinero-etik=e.*
ICP A3-look.at-PL meal DET cook-PL=ENC
'The cooks were looking at the meal.'   Tsotsil (Laughlin, 1977, 23)

Mayan languages are strongly head-marking. The agreement systems of both Tsotsil and Tseltal involve two sets of morphemes found throughout Mayan, termed 'Set A' and 'Set B' by Mayanists (Coon, 2016; Zavala, 2017). In Tseltalan, Set A indexes person features of the A argument of a transitive verb (i.e., the ergative), as in (7), (8). Set B indexes person (and sometimes number) features of the S argument of an intransitive verb and the O argument of a transitive verb (i.e., the absolutive), also shown in (7), (8). Pronominal arguments are usually not pronounced unless topicalized or focused.

(7) *La j-pas-b-at   ul.*
CP A1-make-APPL-B2SG atole
'I made atole for you.'   Oxchuc Tseltal (Polian 2013, 270)

(8) *L-i-s-vula'an   li   Xunka=e.*
CP-B1-A3-visit DET Juana=ENC
'Juana visited me.'   Tsotsil {elic}

In both languages, Set A markers are prefixal; Set B markers are consistently suffixal in Tseltal, as in (7), and occur either prefixed or suffixed (sometimes both) in Tsotsil, depending on the dialect and the morphosyntactic context. For the full agreement paradigms in Tsotsil and Tseltal, see Polian (2017). Note that there is no overt exponent for Set B, 3rd person singular, and we do not indicate such a morpheme in our examples or glosses. Table 3 summarizes the distribution of Sets A and B on predicates.

Form	Function	Tseltal	Tsotsil
Set A	A	prefixal	prefixal
Set B	S and O	suffixal	prefixal/suffixal

Table 1: Sets A and B in Tseltalan

A	=	external argument of transitive
S	=	subject of intransitive
S_A	=	external argument of intransitive (i.e., of unergative verb)
S_O	=	internal argument of intransitive (i.e., of unaccusative verb)
O	=	internal argument of (di)transitive
G	=	thematic applied argument of ditransitive
OP	=	object of preposition
Psr-O, Psr-A, etc.	=	possessor of O, possessor of A, etc.

3.1 Clause structure

We assume that clausal arguments are introduced and licensed as shown in (9a-c) for transitive, unergative, and unaccusative clauses, respectively. The first two involve a functional 'little v' which introduces the external argument in its specifier position. We take unaccusative clauses to involve a simpler structure with no vP layer (Hale and Keyser, 1993; Chomsky, 2001). T^o is the structural locus for aspect. See fn. 9 for abbreviations.

(9)

a. Transitive   b. Unergative   c. Unaccusative

[Tree diagram (9a) Transitive: TP dominates T′ and □; T′ dominates T^o and vP; vP dominates A and v'; v' dominates v^o_{TR} and VP; VP dominates V^o and O. Arrows show head movement from V^o to v^o_{TR} to T^o.]

[Tree diagram (9b) Unergative: TP dominates T′ and □; T′ dominates T^o and vP; vP dominates S_A and v'; v' dominates v^o_{INTR} and VP; VP dominates V^o. Arrows show head movement from V^o to T^o.]

[Tree diagram (9c) Unaccusative: TP dominates T′ and □; T′ dominates T^o and VP; VP dominates V^o and S_O. Arrow shows head movement from V^o to T^o.]

Regarding the analysis of word order, we will largely follow Clemens and Coon (2018), with one substantive revision. They assume leftside specifiers and derive V-initial order in clauses through raising of V^o to T^o (through intermediate heads). This yields VAO, the fixed order in Q'anjob'al, for example. For languages like Tsotsil and Tseltal, with canonical VOA order, they propose that the 'A' of VOA is really a topic which occupies a high, rightside specifier position. Here is where we diverge: our proposal is that this rightside position is Spec,TP, the canonical 'subject' position (we directly compare these two analyses in §7.2). The structures in (9) represent these assumptions: leftside specifier for v^o and rightside specifier for T^o.

The rightside specifier analysis is incompatible with the Linear Correspondence Axiom of Kayne (1994) and, under somewhat different structural assumptions, could presumably be recast in terms of leftward movement of a constituent containing V and O, but not A. However, this would require further projections between TP and CP which are not otherwise motivated, as far as we know, and not required under our analysis. Instead, we propose a parametrized account which determines which heads take leftside specifiers and which rightside ones. The default is leftside specifiers, but several heads, including T^o, Appl^o (§4.2), and possibly Poss^o (fn. 11) take rightside specifiers.[10]

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[10]See Abels and Neeleman (2012) and Ramchand (2014) on the choice between a parametrized account of specifier-head order and an LCA-consistent account. Other analyses which posit rightside specifiers include Guasti (1996) and Folli and Harley (2007) (rightside specifier for vP in Italian); Bruening (2010, 2018) and Ussery (2018) (rightside specifiers for ApplP in certain double object constructions in English and Icelandic);

(10) Directionality parameter for specifiers in Tseltalan
   a. The specifier of a head A^o linearizes to the right of A^o, $A^o = \{T^o, Appl^o\}$.
   b. Otherwise the specifier of a head A^o linearizes to the left of A^o.

Important for what follows is the assumption that Spec,TP is an A-position in these languages. Following a traditional view articulated recently, for example, in Keine (2018), we assume that nominal positions internal to TP are A-positions, while those external to TP are Ā-positions. However, while Spec,TP is an A-position, it is neither a theta position nor a case position. Nominal arguments are initially introduced within vP or VP, as usually assumed, and are syntactically licensed in those positions (shown by the dashed lines in (9a-c). Following Coon's 2017b analysis of Ch'ol, we assume for Tseltalan that the functional head of a transitive clause (v^o_{TR}) licenses both A (in Spec,vP) and O (under c-command). In intransitive clauses, whether unergative or unaccusative, finite T^o syntactically licenses $S_A \sim S_O$ under c-command. Assuming the *probe-goal* framework of Chomsky (2000), v^o_{TR} and T^o are associated with unvalued φ-features (*probes*) which are valued by virtue of establishing a relation (*Agree*) with a suitable nominal argument (the *goal*). This relation both licenses the argument and feeds morphological agreement (see Table 1).
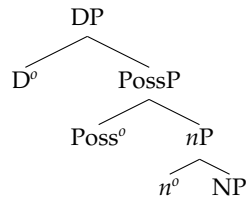
A probe may also trigger movement of its goal. We are concerned here with movement of DP's (A-movement) and movement of wh-phrases (Ā-movement). In these cases, the heads involved (T^o, C^o, D^o) are associated with probes which seek a DP or a wh-phrase as goals. The identification of a suitable goal feeds movement of the goal to the specifier of the probe-bearing head. We represent the probes which trigger movement as [**EPP:D**] and [**EPP:WH**]. Finally we assume that when the probe c-commands the goal, it establishes a relation with the *closest* goal, where closeness is determined by c-command (Minimal Link Condition/Attract Closest, Chomsky 1995).

3.2 Nominal structure

The idea that clauses come in various sizes (e.g., CP, TP, vP, VP) has been extended in recent work to the nominal domain. Given the assumption that features associated with referentiality reside in the D projection, this body of work has appealed to the presence vs. absence of the D-projection to account for differences between specifics and non-specifics in various domains, including agreement (e.g., Pereltsvaig 2006), case marking (e.g., Bleam 2005; Danon 2006), word order (e.g., Massam 2001), and permeability (cf. Huang 2022). We adopt this approach here and assume that nominals interpreted as specific have the full structure in (11), i.e., they project to DP, while those interpreted as non-specific project only as far as nP (if non-possessive) or PossP (if possessive).

(11) Nominal structure

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              DP
           ╱      ╲
         D°        PossP
                ╱      ╲
             Poss°      nP
                     ╱     ╲
                   n°       NP
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Our main concern here is with possessives.

Consistent with the head-initial character of the languages, a possessed noun precedes its possessor, as in (12).

(12) *Bajt'=ix [__s-me'__   te Xun=e].*
     went=CL A3-mother DET Juan=ENC

     'Juan's mother already went.'   Oxchuc Tseltal (Polian 2013, 67)

We will refer to the possessed noun as the 'possessum' and to the phrase it heads as the 'possessive (phrase)'. The possessor is indexed on the possessum by the same set of morphemes that index the external argument of a transitive verb, i.e., by Set A prefixes.

Semantically, the possessive construction is the principal way in Tsotsil and Tseltal to indicate adnominal relations. These include not only physical possession or ownership, kinship, and part-whole relations, but also more abstract relations, including, for example, function, destination, and location or source, as in (13a,b,c).

(13) a. *y-ak'-il*   *li mok=e*
         A3-vine-NCLS DET fence=ENC

         'lashing for the fence.'   Tsotsil

     b. *s-be-lal*   *te j-na=e.*
         A3-road-NCLS DET A1-house=ENC

         'the road to my house'   Tseltal

     c. *y-uch'-al*   *j-jol*
         A3-lice-NCLS A1-head

         'lice (that live) on my head'   Tsotsil

These more abstract relations may involve inanimate possessors and are often marked by a nominal suffix, usually *-Vl*, (glossed above as 'NCLS' for 'noun class').

Nouns fall into three major classes in Tseltalan, depending on whether they must be possessed, may be possessed, or may not be possessed (Haviland 1981, §7.6; Laughlin 1975; Polian 2013, §20.5). For example, the noun *vaj* 'tortilla' (Tsotsil) may not be possessed, while the noun stem *-ot*, also 'tortilla', must be. The noun class suffix can change the class a noun belongs to and/or change the semantic relation between possessum and possessor. Thus, while *k-ot* (A1-tortilla) (Tsotsil) refers to a tortilla that belongs to me or that I made,

y-ot-al (A3-tortilla-NCLS) refers to tortillas intended to complement some food, e.g., *yotal li bek'et=e* (DET meat=ENC) 'tortillas for the meat'.

We assume the basic structure in (14) for possessive phrases, illustrating with (13a), *y-ak'-il li mok=e* 'lashing for the fence'. The structure involves two functional heads: n^o ('little-n') and Poss^o. n^o mediates the relation between the possessum (complement of n^o) and the possessor (Spec,*n*P). It determines the semantic relation between them and is the structural locus for noun class morphology associated with possession.

(14)   Possessive phrase structure
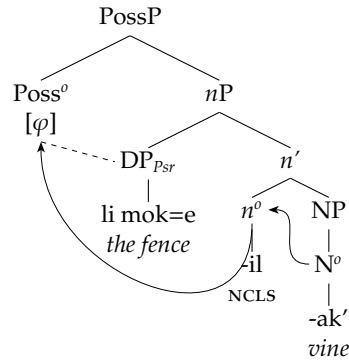
While the possessor is introduced in Spec,*n*P, we assume that it is syntactically licensed by Poss^o and values φ features on Poss^o. Poss^o corresponds then in the nominal domain to T^o in the verbal domain (cf. Coon 2013, which labels this head 'I'). Extending the parallel to clauses, we assume that N^o raises to n^o and then to Poss^o. This yields head-initial order within possessives.[11] The φ features which have been valued on Poss^o are spelled out by Set A markers on the raised possessum. Going forward, we will represent possessive phrases in the simplified form shown in (15).

(15)   Simplified representation for PossP
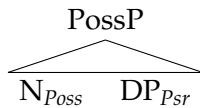
Like non-possessives, possessives can be interpreted as specific or definite, as in (16), or as non-specific, as in (17).

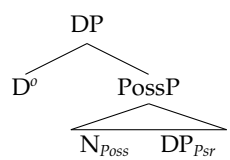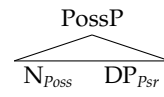(16)   *Ch-a-k-ak'-be   [li j-tseb=e].*
       ICP-B2-A1-give-APPL DET A1-girl=ENC

       'I'll give you my daughter.'   Tsotsil (Laughlin 1977, 35)

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[11]It is possible that the possessor raises further to Spec,PossP, but there is not enough material in possessives to determine whether a DP possessor remains in a leftside Spec,*n*P position or shifts higher to a rightside
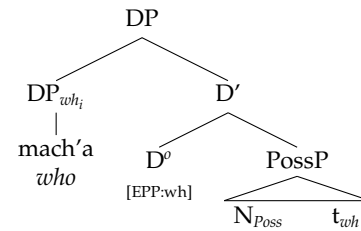
(17) a. *Oy [k-amiko-tak]].*
        EXIS A1-friend-PL
        'I have friends.'   Tsotsil (Laughlin 1977, 57)

     b. *I-s-sa'   [s-malal].*
        CP-A3-seek A3-husband
        'She looked for a husband.'   Tsotsil (Laughlin 1977, 80)

We assume that the basic structure in (14)/(15) projects to DP when the possessive is interpreted as specific or definite, but is rooted in PossP when interpreted as non-specific.[12]

(18)
    a. Specific possessive   b. Non-specific possessive

Important for what follows is that the DP which roots a specific possessive (the higher DP in (18a)), prevents a c-commanding, D-probe from targeting the lower DP possessor. Conversely, its absence in (18b) renders the possessor a possible goal.

    As noted earlier in connection with (2a), while non-interrogative possessors follow the possessum in Tseltalan and Ch'ol, interrogative (wh) possessors precede it. This phenomenon, dubbed 'pied piping with inversion' by Smith-Stark (1988), has been analyzed as DP-internal movement of an interrogative possessor from its initial position to Spec,DP (Aissen, 1996; Gavruseva, 2000; Heck, 2009; Coon, 2009; Little, 2020b). Heck (2009) calls this 'Secondary wh-movement'. We assume it is triggered by an [EPP:WH] feature on D^o. Per (10), D^o is not a head which determines a rightside specifier. Hence the raised wh-phrase linearizes to the left of D^o.

(19)

Secondary wh-movement is also found in PP's, where the wh-possessor occurs to the left of P (see §6 below).

Spec,PossP.

[12]The head of the higher DP in (18a) often goes unpronounced when the head of the lower DP is pronounced, cf. (12) (Haviland, 1981, 51). This complies with a preference in these languages to avoid multiple (pronounced) determiners within short stretches.

We will not take a position here on what makes pied piping possible in possessives (see Aissen 1996; Coon 2009; Heck 2009; Cable 2010 for several approaches). However, we will adopt the suggestion of Coon et al. (2021, fn.13) that only phrases which project at least as far as DP can undergo wh-movement. Coupled with our assumption that non-specific possessives project only as far as PossP in Tseltalan, this predicts that pied piped possessives can only be interpreted as specific.

4 Subextraction and nominal opacity

As noted earlier, Little (2020b) develops an analysis of possessor extraction in Ch'ol which involves Ā-subextraction. Here we describe her analysis and discuss some of the issues that it raises when applied to Tseltalan. Chief among these is the way it handles an apparent asymmetry between transitive and unaccusative clauses. Little shows that while Ā-subextraction appears to be possible from the (non-specific) internal argument of an unaccusative clause (S_O), it is impossible from the internal argument of a monotransitive clause (O). Psr-O can be extracted, but only as an external possessor in an applicative construction (§4.2). The role that the applicative construction plays in permitting extraction of Psr-O is noted in Little (2020b), but not highlighted, We attribute more significance to it. We take it to suggest that extraction of a possessor might always require externalization, an analysis we defend in subsequent sections. In §4.3, we lay the groundwork for our analysis by developing an account of *nominal opacity* in Tseltalan, one which prevents wh-movement from targeting any nominal-internal element. This leaves extraction of the possessor from an external position as the only option.

4.1 A subextraction analysis for Ch'ol

To account for the impossibility of extracting the possessor of a specific O or S_O, Little combines a Diesing-style approach to specificity with the Freezing Principle (Wexler and Culicover, 1980). Following Diesing (1992), Little assumes that the specificity of the internal argument is syntactically determined, with an O/S_O which raises out of the VP by Object Shift (ObjShift) interpreted as specific, and one which remains inside the VP as non-specific. Combined with the Freezing Principle – which precludes extraction from a constituent which has moved – this predicts that the possessor of a specific O/S_O cannot be extracted with stranding of the possessum. In contrast, extraction of the possessor of a non-specific possessive is predicted to be possible.

We documented in §3 that this prediction is amply borne out in the case of a possessive S_O in Tseltalan, and it appears to hold in Ch'ol as well. When a possessive S_O has a wh-possessor, the possessum can be pied piped along with the possessor (20a) or stranded (20b).

(20) Ch'ol

a. *[**Majki i-wakax**]$_i$ ta' yajl-i*   *t$_i$* ?
     who   A3-cow   PFV fall-INTR
     'Whose cow fell?'

b. ***Majki**$_i$ ta' yajl-i*   *[**i-wakax** t$_i$]?*
     who   PFV fall-INTR A3-cow
     'Whose cow fell?'   (Little, 2020b, 11)

Little's analysis predicts that the possessum in (20b) must be non-specific. She does not explicitly discuss differences in the interpretation of the possessum in the two questions, but she observes, importantly, that stranding is impossible if the possessum is separated from the verb, a position which is possible only for a specific possessum.

(21)   Ch'ol

a. ***Majki**$_i$ ta yajl-i*   *[**i-wakax** t$_i$] tyi potreru?*
     who   PFV fall-INTR A3-cow   P   field
     'Whose cow fell in the field?'

b. * ***Majki**$_i$ ta yajl-i*   *tyi potreru [**i-wakax** t$_i$]?*
      who   PFV fall-INTR P   field   A3-cow
     Intended: 'Whose cow fell in the field?'   (Little, 2020b, 18)

In Little's analysis, the failed derivation of (21b) would involve object shift of the specific possessive (*iwakax majki*) followed by Ā-subextraction of the wh-possessor (see Little (2020b, 8-9) on how the surface word orders in (21a,b) are derived). The Ā-subextraction step is blocked by the Freezing Principle. In (21a), *iwakax majki* does not shift out of the VP, and Ā-subextraction is unproblematic.

The contrast between (21a,b) appears to provide evidence that extraction from specifics is blocked by the Freezing Principle. We will argue below, however, that Ā-subextraction is blocked not only from specific possessives, as in (21b), but also from non-specific possessives. That is, while the wh-possessor in (21a) appears to be subextracted from the possessive, it actually extracts from a position external to the possessive. Our account of blocked Ā-subextraction from non-specifics generalizes to specifics, rendering the Object Shift+Freezing account of (21b) superfluous. Little's account, on the other hand, intended as it is to block Ā-subextraction from specifics, does not generalize to non-specifics.

Initial evidence which suggests that Ā-subextraction is impossible regardless of the specificity of the possessive comes from transitive clauses with possessive O. In contrast to Psr-S$_O$, which can extract either with stranding or with pied piping, Psr-O can extract only with pied piping, (22a); stranding is out, (22b).

(22)   Ch'ol

a. *[**Majki i-chich**]$_i$ ta' a-k'el-e*   *t$_i$?*
     who   A3-sister PFV A2-see-TR
     'Whose sister did you see?'

b. ***Majki*i** *ta' a-k'el-e*   *[**i-chich** t_i]?*
   who   PFV A2-see-TR A3-sister
   Intended: 'Whose sister did you see?'   (Little, 2020b, 13)

The same is true in Tseltalan, as illustrated by (23), from Tsotsil.

(23) a. *[**Much'u s-tseb**]i** av-il   ta ch'ivit   t_i?*
        who   A3-girl A2-see P market
        'Whose daughter did you see in the market?'

      b. * ***Much'u*i** *av-il   [**s-tseb** t_i] ta ch'ivit?*
         who   A2-see A3-girl   P market
         Intended: 'Whose daughter did you see in the market?'   Tsotsil {elic}

Table 2 summarizes the situation: Psr-S$_O$ can be extracted either with stranding of the possessum or with pied piping, but only the pied piping option is available to Psr-O.

	Psr-S$_O$	Psr-O
Stranding	✓	*
Pied piping	✓	✓

Table 2: Possessor extraction and grammatical function in Ch'ol and Tseltalan

To account for this asymmetry, Little proposes that ObjShift is optional for a possessive S$_O$, but obligatory for a possessive O *when its possessor is overt* (a wh-possessor counts as overt) (Little, 2020b, 17). Obligatory movement of possessive O (with wh-possessor) freezes it for Ā-subextraction. This account also predicts that a possessive O with overt possessor can only be interpreted as specific. Regarding why this might be so, Little (2020b) suggests (p. 10) that certain elements in the noun phrase function as overt definiteness marking and are incompatible with the existential interpretation that a nominal which remains in the VP receives. These elements include determiners, demonstratives and overt possessors. As such, a definite-marked O is forced out of the VP by ObjShift and becomes an island for further extraction.

But if an overt possessor definite-marks O, it should do the same for S$_O$. Yet it does not: possessor extraction from S$_O$ is possible, indicating (in Little's analysis) that it has not shifted. While it is possible that the conditions which require ObjShift for possessive O and S$_O$ are different, leading to the asymmetry shown in Table 2, an explanation based on the interpretive effect of an overt possessor does not, without further elaboration, distinguish O and S$_O$.

In contrast to Little (2020b), we do not link the ungrammaticality of examples like

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[13]This is because a ditransitive applicative construction is usually employed when O is a non-specific possessive; see §4.2.

(23b), with Ā-subextraction of an internal possessor, to the specificity of the possessive. It is true that in general, a possessive O in a monotransitive clause in Tseltalan is interpreted as specific.[13] But this is not always the case. In (24), a text example from Tsotsil, the possessive appears to be non-specific despite the presence of an overt possessor. There is nothing in the previous context which implies the existence of pictures.

(24) Context: Description of a visit to the Empire State Building. 'After we had seen that, I came down. . .'

I-j-man   tal [s-lok'obbail   [li Nwéva York xchi'uk li k'elob   osil=e]].
CP-A1-buy DIR A3-representation DET New   York and   DET lookout ground=ENC

'I bought pictures of NY and the observation tower.'   Tsotsil (Laughlin, 1980, 62)

Nonetheless, extraction of the possessor is still completely impossible:

(25) *K'usi_i a-man   tal [s-lok'obbail   t_i]?*
what   A2-buy DIR A3-representation
Intended: 'What did you buy pictures/a picture of?'   Tsotsil {elic}

The contrast between (24) and (25) suggests that the problem with extracting Psr-O does not depend on the specificity of O. Extraction of Psr-O is blocked whether O is specific or non-specific. Hence we attribute the ungrammaticality of (23b) and (25) to a general constraint which prevents Ā-subextraction from *any* nominal, regardless of specificity. We refer to this as *nominal opacity* (see §4.3 below).

4.2 External possession

Little (2020b, fn.10) notes for Ch'ol that while Psr-O cannot be extracted alone from a *monotransitive* clause, (26a) (=22a), it can be extracted from a ditransitive applicative clause, (26b). The applicative verb is formed with the suffix *-be*.[14]

(26) Ch'ol

   a. *Majki_i ta' a-k'el-e   [i-chich t_i]?*
      who   PFV A2-see-TR A3-sister
      Intended: 'Whose sister did you see?'   (Little, 2020b, 13)

   b. *Majki_i ta' a-k'el-<u>be</u>   [i-chich] t_i?*
      who   PFV A2-see-APPL A3-sister
      'Whose sister did you see?'   (Little, 2020b, fn. 10)

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[14]Our bracketing of examples with possessor extraction reflects the status of the possessor as internal or external, per our analysis or the analysis we are citing. In (26a,b), for example, the position of the trace inside or outside the brackets reflects Little's proposal that the possessor undergoes Ā-extraction from a position inside (26a) or outside (26b) the possessive phrase.

The same observation holds for Tsostil and Tseltal. Extraction of Psr-O (with stranding) is only possible if the verb carries the applicative suffix. Thus, the addition of *-be* to the verb in (25) makes the sentence grammatical.

(27)   ***K'usi**$_i$ a-man-be*   *tal* *[**s-lok'obbail**]*   *t*$_i$?
       what   A2-buy-APPL DIR A3-representation
       'What did you buy a picture of?'   Tsotsil {elic}

Similar contrasts are found in Tseltal. The declarative form can be realized either via the monotransitive construction or the applicative, (28a) (though with a preference for the applicative). But extraction of the possessor is possible only from the applicative construction, (28b), not the monotransitive, (28c).

(28)   a.   *La j-man(-bey)*   *tal* ***s-lok'ombail***   ***te***   ***presidente=e***.
           CP A1-buy-APPL DIR A3-representation DET president=ENC
           'I bought a picture of the president.'

       b.   ***Mach'a***$_i$ *la* *a-man-bey tal* *[**s-lok'ombail**]*   *t*$_i$?
           who   CP A2-buy   DIR A3-representation
           'Who did you buy a picture of?'

       c.   *****Mach'a***$_i$ *la* *a-man*   *tal* *[**s-lok'ombail***   *t*$_i$*]?*
           who   CP A2-buy DIR A3-representation
           Intended: 'Who did you buy a picture of?'   Tenango Tseltal {elic}

Ditransitive applicative structures in Ch'ol and Tseltalan introduce into the clause a third 'applied' argument bearing a thematic role like recipient, goal, addressee, location, or beneficiary (Coon, 2017a; Aissen, 1987; Polian, 2013).[15] In the absence of an argument bearing one of these roles, the applicative can be used to present the possessor of the internal argument as applied argument.[16]

Several analyses have been proposed for the possessive applicative in these languages, including raising (Aissen, 1987) and control (Coon and Henderson, 2011) (on this distinction, see Deal 2017). Regardless of the correct analysis, it is natural to analyze examples like (26b), (27), and (28b) as instances of external possession, as Little (2020b, fn. 10) suggests. If this is correct, extraction of Psr-O, with 'stranding' of the possessum, proceeds from outside the possessive phrase and does not involve Ā-subextraction. There is an

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[15]In all three languages, the applied argument displaces the internal argument for the purposes of agreement and passive i.e., the construction exhibits *secundative alignment*, in the sense of Malchukov et al. (2010). See above references.

[16]The factors which govern use of the possessive applicative are complex and remain to be better understood. As noted in fn. 13, there is a strong preference in Tseltalan to use the applicative construction when the head of possessive O is non-specific (and its possessor is 3rd person, and as long as there is no thematic applied argument). However, crucially, in cases where speakers do accept a monotransitive declarative with possessive O, as in (24) and (28a), extraction of the possessor is impossible, cf. (25) and (28c).

asymmetry then in Little's analysis: an extracted *Psr-S$_O$* is an *internal* possessor, while an extracted *Psr-O* is an *external* possessor. In contrast, we take both to be external possessors.

Following Georgala et al. (2008); Georgala (2012), we assume that Psr-O externalizes to the Specifier position of a raising applicative phrase (ApplP) which is complement of v^o_{TR}. The head of ApplP is realized by the applicative suffix *-be*. Spec,ApplP must be filled by a DP, and we guarantee this by assigning an obligatory [**EPP:D**] feature to Appl^o. Spec,ApplP may be filled by a thematic applicative argument (goal, recipient, etc), but in the absence of such an argument, it may be filled by raising the DP possessor of a non-specific O.

(29)   Possessive applicative with Raising
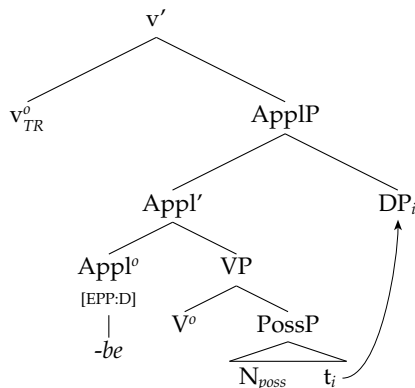
Recall that per (10), Appl^0 determines a rightside position for its specifier, the applied object.

Assuming that any extracted possessor is an external possessor (cf. (3)), and, further, that the only available external position for Psr-O is Spec,ApplP, we derive a further prediction which will be central to our account: if no external position is available to a possessor, then it cannot extract. Applied to Psr-O, this predicts that extraction will be blocked in ditransitives if Spec,ApplP is filled by a thematic applied argument: the external position is unavailable and extraction from the internal position is blocked by nominal opacity.

Little (2020b, 13) observes for Ch'ol that extraction in this configuration *is* blocked. It is also blocked in Tsotsil and Tseltal. To avoid the awkwardness of multiple post-verbal nominals, our examples have 1st person applied objects which are indexed on the verb by Set B markers.

(30)   ***Much'u$_i$*** *ch-av-al-b-on*   *[**s-lo'iltael** t$_i$]?*
        who   ICP-A2-say-APPL-B1SG A3-talk
        Intended: 'Who will you tell me gossip about?'   Tsotsil {elic}

(31)   *??**Bin$_i$** ya aw-ak'-b-on*   *[**s-tojol**   t$_i$]?*
        what   ICP A2-give-APPL-B1SG A3-payment

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Intended: 'What are you giving me money for?'   Tenango Tseltal {elic}

Pied piping the entire possessive is grammatical in all three languages.

Little's account of the blockage in the corresponding Ch'ol examples appeals again to obligatory ObjShift for an object with an overt possessor, combined with the Freezing Principle. We already noted that this account predicts (incorrectly, for Tseltalan) that a possessive O with pronounced possessor in a monotransitive clause must be specific (see (24)). It makes the same prediction for the O in a ditransitive. But this also seems to be too strong. The possessive O in (32), for example, has an overt, internal possessor, but is not interpreted as specific. This is the initial mention of the picture and nothing in the previous context implies its existence.

(32)   Context: 'On Friday, the twenty-fifth of October, we went to buy our papers in Mexico City. Later we went to visit our Lady of Guadalupe. Each of us bought four one-peso candles apiece. And we arrived in the middle of prayers.'

       I   te   l-i-k'elan-b-otikotik   [s-lok'obbail   li
       and then cp-b1-present-appl.pass-b1excl a3-representation det
       jch'ulme'tik=e].
       our.holy.mother=enc

       'And then we were given a picture of the Virgin.'   Tsotsil (Laughlin, 1980, 9)

Here, the Psr-O cannot raise to Spec,ApplP because that position is filled by the first person goal. Nonetheless, O is interpreted as non-specific, not specific. Obligatory ObjShift for any overtly possessed O makes the wrong prediction then about the interpretation of possessive O in both monotransitive and ditransitive clauses. In contrast, nominal opacity, together with the unavailability of an external position for the possessor, straightforwardly predicts the impossibility of examples like (30)-(31), while allowing for non-specific O's with overt possessors, e.g., (24), (32).

We have suggested here that problems with Ā-subextraction cannot all be attributed to the Freezing Principle, as Ā-subextraction is blocked not only from specific possessives, but also from non-specifics (see (25) and (28c)). Our account depends instead on a blanket ban on Ā-subextraction from any nominal. As a consequence, Ā-movement of the possessor requires prior A-movement to an external position. Anticipating this analysis, we turn to a more explicit account of nominal opacity.

4.3   Nominal opacity

In order to guarantee (3) ('An extracted possessor is an external possessor'), we need to rule out Ā-subextraction from both specific and non-specific nominals. Informally, we assume that wh-movement cannot move a constituent from within a nominal projection

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to a position outside that projection, where the nominal projection = PP >DP >PossP >NP (on the inclusion of PP in the nominal projection, see Grimshaw (1991, 2005)).[17]

We interpret this restriction as a case of 'selective opacity' (Keine, 2019), where any phrase in the extended projection of N^0 is opaque to a wh-probe on a c-commanding C^o. In Keine's terms, any node in the extended projection of N^0 is a 'horizon' for a wh-probe on C^o, rendering elements dominated by that node invisible to the probe. In Keine's notation:

(33)   Nominal Opacity (Tseltalan)
       $[wh]_{C^o}$ -‖ N

An alternative to selective opacity might be based on the presumed phasehood of DP. But we have assumed that non-specifics do not project to DP. Hence the phasehood of DP would not account for the ungrammaticality of examples like (25) and (28c), in which extraction from a non-specific is blocked. However, selective opacity, as developed by Keine (2019), is inherited through an extended projection: if NP is a horizon for a probe α, then every higher phrase in the extended projection of N is opaque for α. (33) predicts that wh-movement will be blocked from within a nominal of any size, i.e., both from non-specific PossP's and from specific DP's.

Further, we note that selective opacity is also compatible with our proposal that a DP possessor of PossP cannot undergo Ā-movement, but can undergo A-Movement. For selective opacity is 'selective': it is defined with respect to a particular probe. In the present case, the relevant probe is the wh feature on C^o. This does not imply nominal opacity for a wh-probe located on a head other than C^o, nor does it imply nominal opacity for a different feature. Hence, (33) does not prevent *DP-internal* wh-movement, as in (19)

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[17]We focus in this paper only on interrogative wh-constructions. Ideally, nominal opacity applies to all Ā-features, but to what extent the analysis can be extended to other constructions involving Ā-dependencies remains to be investigated. Relative clauses, in particular, appear to be different from wh-questions in that nominal-internal possessors can be relativized, Compare (i) with (30) and (31). Since all three examples have a thematic applied argument distinct from Psr-O, Psr-O presumably remains inside the possessive phrase (in the position of e_i).

(i)   *Tal   y-il-on   [te winik [te macha_i [la a-chon-be-n   [s-karro=e   e_i]]]]*
      came A3-saw-B1 DET man   DET who   CP A2-sell-APPL-B1 A3-car=ENC.

      'The man whose car you sold me came to see me.'   Tseltal {elic}

Relativization of possessors is also possible in other contexts where wh-movement in questions is blocked or constrained, e.g., Psr-OP and Psr-A (these restrictions are discussed in §6 and §7.1 below).

One possibility is that while wh-questions involve wh-movement in Tseltalan, relative clauses allow (or possibly require) resumption. Since pronouns are unpronounced in Tseltalan, the hypothesized resumptive would be inaudible. Such an asymmetry between relative clauses and questions would align with the attested pattern in other languages (see discussion and references in Boeckx (2003, §6.4), as well as Norcliffe (2009) on Yucatec and several other Mayan languages). If resumption is the right approach and does not involve probing for an Ā-feature, as suggested in McCloskey (2002), for example, then relativization of internal possessors would not be blocked by nominal opacity.

(the probe in that case is located on D^o, not C^o); nor does it prevent *A-Movement* of a DP possessor, as that movement is triggered by a D-probe on $Appl^0$ or T^o, not by a wh-probe on C^o (see below).

4.4 Conclusion

Although several Mayan languages have been assumed in previous work to allow Ā-subextraction of possessors ('left branch extraction'), we have suggested here that this is incorrect, and that apparent cases of Ā-subextraction actually involve two steps: first, externalization of the possessor to an A-position, followed by Ā-movement. §4.2 presented preliminary evidence from transitive clauses. §5 will argue that this is a plausible conclusion for intransitive clauses as well, and §6 that it is a necessary conclusion. If this is correct, then languages like Tsotsil and Tseltal are like many others which preclude Ā-subextraction of possessors.

5 Possessor as categorical subject

5.1 Introduction

If (3) is correct ('an extracted possessor in Tseltalan is always an external possessor'), then extraction of Psr-S_O (in an unaccusative clause) must proceed from an external position, just as extraction of Psr-O (in a transitive clause) does.[18] However, in Tseltalan, the applicative suffix (*-be*) attaches only to transitive stems, never to intransitive ones. Hence there is no intransitive applicative, at least none that can be identified via its morphology. Nonetheless, we will argue that Psr-S_O in examples like (34) (= (4)) is exracted from an external position.

(34) ***Mach'a**_i x-bajt [**s-karo**] t_i?*
       who   ICP-go A3-car

       'Who can provide a car?' (lit: who goes his car?)   Tenejapa Tseltal {text}

Examples like (34) have a particular interpretation, one in which the extracted possessor is interpreted as 'subject' of a predicate formed by V+possessum. We will propose here that this subject-predicate relation is syntactically instantiated, with the possessor 'subject' located outside the VP prior to wh-movement.

   Our focus here is on three unaccusative constructions, previewed in the following examples: PREDICATIVE POSSESSION (35), EXPERIENTIAL COLLOCATIONS (36), and ordinary lexical unaccusative clauses (37). The first two always involve a possessive S_O (in bold); the third can involve a possessive S_O.

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[18] We discuss extraction of Psr-A and Psr-S_A in §7.1.

(35) *Oy j-librotak.*
EXIS A1-books
'I had books'   Tsotsil (Laughlin, 1977, 174)

(36) *Kap-em   j-jol.*
mixed.up*intr*-PRF A1-head
'I am angry.' (lit: my head is mixed up)   Tsotsil {elic}

(37) *Ch'ay j-tak'in.*
lost*intr* A1-money
'I lost some (non-specific) money.'   Tenejapa Tseltal {elic}

In each case, the argument which determines agreement is the 3rd person possessive – none of the verbs in (35)-(37) carries a Set B marker, as expected if the agreement-determinng argument is 3rd person. However, in each case, the utterance is not 'about' the 3rd person possessive, but its 1st person possessor, with the verb+possessum denoting a property which is ascribed to the possessor.

The possessor in these examples corresponds closely to what has been variously termed *subject* (Chafe, 1976), *psychological subject* (Horn, 1989), *logical subject* (Aissen, 1999b), *topic* (Jäger, 2001) and *broad subject* (Doron and Heycock, 2010), all notions which disengage grammatical relations, as diagnosed by case or agreement, from (roughly) the entity that the sentence is about. Except for Chafe, these works all suggest that the relation in question should be identified with the *subject of a categorical judgment*, a notion due to the philosopher Franz Brentano (1924) and introduced into modern linguistics by Kuroda (1972) (see also Sasse 1987, Kuroda 1992, and Ladusaw 1994).

Brentano's theory recognized two 'judgment types': the *categorical* and the *thetic*. The categorical judgment consists of 'two separate acts, the act of recognition of that which is to be made the subject, and the other, the act of affirming or denying what is expressed by the predicate about the subject' (Kuroda, 1972, 154). The thetic judgment, on the other hand, consists in the simple apprehension of a situation, rather than the dual act involved in a categorical judgment. Existential sentences are often cited as constructions which express a thetic judgment.

We understand the 'perspectival center' of Partee and Borschev (2002); Borschev and Partee (2002) to refer to the same notion (or a closely related one) as categorical subject (though their discussions focus specifically on locative existential and locative predicational constructions). Partee and Borschev (2002) describes perspectival structure as 'basically a structuring of the situation at the model-theoretic level, a structure of the situation the sentence describes' (p.131), with the perspectival center being 'the participant chosen as the point of departure for structuring the situation' (Borschev and Partee, 2002, 124).
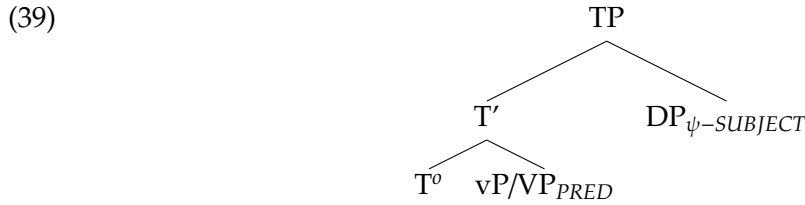
(38) (our example) illustrates different choice of categorical subject.

(38)   a. The horse's tail is long.

b. The horse has a long tail.

(38a,b) are truth-conditionally equivalent. But they represent a different structuring of the situation. In (38a), the point of departure is the horse's tail, in (38b), it is the horse. In both (38a,b), the categorical subject coincides with the grammatical subject, with the VP providing the predicate which is ascribed to the subject.

The idea that the relation between categorical subject and predicate is syntactically instantiated (at least in some languages) has been developed by Williams (1980); Rothstein (1983); Heycock (1993); den Dikken (2006), among others. We propose that Tsotsil and Tseltal are languages of this type and that the structure that instantiates it is the one shown in (39), where the phrase that occupies Spec,TP is interpreted as the subject of a categorical judgment and the complement of T^o as the predicate which applies to it.

(39)

$$\begin{array}{c} \text{TP} \\ \diagup \quad \diagdown \\ \text{T}' \qquad \text{DP}_{\psi-SUBJECT} \\ \diagup \ \diagdown \\ \text{T}^o \quad \text{vP/VP}_{PRED} \end{array}$$

For reasons discussed immediately below, the phrase which occupies Spec,TP will be a DP (or possibly a PP, see fn. 31). We consider the phrase which occupies Spec,TP to be the grammatical subject of the clause. Thus, in contrast to English, the grammatical subject in these languages is *always* interpreted as subject of a categorical judgment, what we will call going forward *ψ-subject* (alluding to *psychological subject*).[19]

Since nominal arguments are introduced within *v*P and VP, a DP which is interpreted as ψ-subject must raise to Spec,TP. We assume that this movement is triggered by an [EPP:D] feature on T^o. This feature probes for the closest DP in its domain, as determined by c-command, generally the external argument in a transitive or unergative clause, or the internal argument in an unaccusative clause. If no DP raises to Spec,TP, the result is interpreted as what Brentano calls a thetic judgment.[20,21]

As emphasized by Kuroda (1972); Horn (1989); Ladusaw (1994); Jäger (2001); Partee and Borschev (2002) and others, the subject of a clause which expresses a categorical judgment

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[19]See also Levy and Juárez Esteban (to appear) for a recent analysis of Tuxtla Totonac which is couched in very different terms, but which also positions the ψ-subject (termed 'theme' in that work) to the right of the predicate ('rheme'). The proposals of Guilfoyle et al. (1992) and Ramchand (1996) for rightside topic-like elements in Malagasy, Tagalog, and Scottish Gaelic are also related.

[20]This does not mean that a thetic clause contains no element which plays a role like that played by the ψ-subject in a categorical clause. It has often been suggested that thetic clauses contain a covert or overt element which plays that role, either an event argument or a spatiotemporal argument (Jäger 2001; Partee and Borschev 2002, a.o.).

[21]This raises the question whether the [EPP:D] feature on T^o is obligatory or optional. Not every clause contains a DP (see the existential in (40a), for example). Hence if the feature is obligatory, it must be 'fallible', i.e., failure to check the D feature will not cause the derivation to 'crash' (Preminger, 2014). The choice between

cannot be non-specific: in order for the mind of the judger to be directed to an individual, that individual must be presupposed to exist. Though the ψ-subject relation is usually associated with the highest core argument, this is not possible if that argument is non-specific. While the external argument (A, S_A) is generally specific or definite, the internal argument of an unaccusative clause (S_O) often is not, and this opens up the possibility that the DP possessor of a non-specific S_O might raise to Spec,TP and be interpreted as ψ-subject. Indeed, it has often been noted that the 'subject of predication' (i.e., ψ-subject) can be a possessor, especially Psr-S_O. This has been especially observed in a variety of constructions in which the possessor is externalized.[22]

Although various aspects of Tseltalan morphosyntax obscure it, we will argue that examples like (35)-(37) feature external possessors. We propose that these examples involve the bipartite syntactic structure in (39) and are derived by raising the possessor of a non-specific S_O to Spec,TP. Although Spec,TP is neither a case position nor a theta-position in Tseltalan, being internal to TP, it is an A-position and movement to Spec,TP is thus an instance of A-movement. If this is correct, then the possessor (qua grammatical subject) is accessible to wh-movement from a position outside the possessive, and examples like (34), with apparent stranding of the unaccusative possessum (likewise (2b) and many examples below) do not involve Ā-subextraction. Stranding is the result of A-movement, not Ā-movement.[23]

Our broader hypothesis is that the position which houses the ψ-subject, Spec,TP, plays a significant role in Tseltalan syntax. If so, this would challenge an alternative view of Mayan syntax which ascribes no function to this position, much less an important one.[24] In what follows, we fill in the details on the three constructions previewed at the start

an optional probe and an obligatory but fallible one depends on whether there are clauses which contain a DP accessible to T^o, but in which no DP raises to Spec,TP. This situation would be compatible with an optional [EPP:D] feature on T^o, but not with an obligatory, fallible one. Our overall analysis does not hinge on the status of the [EPP:D] feature on T^o as obligatory or optional, but since we are not aware of clear cases in which a clause which could be categorical remains thetic, we will assume here that it is obligatory and fallible (see also fn. 31).

[22]Examples include possessor topics in Tz'utujil (Mayan) (Aissen, 1999b), double nominative clauses in Japanese (Heycock and Doron, 2003), possessor raising in Chickasaw (Munro, 1999), dative (external) possessors in Hebrew (Heycock and Doron, 2003), and 'double unaccusative' structures in Sinitic languages Chappell (1999), all of which feature external possessors which are interpreted as ψ-subjects. An exception is Chung (2008). She observes that the possessor in Chamorro is frequently interpreted as subject of a categorical judgment (=ψ-subject), but she analyzes the possessor as internal, not external.

[23]This implies that an interrogative wh-expression can occupy Spec,TP and can be interpreted as the subject of a categorical judgment. While a wh-question does not itself express a judgment, it is generally assumed, since Hamblin (1973), that the denotation of a wh-question is the set of propositions which are possible (congruent) answers to that question. We propose then that when Spec,TP is filled by a wh-expression, each proposition in the denotation of the question will be interpreted as a categorical judgment, with the value that substitutes for the wh-expression (i.e., the focus) interpreted as the subject of that judgment.

[24]See, for example, Coon et al. (2021, 315):

> We note in closing that Mayan languages conspicuously lack processes associated [with] movement to T^o/Infl^0: there are no raising verbs, no evidence that unaccusative or passive subjects undergo A-movement, and in general no evidence for EPP-driven movement to Spec,TP.

of this section and provide evidence for the analysis sketched above. Our focus in this section is on evidence that the possessor is located outside the possessive phrase, for if the possessor is external, it can be extracted without appealing to Ā-subextraction. In §6, we turn to evidence that suggests it *must* be external to be extracted.

5.2 Predicative possession

In Tseltalan, predicative possession is based on the existential construction. Existential clauses are formed with an uninflected element (*oy* in Tsotsil, *ay* in Tseltal), which combines with a bare nominal phrase or a numeral phrase (usually headed by numeral+classifier), the 'pivot', and optionally a locative expression. The pivot in this construction is non-specific.

(40)   a. *Oy la jun vinik.*
          EXIS CL a   man
          'There was a man.'   Tsotsil (Laughlin, 1977, 59)

       b. *Ay chenek' ta oxom.*
          EXIS bean   P pot
          'There are beans in the pot.'   Oxchuc Tseltal (Polian, 2013, 623)

Oy and *ay* also occur in stage-level copula clauses, as in (41):[25]

(41)   a. *Lek xa oy-on.*
          good now EXIS-B1
          'I'm doing fine now.'   Tsotsil (Laughlin, 1977, 143)

       b. *Ay-at=bal ta kabilto   pajel?*
          EXIS-B2=Q P townhall tomorrow
          'Will you be at the townhall tomorrow?'   Oxchuc Tseltal (Polian, 2013, 631)

Regardless of construction, *oy* and *ay* never inflect for aspect. Further, although they inflect for φ-features of the subject in copula clauses (see 41a,b), they never show agreement with the pivot in the existential construction.

    Neither Tsotsil nor Tseltal has a lexical item corresponding directly to the English verb of possession *have*. Instead, predicative possession is based on the existential construction, but with a grammatically possessed pivot.

(42)   *Oy s-k'ox barko li kumpa   Lol=e.*
       EXIS A3-little boat DET compadre Bob=ENC
       'Compadre Bob had a little boat.'   Tsotsil (Laughlin 1980, 55)

Some analyses of Mayan do appeal to a Spec,TP position. One is the predicate fronting analysis of Coon (2010). Others are the analyses of Assmann et al. (2015), Erlewine (2016), and Douglas et al. (2017), all of which focus on Mayan agent focus constructions and make very different use of Spec,TP than what we are proposing here.

[25]We gloss *oy/ay* as EXIS in both existential and copula constructions.

The material that follows the existential *oy* in (42) (in bold-face) looks like a possessive phrase consisting of a possessum (*s-k'ox barko* 'his little boat') plus possessor (*li kumpa Lole* 'Compadre Bob'). The possessed noun obligatorily agrees with its possessor via the appropriate Set A marker (*s-* A3). (43), from Tseltal, illustrates the same construction, but with a 1st person possessor (unpronounced), indexed on the possessum by *j-* (A1).

(43) *May-uk   j-kerem.*
      NEG+EXIS-IRR A1-boy

      'I don't have a boy.'   Oxchuc Tseltal (Polian 2013, 627)

As in the English translations, the possessum in this construction is non-specific. In (43), for example, it has narrow scope with respect to negation. (43) means that the speaker has no boy, not that there is some boy that the speaker doesn't have. The possessive phrase itself therefore cannot be construed as ψ-subject. However, its possessor must be specific and therefore can raise to Spec,TP to satisfy the [**EPP:D**] feature on T^{o}and be interpreted as ψ-subject.[26]

Our proposal for the derivation of (42) is shown in (44), where the possessor raises to Spec,TP.

(44)   Predicative Possession
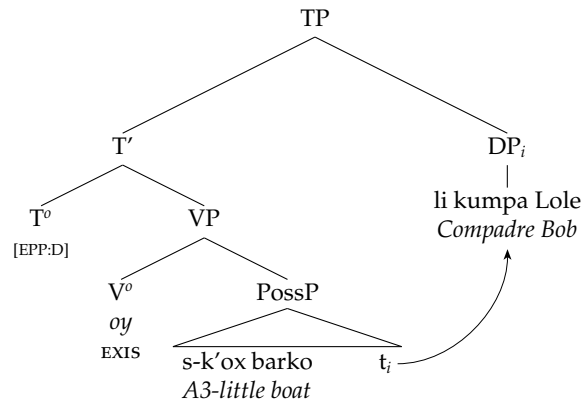
The fact that the possessor is indexed only on the possessum (by *s-* 'A3'), not on the predicative element (*oy*) indicates that it is licensed within PossP. T^o presumably licenses

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[26]Speakers judge sentences like (i), where the possessor is indefinite as understandable, but degraded.

i. *?? Ay   s-ts'i'   j-tul winik.*
     EXIS A3-dog 1-CLF man

    Intended: 'A man had a dog.'

Speakers comment that the intended interpretation should be expressed in two clauses: the first introduces the discourse referent corresponding to the man, the second attributes a property to him, i.e., *ay jtul winik, ay sts'i'*,'there was a man, he had a dog').

the possessive phrase itself, which, being 3rd person, results in no overt agreement. As the possessor is syntactically licensed within PossP, it raises not for case-related reasons, but to comply with the [EPP:D] feature on T^o.

Under the derivation shown in (44), the possessor and possessum fail to make up a surface constituent. Word order supports this, as the preferred word order in predicative possession positions a locative between possessum and possessor, as in (45a). (45a) is derived by raising the possessor past the locative (we assume that the locative is located to the right of the possessive; see §6 for details). Placing the locative after the possessor, (45b), is understandable, but degraded, presumably because the locative is too high. (Note that we will usually omit traces of A-movement in our examples.)

(45)   a. *Oy [s-na]   ta Jobel li   Xun=e.*
　　　　EXIS A3-house in SC   DET Juan=ENC

　　　　'Juan has a house in San Cristobal.'

　　　b. *?? Oy [s-na]   li   Xun ta Jobel=e.*
　　　　　EXIS A3-house DET Juan in SC=ENC

　　　　Intended: 'Juan has a house in San Cristobal.'　　　　　　　Tsotsil {elic}

If the entire possessive phrase follows the PP, as in (46), the phrase must be interpreted as definite.

(46)   *Te   oy   ta Jobel [s-na   li   Xun=e].*
　　　　there EXIS in SC   A3-house DET Juan=ENC

　　　　'Juan's house is in San Cristobal.'

　　　　not: 'Juan has a house in San Cristobal.'　　　　　　　　　Tsotsil {elic}

(46) ascribes a property to Juan's house, not to Juan. In this case, the entire possessive DP, *sna li Xune*, raises to Spec,TP and is interpreted as ψ-subject. (46) is an instance of the locative copula construction, not predicative possession.

'Across-the-board' effects also suggest that the possessor in predicative possession is externalized to a position outside VP. The sentence-final DP in (47), *ti vinik une* 'the man', is interpreted as possessor in each of the coordinated clauses.

(47)   *[Oy s-vix   t$_i$] [oy y-ixlel   t$_i$] ti vinik$_i$ un=e.*
　　　　EXIS A3-older.sis   EXIS A3-younger.sis   DET man   PAR=ENC

　　　　'The man has an older sister and a younger sister.'　　　Tsotsil {elic}

Examples like this involve no noticeable prosodic break between the coordinate structure and the right-edge DP, suggesting that this is not a case of right-dislocation, right-node raising, or an afterthought. We assume (47) is derived by across-the-board A-Movement of the possessor from a pair of coordinated VP's.

In sum, while the morphosyntax of these languages (case, agreement) does not provide an argument for raising of the possessor in predicative possession, word order does.

More broadly, we suggest that predicate possession always involves external possession. Depending on the language, this may be achieved in different ways. Myler (2016) suggests a family of analyses for predicate possession involving 'late merger', analyses in which the semantic argument corresponding to the possessor is not saturated within the possessive phrase, but at a later point in the derivation. Different points of merger result in different predicative possession constructions. In cases of 'late merger', the possessor is, by definition, located external to the possessive phrase.

But late merger is not the only way to generate an external possessor and Myler (2016, 195-6) identifies one scenario in which it is not appropriate. He notes that a possessor which is merged late has no direct *syntactic* relation to the possessive phrase, making this an inappropriate analysis for constructions in which there is obligatory agreement between possessor and possessum. As agreement between the two *is* obligatory in Tseltalan, we conclude that possessor externalization is derived by raising, not late merger.[27]

Returning to the options for possessor extraction: there is only one way to interrogate the possessor in predicative possession, namely, with stranding of the possessum, (48a). Pied piping is impossible, (48b). These judgments are very strong.

(48)   a. ***Much'u$_i$ oy   [x-chitom] t$_i$?***
       who   EXIS A3-pig
       'Who has a pig/pigs?'

       b. ****[Much'u x-chitom]$_i$ oy   t$_i$?***
       who   A3-pig   EXIS
       Intended: 'Who has a pig/pigs?'   Tsotsil {elic}

The same is true in Tseltal.

(49)   a. ***Mach'a$_i$ ay   [s-tak'in] t$_i$?***
       who   EXIS A3-money
       'Who has money?'

       b. ****[Mach'a s-tak'in]$_i$ ay   t$_i$?***
       who   A3-money EXIS
       Intended: 'Who has money?'   Tenejapa Tseltal {elic}

___

[27] Another possibility is that the 'possessor' merges directly into Spec,TP and enters into a binding relation ('control') with Psr-S$_O$. As one of our reviewers emphasized, a control analysis would resolve an asymmetry in our analysis, namely the fact that nominals are islands for Ā-movement, but not A-movement (recall 'nominal opacity' §4.3). We believe that a control analysis is compatible with the essential claims of this paper, but it poses some challenges. One is how the controller merged in Spec,TP would be syntactically licensed, as Spec,TP is neither a 'case' position nor a theta-position (§3.1). The other problem relates to locality: as we show in more detail in §6, the ψ-subject corresponds to the highest DP in the domain of T^o. This follows automatically under a movement analysis by virtue of Attract Closest (§3.1), but not from a control analysis. If these problems can be resolved, a Control analysis might be a viable alternative to Raising and would not alter our basic claim, (3), that an extracted possessor is always an external possessor.

Under our analysis, the possibility of stranding and the impossibility of pied piping are both consequences of the fact that the possessor obligatorily externalizes to Spec,TP in predicative possession. Stranding is possible because having externalized, the possessor is not subject to nominal opacity; pied piping is impossible because the possessor and possessum do not make up a constituent.[28] The key point going forward is that under the derivation proposed in (44), the stranding derivation does not involve Ā-subextraction, as the possessor is an external possessor, not an internal one.

5.3 Experiential collocations

Both Tsotsil and Tseltal have a class of idiomatic expressions which are based on possessive phrases. In these expressions, the possessor of a non-referential noun, often denoting a body-part, is interpreted as the experiencer of a physiological or psychological state or a physical capacity. Following Verhoeven (2007), who discusses this class of idioms in Yucatec Maya, we refer to them as EXPERIENTIAL COLLOCATIONS (see Matisoff (1986) for an early discussion on South East Asian languages, and Nuger (2016) on Palauan, a.o.). (50) illustrates with the expression *kap -jol* 'x becomes angry' (lit: x's head gets mixed up).

(50) a. *Kap-em   s-jol   li ants=e.*
        mixed.up-PRF A3-head DET woman=ENC

    'The woman is angry.' (lit: the woman's head is mixed up)

    b. *Kap-em   j-jol.*
        mixed.up-PRF A1-head

    'I am angry.' (lit: my head is mixed up)   Tsotsil {elic}

The verb *kap-* is intransitive; its theme argument is the possessive phrase headed by *s-jol/j-jol* 'her head/my head' in (50a,b). The possessor-experiencer is indexed on the possessum via Set A markers. Regardless of the person of the possessor, the possessive phrase is 3rd person and not overtly indexed. Note that the possessor-experiencer *cannot* be indexed on the verb, whether the noun is in its (unmarked) possessed form or a (marked) unpossessed form, (51).

(51) **Kap-em-on   j-jol   / jol-ol.*
        mixed.up-PRF-B1SG A1-head   head-NCLS

    Intended: 'I am angry.'   Tsotsil {elic}

Semantically, the verb+possessum forms a predicate which is applied to the individual denoted by the possessor. Some examples of intransitive experiential collocations from Tsotsil and Tseltal are listed in Table 3. The dash indicates an obligatorily possessed noun.

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[28]The ungrammaticality of (48b), (49b) does not, however, provide an independent argument for externalization of the possessor, since a non-specific possessive (PossP) could not be extracted with pied piping even if it were a constituent (see last paragraph of §3).

Tsotsil	*kap -jol*	'x becomes angry'	(lit. x's head gets mixed up)
	yul -ch'ulel	'x wakes up'	(lit. x's soul arrives here)
	och -vayel	'x falls asleep'	(lit. x's sleep enters)
Tseltal	*lijk -jol*	'x becomes angry'	(lit. x's head is lifted)
	a'yan -o'tan	'x worries'	(lit. x's heart speaks)
	jul -ch'ulel	'x wakes up'	(lit. x's soul arrives here)

Table 3: Some intransitive experiential collocations in Tsotsil and Tseltal

(52) shows the proposed derivation for (50a).

(52) Experiential collocation
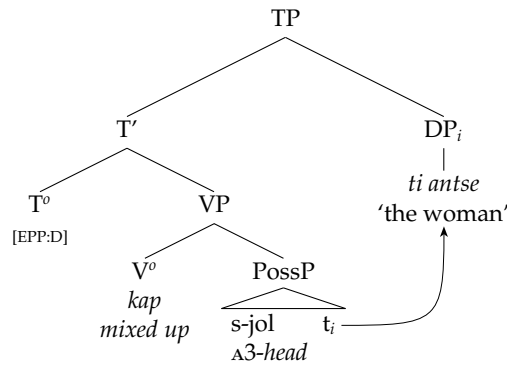
The PossP, being non-referential, is not a viable goal for the D-probe on T^o, but its possessor-experiencer is. The possessor raises to Spec,TP where it is interpreted as ψ-subject.[29]

Evidence that the possessor exits the possessive phrase comes again from word order: the most natural position for clausal modifiers is between the possessum and its possessor. (53) is a text example in which two such modifiers (in brackets) separate the possessum (*svayel*) and its possessor (*ti vinike*).

(53) *Mu nan x-'och   s-vayel [tajmek] [ta yochel   ak'ubal] ti vinik un=e.*
      NEG CL ICP-enter A3-sleep at.all   at its.entrance night   DET man PAR=ENC

      'Probably the man couldn't fall asleep at all when night came.'   Tsotsil (Laughlin, 1977, 49)

The experiencer-possessor is also high enough to be interpreted as such in each of a pair of coordinated experiential collocations.

(54) *Ja' nox [mu ch-[y]ul   x-ch'ulel t_i] [mu x-'ech'   s-vayel t_i] ti vinik un=e$_i$.*
      FOC only NEG ICP-arrive A3-soul   NEG ICP-pass A3-sleep   DET man PAR=ENC

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[29]We assume too that in order to be interpreted as thematic experiencer, the possessor must externalize and occupy a syntactic position outside the VP. In the case of unaccusative collocations, Spec,TP provides this external position. There are causative (transitive) versions of experiential collocations. In these, the possessor

'Only the husband wouldn't wake up, he was the only one who wouldn't wake up.'

Lit: the man's soul did not arrive, the man's sleep did not pass   Tsotsil (Laughlin, 1977, 49)

The possibilities for possessor extraction parallel those we saw in the previous section for predicative possession: the possessive can be stranded, (55a), but cannot be pied piped, (55b). Again the judgments are very strong.

(55) a. ***Much'u$_i$** kap-em*   *[**s-jol**]*   *t$_i$?*
          who   mix.up-PRF A3-head
          'Who is angry?'

     b. * *[**Much'u s-jol**]$_i$*   *kap-em*   *t$_i$?*
          who   A3-head mix.up-PRF
          Intended: 'Who is angry?'   Tsotsil {elic}

The analysis in (52) predicts the pattern in (55). Stranding is possible because an external possessor is not subject to nominal opacity; pied piping is impossible because the possessor does not form a constituent with the possessum.

Expressions which have both an idiomatic interpretation and a literal one provide minimal pairs for our overall analysis. An example is *yul -ch'ulel*, which is ambiguous between a literal interpretation, 'x's soul arrives', and an idiomatic one, 'x awakes'.

(56) *I-yul*   ***x-ch'ulel li**   *vinik=e.*
      CP-arrive A3-soul   DET man=ENC

      'The man awoke.' or 'The man's soul arrived.'   Tsotsil {elic}

Under the idiomatic interpretation, the possessor raises to Spec,TP, where it is interpreted as ψ-subject (and as experiencer). As expected, clausal modifiers may separate possessum and posssessor (57a), and the possessum can be stranded under wh-movement (57b).

(57) a. *I-yul*   *[**x-ch'ulel**] ta ak'ubaltik [**ti** vinik=e].*
          CP-arrive A3-soul   P night   DET man=ENC
          Only: 'The man woke up in the night.' (not '. . . soul arrived . . . ')

     b. ***Much'u$_i$** i-yul   *[**x-ch'ulel**] ta ak'ubaltik t$_i$?*
          who   CP-arrive A3-soul   P night
          Only: 'Who woke up in the night?'   Tsotsil {elic}
          Not: 'Whose soul arrived in the night.'

Under the literal interpretation, the clause is not an experiential collocation and the possessor does not exit the possessive phrase. The possessive phrase, being specific and hence a

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externalizes to Spec,ApplP. See fn. 34 for an example.

DP, raises to Spec,TP and is interpreted as ψ-subject. The most natural position for clausal modifiers is between the verb and the DP possessive phrase, (58a), and the only way to question the possessor is by pied piping, (58b).

(58) a. *I-yul   ta ak'ubaltik [x-ch'ulel ti   vinik=e]$_i$.*
          CP-arrive P night   A3-soul   DET man=ENC
          Only: 'The man's soul arrived in the night.' (not '. . . woke up . . .')

     b. *[Much'u x-ch'ulel]$_i$ i-yul   ta ak'ubaltik t$_i$?*
          who   A3-soul   CP-arrive P night
          Only: 'Whose soul arrived in the night?'   Tsotsil {elic}
          Not: 'Who woke up?'

In sum, the properties of experiential collocations receive a natural and plausible account if the possessor raises to the canonical subject position, Spec,TP, and is interpreted as ψ-subject (and experiencer). But if that analysis is correct, the possessor in examples like (55a) and (57b) extracts as an external possessor, not an internal one, and stranding does not involve Ā-subextraction.

5.4 Lexical unaccusatives

With this as background, we turn now to lexical unaccusatives. Consider first examples like (59), an intransitive (unaccusative) clause with a possessive as internal argument. The possessum can be interpreted either as definite or as indefinite and non-specific.

(59) *Ch'ay s-tak'in   te x-Mal=e.*
       lost$_{intr}$ A3-money DET CLF-Maria=ENC
       [i] 'Maria's money was lost.'
       [ii] 'Maria lost some (non-specific) money.'   Tenejapa Tseltal {elic}

The definite reading [i] arises in a context where Maria's money is already in the common ground. For example, if A knows that Maria inherited some money from her father and asks B why she has not paid off a debt to her brother-in-law, B's response can be conveyed in (59). The non-specific interpretation, [ii], would be the natural one in a context where the existence of Maria's money is not presupposed. Thus, (59) would also be an appropriate response if A, observing Maria looking perturbed and searching for something in her house, asks B why she is perturbed. Although the non-specific interpretation [ii] is translated in English by a transitive clause ('Maria lost some money'), the Tseltal is intransitive under both interpretations. This is clear from the absence of Set A agreement on the verb.

Given the discussion of the previous two sections, our analysis of (59) under each reading will come as no surprise. Under both readings, the entire possessive phrase is the internal argument. In reading [i], that phrase is specific and being the highest DP in the

domain of T^o, it raises to satisfy the [EPP:D] feature on T^o and is interpreted as ψ-subject. Under the interpretation in [ii], the possessive phrase is non-specific, hence not a DP. T^o passes over it, still probing for a DP in its domain. While the DP possessor is not the highest *nominal* in the domain of T^o, it is the highest *DP*, Thus it raises and is interpreted appropriately.

Adding an adverbial expression disambiguates (59). In (60), where the entire possessive follows the adverb, the possessum is interpreted as definite. Little (2020b) made the analogous observation for Ch'ol.

(60) *Ch'ay <u>ajk'ube</u>   s-tak'in   te x-Mal=e.*
      lost$_{intr}$ yesterday A3-money DET CLF-Maria=ENC

      'Maria's money was lost yesterday.'   Tenejapa Tseltal {elic}

(60) is appropriate only in the context described above for the definite interpretation of (59). The order in (60) follows if the adverbial phrase adjoins to VP and the entire possesssive phrase raises to Spec,TP.

On the other hand, the non-specific reading can be compelled in Tsotsil and Tseltal by placing the adverbial between the possessum and possessor.[30]

(61) *Ch'ay s-tak'in   <u>ajk'ube</u>   te x-Mal=e.*
      lost$_{intr}$ A3-money yesterday DET CLF-Maria=ENC

      'Maria lost some money yesterday.'   Tenejapa Tseltal {elic}

In (61), the possessor alone raises to Spec,TP, passing over the adjoined adverbial. The possessum remains in the VP.

As expected, the possessor can be interrogated either by extracting the possessor alone or with pied piping. The two readings correspond to the two interpretations of (59): under pied piping, the question is about some specific money which is known to have been lost, asking whose money that was; under stranding, the question asks who lost some (non-specific) money.

(62) a. *[Mach'a s-tak'in]$_i$ ch'ay   t$_i$?*
          who   A3-money lost$_{intr}$

          'Whose money was lost?'

      b. *Mach'a$_i$ ch'ay   [s-tak'in] t$_i$?*
          who   lost$_{intr}$ A3-money

          'Who lost some money?'   Tenejapa Tseltal {elic}

In either case, the fronted interrogative phrase passes through the canonical subject position, Spec,TP, and is interpreted as ψ-subject.

Thus while only the possessor can raise to Spec,TP in predicative possession and experiential collocations and be interpreted as ψ-subject, lexical unaccusatives are more

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[30]We do not know whether examples like (61) are possible in Ch'ol. They are not discussed in Little (2020a,b).

flexible. Depending on the discourse context, either the internal argument or its possessor can raise to Spec,TP, with the expected interpretive consequences.

5.5 Conclusion

We have had two goals in this section. One has been to show that stranding of a possessive internal argument in unaccusative clauses is associated not only with a particular interpretation of the possessive (as non-specific), but also with a particular interpretation of the possessor (as ψ-subject). In this, we are buttressing Polian's original description of the conditions on stranding and pied piping, conditions which reference both specificity and 'aboutness' (§1). The other has been to provide evidence from word order that a *non-wh* possessor interpreted as ψ-subject occupies (or can occupy) the canonical subject position, Spec,TP, and is thereby external to the possessive phrase, not internal. Taken together, the two claims suggest that in at least some cases, a possessor which extracts does so from an external position, not an internal one. Strictly speaking, we have not shown that Ā-subextraction is impossible, but that there *are* derivations for possessor extraction which involve external possessors. In the following section, we argue from the pattern of intervention effects that a possessor which extracts *always* does so from an external A-position.

6 Intervention effects

We have proposed here that any possessor which extracts (alone) is an external possessor and, further, that the only positions for external possessors are Spec,ApplP and Spec,TP. A corollary is that a possessor which cannot reach one of these positions cannot extract. A possessor might be prevented from reaching one of these positions because the position is already occupied. We showed in §4.2 that when Spec,ApplP is filled by a thematic applied argument, Psr-O cannot extract, (30)-(31).

A possessor might also be prevented from reaching an external position because there is a distinct DP which is closer to the probe. Attract Closest will then stop the search for a goal at the intervening DP, preventing a lower possessor from raising. We will argue in this section that a 'closer DP' is responsible for blocking movement of a possessor to Spec,TP in various contexts, thereby indirectly blocking possessor extraction. We focus here on possessors which originate in PP, i.e., possessor of object of preposition (Psr-OP). The reason is that PP's generally occur with co-arguments, and thus provide contexts in which a possessor could compete for raising with a distinct argument.

6.1 PP islands

Consider first (63) and (64), each of which contains an external argument and a locative PP ((63) is transitive; (64) is unergative).

(63) *Ch-av-ikta   komel a-bolsa [ta **s-na**   li   **Xun=e**]*ₚₚ.
     ICP-A2-leave DIR   A2-bag P   A3-house DET Juan=ENC
     'You'll leave your bag at Juan's house.'   Tsotsil {elic}

(64) *Ya x-'a'tej-at   [ta **s-nah**   te   **j-Xun=e**]*ₚₚ.
     ICP ICP-work-B2 P   A3-house DET M-Juan=ENC
     'You are working at Juan's house.'   Petalcingo Tseltal {elic}

The possessor within the PP (Psr-OP) can be extracted with pied piping, (65), (66):

(65) *[**Much'u** ta **s-na**]*ₚₚ   *ch-av-ikta   komel a-bolsa tₚₚ?*
     who   P A3-house ICP-A2-leave DIR   A2-bag
     'At whose house will you leave your bag?'   Tsotsil (cf. Aissen 1996, 470)

(66) *[**Mach'a** (ta) **s-nah**]*ₚₚ *ya x-'a'tej-at   tₚₚ?*
     who   P   A3-house ICP ICP-work-B2
     'In whose house do you work?'   Petalcingo Tseltal {elic}

But it cannot extract by itself, stranding the possessum within the PP:

(67) ****Much'u**ᵢ*'* *ch-av-ikta   komel a-bolsa [ta **s-na**   tᵢ]*ₚₚ?
     who   ICP-A2-leave DIR   A2-bag P   A3-house
     Intended: 'At whose house will you leave your bag?' Tsotsil (cf. Aissen 1996, 469)

(68) ****Mach'a**ᵢ ya x-'a'tej-at   [ta **s-nah**   tᵢ]*ₚₚ?
     who   ICP ICP-work-B2 P   A3-house
     Intended: 'Whose house do you work in?/Who has a house that you work in?'
     Petalcingo Tseltal {elic}

To account for (67) (and other examples), Aissen (1996) proposed that PP's in Tsotsil are always islands. In connection with analogous facts in Ch'ol, Coon (2013), and Little (2020b) have suggested that PP's in Ch'ol are always adjuncts, hence adjunct islands (Huang, 1982). While some PP's probably are adjuncts, it is not obvious that this is the case in (63), since *ikta* 'leave x in a place/situation' entails a location/situation and often occurs with an overt locative phrase. Under the assumptions of this paper, though, the islandhood of PP's, whatever their status, follows directly from nominal opacity (33), since PP is part of the extended projection of NP.

The situation is complicated though by the fact that a possessor which originates in PP can be extracted in some cases. Further, the conditions which allow this depend more on

the presence or absence of certain co-arguments than on the status of the PP as argument or adjunct. For example, while speakers soundly reject (68), (69) is much better. The PP has the same status in the two examples – it is either an adjunct or an argument. What distinguishes them is the specificity of the external argument: it is specific in (68) and non-specific in (69).

(69) ***Mach'a**$_i$ x-'a'tej   alaletik   ta **s-nah**   t$_i$?*
    who   ICP-work children P   A3-house

    'Who has a house that children (habitually) work in?'

    (lit: who$_i$ works children in their$_i$ house?)   Petalcingo Tseltal {elic}

We propose then that (67)-(68) are ungrammatical not because PP's are islands for Ā-movement (they are), but because the possessor cannot externalize to an A-position, a necessary first-step if the possessor is to be extracted. Although there is a higher A-position in (67)-(68) (namely, Spec,TP), movement of the possessor to that position is blocked by the external argument (the 2nd person pronoun), which is is closer to T^o and hence intervenes. The possessor remains within the PP and Ā-subextraction is blocked by nominal opacity, (33). (69) is possible because the external argument, being non-specific, does not stop the probe on T^o from searching further for a DP. The DP possessor is, then, the closest goal to T^o. It raises to Spec,TP and can extract from there without violating (33).

The sensitivity of possessor extraction to the presence of a c-commanding DP in an A-position is expected if a possessor which extracts must first move to a nominal-external A-position. If that step of the derivation fails, then eventual Ā-movement of the possessor will also fail. This is the crux of our argument that possessor extraction in Tseltalan does not involve Ā-subextraction. If it did, it is unclear why the presence of a DP argument in an *A-position* would block *Ā-movement* of a lower DP possessor (Relativized Minimality, Rizzi 1990).

This last assertion may seem unwarranted, given the analysis that Coon et al. (2021) propose for the general prohibition on 'ergative' extraction found in some Mayan languages. For these languages, the proposal is that O (if a DP) raises above A and, *qua DP*, blocks wh-movement of A. Formally, this is achieved by bundling a D-probe with a wh-probe on C^o. More generally, their proposal entails that any DP which intervenes between a wh-phrase and a wh-probe on C^o will block wh-movement of the wh-phrase (see their paper for details and implementation). However, this proposal was not intended for languages like Tsotsil and Tseltal, which do not constrain ergative extraction. A's extract freely (Aissen 1999a, Polian 2013, 272) so presumably O's remain low in these languages. Further, although an A will therefore structurally intervene between a lower wh-phrase (an O, for example) and a higher wh-probe on C^o, A does not block extraction of O. The ambiguity of (70), a basic and typical example, makes both points. Reading [i] shows that O does not block extraction of A (evidence that these are not languages which constrain ergative extraction); and reading [ii] shows that A does not block extraction of O (evidence that intervening DP's do not, in general, block wh-movement).

(70) *Buch'i i-s-mil   li   Xun=e?*
      who   CP-A3-kill DET Juan=ENC

i. 'Who killed Juan?'

ii. 'Who did Juan kill?'   Tsotsil (Haviland 1981, 272)

The fact that an intervening DP appears to block Ā-movement of a *possessor* in Tseltalan cannot then be assimilated to a more general pattern of intervention effects. In our account, both readings of (70) are possible because the goal (the wh-expression) is visible to the wh-probe on C^o. Hence the presence of an intervening DP in an A-position is irrelevant to Ā-movement (Rizzi, 1990). An internal possessor though is invisible to a wh-probe on C^o (by nominal opacity) and must move first to an A-position to become visible. If the A-Movement step is blocked by an intervening DP in an A-position, then the subsequent Ā-movement step will also be impossible.

In the following section, we discuss several further constructions and show that possessor extraction is blocked if the possessor cannot first reach an A-position. Again, an analysis of possessor extraction in terms of Ā-subextraction sheds no light on this restriction.

6.2   Possessor raising from PP

In this section, we consider several constructions which lack an external argument, but contain two arguments, generally a Theme and a Locative, where the Theme is NP or DP and the Locative is PP. Our focus is on the possibility of extracting the possessor from the PP, i.e., on extracting Psr-OP. Each of these constructions raises questions of analysis, but the main issue for us is the structural relation between the two arguments, i.e., whether either c-commands the other. We will assume that the Locative is merged before the Theme and is therefore in a lower position in VP. This configuration reflects the assumption in many versions of the thematic hierarchy that Theme ≫ Locative (or Figure ≫ Ground) (Fillmore 1971; Givón 1984; Bresnan and Kanerva 1989; Jackendoff 1990; Baker 1997, a.o.).

(71)
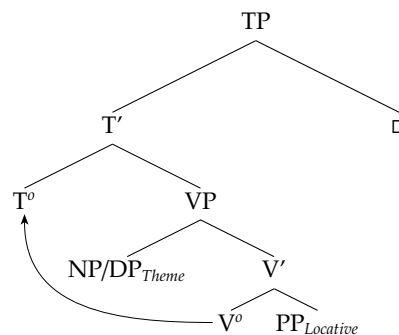
The canonical surface order associated with this structure is V-NP-PP, when the theme is non-specific, (72), and V-PP-DP, when the theme is specific, (73).

(72) *Och* [*k'ak'al tak'in*]$_{NP}$ [*ta j-chak=e*]$_{PP}$.
CP.enter hot   metal   P   A1-ass=ENC

'A red hot metal went up my ass.'   Tsotsil (Laughlin, 1977, 160)

(73) *I-'och* [*ta yut*   *vo'*]$_{PP}$ [*li*   *unen kaxlan ts'i'=e*]$_{DP}$.
CP-enter P   inside water DET small foreign dog=ENC

'The little terrier went into the water.'   Tsotsil (Laughlin, 1977, 143)

In both cases, the verb raises to T^o, yielding V-initial order; in (73), the DP theme raises to Spec,TP, placing it after PP. Note that the Theme argument c-commands the Locative. Therefore, we expect results like those we saw in transitive and unergative clauses: extraction of Psr-OP should be blocked if the Theme is specific, but not if it is non-specific. We consider this prediction in the following sections.

6.2.1   Path verbs

Both Tsotsil and Tseltal have a set of verbs which lexicalize motion+path. They translate English verbs like 'enter, exit, come, go, ascend, descend', etc. However, these verbs are all intransitive in Tseltalan and they combine with a PP which expresses the ground along which the figure moves. We assume that they occur in the structure in (71).

(74) *Och*   *wakax **ta s-na***   *te*   *j-Xun=e*.
CP.enter cow   in A3-HOUSE DET M-Juan=ENC

'A cow entered Juan's house.' ~ 'Juan had a cow enter his house.' Tenejapa Tseltal {elic}

As in (68)-(69), extraction of Psr-OP depends on the specificity of the internal argument (S$_O$). Speakers accept examples in which S$_O$ is non-specific, but reject ones in which it is specific.

(75)   a. ***Mach'a**$_i$ och*   *wakax* [***ta s-na***]$_{PP}$ *t$_i$?*
who   CP.enter cow   P   A3-house

'Who had a cow enter his house?' (lit. who entered a cow to his house?)

  b. ****Mach'a**$_i$ och-at*   [***ta s-na***   *t$_i$*]$_{PP}$?*
who   CP.enter-B2SG P   A3-house

Intended: 'Whose house did you enter?'~'Who had a house that you entered?' Tenejapa Tseltal {elic}

This contrast follows from the structure in (71). In order to be extracted, the wh-possessor in PP must raise first to Spec,TP. This is possible only if the c-commanding theme is not a DP. The theme in (75a), *wakax* 'cow' is non-specific, hence not a DP. The D probe on T^o passes by the theme, continues searching, and locates the wh-possessor as a viable goal. The possessor raises to Spec,TP, where it is visible to a wh-probe on C^o. In (75b), the theme

is the 2nd person pronoun, hence a DP. Once the probe locates it, the search ends. The theme raises to Spec,TP, leaving the possessor inside the possessive phrase and invisible to a wh-probe on C^o.

6.2.2 Locative existential and copula constructions

Locative existential and locative copula constructions are minimally different in Tseltalan as they involve the same predicative element, *ay* (Tseltal) or *oy* (Tsotsil), and differ only in the specificity of the theme argument. Polian (2013) cites the examples in (76).

(76)   a.   Locative existential

    Ay   [chenek']$_{NP}$ [ta oxom]$_{PP}$.
    EXIS bean   P   pot

    'There are beans in the pot.'

   b.   Locative copula

    Ay   [ta oxom]$_{PP}$ [te   chenek'=e]$_{DP}$.
    EXIS P   pot   DET bean=ENC

    'The beans are in the pot.'   Oxchuc Tseltal (Polian 2013, 628)

Following Freeze (1992), Polian proposes that both constructions are based on the same structure. We will assume this as well and take that structure to be identical (or isomorphic) to (71) where the theme NP/DP c-commands the locative PP. The difference is that in the existential construction, the theme is non-specific, hence NP, while in the copula construction, it is specific, hence DP. Note that the theme precedes the locative in (76a), but follows it in (76b). This difference follows from our analysis: a DP theme obligatorily raises rightwards to Spec,TP, while an NP theme remains *in situ*. In either case, though, the theme argument determines agreement and is overtly indexed on T^o if 1st or 2nd person (see (41)).

    When the locative PP contains a possessive, the two constructions behave differently with respect to extraction of Psr-OP. It is possible in the existential locative construction.

(77)   a.   *Oy ixim **ta s-na**   li   Xun=e.*
    EXIS corn P   A3-house DET Juan=ENC
    'Juan has corn in his house.'

   b.   ***Much'u**$_i$ oy   ixim [ta **s-na**]   t$_i$?*
    who   EXIS corn P   A3-house
    'Who has corn in his/her house?'
    '¿Quién tiene maíz en su casa?'   Tsotsil (Haviland, 1981, 58-59)

In (77a), the closest DP to the D-probe on T^o is the possessor, as the theme (*ixim* 'corn') is

non-specific. The possessor raises to Spec,TP where, if it is a wh-expression, as in (77b), it is visible to the wh-probe on C^o.[31]

While locative *existentials* (with non-specific Theme) permit extraction of Psr-OP, locative copula clauses (with specific Theme) do not, (78a,b). Speakers soundly reject examples like (78a,b).

(78) a. ***Mach'a**ᵢ ay-at [**ta s-nah**   tᵢ]?*
     who   EXIS-B2 P   A3-house
     Intended: 'Whose house are you in?'   Petalcingo Tseltal {elic}

   b ***Much'u**ᵢ oy-ot   [**ta s-na**   tᵢ]?*
     who   EXIS-B2 P   A3-house
     Intended: 'Whose house are you in?'   Tsotsil {elic}

This is expected if the DP Theme c-commands the PP locative, as in (71): once T^o reaches the DP Theme, it ceases to probe further. As a consequence, a wh-possessor within the PP predicate has no way to extract, except with pied piping: it cannot extract as an external possessor, since the intervening DP theme prevents it from raising to Spec,TP. Nor can it extract as an internal possesor, due to nominal opacity.[32]

6.2.3 Experiential collocations

In §5.3, we discussed experiential collocations with a single semantic argument – the experiencer. In that case, the experiencer is introduced as possessor of the internal argument. There are also experiential collocations with two arguments – an experiencer and a theme. The theme determines agreement on the verb (Set B) and the experiencer is introduced in a PP whose object is the experiential PossP. (79), from Tseltal, involves the collocation *k'ux ta -o'tan* 'x loves/esteems y' (lit: y is painful in x's heart). (80) from Tsotsil, involves the collocation *yul ta -jol*, 'x remembers y' (lit: y arrives in x's head).

(79) *K'ux-at   **ta k-o'tan**.*
    painful-B2 P   A1-heart

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[31]There is a second interpretation for (77a) in which *li Xune* 'Juan' simply modifies 'house', i.e., 'There is corn in Juan's house.' In this case, the possessor presumably does not raise to Spec,TP, as it is not intpreted as ψ-subject. This interpretation bears on the question whether the [EPP:D] feature on T^o is optional, or obligatory and fallible, for the clause contains a DP but that DP does not appear to have raised to Spec,TP. Space permitting, we would argue that under this interpretation, Spec,TP *is* filled, not with the possessor *li Xune*, but with the entire locative PP *ta sna li Xune* 'in Juan's house', a PP which is interpreted as definite (cf. other proposals that the locative PP in an existential clause can function as categorical subject (or equivalent), for example, Jäger (2001); Borschev and Partee (2002); Partee and Borschev (2002); Ojea (2019)). We would also argue that when a locative PP in Tseltalan is interpreted as specific (or definite), it carries a D feature, as proposed in Coon et al. (2021, 291) for Ch'ol. If so, examples like (77a), under this second interpretation, are compatible with our assumption that that the [EPP:D] feature on T^o is obligatory and fallible, and that it is satisfied in locative existentials by raising the locative PP to Spec,TP.

[32]Versions of (78a,b) with pied piping are grammatical in both languages.

'I love you, I esteem you.'

(lit: you are painful in my heart)   Cancuc Tseltal (Polian 2020)

(80)   *I-yul*   **_ta j-jol_**   *(ta) s-man-el*   *kantela.*
      CP-arrive$_{intr}$ P   A1-head P   A3-buy-NMLZ candle

'I remembered to buy candles.'

(lit: it arrived to my head to buy candles)   Tsotsil, {elic}

Note that in (79), the theme is 2nd person and is indexed on the verb by Set B. By assumption, it is is licensed by T^o. Assuming for the moment that the theme and experiencer occupy the same positions as theme and locative in (71) (i.e., with theme c-commanding experiencer), we expect the experiencer to raise to Spec,TP when the theme is non-specific (*nP* or NP) but not when it is specific (DP). In the latter case, the DP theme would be closer to T^o and Attract Closest would prevent the experiencer from raising. The prediction then would be that the experiencer is not extractable when the theme is specific (DP). However, this is incorrect. The experiencer can extract (alone) regardless of the properties of the theme.[33]

(81)   **_Mach'u_**$_i$ *k'ux-at*   *[**ta y-o'tan**]$_{PP}$ t$_i$?*
      who   painful-B2 P   A3-heart

'Who loves you?'

(lit: who are you painful in their heart)   Tseltal {elic}

(82)   **_Much'u_**$_i$ *i-yul*   *[**ta s-jol**]$_{PP}$*   *t$_i$ [(ta) s-man-el*   *kantela]?*
      who   CP-arrive P   A3-head   P   A3-buy-NMLZ candle

'Who remembered to buy candles?'

(lit: who did it arrive to their head to buy candles)   Tsotsil {elic}

     The reason that these cases behave differently from those involving a locative PP is due, presumably, to the distinction between locatives and experiencers. Experiencers are generally assumed to be higher than themes on the thematic hierarchy (Fillmore 1971; Givón 1984; Bresnan and Kanerva 1989; Grimshaw 1990, a.o.) and to c-command the theme at some point in the derivation (Belletti and Rizzi 1988; Pesetsky 1995, a.o.).

     We suggest then that the argument structure of unaccusative experiential collocations differs from that of unaccusative locative constructions, with the PP that introduces the experiencer higher than the theme argument. I.e., the positions of the two arguments in (71) are switched. Although the possessive phrase (e.g., x's heart, x's head) is not itself the experiencer, it contains the experiencer and bears a meronymic (part-whole) relation to it. There is then no c-command relation between the possessor-experiencer (which is embedded in PP) and the theme (both circled in (83)). As far as the syntax

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[33]Versions of these examples with pied piping are completely ungrammatical.

is concerned, either should be a potential goal for the [**EPP:D**] probe on T^o. However, if the possessor must externalize to be interpreted as experiencer (see fn.29), then the experiential interpretation requires that the experiencer raise to Spec,TP.[34]

(83)   Structure of (81) = 'Who loves you?' before wh-movement.
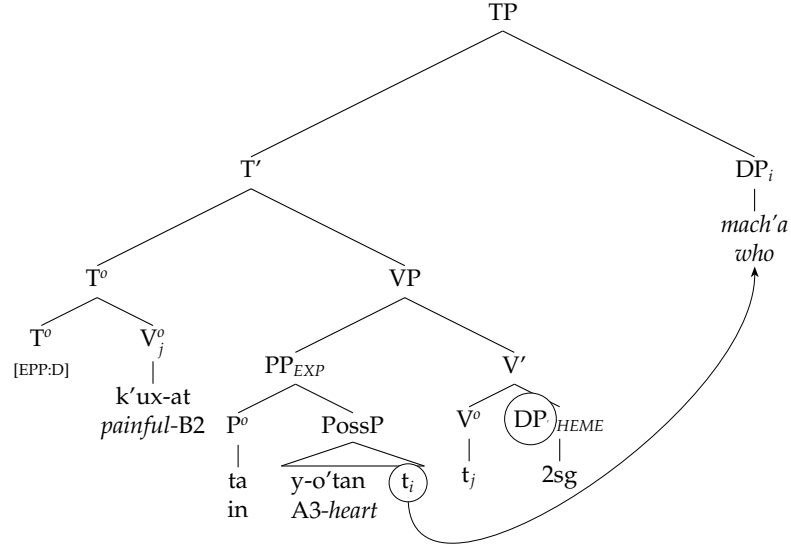
6.3   Summary and Conclusions

We have shown for a range of constructions that a possessor cannot undergo Ā-movement if a DP in an A-position intervenes between it and the higher wh-probe. We have attributed this to the fact that a possessor must move to an A-position in order to be visible to a wh-probe on C^o. If it cannot reach an A-position because that position is occupied or because a DP intervenes, then the possessor cannot extract. The data are summarized in Table 4. Intervention effects are found in all basic clause types (Column III), and with probe-goal relations involving D on both T^o and $Appl^0$ as probes (Column I), and possessors of S_O, O, and OP as goals (Column IV). In §7.1, we will discuss extraction of Psr-A and Psr-S_A.

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[34]A reviewer asked whether, in transitive clauses, Psr-OP can raise to Spec,ApplP. Causative versions of experiential collocations show that this is possible. (i) involves the collocation *yulesbe ta -jol* 'remind x of/to do y' (lit: return y to x's head).

(i)   *L-i-s-yules-b-on   ta j-jol   (ta) s-man-el   kantela.*
      CP-B1-A3-return$_{tr}$-APPL-B1 P A1-head P   A3-buy- NMLZ candle

      'S/he reminded me to buy candles.'   Tsotsil {elic}

      (lit: s/he returned it to my head to buy candles)

The applicative object is the 1st person pronoun (indexed by Set B on the verb), raised from the prepositional object, *j-jol* 'my head'.

I Probe	II A-Intervener	III Clause Type	IV Intended Goal	V Ā-movement?	VI Example
T^o_D	none	unaccusative	Psr-S_O	yes	(2b, 4Q, 48a, 49a, 55a, 62b); Ch'ol (20b)
T^o_D	none	unaccusative experiential	Psr-OP (exp)	yes	(81, 82)
T^o_D	none	locative existential	Psr-OP (loc)	yes	(77b)
T^o_D	A	transitive	Psr-O	no	(23b, 25); Ch'ol (26a)
T^o_D	A	transitive	Psr-OP (loc)	no	(67)
T^o_D	S_A	unergative	Psr-OP (loc)	yes/no	(69)/(68)
T^o_D	S_O (theme)	unaccusative	Psr-OP (loc)	yes/no	(75a)(/75b); Ch'ol (Little 2020b, ex.32b)
T^o_D	S_O (theme)	locative copula	Psr-OP (loc)	no	(78a,b)
$Appl^0_D$	none	ditransitive (raising appl)	Psr-O	yes	(27, 28b); Ch'ol (26b)
$Appl^0_D$	Goal	ditransitive (thematic appl)	Psr-O	no	(30, 31)

Table 4: Intervention effects in possessor extraction

Intervention effects are crucial to our argument that possessor extraction in Tseltalan does not involve Ā-extraction of an internal possessor (Ā-subextraction). If it did, it is unclear why the presence of a intervening DP in an A-position would matter to Ā-movement, given that Ā-movement is not otherwise blocked by such a DP.

7 Further issues

Here we briefly address two issues which are related to our analysis: our approach to the difficulty associated with extracting the possessor of an external argument (§7.1), and the relation in Tseltalan between subjects and 'topics' (§7.2).

7.1 Stranding of external argument

The perspective developed above provides a different way of looking at restrictions on 'stranding' which have been attributed to grammatical function or structural position. The basic generalization that has emerged from earlier work on both Tsotsil and Ch'ol is that

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[35]This pattern has been documented in full for other languages, e.g., for possessor extraction in Italian (Longobardi, 1991) and for the *was für* construction in German (Jurka, 2013). The distinction between extraction

while stranding is possible for (possessive) S_O's, it is variable for S_A's, and most difficult for A's (Aissen 1996, 461; Little 2020b, 12).[35]

As an example, consider the transitive declarative in (84), with a possessive A.

(84) *I-y-elk'an chij **x-ch'amal li**   **Xun=e**.*
      CP-A3-she teal sheep   A3-son.of.male DET   Juan=ENC

      'Juan's child stole sheep.'   Tsotsil

Tsotsil consultants accept extraction with pied piping, (85a), but not with stranding, (85b).

(85) a. *[**Much'u x-ch'amal**]$_i$ i-y-elk'an   chij   t$_i$?*
          who   A3-child.of.male CP-A3-steal sheep

          'Whose child stole sheep?'

      b. * ***Much'u***$_i$ *i-y-elk'an   chij   **x-ch'amal**   t$_i$?*
          who   CP-A3-steal sheep A3-child.of.male

          Intended: 'Whose child stole sheep?'   Tsotsil (Aissen 1996, 640)

Coon (2009, 166) reported the same for the Tila dialect of Ch'ol.

It is is not clear though that possessor extraction from A's is categorically excluded in these languages. Little (2020a,b) reports that judgments on analogous examples in the Tumbalá dialect of Ch'ol are subject to variation, rejected by some speakers, but accepted by others, and Polian (2013, 231) documents a Tseltal example which speakers accept.

Since earlier work assumed that stranding was the result of Ā-subextraction, it appealed to constraints on Ā-extraction to explain these patterns. Aissen (1996) and Little (2020a,b) both take the structural position of the possessive phrase to be the key factor. Glossing over differences in implementation, they propose that Ā-subextraction is possible from complements, but blocked or dispreferred from specifiers. However, an account which blocks or penalizes extraction from specifiers does not have a clear way to account for the variation in judgments nor, especially, for the distinction between extraction from A's and from S_A's, as the two relations are assumed to occupy the same structural position.[36]

An approach based on the specificity of the possessum, rather than its syntactic position, offers a different perspective. Basically, the variation reported in extraction of the possessor from an external argument reduces to the likelihood of two conditions holding. The first is that the external argument be non-specific (i.e., PossP rather than DP). Only if it is non-specific, will its possessor have access to Spec,TP. In this connection, as Polian (2013) points out, we know that external arguments (A, S_A) in Mayan overwhelmingly reference

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from transitive subjects and unaccusative subjects has been documented in Hungarian (Surányi and Turi, 2018).

[36]To the extent that extraction from S_A's is better than from A's, the situation is particularly problematic in Ch'ol, where semantically unergative clauses are in fact syntactically transitive, not intransitive (Coon, 2013). Hence the 'unergative' argument actually a structural A, providing no basis for a structural distinction

specific individuals already present in the discourse context. (Du Bois, 1987; England and Martin, 2003; Martínez Álvarez, 2012; Vázquez and Zavala, 2013). The requirement that A's, in particular, be specific (usually definite) is close to categorical in Tseltalan, with new discourse referents are introduced in other relations, e.g., as S_O, O, or in PP's. The second condition is that Psr-A make a 'good' ψ-subject for the clause, i.e., that it be plausible to take the utterance to be 'about' the discourse referent corresponding to Psr-A.

Expressions which satisfy these two conditions will not be common, but where they exist, stranding is possible. Consider (86), which Tseltal speakers accept without hesitation.

(86)   ***Mach'a*** *la s-wilunta-on   [**x-ch'akul**] t_i?*
       who   CP A3-fly.onto-B1 A3-flea
       'Whose fleas landed on me?'/'Who passed me their fleas?'   Tenejapa Tseltal {elic}

The first translation is a fairly literal one, as the situation described in (86) involves the transfer of an object (the fleas) from one location to another. However, unlike the English, (86) is transitive: its external argument is *x-ch'akul* 'x's fleas', with the possessor interpreted as the original location (the source) of the fleas (cf. (13c)). The external argument ('flea(s)') is most likely non-specific and its possessor is plausible as ψ-subject. In the terms of Borschev and Partee (2002), the source location is chosen as the 'perspectival center', 'the point of departure for structuring the situation' (cf. §5.1 above). Note that in English, for example, the source of an illness or infection is often expressed grammatically as the subject of a ditransitive, as in the second translation of (86) or 'he gave me a bad cold' or 'he infected me with COVID'.

As a reviewer noted, we predict that the declarative corresponding to (86) should permit the possessor and possessum to be separated. This prediction is correct, evidence that Psr-A can externalize to Spec,TP in this expression.

(87)   *La s-wilunta-on   [**x-ch'akul**] ajk'ube   [**te ts'i'=e**].*
       CP A3-fly.onto-B1 A3-flea   last.night DET dog=ENC
       'The dog's fleas landed on me last night.'/'The dog passed me his fleas last night.'/
       Tenejapa Tseltal {elic}

In sum, we suggest that the contrast between extraction of Psr-S_O (easy) and extraction of Psr-A (often difficult or impossible) is not due to constraints on Ā-movement at all, but to relational constraints on how new discourse referents are introduced and to the conditions under which Psr-A can externalize to Spec,TP. The conditions which permit extraction of Psr-A will not often be satisfied, but when they are, there is no difficulty extracting Psr-A.[37]

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between the two clause types.

[37]We have not yet identified analogous expressions in Tsotsil, but expect that they exist and predict that they will behave as in Tseltal.

7.2 Subject vs. topic

Finally, we consider the relation between our account of rightside subjects and two earlier analyses which posit a rightside position for 'topics'. Both Aissen (2016) and Clemens and Coon (2018) propose such a position and locate it quite high – either in Spec,CP or adjoined to CP. Aissen's proposal is similar to ours in that it is motivated by the 'high' behavior of certain possessors. The proposal of Clemens and Coon is part of a general account of Mayan word order. Here we suggest that the constituent called 'topic' in both works is better analyzed as ψ-subject, and that it occupies the canonical subject position, Spec,TP. We focus our discussion on Clemens and Coon (2018), since it is motivated by different considerations than ours.

Clemens and Coon (2018) locate the external argument (A, S_A) in a leftside specifier position and assume that V-initial orders are derived by verb raising (AVO $\rightarrow$ VAO). For those Mayan languages which allow VOA order, they propose two routes. When O is a bare NP, it prosodically incorporates with V ($\rightarrow$ VO$_{NP}$ A). When O is a full DP, they suggest, noting that subjects are often topics, that the right-peripheral DP is not actually a grammatical subject, but a high, rightside topic which is linked to the subject ($\rightarrow$ [[VA$_i$ O$_{DP}$] Topic$_i$]). The term 'topic' is used in various ways and neither Aissen (2016) nor Clemens and Coon (2018) say exactly what they mean by the term; we assume for the sake of discussion that they are referring to an information structural relation distinct from ψ-subject.

The rightside 'topics' of Clemens and Coon (2018) coincide in several respects with our ψ-subjects: both are specific (usually definite), both usually coincide with the highest core argument in the clause, and both are located in a right-peripheral position. This suggests that we are talking about the same relation. If so, these rightside 'topics' are ψ-subjects and sit no higher than Spec,TP. In the absence of evidence that they occur higher, economy of structure argues for a lower position: assuming that T^o houses aspect, we know that every finite clause contains TP, and thus, potentially, Spec,TP.

There are other reasons to identify these right-peripheral DP's as ψ-subjects which occupy Spec,TP, not as topics in a structurally higher position. On the interpretive side, while a ψ-subject can be focus (Jäger, 2001), it is usually assumed that one and the same phrase cannot function simultaneously both as topic and focus. Yet the right-peripheral DP in question *can* be focus. (88), discussed earlier as (54), is an example. Under our analysis, *ti vinike* 'the husband' is the grammatical subject of the clause, interpreted as ψ-subject. It originates as possessor within each of a pair of conjoined experiential collocations and has raised (across-the-board) to Spec,TP. Under the alternative analysis, *ti vinike* occurs higher, binds the grammatical subject, and is interpreted as topic.

(88)   Context: 'The men were already gathered, drinking now. . . '

*Ja'   nox   [mu ch-[y]ul   **x-ch'ulel** t_i] [mu x-'ech'   **s-vayel** t_i] **ti   vinik**$_i$ un=e.*
FOC only NEG ICP-arrive A3-soul   NEG ICP-pass A3-sleep   DET man   PAR=ENC

'Only the husband wouldn't wake up, he was the only one who wouldn't wake up.'

Lit: 'the man's soul did not arrive, the man's sleep did not pass.'   Tsotsil
(Laughlin, 1977, 49)

But crucially, *ti vinike* 'the man' is also interpreted as (exhaustive) focus. Note that the husband is contrasted with all the other men in the context. This interpretation results from the association of *ti vinike* with the clause-initial, focus-sensitive particle *ja'* plus the exclusive particle *nox* 'only' (on in situ focus with *ja'* in Tseltalan, see Polian 2013, 773-774 and Aissen 2017, 300-301). The interpretation of *ti vinik* as focus is potentially problematic for the topic analysis, if 'topic' is taken to refer to an information-structural relation distinct from ψ-subject. It is unproblematic for the ψ-subject analysis. Further, as usually understood, topics cannot be interrogative phrases, but as amply illustrated throughout this paper, the ψ-subject can be.

On the structural side, Clemens and Coon (2018) discuss their rightside topic position in the context of Aissen (1992)'s proposal for leftside topics in Mayan. Aissen's proposal was that leftside topics come in two types: an 'external' topic which is loosely connected to the following utterance, both in terms of prosody and syntax, and an 'internal' topic, which is prosodically and syntactically integrated into what follows.[38] Aissen analyzed external topics as adjoined to CP (usually the root CP) and internal topics as occupying Spec,CP.

(89)   [$_{CP}$ EXTERNAL TOPIC [$_{CP}$ INTERNAL TOPIC [$_{C'}$ . . .]]]

Clemens and Coon (2018) suggest that their *rightside* topic position might be the rightside equivalent of one of these two *leftside* topic positions.

Tsotsil and Tseltal have *external* leftside topics (Aissen 1992; Polian 2013, Ch. 34). The properties of these leftside topics and rightside ψ-subjects in Tseltalan contrast so sharply that analyzing them as structurally alike, differing only in whether they occur on the left or the right, would be very challenging. Space limitations preclude an extended discussion, but we note, for the record, that they are prosodically different, syntactically different, and information-structurally different. Prosodically, leftside topics form their own intonational phrases, while rightside ψ-subjects do not. Syntactically, leftside topics can antecede a (covert) pronoun in any grammatical function in the following sentence while rightside ψ-subjects correspond to the highest DP in the clause. Further, multiple leftside topics are possible, while there is only one ψ-subject per clause. And information structurally, leftside topics generally introduce 'new' or contrastive topics, while the ψ-subject is interpreted as the subject of a categorical judgment (§5.1).

The hypothesis that these DP's are the rightside equivalents of leftside *internal* topics is

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[38]These two constructions correspond roughly to what are called 'hanging topic left dislocation' vs. 'topicalization' or 'clitic left dislocation' in the literature (Ross 1967; Prince 1984, 1998; Anagnostopoulou et al. 1997; Sturgeon 2008 among many others).

more promising. Aissen (1999b) in fact argues that the 'internal topic' of Tz'utujil (K'ichean Mayan) is interpreted as the 'logical-subject' (=ψ-subject) of its clause. Assuming this is right, the question then is whether the rightside phrases interpreted as ψ-subjects in Tseltalan occupy a position as high as the leftside 'internal topics' of Tz'utujil. There is reason to think that they do not.

Leftside internal topics in Tz'utujil occur to the left of fronted wh-expressions and are therefore presumably higher (cf. Coon et al. 2021, 275).

(90) Tz'utujil

    a. *Jar Aa Xwaan naq x-uu-ch'ey?*
       DET CLF Juan who CP-A3SG-hit

       'Who did Juan hit?'

    b. *Jar Aa Xwaan naq n-kan-on-i?*
       DET CLF Juan who ICP-search-AF-INTR

       'Who is looking for Juan?'   {elic}

If the rightside ψ-subjects of Tseltalan were positioned as high as the leftside internal topics of Tz'utujil, wh-movement of a ψ-subject would require downward movement and would be ruled out. Yet it is perfectly possible to question the ψ-subject in Tseltalan, as many earlier examples have shown.

We conclude then that in Tseltalan, the right-peripheral DP's analyzed as topics in Aissen (2016) and Clemens and Coon (2018) are in fact ψ-subjects and occupy Spec,TP, a position which is lower than the leftside topic positions (both internal and external) found in various Mayan languages. It is interesting that Tz'utujil has a high, leftside position for phrases interpreted as ψ-subjects. As one of our reviewers has suggested, it is possible that Tz'utujil *does* have a lower position for ψ-subjects (e.g., Spec,TP), and that this subject can raise further to a high leftside 'topic' position (or, alternatively, can be bound by a leftside DP which is merged high). The implications of such an analysis remain to be investigated.

8 Conclusions

It has previously been thought that there are two ways to extract the possessor in Tseltalan: either by Ā-subextraction, with stranding of the possessum, or by pied piping. We have argued here that Ā-subextraction is not, in fact, possible in these languages. Possessors which extract alone actually extract as external possessors from an A-position that they reach by raising. Hence 'stranding' of the possessum is the result of A-movement, not Ā-movement.

Possessor extraction therefore provides a window into the A-positions that external possessors can occupy. In transitive clauses, the possessor of O can raise to the position of the applied argument (Little, 2020b); in unaccusative clauses, the possessor of S_O can raise to Spec,TP. Crucial evidence for this analysis comes from the fact that if a possessor cannot

reach one of these A-positions, extraction of the possessor is blocked. It is not clear how this generalization could be derived from an Ā-subextraction account, as the presence of an intervening DP in an A-position does not otherwise affect Ā-movement in Tseltalan.

Earlier work has also identified specificity effects related to possessor extraction. Polian (2013) and Little (2020b) have observed (for Tseltal and Ch'ol, respectively) that possessor extraction (with 'stranding') is possible only when the possessive phrase is interpreted as non-specific. Our account derives this effect indirectly: only when the possessive is non-specific can its possessor raise to Spec,ApplP or Spec,TP and thereby become accessible to wh-movement.

In many languages, the motivation for possessor raising is case-related, i.e., related to the need for syntactic licensing (Deal, 2017). This is not the motivation for possessor raising, however, in Tseltalan, since possessors are syntactically licensed within the possessive phrase itself. While we assume that raising of the possessor to Spec,TP is triggered by a syntactic requirement (EPP), the resulting configuration is interpreted as instantiating the subject-predicate relation, with the possessor understood as subject of a categorical judgment (ψ-subject). The fact that an extracted possessor is interpreted as ψ-subject follows from our analysis, but not from one which relies on Ā-subextraction. Our broader assumption is that *any* DP interpreted as ψ-subject must occupy Spec,TP, a claim which has implications for the analysis of clauses of many types. Given the parallel between Spec,TP and Spec,ApplP, it raises the possibility too that the DP which occupies Spec,ApplP might also be analyzed as ψ-subject, but of a smaller domain (cf. Basilico (1998)).

Finally, if our conclusions are correct, then a language may *appear* to allow Ā-subextraction while not in fact permitting it, for the *appearance* of Ā-subextraction can be achieved in (at least) two ways: by genuine Ā-subextraction (of an internal possessor) or by extraction of a possessor from an external position. Analyses of apparent Ā-subextraction, especially in cases involving the possessive argument in an unaccusative clause, should consider the possibility that the extracted possessor is actually an external possessor.

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