Binding and anti-cataphora in Mayan

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Abstract

This paper examines a puzzle pertaining to the distribution of covalued nominal expressions in two understudied Mayan languages, Chuj and Ch'ol. While Ch'ol behaves entirely as expected with regards to the binding conditions, Chuj appears to consistently tolerate violations of Condition C, often privileging linear precedence as the determining factor in the distribution of R-expressions and pronouns. The Chuj data therefore initially seem to cast doubt on a long tradition to treat the binding conditions as universal (e.g., Grodzinsky and Reinhart 1993, Reuland 2010, 2011). I argue that the difference between Chuj and Ch'ol can be largely explained if, contrary to Ch'ol, Chuj exhibits 'high-absolutive' syntax, independently proposed to account for a number of morphosyntactic phenomena in a subset of Mayan languages (Coon et al. 2014; Coon et al. 2021). High-absolutive syntax creates configurations in which the internal argument asymmetrically c-commands the external argument, bleeding otherwise expected binding relations from the external argument into the internal argument. The violations of Condition C in Chuj are thus only apparent. I further argue (i) that linear precedence effects in Chuj are a reflex of a more general anti-cataphora constraint on free nominals, which can also be shown to apply to Ch'ol, and (ii) that there are corners of Chuj where the binding conditions do apply, and that in such cases linear precedence is irrelevant for the distribution of covalued nominals. This means that the binding conditions are active in Chuj, even though idiosyncratic syntactic properties of the language often render their application impossible. The general lesson is that despite initial evidence to doubt the universality of the binding conditions, a universalist approach not only can be maintained, but is supported by the Chuj data.

1 Introduction

Nominal binding has long been a rich area of research (e.g., Lees and Klima 1963; Ross 1967; Langacker 1969; Jackendoff 1972; Reinhart 1976, 1983; Chomsky 1981, 1986; Lebeaux 1984; Reuland and Koster 1991; Pollard and Sag 1992; Grodzinsky and Reinhart 1993; Reinhart and Reuland 1993), a tradition that has persisted in recent work (e.g., Hornstein 2001, 2007; Reuland 2001, 2011; Kayne 2002; Zwart 2002; Safir 2004, 2008, 2014; Büring 2005; Schlenker 2005; Hicks 2009; Kratzer 2009; Rooryck and vanden Wyngaerd 2011, Drummond et al. 2011; Despić 2013, 2015; Bruening 2014, Bruening 2021; Ahn 2015; Charnavel and Sportiche 2016). Despite the vast array of proposals, generalizations about the distribution of nominal expressions have remained remarkably constant throughout the years; since Chomsky 1981 and Reinhart 1983, most authors still aim to derive a version of the binding conditions in (1).

(1) *The binding conditions*
Condition A – An anaphor must be locally bound
Condition B – A pronoun must be locally free
Condition C – An R-expression must be free

It is striking that the conditions in (1) seem to hold across a great many languages. As indicated by Grodzinsky and Reinhart (1993) and Reuland (2010, 2011), this suggests that whatever properties of natural language underly the binding conditions must be universal.

In this paper, I discuss data from two understudied Mayan languages, Ch'ol and Chuj, with relevance to the universality of the binding conditions. The core of the puzzle is as follows: while the binding conditions behave as expected in Ch'ol, they appear to play little role in regulating the distribution of covalued nominal expressions in Chuj, as also reported for the closely-related language Popti' (Craig 1977, Hoekstra 1989; Woolford 1991; Trechsel 1995; Aissen 2000).[1] Most notably, though the Ch'ol and Chuj sentences in (2) and (3) exhibit the same word order on the surface, we will see compelling evidence that the R-expression in Chuj sentences like (3) is not the subject, but the possessor, the subject being a covert pronoun. In other words, the right parse for Ch'ol is (4a), as expected, whereas the right parse for Chuj is, unexpectedly, (4b).[2]

(2) *Ch'ol*
Tyi i-choñ-o i-wakax aj-Ana.
PFV A3-sell-TV A3-cow CLF-Ana
'Ana$_1$ sold her$_1$ cow.'

(3) *Chuj*
Ix-s-chonh s-wakax ix Ana.
PFV-A3-sell A3-cow CLF Ana
Lit: 'She$_1$ sold Ana$_1$'s cow.'

(4) a. sold [$_{\text{OBJ}}$ cow [$_{\text{POSS}}$ *pro*$_1$]] [$_{\text{SUBJ}}$ Ana$_1$] = Ch'ol (2)
b. sold [$_{\text{OBJ}}$ cow [$_{\text{POSS}}$ Ana$_1$]] [$_{\text{SUBJ}}$ *pro*$_1$] = Chuj (3)

All else being equal, the Chuj configuration in (4b) looks like a violation of Condition C, per the literal translation under (3). These data are thus puzzling if the binding conditions are universal.

After presenting in section 2 the Chuj data that are problematic from the perspective of the binding conditions, the goal of this paper will be to argue that it is possible to account for these puzzling data without having to deny the universality of the binding conditions. In section 3, I argue that in every configuration in

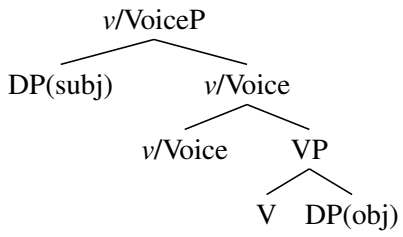
[1] In this paper, I use 'covalue' as a neutral, descriptive term, to mean that two nominals are either (i) in a syntactic binding relation (one nominal c-commands and is covalued with the other) or (ii) are both free (no c-command relation), but covalued (see e.g. Heim 2007 for similar use of this term). Similar terms that have been used are 'codetermination' (Heim 1998) and 'coconstrual' (Safir 2008). I remain agnostic as to whether (i) must involve bound variable anaphora in the semantics (see e.g. discussion in Reinhart 1983, Safir 2008 and Bruening 2021).

[2] Abbreviations: A: "Set A" (ergative/possessive); AF: agent focus; B: "Set B" (absolutive); CLF: noun classifier; C: complementizer; DEP: dependent clause marker; DIR: directional; HA: topic/focus marker; INDF: indefinite; IPFV: imperfective; IV: intransitive status suffix; M: masculine; NEG: negation; P: plural; PRON: pronoun; PROSP: prospective; Q: question; PFV: perfective; RN: relational noun; S: singular; TOP: topic; TV: transitive status suffix. Glosses in examples from other sources have been modified in some cases for consistency, and translations from Spanish to English are my own.

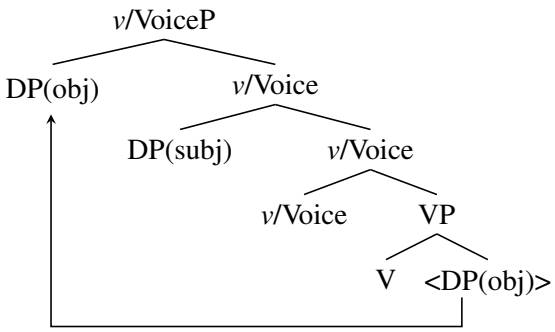
which the binding conditions are inoperative in Chuj, there are no c-command relations between the relevant covalued expressions, and therefore no violations of the binding conditions. For instance, I argue that while the subject c-commands the possessor of the object in the Ch'ol sentence in (4a), it does not in Chuj (4b).

Central to the proposal will be the adoption of the 'high-absolutive' approach to the *Ergative Extraction Constraint* (EEC), which describes a general ban on the A'-extraction of ergative subjects in a subset of Mayan languages (see Aissen 2017, table 30.3). In the high-absolutive approach, the EEC arises because the absolutive object systematically raises to a position above the ergative subject (Coon et al. 2014, Assmann et al. 2015; Coon et al. 2021). Proponents of this analysis propose that this is the case in Chuj, but not in Ch'ol.[3]

(5) *Low-absolutive syntax (Ch'ol)*



(6) *High-absolutive syntax (Chuj)*



I argue that the binding differences between Chuj and Ch'ol are another, pervasive correlate of the independently proposed need for high-absolutive syntax in Chuj. In particular, object raising bleeds c-command relations between the subject and nominals contained inside the object, which obviates the application of the binding conditions. The binding conditions do not apply in (3), because the two covalued nominals are both free. In Ch'ol (2), on the other hand, object raising does not happen. Since the two nominals are in a c-command relation, Condition C applies to prohibit the R-expression from occurring as the possessor.

Developing observations in Royer 2021 and Coon et al. 2021, a survey of several languages indicates that similar facts are repeated across the Mayan language family. Mayan languages that exhibit the EEC, like Chuj, allow an R-expression contained within the object to be covalued with the subject, whereas those that do not exhibit the EEC, show Condition C effects in such data. The resulting typological generalization will therefore provide strong empirical support for high-absolutive approaches to the EEC.

There is an additional layer of puzzle regarding the distribution of covalued nominals in Ch'ol and

[3]Following Coon (2019), I assume a single bundled *v*/Voice head in Chuj and Ch'ol.

Chuj. In addition to the vast inapplicability of the binding conditions in Chuj, there appears to be a *linear precedence* constraint on the distribution of certain covalued nominals. For instance, the R-expression in the Chuj sentence seen in (3) *obligatorily* appears in the possessor, and not the subject, because the possessor linearly precedes the subject. Based on (i) a discussion of clear patterns of free, nominal covaluation in both Ch'ol and Chuj, and (ii) a detailed discussion of reflexive sentences in Chuj, which I show abide by the binding conditions, I argue in sections 4 and 5 that the linear precedence constraint only applies to free expressions. Expressions that are bound under c-command, on the other hand, are subject to the binding conditions. More precisely, I show that the two-fold generalization in (7) describes the distribution of covalued nominal expressions in both languages:

(7) *Generalization about covalued expressions in Chuj and Ch'ol*
   a. If a nominal is bound under c-command, it is subject to structurally-determined binding conditions like (1) (linear precedence is irrelevant).
   b. If a free pronoun is covalued with an R-expression, the R-expression must linearly precede the free pronoun (linear precedence is relevant).

The generalization in (7a) is completely expected given standard approaches to syntactic binding. Also expected is the fact that bound and free pronouns are treated differently, since most accounts of syntactic binding draw a distinction between the two. Less expected, however, is (7b): linear precedence plays a central role in determining the realization of free nominals. This is important, since it will allow us to unify the constraints on pronominalization in Ch'ol and Chuj, which at first glance appear to be entirely disparate (see (4a) vs (4b)). Both languages are subject to the binding conditions (7a), and both ban cataphora with free pronouns (7b). The only difference between the two languages is that Chuj exhibits high-absolutive syntax (6), which means that it is much more frequently affected by the constraint in (7b) than Ch'ol is.

Given (7), I turn in section 6 to a discussion of how the difference between free and bound nominals could be formalized. Based on movement theories of syntactic binding (e.g. Hornstein 2001; Kayne 2002; Zwart 2002), the main suggestion will be that while constraints pertaining to the binding conditions could be derived entirely in terms of how PF interprets movement chains, constraints on free nominals could result from how PF treats identical, externally merged lexical items within a derivation.

Finally, section 7 concludes with a brief discussion of a theoretical consequence posed by the Mayan patterns of nominal covaluation discussed in this paper. In particular, I argue that the anti-cataphora constraint in (7b) offers a strong empirical argument for the necessity of indices in syntax. This casts doubt on

Inclusiveness (Chomsky 1995, Chomsky 2001), and more generally on recent theories of syntactic binding, which assume that indices cannot form part of Universal Grammar (e.g., Reuland 2001, 2011).

Before we continue, I specify that this paper concentrates almost exclusively on the conditions that govern the *syntactic distribution* of covalued nominal expressions in Ch'ol and Chuj. Throughout the paper, I will frequently use the term 'syntactic binding', which I take to be the syntactic conditions that govern how covalued nominals within a sentence must be morphologically realized. For the better part of the paper (with the exception of section 6, where it will become necessary to discuss semantic binding), I remain agnostic as to whether syntactic binding and 'semantic' binding—the latter of which I take to concern the conditions on bound variable anaphora—exhibit a one-to-one correspondence. While much work in formal linguistics assumes a one-to-one correspondence between the two (e.g., Reinhart 1983; Heim and Kratzer 1998; Hornstein 2001, Büring 2005, Heim 2007), recent work has brought into question whether the two can consistently be subsumed under a single phenomenon (see e.g., Safir 2008; Barker 2012; and Bruening 2021 for relevant work).[4] Given the limited understanding of semantic binding in Mayan, I will mostly not engage with this question in this paper, and will therefore avoid diagnostics from semantic binding (e.g., sloppy identity under ellipsis) as a test for syntactic binding.

2 The puzzle: Apparent binding violations in Chuj, but not in Ch'ol

In this section, I discuss data from Chuj which appear to, at least at first glance, challenge the universality of the binding conditions in (1). The issue is that the binding conditions appear to be largely irrelevant for the realization of covalued nominals in this language. Instead, only *linear precedence* seems to matter. I also show that the Chuj data stand in stark contrast with comparable data from Ch'ol, where the binding conditions apply as expected without reference to linear order. I first provide brief background on Chuj and Ch'ol in sections 2.1 and 2.2, turning to the relevant empirical data in section 2.3. Section 2.4 then summarizes the findings of this section, and presents the questions to be addressed in the rest of the paper.

[4] These authors show that the conditions on variable binding and the conditions on the pronunciation of covalued nominals do not always match. For instance, while the possessor of a subject can bind a direct object in English (*Every boy$_1$'s mother loves him$_1$*), the possessor does not have to be realized as an R-expression (*His$_1$ mother loves John$_1$*). Therefore, the availability of semantic binding does not necessarily imply syntactic binding. It is unclear to me at this point whether this is also the case in Mayan languages.

2.1 Background

Unless otherwise attributed, the data discussed in this paper come from original fieldwork with speakers of the San Mateo Ixtatán dialect of Chuj and the Tila dialect of Ch'ol, using standard linguistic fieldwork methodology for elicitation (see e.g., Matthewson 2004, Bochnak and Matthewson 2020). Basic information about both languages is provided below:[5]

(8) *Chuj*
- a. Belongs to the Q'anjob'alan sub-branch of Mayan languages (Law 2014)
- b. Spoken by 70,000 speakers (Piedrasanta 2009; Buenrostro 2013)
- c. Predominantly spoken in Huehuetenango, Guatemala and Chiapas, Mexico

(9) *Ch'ol*
- a. Belongs to the Cholan-Tseltalan sub-branch of Mayan languages (Law 2014)
- b. Spoken by 252,000 speakers (Vázquez Álvarez 2011, Little 2020b)
- c. Predominantly spoken in Southern Mexico

As is the case in other Mayan languages (England 1991; Aissen 1992; Aissen et al. 2017; Clemens and Coon 2018), Chuj and Ch'ol are head-marking, ergative-absolutive languages, and both exhibit verb-initial word order in discourse-neutral contexts.[6] Both Ch'ol and the dialect of Chuj under study in this work exhibit basic VOS word order, though VSO is sometimes permitted under special circumstances in both languages (Coon 2010b, Clemens and Coon 2018, Little 2020b). Basic VOS sentences are provided below:

(10) Ix-**s**-chi [$_{\text{OBJ}}$ nok' mis] [$_{\text{SUBJ}}$ nok' tz'i'].
PFV-A3-bite CLF cat CLF dog
'The dog bit the cat.' (Chuj)

(11) Tyi **i**-k'ux-u [$_{\text{OBJ}}$ mis] [$_{\text{SUBJ}}$ jiñi ts'i'].
PFV A3-bite-TV cat DET dog
'The dog bit the/a cat.' (Ch'ol: Coon 2010a, 43)

As in other Mayan languages, "Set A" prefixes are used to cross-reference ergative subjects and possessors, whereas "Set B" morphemes are used for absolutive arguments. In both Chuj and Ch'ol, there is no overt instantiation of third person Set B morphology, and therefore third person Set B is not represented in glosses. Examples with overt Set B morphemes are provided below:

[5]For grammatical overviews of Chuj, see Hopkins 1967, 2021; Maxwell 1981; García Pablo 2007; Buenrostro 2013; and Royer et al. 2022. For grammatical overviews of Ch'ol, see Coon 2010a, Vázquez Álvarez 2011, and Little 2020b.

[6]There are two recognized dialects of Chuj: San Mateo Ixtatán and San Sebastián Coatán. While the San Mateo Ixtatán dialect is VOS/VSO alternating, the San Sebastián Coatán dialect is rigidly VSO (Maxwell 1981).

(12) Ix-**in**-**a**-chel-a'.
PFV-B1S-A2S-hug-TV
'You hugged me.' (Chuj)

(13) Tyi **a**-mek'-e-**yoñ**.
PFV A2-hug-TV-B1
'You hugged me.' (Ch'ol)

Notice that the Set B morphemes appear in different positions in Chuj and Ch'ol. While Set B morphemes appear encliticized to tense-aspect marking and precede the root in Chuj (12), they follow the stem in Ch'ol (13).[7] This will be relevant for the discussion of the analysis in section 3.

Possessive constructions will play an important role in this paper. As seen in (14) and (15), possessors appear post-nominally and, as already noted, trigger Set A (ergative/possessive) morphology as a prefix on the possessee. Notice, for instance, the identical Set A prefixes on the Chuj and Ch'ol verbs in (10) and (11).

(14) **s**-mis ix Ana
A3-cat CLF Ana
'Ana's cat' (Chuj)

(15) **i**-mis aj-Ana
A3-cat CLF-Ana
'Ana's cat' (Ch'ol)

Since this paper is about patterns of nominal covaluation between R-expressions and pronouns, some background on the status of pronouns in Chuj and Ch'ol is in order. Before providing the puzzle in section 2.3, we therefore turn to a brief description of pronominals in both languages.

2.2 Pronominal expressions in Chuj and Ch'ol

Most Mayan languages are robustly *pro*-drop and lack overt non-emphatic third person pronouns.[8] Ch'ol is no exception. In appropriate contexts, both the subject and object must be dropped:

(16) Tyi i-män-ä [$_{OBJ}$ *pro*] [$_{SUBJ}$ *pro*].
PFV A3-buy-TV PRON PRON
'She bought it.' (Ch'ol)

Chuj, however, diverges considerably from Ch'ol and most other Mayan languages when it comes to pronouns: it is not *pro*-drop and it features non-emphatic third person pronouns. Specifically, like other languages of the Q'anjob'alan sub-branch of Mayan languages (Craig 1986; Zavala 2000; Hopkins 2012; Mateo Toledo 2017), Chuj features a system of 18 noun classifiers, described at length in Buenrostro et al. 1989, Hopkins 2012, and Royer 2019, to appear. Which classifier is used is determined by features of the

[7] I follow the norms of each language in terms of where and how a word boundary is written internal to the stem. For instance, while perfective marking is written as a separate word in Ch'ol, it is not in Chuj. Note, however, that it is not clear that these orthographic conventions reflect a meaningful difference in the morphosyntax of these languages.

[8] Vázquez Álvarez (2011: 153) lists *jiñ* as a third person emphatic pronoun. As he mentions, overt personal pronouns are generally used emphatically, and tend to appear preverbally in dedicated topic and focus positions (Aissen 1992).

noun (male, female, animal, wooden entity, etc.). They function as determiners when used before nouns, as in (17a), and in such cases mark distinctions in definiteness and specificity (Royer 2019). They can also appear without an overt nominal, as in (17b), in which case they function as third person pronouns ("classifier pronouns"). Also shown in (17b) is that classifier pronouns can normally not be dropped:

(17) *Chuj*

a. Ix-s-man [$_{\text{OBJ}}$ jun **te'** onh] [$_{\text{SUBJ}}$ **winh** winak].
PFV-A3-buy INDF CLF avocado CLF man
'The man bought an avocado.'

b. Ix-s-lo'-an [$_{\text{OBJ}}$ ***(te')**] [$_{\text{SUBJ}}$ ***(winh)**].
PFV-A3-eat-CON CLF.PRON CLF.PRON
'And then he ate it.' .

There are special circumstances, however, where the use of a classifier pronoun becomes illicit. Consider (18a); this sentence can only be interpreted with disjoint reference—*Xun* must have spoken with another man's mother. To arrive at a joint-reference reading, a null pronoun (*pro*) must instead be used, as in (18b).

(18) *Chuj*

a. Ix-lolon [$_{\text{SUBJ}}$ waj Xun] [$_{\text{PP}}$ y-et' ix s-nun **winh**].
PFV-speak CLF Xun A3-with CLF A3-mother CLF.PRON
'Xun$_1$ spoke with his$_{2/*1}$ mother.'

b. Ix-lolon [$_{\text{SUBJ}}$ waj Xun] [$_{\text{PP}}$ y-et' ix s-nun ***pro***].
PFV-speak CLF Xun A3-with CLF A3-mother PRON
'Xun$_1$ spoke with his$_1$ mother.'

The use of *pro* in Chuj is highly restricted, as also observed for Popti' by Craig (1977). The basic generalization about *pro* can be stated as follows:

(19) *Generalization about 'pro' in Chuj* (adapted from Craig 1977 and Trechsel 1995)
The null pronoun *pro* must be covalued with another nominal expression inside the minimal CP in which it occurs (where relative clauses do not count as separate CPs).

In example (18b), notice that the condition in (19) is met, since *pro* is covalued with the R-expression *Xun* inside the same minimal CP. An example for which the condition in (19) is not met is provided in (20). Here, the subject of the complement clause is covalued with the subject of the matrix clause. Since the two expressions appear in separate "minimal CPs", the subject of the complement clause cannot be realized as *pro* and a classifier pronoun must instead be used:

(20) Ix-y-al winh winak [$_{\text{CP}}$ to ix-b'at {**winh/*** ***pro***}**].
PFV-A3-say CLF man C PFV-go CLF.PRON/PRON
'The man$_1$ said that he$_{1/2}$ left.' (Chuj)

As indicated in the translation, the sentence in (20) is ambiguous. The classifier pronoun can be covalued with *winh winak* 'the man' or could alternatively refer to another male individual. As predicted by the generalization in (19), the use of *pro* is not allowed.

In order to make progress on our understanding of patterns of nominal covaluation in Chuj, this paper will mostly only focus on the distribution of *pro*. Based on a variety of data, I will show that sentences involving *pro* often appear to violate Condition C. In fact, *pro*'s distribution seems to be largely governed by the generalization in (21):[9]

(21) *Generalization about covalued expressions in Chuj*
If covalued expressions appear in the same minimal CP, the linearly first must be an R-expression (or an overt classifier pronoun), and the rest are realized as *pro*.

The evidence, which we immediately turn to in the next subsection, will come from various domains. Also note that though the current section focuses specifically on covaluation relations between the external and the internal argument, we will return to covaluation relations with oblique phrases in section 3.4, where contrasts between Chuj and Ch'ol will again be observed.

2.3 Puzzle: Linear precedence and binding in Chuj and Ch'ol

Here, I show evidence for the generalization in (21): linear precedence plays a fundamental role for the distribution of covalued nominals in Chuj, often in apparent violation of Condition C. We will also see that this is not the case in Ch'ol, where the binding conditions seem to apply as expected, irrespective of linear order. The evidence comes from data relevant to adverb placement options (§2.3.1), coordination (§2.3.2), relative clauses (§2.3.3), object A'-extraction (§2.3.4), and word order alternations (§2.3.5).

[9] Aissen (2000) formulates the domain of *pro* in the related language Popti' prosodically, as applying to intonational phrases:

(i) Condition on [*pro*] (Aissen 2000: 191)
The anaphor [*pro*] must be co-indexed with a nominal which precedes in within the same intonational phrase.

Aissen further shows that while complement clauses and topics form their own intonational phrase, relative clauses do not. As noted by an anonymous reviewer, the prosodic generalization seems more adequate, since it can explain why relative clauses do not count as separate domains for *pro* (see also Royer 2022 on intonational phrases in Chuj). Note, though, that it is not crucial for the present purposes whether the conditions on *pro* apply at the syntactic or prosodic level. In section 6, I suggest that the linear precedence effects should be understood as a more general ban on backwards PF deletion (109). Under this view, the prosodic generalization would be equally (if not more) suitable.

2.3.1 Adverb placement in 'extended reflexive' constructions

Following Aissen (1999), I refer to transitive sentences in which the external argument is covalued with the possessor of the internal argument as "extended reflexives". Examples of such constructions were already presented at the outset of this paper, in (2) and (3). These examples are repeated below for convenience:

(22) *Ch'ol extended reflexive*
Tyi i-choñ-o i-wakax aj-Ana.
PFV A3-sell-TV A3-cow CLF-Ana
'Ana$_1$ sold her$_1$ cow.'

(23) *Chuj extended reflexive*
Ix-s-chonh s-wakax ix Ana.
PFV-A3-sell A3-cow CLF Ana
Lit: 'She$_1$ sold Ana$_1$'s cow.'

Since Ch'ol and Chuj are VOS languages with postnominal possessors, the right syntactic parse of the sentences in (22) and (23) is not immediately transparent from surface word order. That is, the R-expression *Ana* could be in subject position, as in (24a). Alternatively, *Ana* could be in the possessor of the object, in which case the subject would be realized as *pro* (24b).

(24) a. sold [$_{OBJ}$ cow [$_{POSS}$ Ø$_1$]] [$_{SUBJ}$ Ana$_1$] (lit: Ana$_1$ sold her$_1$ cow)
b. sold [$_{OBJ}$ cow [$_{POSS}$ Ana$_1$]] [$_{SUBJ}$ *pro*$_1$] (lit: She$_1$ sold Ana$_1$'s cow)

Assuming that external arguments c-command internal arguments, (24b) looks like a classic violation of Condition C: a pronoun appears to c-command a covalued R-expression. Nevertheless, I will provide evidence that this is the right parse of the Chuj sentence in (23). At the same time, there is also evidence that the right parse in Ch'ol is the expected, Condition C-complying parse in (24a). To diagnose the syntactic position of the R-expression, I will primarily consider evidence from adverb placement options, which differ between Chuj and Ch'ol. We will also see evidence from coordinated sentences and contexts of A'-extraction in sections 2.3.2 and 2.3.4.

Before showing the relevant test examples, first note that in regular transitive sentences, some Ch'ol and Chuj adverbs can appear either between the object and the subject, as in (25a) and (26a), or after the subject, as in (25b) and (26b).[10]

[10] In Chuj, not all adverbs can appear between the object and the subject. Adverbs that can appear in that position include *junelxo* 'again', *junelnhej* 'at once', and *masanil* 'completely/all'.

(25) *Ch'ol*

a. Tyi i-chok-o [$_{OBJ}$ tyuñ] **abi** [$_{SUBJ}$ jiñi alob].
PFV A3-throw-TV stone yesterday DET boy
'The boy threw the stone yesterday.' (Coon 2010a: p. 241)

b. Tyi i-chok-o [$_{OBJ}$ tyuñ] [$_{SUBJ}$ jiñi alob] **abi** .
PFV A3-throw-TV stone DET boy yesterday
'The boy threw the stone yesterday.'

(26) *Chuj*

a. Ix-s-b'o' [$_{OBJ}$ tek] **junelxo** [$_{SUBJ}$ waj Xun].
PFV-A3-make meal again CLF Xun
'Xun made the meal again.'

b. Ix-s-b'o' [$_{OBJ}$ tek] [$_{SUBJ}$ waj Xun] **junelxo**.
PFV-A3-make meal CLF Xun again
'Xun made the meal again.'

Also note that adverbs cannot intervene between the possessor and the possessee in either language, as shown in the following examples:

(27) a. *Tyi k-chok-o i-tyuñ **abi** jiñi alob.
PFV A1-throw-TV A3-stone yesterday DET boy
Intended: 'I threw the boy's stone yesterday.' (Ch'ol)

b. *Ix-in-b'o' s-tek **junelxo** waj Xun.
PFV-A1S-make A3-meal again CLF Xun
Intended: 'I made Xun's meal again.' (Chuj)

However, when we consider extended reflexive constructions, the adverb placement options change in Chuj, but not in Ch'ol. First consider the following Ch'ol data which differ minimally from the sentences in (25), with the only difference being that the referent of the object is now formally possessed by the referent of the subject, as indicated by the presence of Set A possessive marking on the object:

(28) *Ch'ol*

a. Tyi i-chok-o [$_{OBJ}$ **i**-tyuñ] **abi** [$_{SUBJ}$ jiñi alob].
PFV A3-throw-TV A3-stone yesterday DET boy
'The boy$_1$ threw his$_1$ stone yesterday.'

b. Tyi i-chok-o [$_{OBJ}$ **i**-tyuñ] [$_{SUBJ}$ jiñi alob] **abi** .
PFV A3-throw-TV A3-stone DET boy yesterday
'The boy$_1$ threw his$_1$ stone yesterday.'

The adverb *abi* 'yesterday' can still intervene between *tyuñ* and *jiñi alob*, just like in (25). Since Ch'ol adverbs never intervene between objects and their possessor, as shown in (27a), the data in (28) suggest that the R-expression *jiñi alob* is the subject, and that the possessor is a null pronoun:

(29) *Proposed structure for Ch'ol* (28)
threw [$_{\text{OBJ}}$ stone [$_{\text{POSS}}$ *pro*$_1$]] {yesterday} [$_{\text{SUBJ}}$ the boy$_1$] {yesterday}

Crucially, the pattern in (29) is expected given the binding conditions. If subjects c-command objects in Ch'ol, as has been proposed in independent work (see e.g., Clemens and Coon 2018), Condition C should block the R-expression from occurring as the possessor of the object. Also notice that linear precedence seems to be irrelevant in (29), since a pronoun precedes an R-expression with which it is covalued. This is exactly as expected given analyses of the binding conditions.[11]

Now consider the Chuj sentences in (30), which differ minimally from the Chuj sentences in (26). Strikingly, the adverb *junelxo* 'again', which could appear between *tek* and *waj Xun* in (26a), can no longer appear between these two words in (30a). Instead, there is only one option: the adverb must follow the R-expression *Xun*, as in (30b).

(30) *Chuj*

a. *Ix-s-b'o' **s**-tek **junelxo** waj Xun.
PFV-A3-make A3-meal again CLF Xun
Intended: 'Xun made his meal again.' (cf. (26a))

b. Ix-s-b'o' **s**-tek waj Xun **junelxo**.
PFV-A3-make A3-meal CLF Xun again
'Xun made his meal again.'

The restriction observed in (30a) can be explained if the R-expression *Xun* must appear as the possessor instead of the subject, as schematized in (31). That is, if the R-expression is the possessor, then we expect that no adverb should be able to intervene between it and the possessee (recall from (27b) that Chuj adverbs cannot appear between the possessor and possessee).

(31) *Proposed structure for Chuj* (30b)
made [$_{\text{OBJ}}$ meal [$_{\text{POSS}}$ Xun$_1$]] {again} [$_{\text{SUBJ}}$ *pro*$_1$] {again}

Without making further assumptions about the syntax of (30b), the parse in (31) looks like a violation of Condition C. If the subject c-commands the possessor of the object, then we would expect Condition C to ban the R-expression from appearing in possessor position, contrary to what the data suggest. It is also notable that linear precedence appears to be deterministic for the distribution of R-expressions and pronouns in Chuj, while it seems to play no role in Ch'ol.

[11] The fact that *surface* linear precedence is irrelevant in sentences like (28) is also predicted given accounts of the binding conditions that, in part, make reference to precedence, such as Bruening 2014.

2.3.2 Coordination in extended reflexive constructions

Extended reflexive sentences with coordinated objects present another environment showing the presence of Condition C in Ch'ol, and its apparent inapplicability in Chuj. Consider first the following set of sentences from Ch'ol and Chuj:

(32) *Ch'ol coordination in extended reflexives*

a. Tyi i-ts'äñ-ä [$_{\&P}$ i-ts'i' [$_{POSS}$ ***pro***] yik'oty i-mis [$_{POSS}$ ***pro***]] [$_{SUBJ}$ **aj-Ana**].
PFV A3-wash-TV A3-dog PRON and A3-cat PRON CLF-Ana
'Ana$_1$ washed her$_1$ dog and her$_1$ cat.'

b. *Tyi i-ts'äñ-ä [$_{\&P}$ i-ts'i' [$_{POSS}$ **aj-Ana**] yik'oty i-mis [$_{POSS}$ ***pro***]] [$_{SUBJ}$ ***pro***].
PFV A3-wash-TV A3-dog CLF-Ana and A3-cat PRON PRON
Intended: 'Ana$_1$ washed her$_1$ dog and her$_1$ cat.'
Could mean: 'They$_1$ washed Ana$_2$'s dog and cat.'[12]

(33) *Chuj coordination in extended reflexives*

a. *Ix-s-b'ik [$_{\&P}$ nok' s-tz'i' [$_{POSS}$ ***pro***] yet' nok' s-mis [$_{POSS}$ ***pro***]] [$_{SUBJ}$ **waj Xun**].
PFV-A3-wash CLF A3-dog and CLF A3-cat CLF Xun
Intended: 'Xun$_1$ washed his$_1$ dog and his$_1$ cat.'

b. Ix-s-b'ik [$_{\&P}$ nok' s-tz'i' [$_{POSS}$ **waj Xun**] yet' nok' s-mis [$_{POSS}$ ***pro***]] [$_{SUBJ}$ ***pro***].
PFV-A3-wash CLF A3-dog CLF Xun and CLF A3-cat
'Xun$_1$ washed his$_1$ dog and his$_1$ cat.'
Lit: 'He$_1$ washed Xun$_1$'s dog and his$_1$ cat.'

Again, Chuj and Ch'ol do not pattern alike. Assuming that transitive subjects c-command objects in both languages, Condition C should require the R-expression to appear in subject position, as is the case in Ch'ol (32). In Chuj (33), however, we observe that the R-expression must appear in the linearly first covalued DP, which in this case is the first possessor of the coordinated extended reflexive object. Therefore, Condition C seems to be once again ignored in Chuj, with linear precedence mattering instead.

2.3.3 Relativized objects

Sentences with object relative clauses provide a third area of evidence for the role of linear precedence in determining the order of covalued nominals in Chuj, and for the apparent lack of Condition C effects. Ch'ol examples are not considered here, since objects with full relative clauses in this language obligatorily trigger VSO order, making it impossible to test the relevant sentences (Clemens and Coon 2018; Little 2020b).

[12]The judgements are provided for parses of these sentences with neutral intonation. The intended meaning for this sentence could be judged acceptable if there is a marked prosodic break before *yik'oty imis* 'and her cat'. In such cases, *yik'oty imis* sounds like an afterthought and can appear after adverbs.

Before considering examples with covalued nominals, first consider the sentences in (34a). Importantly, though speakers indicate a general preference for VSO order in this case, both VOS and VSO are possible when the object of a transitive sentence is relativized:

(34) *Chuj*

a. Ol-y-awtej [$_{OBJ}$ ch'anh libro [$_{RC}$ s-man **ix** ewi]] [$_{SUBJ}$ **ix** **Ana**].
PROSP-A3-read CLF book A3-buy CLF.PRON yesterday CLF Ana
'Ana$_1$ will read the book that she$_2$ bought yesterday.' (VOS)

b. Ol-y-awtej [$_{SUBJ}$ **ix Ana**]$_1$ [$_{OBJ}$ ch'anh libro [$_{RC}$ s-man **ix**$_2$ ewi]] (VSO)

As foreshadowed in (19), relative clauses in Chuj do not count as a separate CP domain for *pro*. This means that, per the generalization in (21) above, the presence of the classifier pronoun *ix* 'her' in the object of the relative clause in (34a) forces a disjoint reference reading: Ana is not the person who bought the book.

Now consider a minimal counterpart to (34) in which the subject is covalued with the object of the relative clause (i.e., where Ana *is* the person that bought the book). Again, there appear to be two ways of conveying this sentence; (35a) and (35b) are judged equally grammatical and semantically equivalent. As discussed in further detail in section 2.3.5, the examples in (35) show that re-ordering the subject and object has effects on whether the R-expression appears in the matrix subject or inside the object. Also shown is that the potential VOS configuration in (35c) is ungrammatical.

(35) *Chuj*

a. Ol-y-awtej [$_{OBJ}$ ch'anh libro [$_{RC}$ s-man **ix** **Ana** ewi]] [$_{SUBJ}$ ***pro***].
PROSP-A3-read CLF book A3-buy CLF Ana yesterday PRON
'Ana$_1$ will read the book that she$_1$ bought yesterday.' (VOS)

b. Olyawtej [$_{SUBJ}$ **ix Ana**] [$_{OBJ}$ ch'anh libro [$_{RC}$ sman [$_{SUBJ}$ ***pro***] ewi]] . (VSO)

c. *Olyawtej [$_{OBJ}$ ch'anh libro [$_{RC}$ sman ***pro*** ewi]] [$_{SUBJ}$ **ix Ana**]. (VOS)

Though we discuss VSO sentences like (35b) in section 2.3.5, the crucial point for the current discussion is the possibility of VOS sentences like (35a), and the impossibility of the minimally different VOS sentence in (35c). Remarkably, in (35a), the R-expression can be realized inside the relativized object, in which case the subject is pronominalized. That this is the right syntactic parse can be inferred from surface word order alone. The adverb *ewi* 'yesterday' necessarily modifies the predicate of the relative clause, since the predicate of matrix clause bears future (prospective) aspect. And since *ewi* intervenes between the position of the possessor and the position of the subject (see (35a) above), we can infer that the R-expression *Ana* realizes the possessor. In other words, (35a) literally translates as *She$_1$ will read the book that Ana$_1$ bought yesterday*, where *she* and *Ana* are covalued. Finally, (35c) shows us that the R-expression must appear in

the linearly first position: (35a) is the only possible VOS parse, because linear precedence matters.

Again, these data are surprising given the binding conditions. If the subject c-commands the object, then (35a) appears to violate Condition C.

2.3.4 Object A'-extraction

A fourth area of evidence comes from cases of object A'-extraction (Coon et al. (2021) report similar facts in other Mayan languages, see also Craig 1977 on Popti').

Across many languages of the Mayan language family—Chuj and Ch'ol included—focused expressions undergo obligatory displacement to a preverbal position (see e.g. Aissen 1992), as illustrated in (36) and (37):

(36) [$_{\text{OBJ}}$ Sa']$_i$ ta' i-juch'-u t$_i$ aj-María.
masa PFV A3-grind-TV CLF-Malin
'María ground CORN.' (Ch'ol, adapted from Little 2020b: (60))

(37) [$_{\text{OBJ}}$ Ha waj Kixtup]$_i$ ix-y-il t$_i$ ix Malin.
HA CLF Kixtup PFV-A3-see CLF Malin
'Malin saw KIXTUP.' (Chuj)

Following Aissen (1992) and subsequent work on Mayan (e.g., Velleman 2014, Coon et al. 2021), I assume that preverbal foci involve movement, specifically A'-movement.

Object A'-extraction can shed further light on the role of linear precedence in Chuj. Consider what happens when the object of an extended reflexive construction is focused in Chuj:

(38) [$_{\text{OBJ}}$ Ha s-mam [$_{\text{POSS}}$ **waj Xun**]]$_i$ ix-y-il-a' t_i [$_{\text{SUBJ}}$ ***pro***].
FOC A3-father CLF Xun PFV-A3-see-TV PRON
'Xun$_1$ saw HIS$_1$ FATHER.' / Lit: 'He$_1$ saw XUN$_1$'S FATHER.' (Chuj, cf. (30))

In (38), surface word order suffices to show that the R-expression is the possessor and that the subject is null, since the verb now intervenes between the possessor and the subject. Assuming that A'-movement must reconstruct for binding (Chomsky 1995; Fox 1999; Sportiche 2006; Lebeaux 2009; Legate 2014; van Urk 2015), the result again appears to violate Condition C. Also note that the opposite configuration in which the R-expression is realized in subject position is ungrammatical in Chuj:

(39) *[$_{\text{OBJ}}$ Ha s-mam [$_{\text{POSS}}$ ***pro***]]$_i$ ix-y-il t_i [$_{\text{SUBJ}}$ **waj Xun**].
FOC A3-father PFV-A3-see CLF Xun
Intended: 'Xun$_1$ saw HIS$_1$ FATHER.' (Chuj)

The contrast between Chuj and Ch'ol is striking yet again. When the object of an extended reflexive A'-extracts in Ch'ol, the R-expression must be realized in subject position and the possessor must be null (as expected given Condition C):

(40) [$_{\text{OBJ}}$ I-wakax [$_{\text{POSS}}$ *pro*]]$_i$ tyi i-choñ-o t_i [$_{\text{SUBJ}}$ **aj-Ana**].
A3-cow PRON PFV A3-sell-TV CLF-Ana
'Ana$_1$ sold HER$_{1/*2}$ COW.' (Ch'ol)

Configurations in which the possessor is overtly realized as an R-expression are impossible under a covalued reading. As discussed in Coon et al. 2021, such configurations lead to obligatory disjoint reference:

(41) [$_{\text{OBJ}}$ I-wakax [$_{\text{POSS}}$ **aj-Ana**]]$_i$ tyi i-choñ-o t_i [$_{\text{SUBJ}}$ ***pro***].
A3-cow CLF-Ana PFV A3-sell-TV PRON
'She$_1$ sold ANA$_{2/*1}$'S COW.' (Ch'ol)

For completeness, it can also be shown that in cases of A'-extraction of objects with relative clauses, linear precedence effects are, once again, observed in Chuj. In (42a), the R-expression must be realized inside the relativized object; (42b) is judged ungrammatical.

(42) *Chuj*
a. [$_{\text{OBJ}}$ Ha ch'anh libro [$_{\text{RC}}$ ix-s-man **ix** **Ana**]]$_i$ ol-y-awt-ej t_i [$_{\text{SUBJ}}$ ***pro***].
FOC CLF book PFV-A3-buy CLF Ana PROSP-A3-read-DTV PRON
'Ana$_1$ will read THE BOOK THAT SHE$_1$ BOUGHT.' (VOS)
b. *[$_{\text{OBJ}}$ Ha ch'anh libro [$_{\text{RC}}$ ixsman ***pro***$_1$]]$_i$ olyawtej t_i [$_{\text{SUBJ}}$ **ix Ana**]$_1$.

Clearly, A'-extracted objects in Chuj do not yield Condition C effects, in contrast with Ch'ol. These data thus provide further indication that precedence plays a fundamental role in the distribution of covalued nominals in Chuj, often to the apparent detriment of Condition C.

2.3.5 VSO/VOS alternations

As already noted above, optional VSO/VOS alternations in Chuj can sometimes arise given the right circumstances. The possibility for VSO is often correlated with sentences in which the object is phonologically heavy or the subject is phonologically weak, a fact which is consistent with alternations found in other Mayan languages (see e.g., references in Clemens and Coon 2018). In section 2.3.3, for instance, we saw that when the internal argument is modified with a relative clause, VSO word order is exceptionally possible. Such alternations provide a final piece of evidence for the role of linear precedence in Chuj. Considering again the example in (35) above, we can observe that when the subject of the embedded verb precedes the

subject of the matrix verb, as in (35a), it is the subject of the embedded verb that gets realized as an R-expression. On the other hand, when the subject of the matrix verb precedes the subject of the embedded verb, as in (35b), it is the subject of the matrix verb that gets realized as an R-expression.

Optional alternations in VOS/VSO word order in Chuj are also exceptionally possible when the subject of a transitive verb is a classifier pronoun. This means that we can also witness the importance of linear precedence in extended reflexive constructions. As we saw in section 2.3.1, in VOS extended reflexive constructions, there is evidence that it is the possessor, and not the subject, that gets overtly realized. An example with a classifier pronoun is provided in (43a) for illustration. In VSO sentences, on the other hand, the subject is realized as a classifier pronoun, while the possessor is null (43b):

(43) *Chuj VSO/VOS alternations*

a. Ix-s-chonh [$_{\text{OBJ}}$ s-wakax [$_{\text{POSS}}$ **winh**]] [$_{\text{SUBJ}}$ *pro*].
PFV-A3-sell A3-cow CLF.PRON PRON
'He$_1$ sold his$_1$ cow.' (VOS)

b. Ix-s-chonh [$_{\text{SUBJ}}$ **winh**] [$_{\text{OBJ}}$ s-wakax [$_{\text{POSS}}$ *pro*]].
PFV-A3-sell CLF.PRON A3-cow PRON
'He$_1$ sold his$_1$ cow.' (VSO)

Word order alternations therefore provide a ffith argument for the role linear precedence in Chuj, and the apparent lack of Condition C violations.

2.4 Summary and questions to be addressed

In this section, we have seen evidence from possessors, relative clauses, object A'-extraction, and alternations in VOS/VSO word order that the distribution of nominals in Chuj conforms to the generalization in (21), repeated below.

(21) *Generalization about covalued expressions in Chuj*
If covalued expressions appear in the same minimal CP, the linearly first must be an R-expression (or an overt classifier pronoun), and the rest are realized as *pro*.

From a crosslinguistic perspective, these facts are surprising. Given the data seen so far, Chuj appears to consistently violate Condition C, a pattern that is not expected if the binding conditions are universal (Grodzinsky and Reinhart 1993; Reuland 2010, 2011). The data are even more surprising considering the fact that other Mayan languages, like Ch'ol, *do* generally abide by the binding conditions. The main findings of this section are summarized in Table 1.

Table 1: Evidence of Condition C in Ch'ol vs. Chuj

	Data diagnostic	Ch'ol Condition C-abiding?	Chuj Condition C-abiding?
§2.2.1	Adverbs in extended reflexives	yes	no
§2.2.2	Coordinated extended reflexives	yes	no
§2.2.3	Relativized objects	n/a	no
§2.2.4	Object A'-extraction	yes	no
§2.2.5	VOS/VSO alternations	n/a	no

We thus find ourselves at a juncture. One option could be to explore the possibility that the binding conditions in (1) are not universal, or that they need to be modified in order to accommodate the linear precedence facts in Chuj. A second option would be maintain the universality of the binding conditions, but explore the possibility that there is something special about the syntax of Mayan languages like Chuj that reconciles the unexpected data with respect to the binding conditions. In the next sections, I will argue in favour of the second option. In particular, I argue that Mayan languages for which linear precedence plays a central role, like Chuj, exhibit a different syntax than languages where only structural relations matter, like Ch'ol. It is this special syntax that ultimately leads to configurations in which the binding conditions are inactive.

More concretely, the central goal of the rest of this paper will be to answer the following three questions, relevant to the Chuj and Ch'ol data that we observed in this section:

(44) *Questions to be addressed*

1. Why is Condition C seemingly ignored in Chuj, but not in Ch'ol? §3
2. Why does linear precedence play a role in the distribution of covalued nominals in Chuj? §4
3. Do the binding conditions ever apply as expected in Chuj? §5

Section 3 focuses on the first question. The leading proposal will be that in every configuration in which the binding conditions do not appear to apply in Chuj, the relevant covalued expressions are not in a c-command relation. In other words, the Condition C violations are only apparent, since the relevant covalued nominals in Chuj are free. The Chuj data are therefore entirely *consistent* with the binding conditions, and do not serve as evidence against a universalist approach to syntactic binding.

Section 4 turns to the second question. We will see the Chuj linear precedence effects seen in this section are just one symptom of a more general *anti-cataphora* constraint that regulates the distribution of *free nominals* in Mayan. That is, in clear cases of free pronouns, where c-command relations do not hold between covalued nominal expressions, both Chuj and Ch'ol, unlike languages like English, show a general ban on cataphora (backwards pronominalization).

Section 5 then turns to the third question, answering it in the affirmative. A crucial conclusion will be that when nominals are in a binding relation in Chuj, the regular binding conditions *do* apply, and override the anti-cataphora constraint. The overall conclusion will be that Chuj and Ch'ol, despite looking completely disparate at first glance, are subject to the exact same constraints on pronominalization: (i) the binding conditions (for bound nominals) and (ii) a ban on cataphora (for free nominals). The only difference between the two languages is the fact that Chuj exhibits idiosyncratic syntactic properties, such as high-absolutive syntax, which often obviate the application of the binding conditions.

Finally, it should be reiterated that similar patterns of nominal covaluation have been described by Craig (1977) for Popti', a close-relative of Chuj. Though the Chuj data have not been previously discussed, the Popti' data have received much more attention in the theoretical literature, including in work such as Hoekstra 1989, Woolford 1991, Trechsel 1995 and Aissen 2000. However, the sentences in which surprising binding effects may be observed in Popti' are much more limited, because Popti' exhibits rigid VSO word order. The proposals of the next sections will nonetheless ultimately build on components of the analyses in Craig 1977, Trechsel 1995, and Aissen 2000, as discussed below.

3 High-absolutive syntax and syntactic binding

The goal of this section is to show that the surprising Chuj data seen in the previous section are *consistent* with the binding conditions, despite initial appearances. Specifically, I argue that "high-absolutive syntax"—independently proposed to underlie other morphosyntactic phenomena in a subset of Mayan languages (Coon et al. 2014, a.o.)—can explain the surprising lack of Condition C effects in Chuj.

I first provide background on the high-absolutive approach to syntactic ergativity in section 3.1. Section 3.2 then lays out the proposal. In section 3.3, I elaborate on one prediction made by the analysis, which I show is borne out. Finally, in section 3.4, I consider additional data from oblique phrases, which are not immediately covered by the high-absolutive approach, and I suggest a tentative account of these data that keeps to the general theme of the proposal.

3.1 Syntactic ergativity and object raising in Mayan languages

In addition to the differences in pronominal realization described in section 2, Mayan languages like Chuj and Ch'ol differ in their syntax in another, better-known respect: while both languages are morphologically-

ergative, only Chuj demonstrates syntactic ergativity in the form of transitive subject extraction asymmetries, also known as the "Ergative Extraction Constraint" (EEC) (Aissen 2017, Coon et al. 2021):

(45) *Chuj → EEC*

a. Ix-ach-y-il ix ix.
PFV-B2S-A3-see CLF woman
'The woman saw you.'

b. *¿Mach$_j$ ix-ach-y-il-a' t_j?
who PFV-B2S-A3-see-TV
Intended: 'Who saw you?'

(46) *Ch'ol → no EEC*

a. Tyi i-k'el-ä-yety x-'ixik.
PFV A3-see-DTV-B2 CLF-woman
'The woman saw you.'

b. ¿Maxki tyi i-k'el-ä-yety?
who PFV A3-see-DTV-B2
'Who saw you?'

As seen above, only Chuj exhibits the EEC: (45b) shows that an ergative subject cannot be A'-extracted from a canonical transitive sentence in Chuj. In Ch'ol, on the other hand, ergative subjects can be freely A'-extracted, as seen in (46b).

Transitive subject extraction asymmetries, such as the one in (45), have received a lot of attention in the Mayanist literature (e.g. Aissen 1999, 2011, 2017; Stiebels 2006; Coon et al. 2014; Preminger 2014; Assmann et al. 2015; Erlewine 2016; Henderson and Coon 2018; Coon et al. 2021, a.o., for work specifically on Mayan). Since space prevents me from doing justice to the various proposals (though see Deal 2016 and Polinsky 2017 for relevant overviews of related analyses of syntactic ergativity across languages, and Aissen 2017 specifically on Mayan), I only provide details on the type of analysis that is directly relevant for the analysis proposed in this paper, namely the one first proposed (for Mayan) in Coon et al. 2014.

Building on previous work on syntactic ergativity in other languages (Campana 1992; Bittner and Hale 1996; Aldridge 2004), Coon et al. (2014) propose that whether or not a language exhibits the EEC stems from a deep syntactic parameter in the Mayan language family (see also Assmann et al. 2015; Coon et al. 2021). In 'high-absolutive' languages like Chuj, the absolutive object consistently raises to a position above the ergative subject (47). In low-absolutive languages like Ch'ol, no such raising occurs (48).

(47) *High-absolutive language (e.g., Chuj)*

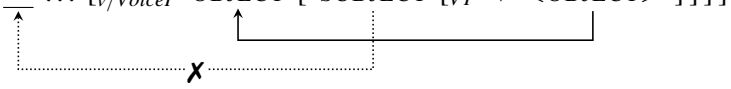
(48) *Low-absolutive languages (e.g., Ch'ol)*

[$_{v/VoiceP}$ SUBJECT [$_{VP}$ V OBJECT]]]

Though formalized differently in different works, the main idea is that the high-absolutive syntax in (47) creates an *intervention problem* for the extraction of the ergative subject; this intervention is taken to be at

the source of the EEC:

(49) *Raising of object in high-absolutive languages blocks subject extraction*



As noted by the proponents of this analysis, there is a crucial correlation between the high/low-absolutive parameter and the position of the absolutive morpheme, first noticed by Tada (1993). In high-absolutive Mayan languages, Set B (absolutive) morphemes tend to be realized between aspect marking and Set A (ergative) morphemes, as in (50a). In low-absolutive Mayan languages, Set B morphemes appear as a suffix on the verb stem (50b).

(50) a. *Verb stem in high-absolutive languages*
TAM - **Set B** - Set A - verb - suffixes (see (45a))
b. *Verb stem in low-absolutive languages*
TAM - Set A - verb - suffixes - **Set B** (see (46a)

Coon et al. (2014) argue that this correlates with the locus of absolutive licensing. In high-absolutive languages, the source of absolutive is finite T/Infl, whereas it is transitive *v*/VoiceP in low-absolutive languages.

In order to extract the ergative subject in high-absolutive Mayan languages like Chuj, speakers employ a special construction, known as the "Agent Focus (AF) construction". In this construction, the verb lacks Set A (ergative) agreement and is suffixed with special morphology (*-an* in Chuj).

(51) Ha ix chichim ix-ach-il-**an**-i.
FOC CLF elder.woman PFV-B2S-see-AF-IV
'THE ELDER saw you.' (Chuj Agent Focus)

In the Agent Focus construction, Coon et al. (2014) propose that the absolutive object does not raise, and that absolutive morphemes exceptionally have a low source (*v*/Voice, instantiated as *-an* in Chuj). Therefore, the EEC is circumvented and the ergative subject can extract.

Finally, before we move on, a note on word order in Mayan is in order. All else being equal, we might expect objects to systematically precede the subject in high-absolutive sentences (assuming leftward movement over the subject). Though this is indeed generally the case in Chuj, it is not necessarily the case in other high-absolutive Mayan languages: many high-absolutive Mayan languages exhibit VSO word order. Moreover, many low-absolutive Mayan languages, Ch'ol included, exhibit VOS word order. In the rest of this paper, I follow Clemens and Coon (2018) in assuming that verb-initial word order is derived from a

base-generated SVO order via head-movement of the verb to a higher functional projection. Also following Clemens and Coon, I assume that the order of post-verbal arguments is sensitive to the phonological properties of arguments (e.g., phonological weight; see §2.3.5). Syntactic trees in examples will therefore not always match the actual word order seen in Chuj and Ch'ol. For other proposals of word order in Mayan, see England 1991, Aissen 1992, Coon 2010b, Douglas et al. 2017, and Little 2020b.

Having established the relevant background, I now show how the high-absolutive approach to the EEC can help us understand the surprising differences in patterns of nominal binding in Chuj and Ch'ol, without having to abandon a universal approach to the binding conditions.

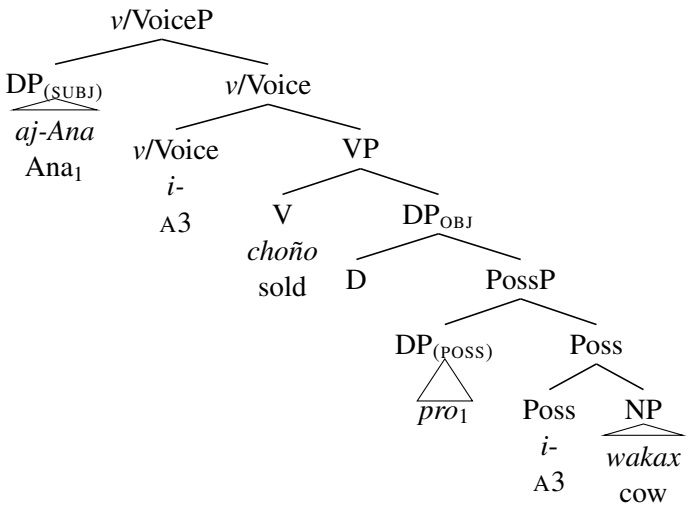
3.2 Proposal: High-absolutives bleed Condition C

We start with Ch'ol. Consider the extended reflexive construction in (52a), with the proposed 'low-absolutive' syntax in (52b). Though not represented in Chuj and Ch'ol diagrams for simplicity, I assume that the verb ultimately undergoes head movement to a position above *v*/VoiceP, resulting in verb-initial word order (Clemens and Coon 2018). Following Coon (2017), I also assume that the locus of Set A morphemes are functional projections that sit above the VP and NP.

(52) *Ch'ol extended reflexive construction and corresponding structure*

a. Tyi i-choñ-o [$_{\text{OBJ}}$ i-wakax [$_{\text{POSS}}$ *pro*]] [$_{\text{SUBJ}}$ aj-Ana].
PFV A3-sell-TV A3-cow *pro* CLF-Ana
'Ana$_1$ sold her$_{1/*2}$ cow.'

b.



That Ch'ol generally abides by Condition C, as seen in section 2, is not surprising given the low-absolutive

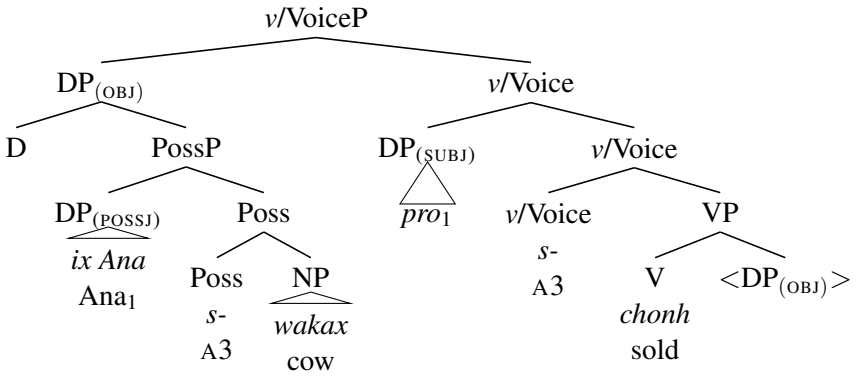
syntax in (52b). Note that the subject c-commands and therefore binds the object, so Condition C should apply. Since generating the R-expression in the possessor of the object in (52b) would clearly lead to a violation of Condition C, we expect that the R-expression can only occur in subject position. In other words, whenever the subject is covalued with an expression contained inside the absolutive object in Ch'ol, we expect that Condition C will be operative and that an R-expression will have to occur in subject position, as we saw is the case in section 2.

Now let us consider Chuj. Assuming high-absolutive syntax, with the object raised over the subject, (53a) has the structure in (53b). Though not discussed explicitly in previous work on high-asbolutive Mayan languages, this syntax should have a crucial consequence for binding: object raising should bleed c-command relations between subjects and covalued DPs inside the object. This is schematized in (53b).

(53) *Chuj extended reflexive construction and corresponding structure*

a. Ix-s-chonh [$_{\text{OBJ}}$ s-wakax [$_{\text{POSS}}$ ix Ana]] [$_{\text{SUBJ}}$ *pro*].
PFV-A3-sell A3-cow CLF Ana *pro*
Lit: 'She$_1$ sold Ana$_1$'s cow.'

b.



Once the object raises to a position above the subject in (53b), the subject no longer c-commands the possessor within the object. And the same goes for the possessor of the object, which also does not c-command the subject. This is crucial: if neither the subject nor the possessor c-command each other in sentences like (53a), then nothing should prevent the R-expression from appearing in possessor position. In other words, once we adopt a high-absolutive syntax for Chuj, as independently-motivated in previous work, then we find that the apparent violations of Condition C described in section 2 were actually illusory.[13] The two covalued expressions in (53a) are not in a binding relationship; they are both free expressions.

Importantly, I assume that object raising is an instance of A-movement (as proposed by Coon et al.

[13]Note that Trechsel (1995) independently arrives at the conclusion that the absolutive object must asymmetrically c-command the ergative subject in Popti', precisely in order to derive the lack of Condition C effects in this language.

2021), and furthermore that A-movement does not reconstruct for Condition C. The absence of A-movement reconstruction in (53b) is an essential component of the proposal. If the object could reconstruct, then we would expect (53b) to trigger a Condition C violation. As seen in section 2, this clearly is not the case in Chuj. Moreover, the claim that A-movement does not reconstruct for Condition C is not new, and was proposed in many works including Chomsky 1995, Fox 1999; Lasnik 1999, Legate 2014 (see Takahashi 2010 for an overview).[14] Indeed, though Condition C must reconstruct for A'-movement in English, as illustrated by the ungrammaticality of (54), there is evidence that it does not for A-movement (55):

(54) *A'-movement → reconstruction*
*[Which picture of John$_1$]$_i$ did he$_1$ like t_i?

(55) *A-movement → no reconstruction* (Fox 1999: 192)
[Every argument that John$_1$ is a genius]$_i$ seems to him$_1$ t_i to be flawless.

In sum, I argue that the high-absolutive approach to the EEC can explain the fact that Chuj, as opposed to Ch'ol, shows surprising patterns of nominal covaluation. High-absolutive syntax leads to a syntactic configuration in which neither the subject nor expressions contained inside the object c-command each other, thereby explaining the absence of Condition C violations in all of the Chuj sentences seen in section 2. As a result, we do not need to deny the universality of the binding conditions in order to explain the distribution of nominal expressions in Chuj, despite initial appearances.

The current proposal makes a number of predictions. For one, notice that high-absolutive syntax leads to configurations in which the absolutive object asymmetrically c-commands the subject. This means that when the absolutive object is covalued with an expression inside the subject, Condition C effects should be perceived. I elaborate on this prediction in section 5.1. In the next section, we focus on another—this time typological—prediction made by the current analysis, which upon preliminary investigation, is borne out.

3.3 Prediction: Nominal covaluation across Mayan

Since the current analysis relies on the low/high-absolutive parameter, we make the following pan-Mayan typological prediction:

[14] The crucial point here is that there is no A-movement reconstruction *for Condition C*. I am not claiming that A-movement is always impossible, but simply that it is impossible in the relevant examples (see Fox 1999, Boeckx 2001 and Sportiche 2006 for reasons to think that there is sometimes reconstruction for A-movement).

(56) *Typological prediction*

a. Mayan languages that exhibit the EEC (and therefore exhibit high-absolutive syntax) should behave like Chuj in showing no Condition C effects in syntactic contexts comparable to the ones seen in §2.

b. Mayan languages that do not exhibit syntactic ergativity (and therefore exhibit low-absolutive syntax) should behave like Ch'ol in complying as expected to Condition C in the syntactic contexts seen in §2.

A straightforward way to test this prediction in different Mayan languages is with sentences in which the object of an extended reflexive is extracted. High-absolutive languages should exhibit—or at least allow—the parse in (57a), whereas low-absolutive languages should systematically exhibit the parse in (57b):

(57) a. *High-absolutive languages (possessor should be overt and subject null):*
[$_{\text{OBJ}}$ … [$_{\text{POSS}}$ R-expression$_1$]] verb [$_{\text{SUBJ}}$ *pro*$_1$]

b. *Low-absolutive languages (possessor should be null and subject overt):*
[$_{\text{OBJ}}$ … [$_{\text{POSS}}$ *pro*$_1$]] verb [$_{\text{SUBJ}}$ R-expression$_1$]

Though I leave an extensive cross-Mayan investigation of this prediction to future work, preliminary investigation suggests that this prediction is borne out, as also discussed in Coon et al. 2021. Of the languages that I could survey, three were high-absolutive and two were low-absolutive (see Coon et al. 2021 for classification of low/high absolutive languages). The three high-absolutive languages all belong to different sub-branches of Mayan languages, and could thus be considered distant relatives within the family (Law 2014).

All three high-absolutive languages, Q'anjob'al, Mam, and Kaqchikel, show the same (lack of) Condition C effects as Chuj: when the object of an extended reflexive is fronted, the R-expression is realized in possessor position, and the subject is null:

(58) [$_{\text{OBJ}}$ A no' s-wakax [$_{\text{POSS}}$ naq Xhunik]] max s-txon-o' [$_{\text{SUBJ}}$ *pro*].
FOC CLF A3-cow CLF Xhunik PFV A3-sell-TV PRON
'Xhunik$_1$ sold HIS$_1$ COW.' (Q'anjob'al)

(59) [$_{\text{OBJ}}$ A t-chej [$_{\text{POSS}}$ Xwan]] o tz'-ok t-b'yo-'n [$_{\text{SUBJ}}$ *pro*] .
DET A3S-horse Xwan PFV B3S-DIR A3S-hit-DS PRON
'Xwan$_1$ hit HIS$_1$ HORSE.' (Mam)

(60) [$_{\text{OBJ}}$ Ja ri ru-wakx [$_{\text{POSS}}$ ri xta Ana]] x-u-k'ayi-j [$_{\text{SUBJ}}$ *pro*] .
FOC DET A3S-cow DET CLF Ana PFV-A3-sell-DTV PRON
'Ana$_1$ sold HER$_1$ COW.' (Kaqchikel)

Conversely, the two low-absolutive languages I surveyed, Tojol-ab'al and Tseltal, both behave like Ch'ol: Condition C is active in the relevant sentences, as seen in the examples below. Note that while Tseltal is part the Cholan-Tseltalan sub-branch of Mayan languages, Tojol-ab'al is often categorized as a

close-relative of Chuj (Q'anjob'alan) (Kaufman 1969, Hopkins 2006).[15]

(61) [$_{OBJ}$ Ja' ja s-wakax [$_{POSS}$ *pro*]] x-chon-a [$_{SUBJ}$ ja Jwan-i'].
FOC DET A3-cow PRON A3-sell-TV DET Jwan-DET
'Jwan$_1$ sold HIS$_{1/*2}$ COW.' (Tojol-ab'al)

(62) [$_{OBJ}$ Ja' x-wakax [$_{POSS}$ *pro*]] la x-chon [$_{SUBJ}$ te j-Wan-e].
FOC A3-cow PRON PFV A3-sell DET CL-Wan-DET
'Wan$_1$ sold HIS$_{1/*2}$ COW.' (Tseltal)

Strikingly, the prediction that Condition C effects should be *absent* from the relevant sentences in high-absolutive languages, but *present* in low-absolutive languages, is borne out in a range of languages. Insofar as the prediction is confirmed across the Mayan family, it constitutes not only strong support for the current analysis, but also more generally support for high-absolutive approaches to syntactic ergativity in Mayan.

3.4 Oblique phrases and binding

While this paper focuses primarily on covaluation relations between external and internal arguments of transitive clauses (and nominals contained within both), important differences between Chuj and Ch'ol in terms of nominal covaluation may also be observed between other types of nominals. Specifically, as I show in this subsection, similar linear precedence effects are observed in Chuj, but not in Ch'ol, when the main arguments of verbs are covalued with expressions inside oblique phrases. Since the differences in patterns of nominal covaluation were attributed to object raising in the previous sections, the current analysis does not immediately cover cases of nominal covaluation with oblique phrases. This short subsection thus provides new data concerning variation between oblique phrases in Chuj and Chol, and initial steps toward an account of the contrast between the two languages.

Consider the set of sentences from Chuj (63) and Ch'ol (64), which involve covaluation between the absolutive subject and an expression contained inside a PP. Notice that in (63a) and (64a), the PPs are postverbal, whereas in (63b)-(63c) and (64b)-(64c), the PPs appear in a preverbal position.

(63) *Chuj*

a. Ix-way [$_{SUBJ}$ **waj Xun**] [$_{PP}$ t'a s-pat [$_{POSS}$ ***pro***]].
PFV-sleep CLF Xun PREP A3-house PRON
'Xun$_1$ slept in his$_1$ house.'

[15]The classification of Tojol-ab'al has been subject to debate. Recent work, however, has convincingly argued that it shows signs of a 'mixed' language, showing not only several similarities with Chuj, but also with Tseltal (Law 2011, 2014, Gómez Cruz 2017).

b. [$_{PP}$ T'a s-pat [$_{POSS}$ **waj Xun**]] ix-way-i [$_{SUBJ}$ ***pro***] .
PREP A3-house CLF Xun PFV-sleep-IV PRON
'Xun$_1$ slept in his$_1$ house.' (Lit: In Xun$_1$'s house he$_1$ slept)

c. *[$_{PP}$ T'a spat [$_{POSS}$ ***pro***]] ixwayi [$_{SUBJ}$ **waj Xun**].
'Xun$_1$ slept in his$_1$ house.'

(64) *Ch'ol*

a. Tyi wäy-i [$_{SUBJ}$ **aj-Rosa**] [$_{PP}$ tyi y-otyoty [$_{POSS}$ ***pro***]].
PFV sleep-IV CLF-Rosa PREP A3-house *pro*
'Rosa$_1$ slept in her$_1$ house.'

b. [$_{PP}$ Tyi y-otyoty [$_{POSS}$ ***pro***]] tyi wäy-i [$_{SUBJ}$ **aj-Rosa**]
PREP A3-house *pro* PFV sleep-IV CLF-Rosa
'In her$_1$ house Rosa$_1$ slept.'

c. [$_{PP}$ Tyi yotyoty [$_{POSS}$ **ajRosa**]] tyi wäyi [$_{SUBJ}$ ***pro***].
'Rosa$_1$ slept in her$_{2/*1}$ house.'

Yet again, linear precedence matters in Chuj, while it does not in Ch'ol. When the PP follows the subject, as in (63a) and (64a), Chuj and Ch'ol exhibit the same pattern: the subject is obligatorily realized as an R-expression and the covalued expression inside the PP is null. When the PP precedes the subject, however, the two languages diverge. In Chuj the R-expression must be realized inside the fronted PP, as shown in (63b) and (63c). In Ch'ol it must be realized in subject position, as shown in (64b) and (64c). In other words, we see reconstruction effects for Condition C in Ch'ol, but not in Chuj.

Consider another Chuj example, this time with a transitive sentence. Again, the crucial point to notice is that the linearly first covalued expression is the one to get realized as an R-expression:

(65) *Chuj*

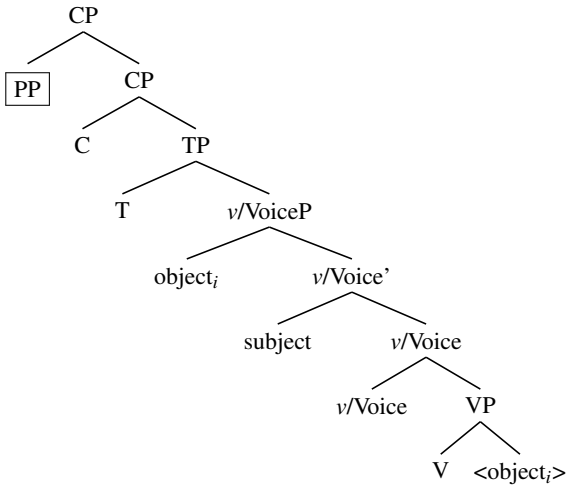
a. Ix-y-ik' b'at k'atzitz [$_{SUBJ}$ **waj Xun**] [t'a s-pat [$_{POSS}$ ***pro***]].
PFV-A3-carry DIR.go wood CLF Xun PREP A3-house *pro*
'Xun$_1$ carried wood to his$_{1/*2}$ house.'

b. [T'a s-pat [$_{POSS}$ **waj Xun**]] ix-y-ik' b'at k'atzitz [$_{SUBJ}$ ***pro***]
PREP A3-house CLF Xun PFV-A3-carry DIR.go wood *pro*
'To his$_{1/*2}$ house Xun$_1$ carried wood.'

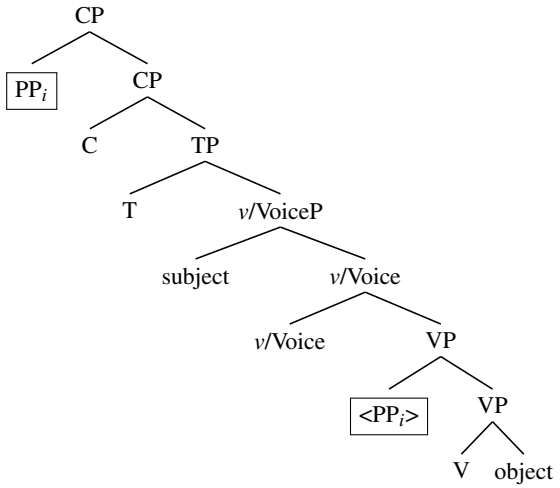
In the spirit of the the proposal in section 3.2, I suggest that the absence of Condition C effects in Chuj can be explained based on the fact that there is no c-command relations between the relevant covalued nominal expressions in (63b) and (65b). The main idea goes as follows: while fronted PPs in Chuj are base-generated in their preverbal position above the main arguments, PPs in Ch'ol can be generated low and A'-extracted to a preverbal position. Concretely, I propose that preverbal PPs in Chuj and Ch'ol are derived

as follows (high/low-absolutive syntax is also exemplified below):

(66) *Base-generated preverbal PP in Chuj*



(67) *A'-extracted preverbal PP in Ch'ol*



As far as Condition C is concerned, the two structures in (66) and (67) make different predictions. In the structure for Chuj in (66), no c-command relations hold between the main arguments and expressions contained inside the PP, and so no Condition C effects are expected. In the structure for Ch'ol in (67), the subject binds inside the PP before A'-movement, which feeds Condition C effects. Though the evidence in favour of the height of oblique phrases is limited, and I leave a more detailed analysis of these data to future work, I provide two arguments that this analysis is on the right track.[16] One is conceptual and one is empirical.

On the conceptual side, it should be stressed that the high-absolutive approach to the EEC proposed by Coon et al. (2014) and Coon et al. (2021) already *predicts* that adjunct extraction in transitive sentences like (65) should be problematic. In these accounts, the prediction is that nothing besides the absolutive object should be able to extract from a transitive *v*/VoiceP, because the raised object blocks A'-extraction of all other kinds of constituents (see discussion in §5.3 of Coon et al. 2014, and §3.3 of Coon et al. 2021). At least in a transitive sentence, preverbal adjuncts would therefore need to be base-generated high, a prediction Coon et al. (2014) provide evidence for based on the behaviour of low adverbs in Q'anjob'al.[17] Though the ban on (low) adjunct extraction is only predicted for transitive sentences, it would not be surprising if some high-absolutive languages, such as Chuj, would have simply generalized a base-generation strategy

[16]Note that even in English, the status of syntactic binding between arguments and PPs is complicated (Reinhart 1976, Pesetsky 1995, Bruening 2014). See, for instance, Bruening 2014 §3.1 and §5.3 for relevant discussion.

[17]In some Mayan languages (but not Q'anjob'alan languages), the extraction of low adjuncts requires a special construction, with *v*/Voice-like morphology in the main clause (see e.g. Ayres 1983, England 1997, Henderson 2007, Velleman 2014, Can Pixabaj 2015; Mendes and Ranero 2021). It would be interesting to see whether the presence of adjunct extraction morphology has effects on the realization of covalued nominals when oblique phrases are fronted in these languages. I leave this question for future work.

for preverbal adjuncts. I suggest that this is indeed the case.

On the empirical side, note that the relative ordering of PPs with respect to subjects in Chuj and Ch'ol is different. Oblique phrases in Chuj can only appear in peripheral positions, as in (68a) and (68b). They can never intervene between the verb and on the object (68c), or between the object and the subject (68d):

(68) *Chuj*

a. ✓Ix-s-man [$_{OBJ}$ ixim ixim] [$_{SUBJ}$ ix Rosa] [$_{PP}$ **t'a merkado**].
PFV-A3-buy CLF corn CLF Rosa PREP market
'Rosa bought corn at that market.

b. ✓[$_{PP}$ **T'a merkado**] ix-s-man [$_{OBJ}$ ixim ixim] [$_{SUBJ}$ ix Rosa].

c. *Ix-s-man [$_{PP}$ **t'a merkado**] [$_{OBJ}$ ixim ixim] [$_{SUBJ}$ ix Rosa].

d. *Ix-s-man [$_{OBJ}$ ixim ixim] [$_{PP}$ **t'a merkado**] [$_{SUBJ}$ ix Rosa].

In Ch'ol, on the other hand, the position of PPs is more flexible. PPs readily intervene between objects and subjects, as seen in (69d):

(69) *Ch'ol*

a. ✓Tyi i-mäñä [$_{OBJ}$ ixim] [$_{SUBJ}$ aj-Rosa] [$_{PP}$ **tyi merkadu**].
PFV A3-buy corn aj-Rosa PREP market
'Rosa bought corn at the market.

b. ✓[$_{PP}$ **Tyi merkadu**] tyi i-mäñä [$_{OBJ}$ ixim] [$_{SUBJ}$ aj-Rosa].

c. *Tyi i-mäñä [$_{PP}$ **tyi merkadu**] [$_{OBJ}$ ixim] [$_{SUBJ}$ aj-Rosa].

d. ✓Tyi i-mäñä [$_{OBJ}$ ixim] [$_{PP}$ **tyi merkadu**] [$_{SUBJ}$ aj-Rosa].

While VO-PP-S order is possible in Ch'ol, it is not in Chuj. To my knowledge, this is a novel observation that should be tested across other low-absolutive and high-absolutive Mayan languages. Though I remain agnostic about the derivation of word order in this paper, I take these differences as indicative that PPs occupy different structural positions in both languages. In particular, this is compatible with the proposal that PPs in Chuj are always base-generated above the external and internal arguments, regardless of whether they are preverbal or postverbal.

A reviewer asks about how the high base-generation theory of obliques in Chuj could account for indirect object PPs (such as goal PPs), which by assumption would need to be base-generated in a lower position in the structure. As discussed in Coon et al. 2014, high-absolutive Mayan languages, contrary to some low-absolutive Mayan languages, do not possess a distinct class of double object constructions. And to my knowledge, it is not clear that any verb inherently requires two objects in Chuj, which raises the question of whether Chuj possesses distransitive verbs in the first place, and therefore genuine indirect object PPs. I

thus leave a detailed investigation of these constructions in Chuj for future work.

3.5 Summary

This section provided an answer to the first question posed at the end of section 2, namely: why do the binding conditions apply as expected in Ch'ol, but not in Chuj? I argued that the apparent violations of Condition C seen in section 2 (and §3.4) were not actually violations of Condition C. The general conclusion is that in all of the Chuj sentences that appear to obviate Condition C, there are no c-command relations between the relevant covalued nominal expressions, and so the binding conditions do not apply.[18]

Though we now understand why the surprising Chuj sentences seen in section 2 do not violate Condition C—they all involve *free* nominals—we have not yet discuss the fact that linear precedence matters for the distribution of free nominals in Chuj. We turn to this question in the next section.

4 Anti-cataphora in Chuj and Ch'ol

In the previous section, I argued that high-absolutive syntax often bleeds syntactic binding relations between covalued nominal expressions in Chuj. This in turn leads to configurations in which the binding conditions do not dictate the distribution of covalued nominals, because the relevant covalued expressions are *free*. However, we have not yet addressed the fact that Chuj prohibits cataphora between covalued nominals that are free. That is, configurations such as (70) are impossible in Chuj:

(70) *Impossible extended reflexive construction in Chuj*
*verb $[_{\text{OBJ}} \ldots [_{\text{POSS}}\ \textit{pro}_1\ ]]\ [_{\text{SUBJ}}$ R-expression$_1$]

In this section, I propose that the ungrammaticality of (70) is attributable to a general ban on cataphora for free pronouns, which as we will see, must also be posited to account for clear cases of free pronouns in not only Chuj, but also Ch'ol. In particular, I propose the following generalization:

(71) *Anti-cataphora with free pronouns in Chuj and Ch'ol*
If a pronoun is free and covalued with an overt nominal (R-expression/classifier pronoun), the overt nominal must linearly precede the free pronoun (linear precedence is relevant).

[18] Following the majority of works, I have assumed that the right 'command' notion for the binding conditions is *c*-command. As far as I can tell, however, other approaches, such as Bruening's (2014) *precedence* and *phase command*, could also be used to derive the differences between Chuj and Ch'ol in terms of syntactic binding. See Bruening 2014: §5.4 for a discussion of how precedence and phase-command could apply for VOS languages (crucially, only those that do not exhibit high-absolutive syntax).

The ban on cataphora in (71) is surprising coming from the perspective of English. In English, cataphora is often taken to be permitted precisely in cases where nominals are free, and so not regulated by the binding conditions (e.g. Ross 1967; Reinhart 1983; Kayne 2002; Bruening 2014). Here are some examples:

(72) a. Those who know her$_1$ adore Zelda$_1$. (Reinhart 1983: (2))
b. Those who know Zelda$_1$ adore her$_1$

(73) a. Her$_1$ mother likes Bernice$_1$'s friends.
b. Bernices$_1$'s mother likes her$_1$ friends. (Bruening 2014: (6a-b))

The position of R-expressions and pronouns in (72) and (73) is flexible. For Reinhart (1983), this is directly attributed to the fact that the two nominals are not in a binding relation; they are both free.

Yet Chuj and Ch'ol differ from English, and the evidence for the constraint in (71) is overwhelming. Even in examples which indisputably involve free pronouns, the effects of (71) can be noticed. Consider, for instance, the Chuj sentence in (74). With or without high-absolutive syntax, it is difficult to imagine how the two covalued expressions could c-command each other, since both are embedded inside the subject and the object. (74b) illustrates that contrary to what we see in the English translations, cataphora remains illicit:

(74) *Chuj free pronoun → linear precedence matters*
a. Tz-s-chamk'ol-ej [$_{OBJ}$ s-tz'i' **ix** **Ana**] [$_{SUBJ}$ ix ix ix-lolon y-et'ok ***pro***].
IPFV-A3-like-DTV A3-dog CLF Ana CLF woman PFV-speak A3-with PRON
'The woman that spoke with Ana$_1$ likes her$_1$ dog.'
b. *Tzschamk'olej [$_{OBJ}$ stz'i' ***pro***] [$_{SUBJ}$ ix ix ix-lolon y-et' **ix Ana**].
Intended: 'The woman that spoke with her$_1$ likes Ana$_1$'s dog.'

Strikingly, the preference for linear precedence with free nominals is not limited to Chuj. In examples which clearly involve two free nominals which are covalued, Ch'ol also respects (71):

(75) *Ch'ol free pronoun → linear precedence matters*
a. Tyi i-pejk-ä [$_{OBJ}$ **aj-Rosa**] [$_{SUBJ}$ jiñi x-'ixik [ta'=bä i-k'el-e ***pro***]].
PFV A3-speak-DTV CLF-Rosa DET CLF-woman PFV=REL A3S-see-TV PRON
'The woman who saw Rosa$_1$ spoke with her$_1$.
b. *Tyi ipejkä [$_{OBJ}$ ***pro***] [$_{SUBJ}$ jiñi x'ixik [$_{RC}$ ta'bä ik'ele **ajRosa**]].[19]
Intended: 'The woman who saw her$_1$ spoke with Rosa$_1$.

In (75a), an expression contained inside the subject is covalued with the object. Since Ch'ol is a low-absolutive language, this means that neither covalued expression c-commands the other, and by assumption, that the two expressions are not in a binding relation. What we see is that the R-expression must be realized

[19]This sentence could have a grammatical disjoint interpretation: 'the woman who saw him/her$_2$ spoke with Rosa$_1$.' Note though, that (75a) can also have a disjoint interpretation. Therefore, the preference for (75a) cannot be due to ambiguity resolution.

first, in this case as the object. The opposite order, where the R-expression is realized inside the subject (75b), is judged ungrammatical under a joint reference reading.

We can further witness that linear precedence matters in Ch'ol sentences like (75) when we consider comparable sentences with fronted subjects.

(76) *Ch'ol free pronoun → linear precedence matters*

a. [$_{\text{SUBJ}}$ Jiñi x-'ixik [ta'=bä i-k'el-e **aj-Rosa**]] tyi i-pejk-ä [$_{\text{OBJ}}$ ***pro***]
DET CLF-woman PFV=REL A3S-see-TV CLF-Rosa PFV A3-speak-DTV PRON
'[$_{\text{FOC}}$ The woman who saw Rosa$_1$] spoke with her$_1$.

b. *[$_{\text{SUBJ}}$ Jiñi x'ixik [$_{\text{RC}}$ ta'bä ik'ele ***pro***]] tyi ipejkä [$_{\text{OBJ}}$ **ajRosa**]
Intended: '[$_{\text{FOC}}$ The woman who saw her$_1$] spoke with Rosa$_1$.'

In (76), in contrast with (75), the R-expression must now be realized inside the subject, and not as the object. This is because the subject now *precedes* the object. Again, this shows that linear precedence matters for the distribution of free pronouns, even in Ch'ol.

The generalization in (71) extends to other pronominal uses. Recall from section 2.1 that Chuj employs overt pronouns in certain syntactic domains, roughly when two covalued expressions in a sentence are in different CPs (excluding relative clauses). Crucially, when a free overt pronoun is covalued with an R-expression, and no c-command relations hold between the two, the R-expression must *precede* the pronoun:

(77) *Chuj*

a. [$_{\text{CP}}$ Tato tz-b'at **waj Xun**$_1$ t'a Xan Matin], te-junk'o'olal ol-aj **winh**$_1$.
if IPFV-go CLF Xun to San Mateo INTS-happy PROSP-be CLF.PRON
'If Xun$_1$ goes to Xan Matin, he$_1$ will be very happy.'

b. *[$_{\text{CP}}$ Tato tzb'at **winh**$_1$ t'a San Mateo], tejunk'o'olal olaj **waj Xun**$_1$.
Intended: 'If he$_1$ goes to San Mateo, Xun$_1$ will be very happy.'

In (77), the two covalued expressions are clearly not in a c-command relation, since one is contained inside a preverbal clausal adjunct. Yet again, linear preference triumphs: the sentence in (77b) is judged ungrammatical by speakers.

The Ch'ol counterparts of the Chuj sentences in (77) show the same linear precedence effects:

(78) *Ch'ol*

a. [$_{\text{CP}}$ Mi tyi majl-i **aj-Juan** tyi San Cristóbal], tyijikña kej y-ubiñ ***pro***.
if PFV go-IV CLF-Juan PREP San Cristóbal , happy PROSP A3-feel PRON
'If Juan$_1$ goes to San Cristóbal, he$_1$'ll be happy.'

b. ??/*[$_{\text{CP}}$ Mi tyi majli ***pro*** tyi San Cristóbal] tyijikñaj kej yubiñ **aj-Juan**.
Intended: 'If he$_1$ goes to San Cristóbal, he$_1$'ll be happy.'

The preceding results are important because they show that both Chuj and Ch'ol are subject to the constraint on cataphora in (71), which applies between free R-expressions and covalued pronouns. The only difference between the two languages is the frequency with which sentences involving free expressions arise. Since Chuj is a high-absolutive language, in which c-command between the subject and nominals inside the object is consistently disrupted by object raising, it features a much wider range of sentences involving covaluation between free nominals than Ch'ol does (i.e., all those that looked like violations of Condition C in §2).

As it turns out, Chuj and Ch'ol are not alone in imposing linear precedence constraints on the distribution of free nominals. Many researchers have noticed the existence linear precedence constraints on pronominalization, exactly when the binding conditions do not apply (see e.g. Tai 1973 and Huang 1982 on Mandarin; Huang 1982 on Japanese; Mohanan 1981, 1983 on Malayalam; Chung 1989 on Chamorro; Kazanina and Phillips 2001, Reuland and Avrutin 2004, and Kazanina 2005 on Russian; and Christodoulou 2008 on Greek). For instance, Huang (1982) shows that linear precedence plays a central role for the distribution of (pro)nominals in Mandarin Chinese (see also Lust 1986; Lust et al. 1996, and Su 2020). He provides the following sentences:

(79) *Mandarin Chinese* (Huang 1982: 388)

a. [[da-le **Zhangsan**$_1$ de] neige ren], dui **ta**$_1$ hen bu keqi.
hit-ASP Zhangsan DE that man to him very not polite
'The man that hit Zhangsan$_1$ was very impolite to him$_1$.'

b. *[[da-le **ta**$_1$ de] neige ren], dui **Zhangsan**$_1$ hen bu keqi.
'The man that hit him$_1$ was very impolite to Zhangsan$_1$.'

(80) *Mandarin Chinese* (Huang 1982: 389)

a. [[wo kanjian **Zhangsan**$_1$ de] shihou], **ta**$_1$ zai dazi.
I see Zhangsan DE time he at type
'When I saw Zhangsan$_1$, he$_1$ was typing.'

b. *[[wo kanjian **ta**$_1$ de] shihou], **Zhangsan**$_1$ zai dazi.
Intended: 'When I saw him$_1$, Zhangsan$_1$ was typing.'

The Mandarin Chinese data parallel those of Chuj and Ch'ol above: these languages impose constraints on cataphora. Notice that all of the (intended) translations of the ungrammatical sentences in Chuj, Ch'ol, and Mandarin examples seen above were grammatical in English. We therefore arrive at the following point of variation about the crosslinguistic distribution of free pronouns: while some languages ban cataphora with free nominals (Chuj, Ch'ol, Mandarin, etc.), others allow it (English, French, etc.).[20]

[20]The variation could be gradable across languages. For instance, while cataphora is possible with English possessors (*Their*$_1$ *mother saw Kim*$_1$), my (native-speaker) judgement is that comparable sentences are impossible in French (**Sa*$_1$ *mère a vu Kim*$_1$). In a similar vein, while linear precedence restrictions with free nominals in Mandarin Chinese and Japanese seem widespread and

However, as seen in section 2, it cannot be the case that anti-cataphora applies for the distribution of *all* covalued expressions, at least not in Ch'ol. In Ch'ol, which does not exhibit high-absolutive syntax, linear precedence is often irrelevant: when an R-expression c-commands a pronoun with which it is covalued, the binding conditions apply as expected regardless of whether the pronoun precedes the R-expression. This means that the anti-cataphora constraint in (71) can only apply to *free* expressions, and not to those which are *bound* under c-command. In other words, we arrive at the following two-fold generalization about the distribution of covalued nominal expressions in Chuj and Ch'ol, repeated from the introduction:

(81) *Generalization about nominal expressions in Chuj and Ch'ol*

a. If a nominal is bound, it is subject to structurally-sensitive binding conditions (linear precedence is irrelevant).

b. If a free pronoun is covalued with an R-expression, the R-expression must linearly precede the free pronoun (linear precedence is relevant). (repeated from (71))

The generalization in (81) points us to two clear conclusions. The first is that the grammars of Chuj and Ch'ol treat bound and free nominals in fundamentally different ways. This is not a controversial claim; virtually all theories of nominal covaluation draw a formal distinction between the two (e.g. Reinhart 1983, Grodzinsky and Reinhart 1993, Heim and Kratzer 1998, Hornstein 2001, Reuland 2001, Büring 2005, 2011, Rooryck and vanden Wyngaerd 2011; Bruening 2014). The second conclusion—and perhaps the more surprising one—is that Chuj and Ch'ol impose further restrictions on free expressions than other languages, such as English. As discussed, it is well-known that cataphora is possible with, precisely, *free expressions* in English (e.g. Reinhart 1983; Kayne 2002; Bruening 2014). This led us to a crosslinguistic point of variation: in some languages, linear precedence regulates the distribution of free nominals; in others, it does not.

Though we have seen evidence for both generalizations in (81) in Ch'ol, we have not yet seen any evidence for (81b) in Chuj. Section 3 only showed that Chuj was *compatible* with the binding conditions, and not that the binding conditions were actually operative in Chuj. The austerity of positive evidence is not entirely unexpected: high-absolutive languages are exceptional in that they rarely exhibit the configurations in which binding relations are expected to hold. This means that most cases of covalued nominals in Chuj involve free nominals, and thus we expect linear order to play a fundamental role.

In the next section, I argue that upon closer inspection, there are corners of Chuj where an R-expression syntactically-binds a pronoun. I show that in such cases the binding conditions apply as expected, and linear

robust, both languages allow cataphora under special circumstances. See discussion on pages 391 and 393 of Huang 1982.

precedence is irrelevant. This ultimately supports the generalization in (81), and strongly reinforces the view that the binding conditions may reflect a universal feature of language (Grodzinsky and Reinhart 1993, Reuland 2010, 2011).

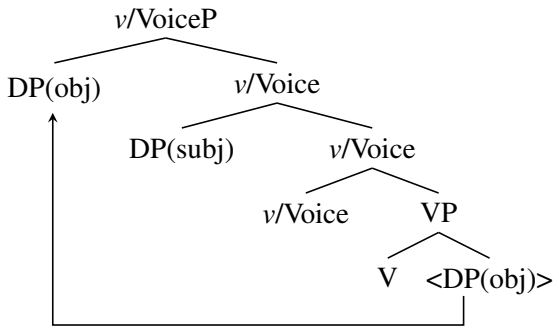
5 Binding under c-command, even in Chuj

My goal in this section is now to show that, in spite of their vast inapplicability, the binding conditions *are* operative in Chuj. In section 5.1, we first consider sentences which, although entirely compatible with the binding conditions, cannot provide conclusive evidence that the binding conditions apply. This is so because of a confound from linear precedence: since the binders also precede their bindees, it is impossible to be certain that the binding conditions, and not linear precedence, are at issue. In section 5.2, I then argue that reflexive sentences *do* provide conclusive evidence that the binding conditions are active in Chuj, since in such sentences, it can be shown that an R-expression binds a pronoun which it not only c-commands but also linearly follows.

5.1 Absolutives binding into ergatives

In a high-absolutive configuration like (53b), or (82) below, the ergative subject does not c-command the absolutive object. However, the object as a whole *does* c-command the subject.

(82) *High-absolutive syntax (Chuj)*



All else being equal, Condition C effects should therefore emerge in Chuj sentences data where the object is covalued with an expression contained inside the subject (cf. discussion in Trechsel 1995 on Popti'). That is, with the object c-commanding into the subject in Chuj, we predict that the R-expression should be forced to appear as the object in Chuj sentences equivalent to the English sentences in (83) (e.g., the literal Chuj

equivalent of (83b) should have to be *His*$_1$ *mother saw Xun*$_1$).

(83) a. The woman that saw Xun$_1$ scolded him$_1$.
b. Xun$_1$'s mother saw him$_1$.

Let us start with sentences like (83a) in Chuj. As can be observed, the prediction is borne out. Only the object can be realized as an R-expression in (84).

(84) Chuj
a. Ix-s-tum-ej [$_{\text{OBJ}}$ waj Xun] [$_{\text{SUBJ}}$ ix ix ix-il-an-i *pro*].
PFV-A3-scold-DTV CLF Xun CLF woman PFV-see-AF-IV *pro*
'The woman that saw Xun scolded him.
b. *Ix-s-tum-ej [$_{\text{OBJ}}$ *pro*] [$_{\text{SUBJ}}$ ix ix ix-il-an waj Xun].

Though compatible with Condition C, the data in (84) cannot be taken as strong evidence that Condition C is operative. The reason is simply that Condition C and linear precedence cannot be dissociated: we cannot be certain whether the R-expression must be parsed as the object because of Condition C, or because the object linearly precedes the subject. Moreover, fronting the ergative subject to a preverbal position will not provide us with better insight. For the transitive subject to A'-extract in (84), an Agent Focus construction is needed. As discussed in section 3.1, this will result in a 'low-absolutive' configuration, and so no c-command relations will hold between the two covalued nominals.

What about sentences like (83b), where the absolutive object is covalued with the possessor of the ergative subject? Interestingly, such sentences are ineffable in Chuj, an observation that has already been made for other Mayan languages, including both high- and low-absolutive languages (see e.g. Craig 1977, Aissen 1997, 1999, and Zavala 2007). Examples of ungrammatical sentences are provided below for Chuj:[21]

(85) *Chuj*
a. *Ix-y-il [$_{\text{OBJ}}$ *pro*] [$_{\text{SUBJ}}$ ix s-nun [$_{\text{POSS}}$ waj Xun]].
PFV-A3-see PRON CLF A3-mother CLF Xun
Intended: Xun$_1$'s mother saw him$_1$ (could mean 'Xun$_1$ saw his$_1$ mother.')
b. *Ix-y-il [$_{\text{OBJ}}$ waj Xun$_1$] [$_{\text{SUBJ}}$ ix snun [$_{\text{POSS}}$ *pro*$_1$]].

The fact that sentences like (85) are also ineffable in low-absolutive Mayan languages, including Ch'ol (see Zavala 2007: 296 for relevant Ch'ol data), suggests that the ineffability of such sentences is not related to the low/high-absolutive parameter. In fact, Aissen (1997, 1999) and Zavala (2007, 2017) provide an analysis

[21] Note that the ungrammaticality of the sentences in (85) does not arise from the inability for ergative subjects to bear possessors. Sentences of the type *Xun$_1$'s mother saw him$_2$* are grammatical.

of the ineffability of sentences like (85) based on constraints related to *obviation* in Mayan. As far as the current proposal goes, however, the crucial point is that we cannot use data such as (83b) to test for effects of the binding conditions.

In sum, though the prediction that the absolutive object binds inside the ergative subject in Chuj is not falsified, sentences like (84) also do not provide evidence for Condition C effects. We must therefore look at other kinds of data to test whether the binding conditions are operative in Chuj, namely data which do not run into a confound with linear precedence constraints. We turn to this evidence in the next section.

5.2 When the binding conditions prevail: The case of reflexives

Here, I argue that, although Chuj in general exhibits high-absolutive syntax, there are exceptional cases where the external argument c-commands the internal argument. In such cases, the binding conditions are operative, and linear precedence is irrelevant.

Let us consider what would need to happen in order for the external argument to c-command the internal argument in a language like Chuj. There are two possibilities. Either (i) the internal argument exceptionally does not raise, or (ii) reconstruction of object raising is exceptionally possible, allowing for the internal argument to be in its base position for binding. Coon et al. (2021: §4.3) independently discuss option (ii) in relation to sentences in which the EEC is exceptionally circumvented in Chuj. Here, I show evidence for option (i) from the perspective of reflexive sentences.[22] In short, I show that reflexive objects do not undergo object raising. Since high-absolutive syntax exceptionally does not happen, effects of Conditions A and C can be observed in reflexive sentences.

I first provide background on the internal syntax of reflexive anaphors in Mayan in section 5.2.1, arguing that they exhibit the same *internal* syntax as possessed nominals, similar to the one proposed for 'extended reflexives' in the previous sections. In section 5.2.2, however, I show that the *external* syntax of reflexives and extended reflexive differs, insofar as reflexive sentences do not exhibit high-absolutive syntax. The exceptional syntax of reflexive sentences ultimately allows us to observe Condition C effects from the external argument into the internal argument, despite the former following the latter.

[22]Option (i) is of course also instantiated in the Agent Focus construction, where the use of the AF *v*/VoiceP head allows for the internal argument to remain *in situ* (Coon et al. 2014), and thus be asymmetrically c-commanded by the external argument. All cases involving AF are indeed compatible with the proposal that the binding conditions are active in AF constructions: in AF constructions, 'non-pronominal' arguments must be realized in the external argument position, as predicted given the binding conditions. However, since all AF constructions also involve A'-extraction of the external argument to a position that *linearly precedes* the internal argument, it is impossible to be certain whether it is truly the binding conditions, and not a constraint on cataphora, that adjudicates the distribution of nominals in AF constructions.

5.2.1 The internal syntax of reflexive anaphors

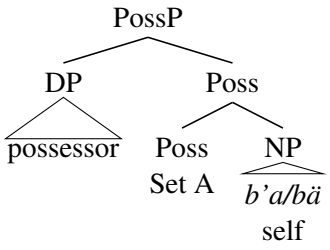
Reflexive anaphors across Mayan pattern with possessed nouns in appearing with Set A (possessive) agreement and serving as the thematic object of transitive verbs (see Ayres 1980, Hou 2013, and Aissen 2017). Examples from Chuj and Ch'ol are provided below:

(86) Ix-y-il s-**b'a** ix Ana.
PFV-A3-see A3-self CLF Ana
'Ana saw herself.' (Chuj)

(87) Tyi i-k'el-e i-**bä** aj-Ana.
PFV A3-see-TV A3-self CLF-Ana
'Ana saw herself.' (Ch'ol)

Building on Coon 2017, I propose that reflexive anaphors (in Chuj and Ch'ol) minimally exhibit the internal syntax in (88), with the possessor merged into a PossP/*n*P specifier above the NP.

(88)



Alternatively, one could consider the possibility that reflexive anaphors exhibit a simplex syntax, and do not project possessors, as proposed for the Mayan language Kaqchikel in Burukina 2019.[23] Since projection of a possessor is an essential component of the discussion to come, it is important to provide evidence for the structure in (88).

A first reason to think that anaphors in Mayan involve a complex possessive structure is that anaphors *look like* possessed nominals. In fact, the literature on Mayan languages normally describes anaphors as possessed or relational *nouns* (e.g. Ayres 1980; England 2001). Consider the following paradigms, which show that reflexive anaphors in both Chuj and Ch'ol pattern with regular possessed nouns in being inflected with Set A agreement for person and number:

[23] Extending Labelle's (2008) analysis of French reflexives, Burukina argues that the reflexive counterpart of *b'a/bä* in Kaqchikel (*-i'*) is the overt realization of an agreement relation between a special reflexive *v*/Voice head and an object variable contained inside an unsaturated VP. For Burukina, the reflexive morpheme *-i'* is therefore of a similar kind as the reflexive clitic *se* in Romance languages like French.

(89) *Inflected reflexive in Chuj*

a. hin-b'a 'myself'
b. ha-b'a 'yourself'
c. s-b'a 'himself/herself/themselves'
d. ko-b'a 'ourselves'
e. he-b'a 'yourselves'

(90) *Possessed noun in Chuj*

a. hin-tz'i' 'my dog'
b. ha-tz'i' 'your dog'
c. s-tz'i' 'his/her/their dog'
d. ko-tz'i' 'our dog'
e. he-tz'i' 'y'all's dog'

(91) *Inflected reflexive in Ch'ol*

a. k-bä 'myself/ourselves'
b. a-bä 'yourself/yourselves'
c. i-bä 'himself/herself/themselves'

(92) *Possessed noun in Ch'ol*

a. k-ts'i' 'my/our dog'
b. a-ts'i' 'your/y'all's dog'
c. i-ts'i' 'his/her/their dog'

A second reason to believe that reflexive anaphors in Chuj involve genuine possessive morphology, and are not simplex reflexive pronouns, is that this morphology disappears in syntactic environments that generally disallow possessives in Chuj. First consider the transitive nominalization in (93), derived with the suffix *-oj* (see Coon and Carolan 2017 and Coon and Royer 2020). The incorporated objects of such nominalizations can never appear with 'higher-level' nominal structure, including possessive morphology or determiners.

(93) Ix-a-yamoch [mol-oj (***te'**) (***ha**)-kape (***chi'**)].
PFV-A2S-begin gather-NMLZ CLF A2S-coffee DEM
Intended: 'You started to gather the/your/that coffee.' (Chuj; Coon and Royer 2020: 157)

At least in some Mayan languages, reflexive anaphors can appear in such nominalizations, in which case they surface unpossessed. This is shown in (94). The fact that *b'a* appears unpossessed in environments where possessive morphology is blocked suggests that regular instantiations of reflexive anaphors involve genuine possessive structure in examples like (89) and (91).

(94) *Chuj*

a. Ix-b'at winh [b'o-oj b'a'-il].
PFV-go CLF.he make-NMLZ self-NML
'He began to prepare himself.'
b. [Ha-nhej il-oj b'a'-il] tz-y-ak' winh.
FOC-only see-NMLZ self-NML IPFV-A3-do CLF.him
'All he does is to look at himself.'

Also note that in (94), the noun is suffixed with the harmonic suffix *-Vl*, which has several functions. Though the exact distribution of *-Vl* in Chuj requires further work, *-Vl* sometimes appears on inalienable nominals which exceptionally appear unpossessed (Maxwell 1981, Buenrostro 1996 and Royer et al. 2022).

In sum, the fact that (i) *b'a* can appear unpossessed in environments that disallow possessive morphology

and (ii) that it can bear *-Vl* morphology characteristic of nominals in Chuj, provides further evidence that normal instances of reflexive anaphors exhibit a complex internal syntax. In particular, these facts suggest that reflexive anaphors normally project possessive structure (though not in (94a)), as proposed in (88).

5.2.2 Detecting the binding conditions in Chuj

I have just argued that reflexive anaphors project possessors in Chuj and Ch'ol. But what exactly is instantiated in the possessor position? Since Chuj normally exhibits high-absolutive syntax, we might expect reflexive sentences to pattern exactly like extended reflexive sentences from section 2.3.1. After all, the only surface difference between the reflexive in (95) and the extended reflexive in (96) appears to be in the choice of the noun, and we know from section 2.3.1 that in extended reflexive constructions like (96), it is the possessor that is instantiated by the R-expression, and not the subject. In fact, it was the similarity between (95) and (96) which led Aissen (1997) to name constructions like (96) "extended reflexives".

(95) *Chuj reflexive*
Ix-y-il s-**b'a** waj Xun.
PFV-A3-see A3-self CLF Xun
'Xun$_1$ saw himself$_1$.'

(96) *Chuj extended reflexive*
Ix-y-il s-**tz'i'** waj Xun.
PFV-A3-see A3-dog CLF Xun
'Xun$_1$ saw his$_1$ dog.'

Despite their surface similarity, there is reason to think that the R-expression *waj Xun* in the sentences in (95) and (96) occupies different syntactic positions. Recall from section 2.3.1 that adverbs can normally intervene between the external argument and the internal argument in Chuj, but that this exceptionally does not hold in extended reflexives. These kinds of data were taken as evidence that in such cases, the R-expression is the possessor, and not the subject. A new minimal pair is provided below. Again, the only difference between (97a) and (97b) is the presence of Set A (possessive) agreement on the noun *tz'i'* 'dog'.

(97) a. *Chuj transitive sentence*
Ix-y-il nok' tz'i' {junelxo} waj Xun {junelxo}.
PFV-A3-see CLF dog again CLF Xun again
'Xun saw the dog again.'

b. *Chuj extended reflexive construction*
Ix-y-il nok' **s**-tz'i' {*junelxo} waj Xun {junelxo}.
PFV-A3-see CLF A3-dog again CLF Xun again
'Xun$_1$ saw his$_1$ dog again.'

Consider now an example with a reflexive object, as in (98). The judgments from speakers are robust: reflexives pattern differently than extended reflexives in allowing identical adverb placement options as

regular transitive sentences:

(98) Ix-y-il s-**b'a** {junelxo} waj Xun {junelxo}.
PFV-A3-see A3-self again CLF Xun again
'Xun$_1$ saw himself$_1$ again.' (Chuj; compare with (97a))

Because adverbs do not intervene internal to possessive phrases (see (27) above), this suggests that the possessor is null and the subject overt in reflexive sentences like (98), as schematized in (99a), to be contrasted with the extended reflexive syntax for (97b) in (99b). Especially striking is the fact that linear precedence, or the anti-cataphora constraint in (71), is irrelevant in deriving reflexive sentences, in stark contrast with all of the examples we saw in section 2, where linear precedence played a crucial role. That is, under the assumption that reflexives in Chuj involve possessors, (98) shows us that the linearly second of two covalued DPs gets realized as an R-expression, and therefore that the anti-cataphora constraint from (71) cannot be regulating the distribution of these nominals.

(99) a. *Chuj reflexive in (98)*
saw [$_{\text{OBJ}}$ self [$_{\text{POSS}}$ *pro*]] {again} [$_{\text{SUBJ}}$ Xun] {again}
b. *Chuj extended reflexive in (97b)*
saw [$_{\text{OBJ}}$ dog [$_{\text{POSS}}$ Xun$_i$]] {again} [$_{\text{SUBJ}}$ *pro*$_i$] {again}

I propose that (99a), contrary to (99b), simply exemplifies a Condition C effect: the R-expression must appear in subject position, because the subject c-commands the object (and its possessor). Crucially, for Condition C to be active, it cannot be the case that high-absolutive syntax occurs, otherwise the subject would not c-command inside the reflexive anaphor. We therefore arrive at the following hypothesis:

(100) *Proposal about reflexive sentences in Chuj*
Transitive sentences with reflexive objects do not exhibit high-absolutive syntax.

Given (100), (i) the ergative subject will bind the reflexive object, (ii) Conditions C will be operative, and (iii) linear precedence is expected to play no role in determining how the relevant covalued expressions should be realized, as the data in (98) indicate (and as is the case more generally in low-absolutive objects in Ch'ol). That is, the anti-cataphora constraint only applies to free expressions, and since the *pro* in (99a) is bound by the ergative subject, Condition C will block it from occurring as an R-expression.

As it turns out, there is strong support both cross-linguistically and Chuj-internally for the proposal in (100). First, there is good reason to believe that universal constraints on reflexive anaphors (Condition A) should be incompatible with high-absolutive configurations. Prohibitions on the realization of anaphors in

external argument positions have long been observed (Anderson 1976), and Brodkin and Royer (to appear) recently argue more specifically that this ban—one which follows from virtually all modern approaches to Condition A (see §6 for one such approach based on Hornstein 2001 and Zwart 2002)—extends to high-absolutive languages (in Mayan and beyond). Therefore, assuming (i) that there is a crosslinguistic ban on ergative anaphors (Brodkin and Royer to appear), (ii) that Condition A requires internal arguments to be locally bound (Reinhart 1983, a.o.), and (iii) that A-movement does not reconstruct for binding (Chomsky 1995, a.o.), then it is not surprising that high-absolutive sentences with reflexive anaphors should be ineffable (after object raising, the anaphor will not be locally bound by the external argument). Under such circumstances, we may therefore expect reflexive anaphors to remain low.

Second, a closer look at the sentences containing reflexive anaphors in Chuj reveals robust evidence for the proposal that reflexive objects do not raise above the ergative subject. In fact, reflexive sentences show a constellation of properties, which we turn to now, that are to be expected if the object remains low.

For one, recall that transitive subjects are blocked from extracting in high-absolutive languages, an effect which is claimed to be caused by high-absolutive syntax. As noted in much previous work on the EEC (see e.g. Craig 1977, Mondloch 1981, Ordóñez 1995, Aissen 1999, 2017, Pascual 2007, Coon and Henderson 2011, Hou 2013, Velleman 2014, Coon et al. 2014, Coon et al. 2021), this constraint is exceptionally circumvented with reflexive objects, as shown in (101) (this is the case across Mayan; cf. Aissen 2017, table 30.3):

(101) ¿Mach ix-y-il s-**b'a**?
who PFV-A3-see A3-self
'Who saw themself?' (Chuj; compare with (45) above)

The absence of EEC effects in (101) could be explained if object raising fails to occur (Ordóñez 1995, Coon et al. 2014): no intervention effect will arise, and so the transitive subject should be free to extract (though see §5.3 for further discussion of these and related data). Data like (101) are thus consistent with the proposal that reflexive anaphors remain low in Chuj.

A second piece of evidence for the low position of reflexive anaphors comes from the observation that reflexive objects cannot themselves undergo A'-extraction:

(102) *Ha s-**b'a** ix-y-il waj Xun.
FOC A3-self PFV-A3-see CLF Xun
Intended: 'Xun saw HIMSELF.' (Chuj)

Assuming, following Coon et al. (2014) and Coon et al. (2021), that arguments must first move to the edge of the *v*/VoiceP phase in order to A'-extract (in both Chuj and Ch'ol), we can potentially make sense of this restriction. Contrary to non-reflexive objects, reflexives can never raise to that position, and can therefore never be A'-extracted.

A third piece of evidence comes from coordination. Reflexive objects cannot coordinate with other DPs:

(103) *Ix-y-il [$_{\&P}$ s-**b'a** yet' ix Malin] winh k'ayb'um.
PFV-A3-see A3-self and A3 Malin CLF teacher
Intended: 'The teacher saw himself and Malin.' (Chuj)

The impossibility of coordinating reflexive anaphors with regular DPs is not surprising given the current proposal. If one conjunct requires a low-absolutive syntax (the reflexive), and the other requires a high-absolutive syntax (the other DP), then it is not surprising that such sentences should result in ineffability.

Word order provides a fourth argument. Recall from section 2.3.5 that Chuj exceptionally allows VSO word order when the transitive subject is a classifier pronoun (or when the subject is phonologically-light; see Clemens and Coon 2018). This option is not allowed when the internal argument is a reflexive anaphor, VOS being the only possible order:[24]

(104) *Chuj*
a. Ix-y-il [$_{OBJ}$ s-**b'a**] [$_{SUBJ}$ winh].
PFV-A3-see A3-self CLF.PRON
'He saw himself.' (VOS)
b. *Ix-y-il [$_{SUBJ}$ winh] [$_{OBJ}$ s**b'a**].

Though I remain agnostic about how postverbal word order is derived, these data again support the existence of an important structural distinction between reflexive and non-reflexive objects.

A final piece of evidence in favour of a structurally-low position for reflexive anaphors comes from other Mayan languages, such as Kaqchikel, which feature overt third person absolutive (Set B) agreement in the plural. As discussed by Burukina (2019), plural reflexive anaphors (105a), contrary to other plural third person internal arguments (105b), do not trigger Set B (absolutive) plural agreement (see also Can Pixabaj 2015 for similar claims in K'iche'):

[24]The same word order facts are observed in Mayan languages that otherwise exhibit rigid VSO word order, such as Mam, Popti', and Q'anjob'al. In these languages, reflexives exceptionally trigger *VOS* word order (see e.g. England 1983: (7-43) on Mam; Craig 1977: 217, on Popti'; and Coon et al. 2014: (77) on Q'anjob'al).

(105) *Kaqchikel → no Set B agreement with reflexives*

a. Rije x-(***e**)-ki-tz'ët k-i'.
PRON.3P PFV-B3P-A3P-see A3P-REFL
'They saw themselves.' (Burukina 2019: (2))

b. Yïn x-**e**-in-tz'ët rje'.
I PFV-B3P-A1S-see they
'I saw them.' (Imanishi 2019: (6))

Again, this makes sense if reflexive anaphors remain low in the structure. In Coon et al. 2021, raising of the object leads to an Agree relation with T/Infl, the locus of absolutive morphemes. If reflexive objects never raise in the first place, failure of agreement is expected.

To summarize, a constellation of properties about reflexive anaphors in Chuj provide strong support for the view proposed here that they do not undergo object raising. This in turn leads to the possibility of binding relations from the external argument into the reflexive object. Though the ultimate takeaway of this section should be that reflexive sentences in Chuj show Condition C effects due to their lack of high-absolutive syntax, it is interesting to consider *why* reflexive sentences should lack high-absolutive syntax. One reason might simply be that high-absolutive syntax, for some reason or other, creates ineffable results for Condition A (see Brodkin and Royer to appear for discussion). Another reason, already proposed in previous work on Mayan (Ordóñez 1995, Coon et al. 2014, Coon et al. 2021), could be that reflexive anaphors in Chuj and other Mayan languages exhibit a reduced syntax, and simply lack the functional structure corresponding to DP. For example, if anaphors are structurally-reduced, then we might expect them not to be targeted by the EPP feature that causes object raising in the first place—the EPP feature could be relativized to probe only for DPs. If this is the correct explanation, some of the data discussed in this subsection could be attributed to anaphors lacking a DP layer. For instance, the impossibility of extracting reflexive objects (102) could be due to relativization of A'-probes to DPs (in the spirit of Coon et al. 2021), and the impossibility of coordinating reflexive anaphors with regular DPs (103) could be recast as a constraint on coordinating expressions of different categories. Under this type of analysis, structurally-reduced reflexives could still project 'lower' possessors, as proposed for inalienable nouns in recent work (e.g., Alexiadou 2003, Myler 2014, and Tyler 2021). Moreover, though not illustrated in this section, all of the properties discussed for reflexive anaphors in Chuj also hold of Ch'ol reflexives. This could be taken as evidence that reflexive anaphors in general lack functional structure found in other types of transitive objects, even canonical low-absolutive objects in Mayan languages like Ch'ol. Exploring these options further promises to be deeply informative for

our understanding of Mayan syntax, and perhaps of Condition A anaphors more generally. For the local purposes, however, the important point is simply that reflexives in Chuj do not exhibit high-absolutive syntax, and thus provide us with the opportunity to diagnose instantiations of the binding conditions.

Before summarizing this section, the next subsection briefly discusses a piece of data that potentially complicates the view that reflexives and extended reflexives exhibit a different syntax. I nonetheless show that, when we consider the larger set of syntactic properties used to diagnose the low position of reflexive objects, it becomes clear that extended reflexives generally pattern with high-absolutive transitives, and unlike reflexive sentences, thus supporting the proposal that reflexive sentences exhibit a different syntax.

5.3 Extended reflexives and EEC circumvention

In the previous subsection, I proposed that transitive sentences with reflexive anaphors in Chuj do not exhibit high-absolutive syntax. I argued that potential correlate of this property lies in the fact that reflexive sentences circumvent the EEC. Again, the key property to notice is that the subject of a reflexive sentence can exceptionally undergo A'-extraction without Agent Focus morphology, otherwise necessary for the A'extraction of transitive subjects in Chuj.

(106) ¿Mach ix-y-il s-b'a?
who PFV-A3-see A3-self
'Who saw themself?' (Chuj)

I argued that the above data were consistent with the proposal that reflexive anaphors never undergo object raising. While the acceptability of data like (101) does indeed follow if, as proposed here, the internal argument of reflexive sentences remains low, there is a complication. As noted in much work on the EEC (Craig 1977, Mondloch 1981, Ordóñez 1995, Aissen 1999, Aissen 2017, Pascual 2007, Coon and Henderson 2011, Hou 2013, Velleman 2014, Coon et al. 2014, Newman 2020, Coon et al. 2021), extended reflexives in a subset of high-absolutive languages, including Chuj, also appear to circumvent the EEC, allowing agent extraction without Agent Focus morphology. Notice, for instance, the lack of Agent Focus in the following well-formed question:

(107) ¿Mach ix-y-il ix s-nun?
who PFV-A3-see CLF A3-mother
'Who saw their mother?' (Chuj)

On the surface, the non-compliance of extended reflexives with the EEC looks like an empirical puzzle for

the current analysis. In particular, central to my proposal is that Chuj extended reflexives systematically exhibit high-absolutive syntax. This proposal is instrumental in explaining why no Condition C violations arise in Chuj when the possessor of an *extended reflexive* object is an R-expression, and conversely, why Condition C effects *do* arise in Chuj *reflexive* sentences (as well as in comparable extended reflexive sentences in low-absolutive Ch'ol). But if the absolutive object raises above the ergative subject in Chuj extended reflexives, then it is not clear why the EEC should be circumvented in cases like (107). In fact, the expectation is that extended reflexive objects should *induce* the EEC.

While data like (107) initally look problematic, it is important to emphasize that extended reflexive objects otherwise behave like transitive objects with regards to the other properties used to diagnose the low position of reflexive objects in the previous subsection. These differences are summarized in Table 2.

Table 2: Shared properties of reflexives, extended reflexives, and transitives in EEC languages

Reflexives	Extended reflexives	Other transitives
cannot be A'-extracted (102)	can be A'-extracted (§2.3.4)	can be A'-extracted
cannot be coordinated (103)	can be coordinated (§2.3.2)	can be coordinated
rigid VOS (104)	VSO possible (§2.3.5)	VSO possible
no Set B agreement (105a)	Set B agreement (105b)	Set B agreement
no EEC (101)	no EEC (107) (for subset of high-abs)	EEC compliant

The only case in which reflexives and extended reflexives seem to pattern alike is in their apparent ability to circumvent the EEC. Moreover, this does not hold across the Mayan language family as a whole. While the EEC seems to be systematically circumvented in reflexive sentences across the entire language family, only a subset of Mayan languages appear to circumvent the EEC with extended reflexives (see e.g. Hou 2013, Aissen 2017). And as seen throughout this paper, the two constructions behave differently in terms of the binding conditions: while extended reflexives in Chuj do not show Condition C effects, reflexives do.

Given this state of affairs, it is reasonable to assume that extended reflexives do exhibit high-absolutive syntax, and therefore that the non-compliance of the EEC in reflexives versus extended reflexives could receive *different explanations*, a point that is also made by Coon et al. (2021: §4.3). Assuming, as in section 5.2.2, that reflexive sentences circumvent the EEC because they do not exhibit high-absolutive syntax, the question becomes how extended reflexives can also circumvent the EEC *while still showing a high-absolutive syntax*. That is, we need a high-absolutive theory of extended reflexive objects (as is the case with other transitive objects), which can also explain why no Agent Focus is needed in (107). Though more work is needed to flesh out the syntax and semantics of extended reflexive constructions, and its relation to

the EEC, one relevant observation is that the EEC is a constraint on the extraction of *ergative subjects*. Since reflexive and extended reflexive constructions involve possessors that are covalued with the ergative subject, it is perhaps hasty to assume that what extracts in extended reflexives sentence is the ergative subject. All else being equal, extraction of the possessor could also be at issue. In Appendix A, I explore this possibility, providing a solution to EEC circumvention with extended reflexives that does not require us to abandon a high-absolutive analysis of extended reflexives.

5.4 Summary

In sum, this section has argued that there are corners of Chuj where the external argument c-commands the internal argument. In such cases, if the external argument is covalued with an expression contained inside the internal argument, the binding conditions prevail, and linear precedence becomes irrelevant. This supports the two-fold generalization in (81): while the distribution of free nominals is constrained by an anti-cataphora restriction, bound nominals are subject to the binding conditions, regardless of whether they precede their binder. Therefore, despite preliminary reasons to doubt the existence of the binding conditions in Chuj—and in turn their universality—we find that they are sometimes operative in this language.

6 Interface conditions on bound and free nominals

The Chuj and Ch'ol findings of this paper have led us to the generalization about the distribution of nominal expressions in (81), repeated below. A proper theory of the Chuj and Ch'ol patterns of nominal covaluation will therefore have to account for this generalization.

(108) *Generalization about nominal expressions in Chuj and Ch'ol*

a. If a nominal is bound, it is subject to structurally-sensitive binding conditions (linear precedence is irrelevant).

b. If a pronoun is free and covalued with an overt nominal (R-expression/classifier pronoun), the overt nominal must precede the free pronoun (linear precedence is relevant).

It remains to be understood where exactly in the grammar these generalizations apply. Here, I provide some first steps towards answering this question, by suggesting that both generalizations can be viewed as regulated by the syntax-phonology interface. In section 6.1, I first argue, following Craig (1977) and Aissen (2000) on Popti' that since the distribution of free pronouns in Chuj and Ch'ol is sensitive to linear order, it is natural that the generalization in (108b) should be regulated by PF. Adopting the view that "pronominaliza-

tion" in Chuj and Ch'ol results from ellipsis at PF (see e.g. Postal 1966, Craig 1977, Elbourne 2001, 2005), I further argue that the generalization in (108b) follows form a more general ban on backwards ellipsis, which is consistently judged unacceptable in Chuj. In section 6.2, I then conjecture more generally that the generalizations in (108) could boil down to the way phonology handles externally merged ("free pronouns") versus internally merged covalued nominals ("bound pronouns"). This view of nominal covaluation has the advantage that it allows for a simple account of the difference between bound and free nominals, a difference that moreover relies on independently-needed assumptions about the grammars of Chuj and Ch'ol.

6.1 Anti-cataphora as a ban on backwards deletion

Let us start with the anti-cataphora generalization in (81b)/(108b). Craig (1977) and Aissen (2000), on the Mayan language Popti', concur in proposing that the ban on cataphora should be viewed as a product of deletion or ellipsis, which I assume applies at PF (see Merchant 2019 for PF approaches to ellipsis). This view relies on the well supported hypothesis that "pronouns" in Chuj and Ch'ol, or at least the ones discussed in this paper, result from partial or full ellipsis at PF (see e.g. Postal 1966, Craig 1977, Elbourne 2001, 2005). Building on these works, I propose the PF principle in (109), which is simply a more precise formulation of the generalization in (108b). Notice that the generalization in (109) makes reference to *indices*, which violates *Inclusiveness* (Chomsky 1995, 2001), an issue I return to in the conclusion.

(109) *PF principle against cataphora with free nominals:*
If two or more free expressions bear the same index within the same clause, only the linearly first can be realized overtly (as an R-expression/classifier pronoun), and the rest must undergo deletion.

The principle in (109) essentially states that when two co-indexed expressions are not in a syntactic binding relation (neither c-commands the other), the one that comes linearly first is privileged for pronunciation. Crucially, it also takes as a basic assumption that free nominals are externally merged as full nominal expressions in the syntax, and that they undergo ellipsis under identity with a nominal bearing the same index in the same clause. An example for an extended reflexive in Chuj is provided below for illustration (where "< >" indicates elided copies in movement chains and strikeout indicates ellipsis without movement):

(110) *Chuj extended reflexive constructions*

a. Ix-s-chonh [$_{OBJ}$ s-wakax [$_{POSS}$ ix Ana]] [$_{SUBJ}$ *pro*] .
PFV-A3-sell A3-cow CLF Ana PRON
Lit: 'She$_7$ sold Ana$_7$'s cow.'

b. Numeration: { Ana, Ana, cow, sell, T^0 ... }

c. [sold [$_{OBJ}$ cow [$_{POSS}$ Ana$_7$]]$_i$ [$_{SUBJ}$ ~~Ana$_7$~~] <OBJ>$_i$]

As schematized in (110c), I propose that the lexical item *Ana*, bearing the index 7, is externally merged twice in the derivation (notice that it appears twice in the numeration). After object raising, both instantiations of the expression *Ana* are free. Therefore, the anti-cataphora principle in (109) applies and the second DP undergoes ellipsis. To be precise, this means that what has been referred to as a null pronominal in Chuj sentences like (110a) actually corresponds to an elided DP.

The revised constraint in (109) ties anti-cataphora to a ban on backwards ellipsis. We might therefore expect backwards ellipsis to be generally constrained. Preliminary investigation from Chuj suggests that this expectation is borne out, as can be observed in the sentences in (111) to (113), which showcase different kinds of ellipsis (note that backwards ellipsis or cataphora is tolerated in all English translations):

(111) *DP ellipsis in Chuj*

a. Tato tz-yal y-ak'-an **te' son** waj Xun, tz-yal pax y-ak'-an
if IPFV-can A3-give-DEP CLF marimba CLF Xun IPFV-can also A3-give-DEP
~~**te' son**~~ ix Malin.
CLF marimba CLF Malin
'If Xun can play the marimba, Malin can play it too.

b. *Tato tzyal yak'an ~~**te' son**~~ waj Xun, tzyal pax yak'an **te' son** ix Malin.
Intended 'If Xun can play it, Malin can also play the marimba.

(112) *Sluicing in Chuj*

a. Ay junmach **ix-jaw-i**, pero ma-chekel mach ~~**ix-jaw-i**~~.
EXT someone PFV-arrive-IV, but NEG-know who PFV-arrive-IV
'Someone arrived, but I don't know who ~~arrived~~.

b. *Machekel mach ~~**ixjawi**~~, pero ay junmach **ixjawi**.
Intended: 'I don't know who ~~arrived~~, but someone arrived.'

(113) *Stripping in Chuj*

a. Tato **tz-s-man** **jun y-onh** waj Xun, ha ix Malin paxi ~~**tz-s-man**~~ ~~**jun**~~
if IPFV-A3-buy one A3-avocado CLF Xun, FOC CLF Malin also IPFV-A3-buy one
~~**y-onh**~~ ~~**ix**~~.
A3-avoado CLF.PRON
'If Xun buys an avocado, so will Malin ~~buy an avocado~~.

b. *Tato ha waj Xun paxi ~~**tzsman jun yonh**~~, **tzsman jun yonh** ix Malin.
Intended: 'If Xun does too ~~buy an avocado~~, Malin will buy an avocado.'

While forward ellipsis is clearly possible in Chuj, attempts at constructing sentences with backwards ellipsis in this language are consistently judged ungrammatical. These data are revealing: the constraint on cataphora with free nominals (109), which builds on previous work on closely-related Popti', leans on the assumption that nominal expressions are *elided*. Therefore, it is conceivable that the anti-cataphora constraint is part of a larger, language-specific constraint on ellipsis resolution.[25]

6.2 Binding as internal merge

If free nominals in Chuj involve the external merger of co-indexed nominals, which are in turn constrained by the PF principle in (109), then what component of grammar enforces the binding conditions for nominals that are in a c-command relation? While the results of the paper are compatible with different approaches to the binding conditions, a natural hypothesis is that the distribution of bound nominals is also regulated by PF. And since the anti-cataphora constraint targets *externally* merged nominals, we can consider whether syntactic binding could be representative of how PF constrains *internally* merged nominals. Under this view, bound nominals would effectively be interpreted as part of movement chains, which, given the Extension Condition (Chomsky 1995), should necessarily be sensitive to c-command.

Several authors have proposed that syntactic binding should involve some form of internal merge (Hornstein 2001, 2007; Kayne 2002; Zwart 2002, Boeckx et al. 2007; Rodrigues 2010; Sauerland 2013; Charnavel and Sportiche 2021). For instance, Hornstein (2001) and Zwart (2002) propose that Condition A is the reflex of local movement from a position within a complex anaphor to the external argument position, a theory that relies on the assumption that movement to a thematic position is possible (Hornstein 1999, 2001). The sensitivity of Condition A to c-command then follows from the Extension Condition (Chomsky 1995), which essentially ensures that the moved constituent will c-command its copy. In such accounts, movement of a DP in a non-thematic position is preferred over external merger of a co-indexed expression (see Hornstein 2007: p. 51, for discussion).[26] As illustration, we can take a Chuj reflexive sentence as in (114). Recall that reflexives exceptionally do not exhibit high-absolutive syntax, and so the ergative subject c-commands the reflexive object. In light of Hornstein 2001 and Zwart 2002, we can derive this sentence by moving the possessor of the reflexive NP *b'a* 'self' in (114a) to the external argument position. Assuming a copy theory

[25] The connection between ellipsis and free nominals would not be novel: work as early as Ross 1967 proposed to group together patterns of cataphora in English with those involving backwards ellipsis.

[26] An economy principle such as 'merge-over-move' must still be preferred for nominals in thematic positions to avoid overgenerating sentences like *Kim$_i$ loves* <*Kim$_i$*> to mean 'Kim loves themself'. See also Shima 2000 for more evidence for 'move-over-merge'.

of movement (Chomsky 1993; Bobaljik 2002), this will give rise to the structure in (114c) (see Newman 2020 p. 40 for a related proposal on Q'anjob'al reflexive and extended reflexive constructions).

(114) *Chuj reflexive*

a. Ix-y-il [s-**b'a**] waj Xun.
PFV-A3-see A3-self CLF Xun
'Xun$_1$ saw himself$_1$.'

b. Numeration: { Xun, b'a, see, T^0 ... }

c. [saw [$_{OBJ}$ self [$_{POSS}$ <Xun>]] [$_{SUBJ}$ Xun]]

In (114), notice that the numeration, contrary to the one provided for the extended reflexive in (110), contains only one instance of the lexical item *Xun*. This expression is first externally merged in the possessor position of the internal argument, headed by the nominal *b'a* 'self', which triggers Set A morphology (*s-*) on the noun. The same lexical item, *Xun*, is then internally merged in the thematic position of the external argument. Crucially, the phonological component will treat the lower copy as any other lower copy is usually treated in a movement chain in Chuj: the structurally highest copy will be privileged for pronunciation, while the lower copy will be deleted. Following a number of previous work (Chomsky 1993, 1995; Pesetsky 1998; Franks 1999; Bošković 2001; Bošković and Nunes 2007), I therefore assume the following PF principle, which privileges pronunciation of nominals in the head of movement chains, regardless of linear order:

(115) *PF principle on pronunciation of copies in movement chains* (see e.g. Chomsky 1993: 35)
In Chuj and Ch'ol, the structurally highest copy in a movement chain is privileged for pronunciation as an R-expression (or classifier pronoun).

Since reflexive sentences do not exhibit high-absolutive syntax (114c) (see also §5), a movement-based account thus correctly predicts that the R-expression will appear in subject position in (114a). More generally, the movement-based account naturally derives Condition C effects. R-expressions that are covalued with pronouns (formally copies here) that they c-command will, as per (115), be consistently realized at the top of movement chains, which in turn means that they will always be "free".

Comparing the derivation for the reflexive sentence in (114) with that of the Chuj extended reflexive sentence in (110), reflexives differ from extended reflexives in three critical ways: (i) they do not undergo object raising, (ii) the covalued possessor/subject nominal is externally merged only once in the derivation (and not twice), and (iii) the same nominal in the possessor is then internally merged in subject position (represented in a right-side specifier to show VOS order, but see §3 above on word order an linear order).

This is schematized in the examples (116) and (117), repeated from above. I assume that (116) is also the derivation for Ch'ol reflexives. In (116), the principle on movement chains (115) will force *Xun* to appear in subject position (deriving Condition C). In (117), the anti-cataphora principle (109) will come into effect, forcing *Ana* to appear in the linearly first externally-merged nominal bearing the same index.

(116) *Chuj/Ch'ol reflexive → no object raising, 'Xun' externally merged once and re-merged in subject*
[saw [$_{OBJ}$ self [$_{POSS}$ <Xun>]] [$_{SUBJ}$ Xun]]

(117) *Chuj extended reflexive → object raising, 'Ana' externally merged twice followed by deletion of linearly second 'Ana'*
[sold [$_{OBJ}$ cow [$_{POSS}$ Ana$_7$]]$_i$ [$_{SUBJ}$ ~~Ana$_7$~~] <OBJ>$_i$]

Notice that a movement-based theory can also be extended to derive all of the data seen in section 2 for Ch'ol, which shows Condition C effects in extended reflexive sentences. Take, for instance, the case of Ch'ol sentence in (118a). Ch'ol is a low-absolutive language, which means that the external argument will c-command the internal argument, and therefore the possessor of the internal argument in extended reflexive constructions like (118a). This sentence would therefore be derived exactly as a reflexive is derived in (116).

(118) *Ch'ol extended reflexive (low-absolutive)*

a. Tyi i-choñ-o [$_{OBJ}$ i-wakax] [$_{POSS}$ *pro*] [$_{SUBJ}$ aj-Ana].
PFV A3-sell-TV A3-cow *pro* CLF-Ana
'Ana$_1$ sold her$_1$ cow.'

b. Numeration: { Ana, cow, sell, T^0 ... }

c. Possessor A-movement to subject position
[sold [$_{OBJ}$ cow [$_{POSS}$ <Ana>]] [$_{SUBJ}$ Ana]]

In (118b), the numeration only contains one instance of the lexical item *Ana*. *Ana* is first externally merged in the possessor position, and then internally merged in the position of the external argument. As is always the case in Ch'ol, PF will delete the lower copy inside the movement chain, leading to the "pronominalization" of the lower copy, and thereby deriving the effects of Condition C.

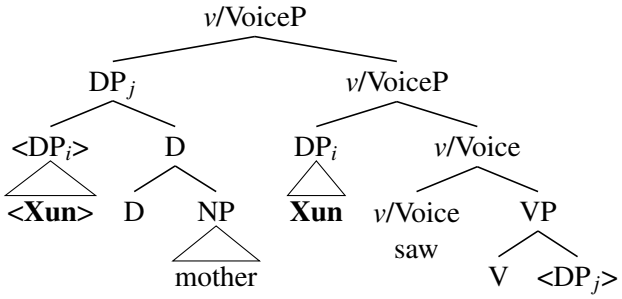
Finally, it is important to ask why internal merge of the possessor into the subject is only possible with reflexives, and not with Chuj extended reflexives. One possibility is that the latter would lead to an ineffable structure for the semantics, and is thereby ruled out. Following previous work, I assume that the lower copy inside of movement chain gets interpreted as a bound variable at LF (see e.g., Heim and Kratzer 1998; Sauerland 1998; Fox 2002; and Poole 2017 on trace/copy conversion). Assuming further that variable

binding requires c-command (Reinhart 1983, Grodzinsky and Reinhart 1993, Büring 2005), consider what happens if the object raises past the subject:

(119) *Internal merge of subject + object raising leads to an illicit structure*

a. Numeration: { Xun, mother, see, T^0 ... }

b. *



In (119), the possessor is internally merged in the subject. The object from which the possessor moved subsequently undergoes remnant movement over the subject, which I assume cannot reconstruct for binding (see §3.2).[27] The crucial point to notice is that after the object undergoes raising, the higher copy of *Xun* does not c-command its copy/trace. If variable binding requires c-command, as standardly assumed, then this sentence will not be interpretable at LF. I thus propose that, under normal circumstances (though see §5.3), the derivation for an extended reflexive in Chuj can only proceed if the possessor and subject are both externally merged, as in (110c) above. This in turn will always feed the application of the anti-cataphora constraint in (109). That is, we predict that the two co-indexed expressions in Chuj extended reflexive will only (accidentally) corefer (Reinhart 1983): the sameness of their semantic value arises only because they bear the same index. Therefore, the two nominals in (117) will be semantically independent of each other, insofar as they are not in a binder-bindee relationship in the semantics (see Appendix A for discussion of what happens when an extended reflexive involves a quantifier, in which case variable binding becomes necessary).

On the other hand, in the case of Chuj and Ch'ol reflexive sentences (116), as well as Ch'ol extended reflexives (118), no object raising occurs. A derivation with internal merge of the possessor into the subject thus yields a perfectly licit LF: the copy in the subject will c-command the copy in the possessor, and the possessor will be interpreted as a bound variable at LF.

In sum, I have proposed that the conditions on free and bound nominals can both be understood as conditions imposed by the interfaces, if one adopts of a movement-based theory of syntactic binding. The

[27] Issues for (119) might also arise due to more general constraints on remnant movement (see e.g. Müller 1996 and Grewendorf 2015).

resulting distinction essentially boils down to differences in the way the interfaces treat internally merged and externally merged nominals, or, in the terminology of Chomsky (2013), *copies* and *repetitions*. Under this theory, syntactically-bound expressions are treated as tails in a movement chain, and are expected to be deleted if PF privileges pronunciation of the structurally highest copy (115). This could well be what underlies the binding conditions in (1). Repetitions of co-indexed lexical items, on the other hand, may be subject to independent PF constraints. In some languages, such as English, no specific PF constraints on the realization of repetitions appear to be imposed, as evidenced by the availability of cataphora and backwards ellipsis.[28] In others, such as Chuj and Ch'ol, language-specific PF constraints on repetitions, such as a ban on backwards ellipsis (109), come into effect.

This approach of course raises many questions. For instance, Bruening (2021) recently notes a number of arguments against movement-based approaches to syntactic binding in English. Though these arguments do not necessarily extend to Mayan, the stance I have taken is that the binding conditions are universal, and so data from English remain relevant for a theory that reduce patterns of syntactic binding to movement.[29] Nevertheless, I hope to have shown in this section that the emerging theory of patterns of nominal covaluation merits further exploration.

7 Concluding remarks

This paper started with a puzzle laid out in section 2: while Ch'ol patterns as expected in terms of the classical binding conditions, Chuj seems, at first glance, to largely ignore them. Instead, we saw that Chuj resorts to linear precedence in order to constrain the distribution of covalued nominals. This seemed to cast doubt on the widely-held assumption that the binding conditions reflect a universal property of language (e.g., Grodzinsky and Reinhart 1993, Reuland 2010, 2011).

In section 3, I argued that denying the universality of the binding conditions is not necessary, since a

[28] The PF constraints do not have to be trenchant: it might be the case that certain configurations, but not all, are subject to constraints on free expressions. Bruening (2014) takes the presence of linear precedence effects as a diagnostic for syntactic binding, which leads him to the conclusion that there are binding relations between the two covalued nominals in sentences like *Penelope cursed Peter*$_1$ *and slandered him*$_1$ (Bruening 2014: (37a), cited from Langacker 1969), since it is not possible to get a joint reference reading by flipping the order of the R-expression and the pronoun. Given the Mayan data seen in this paper, however, we could reinterpret these data as an indication that there are sometimes linear precedence effects between free expressions, even in English.

[29] A lingering question is how to handle syntactic binding within larger, long-distance domains, without running into issues such as island violations. One possibility is that there is no long-distance syntactic binding in Chuj. Based on Aissen 1992, 2000, Royer (2022) argues that complement clauses and clausal adjuncts obligatorily extrapose in Chuj. If this is so, then covaluation between expressions inside a main clause and expressions inside complement clauses or clausal adjuncts would necessarily involve free covaluation, and would therefore not have to be derived through movement.

convergence of factors is responsible for the apparent inapplicability of the binding conditions in Chuj. The main proposal was that in every configuration in which the binding conditions are inoperative, there are no c-command relations between the relevant covalued nominal expressions, and so the binding conditions are predicted not to apply. Central to this proposal was the claim that, contrary to Ch'ol, Chuj exhibits 'high-absolutive syntax', independently-proposed to underlie a number of syntactic phenomena, including the Ergative Extraction Constraint (EEC) (Coon et al. 2014; Coon et al. 2021). The lack of Condition C effects in Chuj, but not in Ch'ol, were thus taken as another, pervasive symptom of a deep syntactic difference between two types of Mayan languages. The fact that a new correlate of high-absolutive syntax has been identified also offers strong empirical support for high-absolutive approaches to the EEC.

In section 4, I then argued that the linear precedence effects seen in Chuj are part of a larger, and perhaps cross-Mayan, constraint on the treatment of free nominals. Contrary to languages like English, Chuj and Ch'ol both ban free pronouns from being covalued with an R-expression which they precede. Since the Chuj sentences which at first glance appeared to violate Condition C actually involve free nominals, the importance of linear precedence in deriving these sentences falls out naturally.

In section 5, I then argued that, upon closer inspection, there is evidence that Chuj is sensitive to the binding conditions after all. Most notably, I showed that there are exceptional cases where the internal argument does not raise over the subject, specifically when the internal argument is a reflexive object. In such cases, linear precedence does not matter for the realization of covalued expressions, and the binding conditions apply as expected. These findings led to the important conclusion that constraints on linear precedence in Chuj apply exclusively in cases of free nominals, and not in cases of syntactic binding.

The result is a unified set of constraints on pronominalization in Chuj and Ch'ol, despite the two languages looking entirely disparate at the beginning of the paper. That is, both languages are subject to the binding conditions, and both languages show a ban on cataphora for free nominals. The observed differences between Chuj and Ch'ol simply boil down to idiosyncratic syntactic properties of the former language, such as high-absolutive syntax, which obscures the application of the binding conditions under most circumstances.

Finally, I also provided some speculation about how bound and free nominals may be differentiated in grammar. The main proposal was that the difference between the two could reduce to how PF interprets nominal identity under internal merge and external merge. I hypothesized that while syntactically-bound expressions could be treated as copies in a movement chain (e.g., Hornstein 2001, Zwart 2002), a PF con-

straint on linear precedence forces R-expressions to be realized as the first of a series of externally merged expressions that bear the same index. Regardless of whether this theory is on the right track, this discussion will hopefully serve as a basis for future work on nominal covaluation in Mayan and beyond. In a way, Mayan languages offer an ideal testing ground to further explore patterns of nominal covaluation. For one, languages like Chuj and Ch'ol exhibit a number of language-specific properties, such as systematic variation in the position of the internal argument and a constraint on linear precedence, which allow for a clear delimitation of free and bound nominals. Second, the clear morphosyntactic constitution of reflexive anaphors, and their radically-simplified distribution (e.g., there are no cases 'exempt' anaphora), make reductionist theories of binding, such as movement-based approaches, not only straightforward, but highly appealing.

There are important avenues for future work. For instance, in an effort to make progress on the understanding of patterns of nominal covaluation in Mayan, I have focused on a relatively small sample of syntactic domains. However, it would be interesting to explore how instances of long-distance binding unfold in Mayan languages like Chuj and Ch'ol. As we saw in section 2.1, Chuj also features overt pronouns, which can be covalued with antecedents within larger domains (see e.g. Royer to appear). It would therefore be worthwhile to explore the range of environments in which overt pronouns can be distributed, and whether or not overt pronouns can also be conclusively shown to be subject to the binding conditions. Another interesting area of future work concerns the distinction between syntactic binding and semantic binding. In this paper, I mostly ignored patterns of variable binding, since a comprehensive description of patterns of quantificational binding and bound variable anaphora in Mayan is still pending. It would be interesting to see to what extent syntactic and semantic binding exhibit overlap, and whether they are amenable to a unified analysis. Finally, I close this paper with a comment on what I think is an important theoretical implication of this work, having to do with the status of indices in grammar.

The current analysis of the distribution of free nominals in Mayan relies on the ability for the phonological component to be able to identify which free nominal expressions are covalued. As already noted by Aissen (2000) in related work on Popti', this has important ramifications for the status of indices in grammar. The PF generalization in (109), or more generally linear precedence constraints on free nominals, require the phonological component to have access to information about how nominal expressions are to be contextually interpreted, at least indirectly. In other words, PF needs access to "indices".

(120) *PF principle against backwards pronominalization with coreferential expressions:*
If two or more free expressions are co-indexed within the same clause, realize the linearly first as an R-expression, and elide the others. (repeated from (109))

But if the phonological component can see indices, then indices must be syntactically-represented. This conclusion runs counter much recent work on syntactic binding, which follow Chomsky (1995, 2001) in assuming the Inclusiveness Condition:

(121) *Inclusiveness* (Chomsky 2001, 2-3) (cited from Collins and Groat 2018).
[Inclusiveness] bars introduction of new elements (features) in the course of computation: **indices**, traces, syntactic categories or bar levels, and so on.

Inclusiveness has led to a body of fruitful research on syntactic binding, and the absence of indices in syntax has become widely adopted as an underlying assumption (Hornstein 2001, 2007; Kayne 2002; Zwart 2002; Safir 2004; Rooryck and vanden Wyngaerd 2011; Reuland 2011, etc.). For instance, Reuland (2017, 371) recently states: "as is uncontroversial since Chomsky (1995), [...] syntactic indices cannot be part of UG".

But the distribution of free nominals in Mayan languages like Chuj and Ch'ol provide an interesting challenge for Inclusiveness. It is not with bound pronouns, but with free pronouns, that the existence of indices in syntax becomes crucial. That is, though it is possible to derive patterns of syntactic binding without resorting to syntactically-represented indices—this is what the above-cited derivational approaches aim to do—it is difficult to imagine how we could state a phonological constraint such as (120) without appealing to syntactically-represented indices, at least if we want to keep to the T architecture of grammar. After all, the only way PF can see that two free expressions are covalued is for these expressions to be *identified* as covalued, which requires a device such as indices. The Mayan data discussed in this paper therefore support several recent works, especially in semantics, which rely on the existence of indices in syntax (see e.g. Heim and Kratzer 1998; Elbourne 2008; Schwarz 2009; Clem 2019; Arregi and Hanink 2018; Jenks 2018; Hanink 2018, 2020; Jenks and Konate 2021).

Appendix

A Possessor extraction and the EEC

In section 5.3, we saw that extended reflexives seem to circumvent the EEC. In (124), repeated in (107), notice that the subject of an extended reflexive can undergo A'-extraction without Agent Focus morphology:

(122) ¿Mach ix-y-il ix s-nun?
who PFV-A3-see CLF A3-mother
'Who saw their mother?' (Chuj)

Given the proposals put forth in this paper, the possibility of sentences like (124) is problematic from at least two standpoints. First, in section 5, I argued that equivalent data showing the possibility of A'-extraction in reflexive sentences constituted evidence for lack of high-absolutive syntax. This is problematic given the analysis of extended reflexive sentences in this paper, which relies on the proposal that extended reflexives systematically exhibit high-absolutive syntax. However, I showed in section 5.3 that extended reflexive sentences overall pattern much more like high-absolutive transitive sentences than their reflexive counterparts. Given this state of affairs, I argued that it was reasonable to seek a theory of the acceptability of (124) that keeps to a high-absolutive analysis of extended reflexives.

A second complication has to do with how sentences like (124) are semantically interpreted. In section 6, I proposed that Chuj extended reflexives necessarily involve covaluation between *free* nominals. In such cases, I proposed that both expressions are externally merged in the narrow syntax and that the linearly second is subsequently elided at PF. At the semantics interface, this theory predicts that the two co-indexed expressions only (accidentally) corefer (Reinhart 1983). That is, their index guarantees that they pick up the same individual, but as far as the semantics is concerned, the two nominals are semantically independent of each other and are not in binder-bindee relationship. While this may well work for individual-denoting DPs, which we focused on during the course of this paper, this line of analysis cannot be straightforwardly extended to cases in which one of the two covalued is a quantifier (which in Chuj and other Mayan languages generally require A'-extraction to a preverbal position; see Coon et al. 2021: §4.3). Externally merging two *wh*-quantifiers in the subject and possessor of extended reflexives, for instance, would effectively give rise to a multiple *wh*-question (*who saw who's mother*), which is clearly not the intended meaning of the sentence in (107). Instead, for covaluation to hold between a *wh*-expression and another nominal expression within the same sentence, it must be the case that one of the two covalued nominals is interpreted as variable *semantically bound* by the *wh*-expression. And if semantic binding requires c-command, as standardly assumed (Reinhart 1983; Grodzinsky and Reinhart 1993; Büring 2005), then we need to understand why semantic binding is possible in (124).

Coon et al. (2021) provide one way to understand the possibility of sentences like (124), while maintaining a high-absolutive analysis of extended reflexive objects. They propose that in extended reflexive

sentences, A-movement reconstruction is in general possible, which feeds the possibility for subject A'-extraction (see Coon et al. 2021, §4.3 for further details on how this analysis can be implemented). If the object reconstructs, then it follows that a *wh*-quantifier in subject position will be able to bind a variable inside the object, resulting in an LF with appropriate semantics for an extended reflexive with a *wh*-quantifier. However, as shown extensively in section 2 of this paper, it cannot be the case that subjects always semantically bind the possessor of the object in Chuj. Otherwise, we would predict that, per Condition C, R-expressions should systematically appear in subject position in extended reflexive constructions, despite the bulk evidence from section 2 showing the contrary. If we were to adopt this theory, it would therefore have to be the case that A-movement reconstruction is only sometimes available.

Here, I provide an alternative analysis, exploiting a possibility which to my knowledge has not yet been considered by work on the EEC (though see Newman 2020): that what could be extracting in (124) is not the subject, but rather the possessor. Indeed, all previous work on the EEC in Mayan coincide in assuming that in extended reflexive sentences like (107), it is the ergative subject that undergoes A'-extraction. However, since reflexive and extended reflexive constructions involve possessors that are covalued with the ergative subject, it could *a priori* also be the *possessor* of the high-absolutive object that undergoes A'-extraction. If this were the case, we could explain the possibility (107), all while bypassing the common assumption that such sentences involve circumvention of the EEC. That is, if it is the possessor that A'-extracts, then the *ergative* extraction constraint is not violated. We therefore arrive at the following hypothesis:

(123) *Hypothesis about EEC circumvention with extended reflexives*

a. Extended reflexives do not circumvent the EEC. Apparent exceptions involve A'-extraction of the possessor.

b. $[_{CP}$ who $[$ saw $[_{OBJ}$ mother $[_{POSS}$ <who> $]]_i$ $[_{SUBJ}$ <who> $]$ <OBJ$_i$> $]]]$

In light of this hypothesis, it is interesting to consider how a derivation for an extended reflexive sentence with possessor A'-extraction would proceed. To derive the correct interpretation, it will also be crucial that the *wh*-expression semantically binds a variable in its c-command domain, which I show below is possible if the possessor A'-extracts.

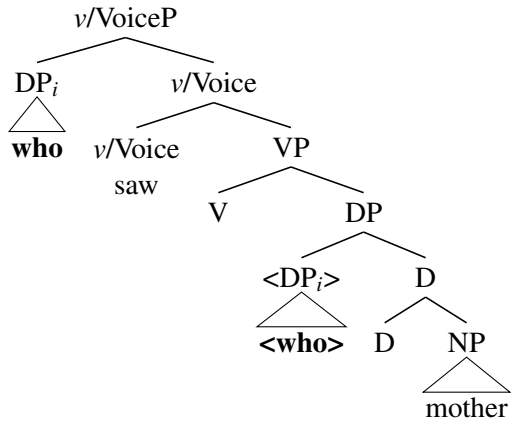
Recall that in examples (114c) and (118), I followed Hornstein (2001) and Zwart (2002) in proposing that patterns of nominal binding in reflexives (in both Chuj and Ch'ol) and extended reflexives (only in Ch'ol) could be derived by internally merging the possessor of the object into the subject. I also argued that,

in general, Chuj extended reflexives cannot be derived as such, because the object systematically raises above the subject, bleeding binding relationships between the subject and the possessor of the object. However, in the relevant example I was considering (119), there was no focused constituent. Let us therefore consider whether an extended reflexive containing a focused expression could be amenable to a movement-based analysis.

Taking (107) (repeated below) as a test case, the first step would be to raise the possessor of the internal argument into the external argument, as in (125).

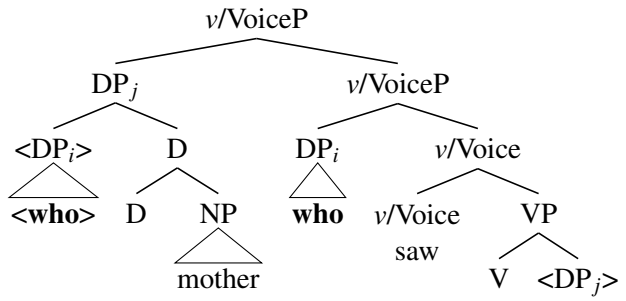
(124) ¿Mach ix-y-il ix s-nun?
who PFV-A3-see CLF A3-mother
'Who saw their mother?' (Chuj)

(125) Step 1: Possessor of internal argument remerges to external argument



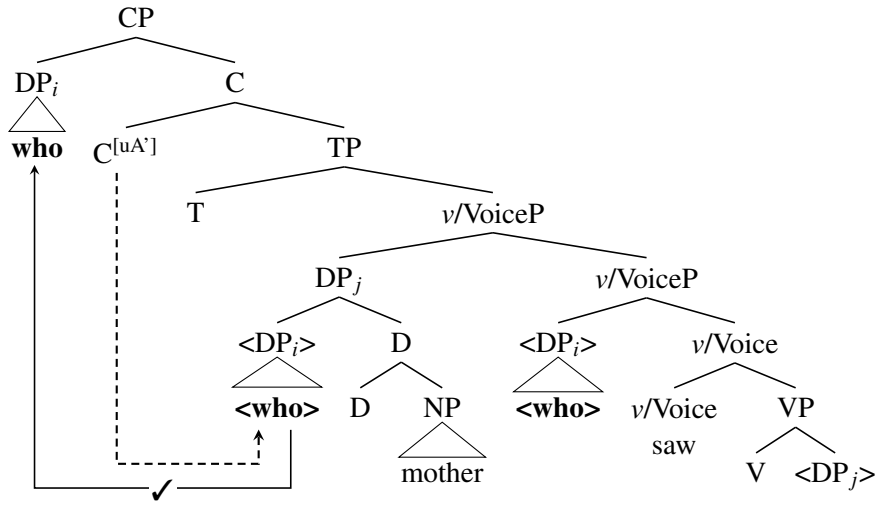
In (125), I assume that the lower copy of *who* will be interpreted as a bound variable at LF (see e.g., Heim and Kratzer 1998; Sauerland 1998; Fox 2002; and Poole 2017 on trace/copy conversion). In a low-absolutive configuration, (125) is thus perfectly interpretable. In a high-absolutive language like Chuj, on the other hand, raising of the object over the subject, as seen in (126), should result in an ill-formed structure (as already shown in (119)). That is, once the internal argument is moved over the external argument, the external argument no longer c-commands its copy, yielding an uninterpretable configuration at LF (i.e., assuming that semantic binding requires c-command and A-movement does not reconstruct).

(126) Step 2: Object raising (normally results in illicit structure)



While (126) will in general result in an ill-formed structure, I propose that *wh*-movement or focus movement can 'rescue' the derivation. Assuming that the copy of the *wh*-expression in the possessor of the object can be targeted by the A'-probe on C^0—which in the copy theory of movement is predicted to be possible—the possessor will be extracted to the specifier of CP, as shown below:

(127) Step 3: Step 2 can be 'rescued' if the A'-probe can target the possessor of the object



Notice that the structure in (127) solves the semantic issue in (126): the extracted *wh*-expression in (127) now c-commands both of its copies. Accordingly, it will co-bind both of the copies at LF, resulting in a semantically well-formed configuration. In particular, there is only one *wh*-item that binds two variables, and so we do not run into the multiple *wh*-question issue discussed above.

This theory requires two stipulations. The first is that the raised object must not act as a barrier for movement (i.e., there is no freezing effect). While I cannot defend this claim here, there is precedent to the proposal that A-movement does not necessarily lead to islandhood (see e.g., Collins 2005 on "smuggling" in raising constructions in English). The second stipulation is that the A'-probe on C^0 is able to target the

possessor of the object (i.e., there is no intervention from the object). That is, it needs to be the case that while high-absolutive objects intervene for the extraction of subjects (see §3.1), they do not intervene for A'-probing of a DP in their specifier. As it turns out, there is also much precedent to the proposal that phrases do not intervene for other phrases in their specifier. As recently discussed by Branan and Erlewine (to appear), Chomsky's (2000: 122) definition of "closest" for Agree *predicts* that DPs and their specifiers should count as equally "close" for A'-probing (see also Pesetsky and Torrego 2001):

(128) *Closest:*
A potential goal G for probe P is closest if no other potential goal for P c-commands G.

Since the head of DPs do not c-command into their specifier, the definition in (128) implies that the object and its possessor in (127) count as equally close for the A'-probe.[30] Assuming this definition of *closest*, we can therefore explain why the possessor can be A'-extracted. And crucially, if we follow this line of analysis, then circumvention of the EEC with extended reflexives is illusionary: the EEC is actually complied with, since the ergative subject does not A'-extract.

Before concluding this appendix, it is important to acknowledge that this kind of theory faces an empirical challenge: possessors in Chuj cannot usually undergo A'-extraction (see Coon 2009 and Little 2020a on the possibility of possessor extraction out of some arguments in (Tumbalá) Ch'ol). This is shown in (129).

(129) *¿Mach ix-kot ix s-nun?
who PFV-arrive CLF A3-mother
Intended: 'Whose mother arrived?' (Chuj)

To follow through with this kind of analysis in future work, it would therefore be important to understand why possessor A'-extraction is exceptionally allowed in extended reflexive constructions. Perhaps, possessor extraction is in general disallowed in Chuj, but exceptionally allowed specifically when the possessor is syntactically related to the subject via some form of movement chain, as is the case in (127).

In sum, the apparent non-compliance of the EEC in extended reflexive constructions poses a challenge to the view advocated here and in previous work that extended reflexives exhibit high-absolutive syntax. Against this challenge, this section laid the foundations for what I consider a viable solution to be explored. This solution allowed us to maintain a high-absolutive syntax for extended reflexives constructions. More

[30] Notice that the possessor of the DP in (125)-(127) is located in the specifier of DP, and not in the specifier of a separate PossP, as in previous sections of this paper. The decision to locate possessors in a separate Possessor projection was by no means crucial for the above discussion. In any case, I assume that to be targeted by the probe on C^0, the possessor must either be base-generated in the specifier of the DP or move to that position (see Coon 2009 for the latter option shown in Ch'ol).

generally, we observed that an analysis of A'-extraction in extended reflexive constructions requires us to engage with a number of non-trivial topics, including the syntax and semantics of (*wh*)-quantifiers, variable binding, and possessor extraction. These are all topics that remain considerably understudied in Mayan linguistics (see e.g. Henderson 2016 on quantification in Mayan). I therefore leave for future work a detailed analysis of the apparent absence of EEC in extended reflexive constructions.

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