The role of case in A-bar extraction asymmetries

Evidence from Mayan

Jessica Coon, Pedro Mateo Pedro & Omer Preminger
McGill University / Universidad del Valle de Guatemala / University of Maryland

Many morphologically ergative languages display asymmetries in the extraction of core arguments: while absolutive arguments (transitive objects and intransitive subjects) extract freely, ergative arguments (transitive subjects) cannot. This falls under the label "syntactic ergativity" (see, e.g. Dixon 1972, 1994; Manning 1996; Polinsky to appear(b)). These extraction asymmetries are found in many languages of the Mayan family, where in order to extract transitive subjects (for focus, questions, or relativization), a special construction known as the "Agent Focus" (AF) must be used. These AF constructions have been described as syntactically and semantically transitive because they contain two non-oblique DP arguments, but morphologically intransitive because the verb appears with only a single agreement marker and takes an intransitive status suffix (Aissen 1999; Stiebels 2006). In this paper we offer a proposal for (i) why some morphologically ergative languages exhibit extraction asymmetries, while others do not; and (ii) how the AF construction in Q'anjob'al circumvents this problem. We adopt recent accounts which argue that ergative languages vary in the locus of absolutive case assignment (Aldridge 2004, 2008a; Legate 2002, 2008), and propose that this variation is present within the Mayan family. Based primarily on comparative data from Q'anjob'al and Chol, we argue that the inability to extract ergative arguments does not reflect a problem with properties of the ergative subject itself, but rather reflects locality properties of absolutive case assignment in the clause. We show how the AF morpheme *-on* circumvents this problem in Q'anjob'al by assigning case to internal arguments.

Keywords: case; ergativity; extraction asymmetries; Q'anjob'al; Chol; Mayan; Agent Focus

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1. Introduction

1.1 General

In Q'anjob'al, a Mayan language of Guatemala, the suffix *-(o)n* is found in two seemingly disparate environments: (i) in transitive clauses from which 3rd person subjects have been extracted (for questions, focus, relativization) as in (1); and (ii) in *all* non-finite embedded transitives as in (2) (Mateo-Toledo 2003a).[1]

(1) Agent Focus
Maktxel max-ach il-**on**-i?
who ASP-2ABS see-SUF-ITV
'Who saw you?'

(2) "Crazy Antipassive"
Chi uj [hach y-il-**on**-i].
ASP be.able.to 2ABS 3ERG-see-SUF-ITV
'She can see you.'

The use of *-on* (or a cognate form) in what are known as "Agent Focus" environments like (1) is widespread throughout the family as a means of circumventing "syntactic ergativity" – the ban on extracting ergative-marked transitive subjects (see, e.g. Smith-Stark 1978). The extension of this morpheme to embedded transitives like (2), however, is unique to the Q'anjob'alan branch of the Mayan family (see, e.g. Pascual 2007; Quesada 1997). Kaufman (1990) dubbed this construction the "Crazy Antipassive", noting: "Clearly this is a mixed structure, not worth interpreting according to logic". In this paper we propose not only that a unified account is possible (building on the intuition in Pascual 2007), but that an analysis of the suffix *-on* in embedded transitives provides important clues about the Agent Focus construction, and thus about the nature of the restriction against A-bar extracting transitive subjects (ergatives) more generally.

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1. Unless otherwise noted, all Q'anjob'al, Chol, and Kaqchikel data are from the authors' fieldnotes, or in the case of Q'anjob'al, from the second author's native speaker intuitions. A list of gloss abbreviations can be found in Appendix A. In some cases glosses have been modified from their original sources for consistency, and translations from Spanish sources are our own. We spell Mayan languages according to the conventions developed by native-speaker linguists, and adopted by the Academia de Lenguas Mayas de Guatemala (see discussion in Mateo-Toledo 2003b). These spellings may in some cases deviate from those used by the authors from which the data are cited. In particular, note that the language previously referred to as "Jacaltec" or "Jakaltek" is now "Popti'", according to the wishes of the community.

Specifically, we argue – extending the analysis in Ordóñez 1995 – that the morpheme *-on* in Q'anjob'al is responsible for *assigning case to internal arguments in environments where case is otherwise unavailable*. Crucially, we argue below that transitive objects in Q'anjob'al are licensed by finite Infl^0 (in other words, we argue for an analysis where "absolutive" in Q'anjob'al is essentially nominative case; cf. Bittner & Hale 1996a, b; Bok-Bennema 1991; Bok-Bennema & Groos 1984; Campana 1992; Johns 1992; Murasugi 1992, *a.o.*). In non-finite embedded environments like (2), there simply is no case-assigner and thus *-on* is required. We argue that extraction environments like (1) face a similar problem, in that extracting the subject would make the normal mechanism of case-assignment unavailable. This connects our work to other proposals in which the extraction of the ergative subject is related to properties of the object (Aldridge 2004; Assmann et al. 2013; Bittner & Hale 1996a; Campana 1992); see Polinsky to appear(b) for an overview of accounts of syntactic ergativity.

The first indication that these constructions should receive a unified analysis comes from the fact that both unexpectedly appear with the *intransitive* status suffix (*-i* '-ITV') – despite the presence of two non-oblique arguments. We show how the presence of intransitive verbal morphology – often discussed for the Agent Focus constructions – is connected to the change in case-assignment properties of these clauses.

1.2 Implications

Though the analysis presented here focuses on Q'anjob'al, we suggest that it has important consequences for other languages as well. We produce a typology of Mayan languages which predicts which languages will and which will not show extraction asymmetries. We argue that languages in which transitive objects are licensed by a high head, Infl^0, are those which exhibit syntactic ergativity. We thus reduce the occurrence of the ban on extracting transitive subjects to independently observable morphosyntactic properties of the languages in question.

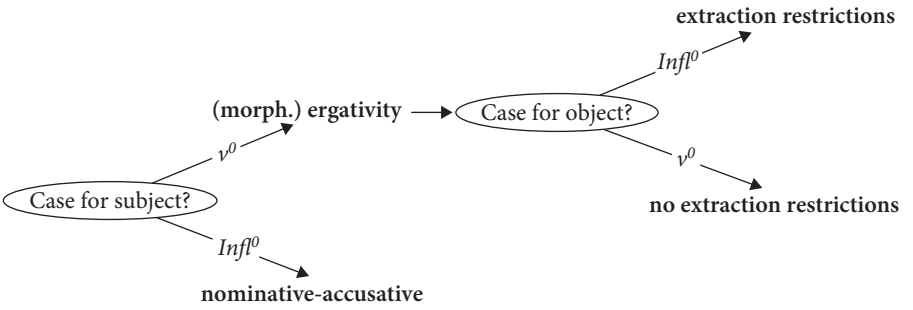
This has the interesting consequence that syntactic ergativity, at least in the Mayan family, is not a direct result of properties of the *ergative* noun-phrase at all, as in accounts such as Markman & Grashchenkov 2012 and Polinsky to appear(a). Instead, we argue that syntactic ergativity – at least in these languages – is the result of properties of case-assignment to *absolutive* arguments (see also Aldridge 2004; Assmann et al. 2013; Bittner & Hale 1996a; Campana 1992). Accounts which reduce the ergative extraction ban to properties of the ergative noun-phrase itself face serious problems in Mayan. First, there are no discernible differences in the structure of ergative noun-phrases (or their associated agreement morphology) between those Mayan languages that exhibit syntactic

ergativity and those that do not. Second, we show that extraction of ergative subjects is in fact possible in certain environments, but the crucial properties of the environments in question have to do with the *internal* argument, not the external/ergative one.

This proposal also has the advantage of separating morphological ergativity from syntactic ergativity – which is unequivocally a desideratum, given the existence of morphologically ergative languages that show no extraction asymmetries of this sort. Such languages, we will see, exist even within the Mayan family (as will be exemplified below using Chol).

To account for this point of variation within morphologically ergative languages, we adopt recent proposals by Aldridge (2004) and Legate (2008). These authors argue that what morphologically ergative languages have in common is that transitive subjects (ergatives) are licensed by a low head, v^0, but that languages differ in how transitive objects (absolutives) are licensed: in some languages, transitive objects are licensed by v^0 (accusative case), while in others transitive objects are licensed by Infl^0 (nominative case). Since only *some* morphologically ergative languages exhibit extraction asymmetries, tying this point of variation to an independently motivated parameter – the locus of case for the absolutive object, as illustrated in (3) – is a welcome result.

(3) Case configuration in a transitive clause



The parameterization in (3) thus represents an advantage over proposals like Assmann et al. 2013, which connects the ban on extracting ergatives to the same parameter which governs whether a language is morphologically ergative or morphologically accusative (via a general parameterization of the ordering of Merge and Agree operations). The present work shares with Assmann et al. 2013 the idea that extraction asymmetries come about as a locality problem in clausal case assignment, but differs in that it does not make syntactic ergativity an expected consequence of morphological ergativity.

Within the subset of morphologically ergative languages which display extraction asymmetries (at the top right in (3)), we recognize a further

possibility for variation in the mechanisms available to circumvent the ban on ergative extraction. Antipassivization – which has the effect of turning the subject of a semantically dyadic predicate into an intransitive subject – is a well-attested strategy for circumventing this ban in a number of syntactically ergative languages (see, e.g. Polinsky 2008), and is noted below for Mayan as well. The complex voice systems of Austronesian languages may also fall into this category (see, e.g. Gärtner, Law & Sabel 2006; Himmelmann 2005; Polinsky & Potsdam to appear for overviews). In this paper, however, we concentrate on the Q'anjob'al Agent Focus (AF) construction, which we argue alleviates the locality problem of case assignment by assigning case to the transitive object, not unlike English *of*-insertion. Even within the Mayan family, however, variation appears to exist with respect to AF (see, e.g. Erlewine 2014; Henderson, Coon & Travis 2013; Stiebels 2006). The goal here is not to provide a unified account of Agent Focus across the Mayan family; rather, we show that the distribution of the morpheme *-on* in Q'anjob'al provides important evidence for the proposal that extraction restrictions arise as a locality problem in which a high head (Infl^0) must license the transitive object.

Further work is required in order to determine whether instances of syntactic ergativity in other language families are reducible to the case assignment mechanisms discussed below. Recent work on Dyirbal by Legate (2012) suggests that the parameter in (3) is not universal. It may be the case that syntactic ergativity is not, after all, a homogeneous phenomenon (a theoretical trajectory that mirrors, to some extent, the theoretical treatment of ergativity itself; see, e.g. Johns 2000; Coon & Adar 2013; Aldridge 2008a & Deal to appear for surveys of recent work). However, the current proposal makes testable predictions that go beyond the inextractability of ergative noun-phrases in general, and can therefore serve to investigate this very question: whether syntactic ergativity, where found, is of a cross-linguistically uniform nature.

1.3 Outline

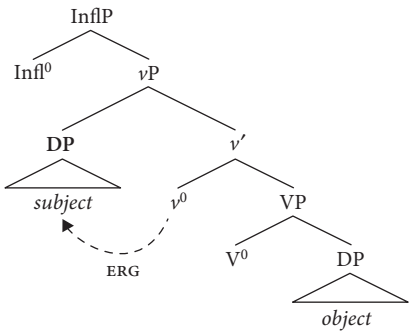
The remainder of this paper is organized as follows. We begin in Section 2 with an overview of ergativity in the Mayan family. Here we provide a comparison between Q'anjob'al and Chol. These two languages illustrate the different person marking possibilities found within Mayan languages. We propose a parameter which governs the distribution of absolutive morphemes based on the head responsible for licensing absolutive DPs. Section 3 focuses on how the case configuration properties of so-called "HIGH-ABS" languages result in the ban on extracting transitive subjects. The Agent Focus construction in Q'anjob'al is discussed in Section 4 as a means of circumventing syntactic ergativity by providing an alternative

mechanism for assigning case to objects. Finally, Section 5 examines some predictions of the account and Section 6 concludes.

2. Ergative and absolutive across Mayan

In an ergative-absolutive system, transitive objects and intransitive subjects (absolutives) pattern alike (e.g. in terms of morphological case or agreement marking), and differently from transitive subjects (ergatives). A significant body of work on ergativity has converged on the idea that what sets ergative systems apart is that the transitive subject is licensed by (or receives abstract case from) a low functional head, transitive v^0 or Voice^0 (Aldridge 2004; Legate 2002; Woolford 2006; Aissen 2010 & Coon to appear on Mayan). This is illustrated in (4).

(4)



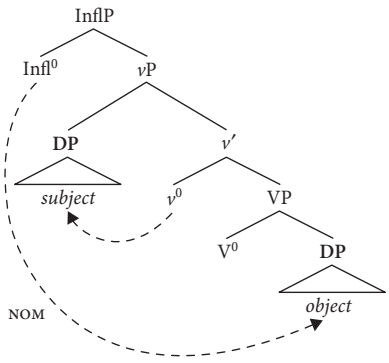
This raises the question of how absolutive DPs – transitive objects and intransitive subjects – are licensed in an ergative system. Legate (2008) argues that while "absolutive" may be a useful descriptive term, it does not represent a unified theoretical category. She takes morphological case and agreement to be a post-syntactic spell out of abstract case features assigned to DPs by functional heads.

(5) a. NOMINATIVE – abstract case assigned by Infl^0
b. ACCUSATIVE – abstract case assigned to transitive objects by v^0
c. ERGATIVE – abstract case assigned to transitive subjects by v^0

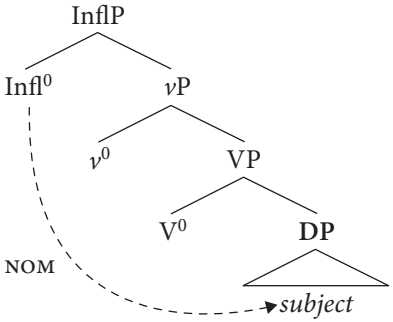
While "nominative", "accusative", and "ergative" can be characterized as in (5), Legate argues that "absolutive" is not an abstract case, but instead is a descriptive term for a morphological form shared by transitive objects and intransitive subjects, which can come about in at least two different ways.

Legate (2008) identifies two types of ergative systems (see also Aldridge 2004, who reaches similar conclusions on independent grounds). In what Legate refers to as "*ABS=NOM*" (absolutive = nominative) languages, both transitive objects (6) and intransitive subjects (7) receive nominative case from Infl^0.

(6)

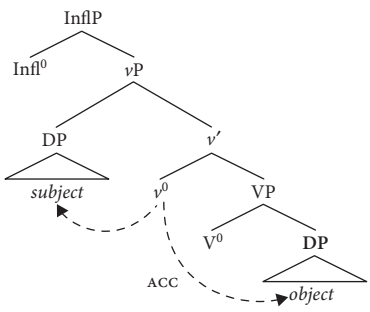


(7)



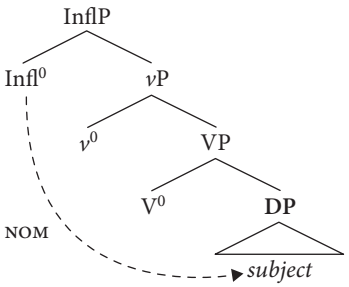
In so-called "*ABS=DEF*" (absolutive = default) languages, transitive objects and intransitive subjects are licensed by distinct functional heads. Transitive objects are licensed by v^0 (accusative, shown in (8)), while intransitive subjects are licensed by Infl^0 (nominative, shown in (9)).[2] These different abstract licensing mechanisms are spelled out as a morphological default (often null), which is what is then descriptively labeled "absolutive".

(8)



2. For the purposes of this paper, we ignore unergative predicates, which vary considerably across Mayan and do not have direct bearing the proposal presented below; see e.g. Danziger 1996 on Mopan & Coon 2012 on Chol.

(9)



In the remainder of this section, we provide evidence for this distinction within the languages of the Mayan family, and draw a correlation between the mechanisms of licensing absolutive DPs and the appearance of extraction asymmetries (which we refer to here as "syntactic ergativity"). Specifically, we show that within the Mayan family, languages in which the ergative DP is unable to undergo A-bar extraction are precisely those languages where *ABS=NOM*; whereas such movement turns out to be unproblematic in *ABS=DEF* languages. In the following Section (§3), we will show that these extraction restrictions arise due to a problem of locality in the assignment of case to transitive objects, which occurs in configurations like the one shown in (6).

The present proposal tethers the appearance of extraction asymmetries to the independently motivated parameter of how case is assigned to absolutive arguments (Aldridge 2004; Legate 2008). This, we suggest, provides an explanation for why extraction restrictions of the type discussed below are found *only* in morphologically ergative languages (those in which Infl^0 licenses the transitive object), but crucially not in *all* morphologically ergative languages (since in *ABS=DEF* languages v^0 licenses objects); see Dixon 1994 on the generalization that some, but not all, morphologically ergative languages display syntactic ergativity. This is illustrated in (10).

(10)

	+MORPH. ERGATIVITY	−MORPH. ERGATIVITY
+SYNTACTIC ERGATIVITY	Q'anjob'al	✗ (*unattested*)
−SYNTACTIC ERGATIVITY	Chol	English

We begin with a brief overview of the Mayan language family, focusing on the properties which will be relevant to the discussion in the remainder of this paper.

2.1 Background: The Mayan language family

The Mayan language family consists of about thirty languages, usually grouped into five or six major sub-groups (Campbell & Kaufman 1985; England & Zavala 2013), spoken altogether by over six million people in Mexico, Guatemala, and

Belize. A common grouping is shown in (11). This paper focuses on Q'anjob'al, a Q'anjob'alan language spoken in Huehuetenango, Guatemala. Chol, a Tseltalan branch language of Chiapas, Mexico, will also be discussed in some detail (see also Vázquez Álvarez 2011).

(11) Mayan family classification (Campbell & Kaufman 1985)
- a. **Huastecan**: Huastec
- b. **Yucatecan**: Yucatec, Lakantun; Mopan, Itzaj
- c. **Greater Tseltalan**:
  - i. *Cholan*: Chol, Chontal; Ch'orti'
  - ii. *Tseltalan*: Tseltal, Tsotsil
- d. **Greater Q'anjob'alan**:
  - i. *Q'anjob'alan*: Q'anjob'al, Akatek, Popti'; Mocho'
  - ii. *Chujean*: Chuj, Tojol-ab'al
- e. **K'ichean–Mamean**:
  - i. *K'ichean*: Q'eqchi'; Uspantek; Poqomchi', Poqomam; K'ichee', Kaqchikel, Tz'utujil, Sakapultek, Sipakapense
  - ii. *Mamean*: Teko, Mam; Awakatek, Ixil

Despite significant diversity within the family, Mayan languages share a number of core characteristics. The unmarked word order is commonly verb-initial (England 1991).[3] Nearly all languages of the Mayan family show an ergative-absolutive system of marking grammatical relations (Dayley 1981; Grinevald & Peake 2012; Larsen & Norman 1979), illustrated by the Q'anjob'al forms in (12). Core arguments are head-marked on the predicate with two sets of morphemes. Ergative prefixes mark the transitive subject in (12a), while transitive objects and intransitive subjects receive the same marking, here the 2nd person absolutive *-ach*.

(12) a. Q'anjob'al
Max-**ach** y-il-a'.
ASP-**2**ABS 3ERG-see-TV
'She saw you.'

b. Max-**ach** way-i.
ASP-**2**ABS sleep-ITV
'You slept.'

The full paradigm of person markers in Q'anjob'al is given in (13). The ergative markers have pre-consonantal and pre-vocalic allomorphs. As in other Mayan

3. Whether this word order is a matter of head-movement, XP movement, or base-generation – or even, whether the underlying mechanism is the same across all verb-initial Mayan languages – is not directly relevant for our current purposes, and we abstract away from it here. For a review, see Clemens & Polinsky to appear.

languages, 3rd person absolutive is null and ergative and possessive prefixes are identical.[4] The clitic *heb'* corresponds to 3rd person plural in both series of person markers, on verbs as well as on nominals. The absolutive markers shown here are bound forms, but may also appear as free-standing forms with the addition of an initial *h-* (e.g. *hin*, *hach*…); this will be relevant to our discussion of the Crazy Antipassive in Section 5.1 below.

(13) Q'anjob'al person morphology

	ERGATIVE		ABSOLUTIVE
	__C	__V	
1sg	*hin-*	*w-*	*-in*
2sg	*ha-*	*h-*	*-ach*
3sg	*s-*	*y-*	*-Ø*
1pl	*ko-*	*j-*	*-on*
2pl	*he-*	*hey-*	*-ex*
3pl	*s-… heb'*	*y-… heb'*	*heb'*

We assume that the absolutive morphemes arise through clitic doubling of full DP arguments, which can be *pro*. On the clitic status of absolutive agreement markers, see: Grinevald & Peake 2012 and Mateo-Toledo 2008 on Q'anjob'al; Woolford 2000 on Popti'; Coon 2013, to appear on Chol; and Preminger 2011a, 2014 on Kaqchikel; and for historical evidence to the same effect, see Kaufman 1990 and Robertson 1992. Throughout the Mayan family, absolutive morphemes appear to be reduced versions of full emphatic pronouns, the latter of which appear only in focus constructions. Compare Q'anjob'al full pronouns *ayin* (1SG), *ayach* (2SG), *ayon* (1PL), and *ayex* (2PL) with the corresponding absolutive forms in (13). The status of absolutives is discussed further in Section 3.2.

Finite eventive predicates in Q'anjob'al are headed by one of several aspectual markers, for example the completive *max* in (12) above. Nominal arguments are not morphologically marked for case, and can be freely omitted. The verb stem consists of a root, followed in some cases by derivational morphology, and often a final "status suffix". Status suffixes vary with transitivity, stem class, and aspect. The two suffixes relevant to the following discussion are given in (14).

4. The ergative/genitive prefixes are often referred to jointly as "set A" markers within Mayanist literature; absolutive is known as "set B". Here we sacrifice the neutrality of the A/B labels and use the more familiar ERG – ergative and ABS – absolutive. We gloss both transitive subjects and possessors as 'ERG' below.

(14) Q'anjob'al status suffixes[5]

intransitive	*-i*	-ITV
transitive	*-V'*	-TV

Importantly, the status suffixes *-i* and *-V'* only surface phrase-finally in Q'anjob'al (Mateo Pedro 2011; see also Henderson 2012 on K'ichee'). We represent non-final suffixes in square brackets to show how they *would* surface if the stem were phrase-final, as shown in (15a). Note that this does not indicate *optionality*; whether or not these status suffixes will surface is determined unambiguously by whether or not the verb is in phrase-final position.

(15) a. Max-Ø way-i.
ASP-3ABS sleep-ITV
'He slept.'

b. Max-Ø way[-i] naq winaq.
ASP-3ABS sleep-ITV CLF man
'The man slept.'

2.2 A Mayan absolutive parameter

Though most Mayan languages share the properties discussed for Q'anjob'al above, we find an interesting point of variation in the *relative position* of the absolutive morphemes: in what we will refer to as "HIGH-ABS" languages, the absolutive morpheme immediately follows the aspect marker.[6] In "LOW-ABS" languages, on the other hand, the absolutive morpheme appears at the end of the verb stem. Other morphemes appear in the same relative order, as shown in the table in (16).[7] This basic division of Mayan languages is discussed by Bricker (1977), who notes that

5. Mayan languages morphologically distinguish two types of transitives: "root transitives" are formed from a CVC root, while "derived" or "non-root" transitives include stems which have been derived via overt morphology (e.g. causative, applicative), or in some cases are zero-derived (e.g. some denominals). Non-root transitives take the suffix *-j*, omitted here for simplicity.

6. Here we discuss only "verbal predicates" which show aspectual morphology. A further division is found among HIGH-ABS languages in the treatment of so-called "non-verbal predicates", which we return to below. Note also that certain plural markers, such as Q'anjob'al *heb'* in (13), may appear following the stem in addition to the "high" absolutive morphemes here; see Grinevald & Peake 2012 for discussion.

7. How these morphemes are grouped into phonological words is another point of variation across the family, not discussed here.

the HIGH-ABS languages are spoken predominantly in highland Guatemala, while the LOW-ABS languages are found in Mexico.

(16)

HIGH-ABS	ASPECT	**ABS**	ERG	ROOT	(DERIV.)	SUFFIX	
LOW-ABS	ASPECT		ERG	ROOT	(DERIV.)	SUFFIX	**ABS**

Q'anjob'al, shown in (17), exemplifies the former type; Chol, shown in (18), exemplifies the latter type.

(17) Q'anjob'al – "HIGH-ABS"

a. Max-**ach** y-il-a'.
ASP-2ABS 3ERG-see-TV
'She saw you.'

b. Max-**ach** oq'-i.
ASP-2ABS cry-ITV
'You cried.'

(18) Chol – "LOW-ABS"

a. Tyi y-il-ä-**yety**.
ASP 3ERG-see-TV-2ABS
'She saw you.'

b. Tyi uk'-i-**yety**.
ASP cry-ITV-2ABS
'You cried.'

Tada (1993:106) observes a correlation, within the Mayan language family, between the presence of extraction asymmetries on the one hand, and the location of the absolutive morpheme on the other. Overwhelmingly, HIGH-ABS languages like Q'anjob'al exhibit extraction asymmetries (namely, they do not allow extraction of the transitive subject), whereas LOW-ABS languages like Chol do not exhibit such restrictions; in the majority of LOW-ABS languages surveyed, all core arguments extract freely.

This is summarized in the table in (19); languages we have added to Tada's original typology appear italicized (see Stiebels 2006 and references therein).[8]

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8. Tsotsil and Huastec are both omitted from this table as neither is clearly classifiable according to this typology. Huastec is unusual within Mayan in having three series of person markers, including a series of portmanteau person markers (Edmonson 1988). It is the most divergent member of the family, having split off before any of the other languages, and is classified in its own sub-branch (Campbell & Kaufman 1985).

Tsotsil possesses both a high and low series of absolutive morphemes; the high series realizes only person features, while the low series realizes both person and number (see Aissen

(19) Relationship between location of ABS and the presence of extraction asymmetries

	+EXTRACTION ASYMMETRIES	−EXTRACTION ASYMMETRIES
HIGH-ABS	*Q'anjob'al, Akatek*, Popti', Chuj, Q'eqchi', *Uspantek* Poqomchi', Poqomam, K'ichee', Kaqchikel, Tz'utujil, *Sakapultek* *Sipakapense*, Mam, Awakatek	
LOW-ABS	Yucatec, Ixil	Lakantun, Mopan, *Itzaj*, Chol, *Chontal*, Tseltal, Tojol-ab'al

1987 and Woolford 2011 for discussion). Descriptively, a high-series marker is used whenever a clause-initial aspect marker is present; low-series markers are used whenever aspect is absent, and – possibly together with a high-series marker – to mark plurality of the absolutive nominal (Aissen 1987). The one exception to this generalization occurs with a 2nd person ergative combines with 1st person absolutive, as in (i). Here the high-series absolutive marker is impossible, despite the presence of an initial aspect marker (cf. (ii)).

(i) a. Ch-a-mil-**on**.
ASP-2ERG-kill-1ABS
'You are going to kill me.'

b. *Ch-**i**-**a**-mil.
ASP-1ABS-2ERG-kill
intended: 'You are going to kill me.'

(ii) **L**-**i**-**s**-maj a-tot.
ASP-1ABS-3ERG-hit 2ERG-father
'Your father hit me.' (Aissen 1987: 40)

As Woolford (2011) notes, the ungrammatical combination in (iia) is the only combination of ergative and absolutive morphemes which results in vowel hiatus, generally not tolerated in the family. If, as Woolford suggests, phonological factors may contribute to determining whether absolutive should be realized high or low, this provides support for the possibility discussed in Section 3.2 below that overt absolutive NPs in HIGH-ABS languages form a chain headed in Spec, *v*P, but that only the low copy is pronounced.

We demonstrate the relevant properties through a comparison of Q'anjob'al (HIGH-ABS) with Chol (LOW-ABS).[9] The examples in (20) demonstrate that S (intransitive subject) arguments may extract freely in Q'anjob'al:

(20) Extraction of Subject of intransitive

a. Max way[-i] naq winaq.
ASP sleep-ITV CLF man
'The man slept.'

b. Maktxel$_1$ max way-i ___$_1$?
who ASP sleep-ITV
'Who slept?'

As shown below, **P** (transitive object) arguments also extract freely, but **A** (transitive subject) arguments cannot be extracted from a regular transitive clause. The unavailability of an **A**-extraction reading for an example like (21c), below, illustrates this restriction; as expected, this sentence is grammatical under a **P**-extraction reading.

(21) a. Transitive
Max y-il[-a'] naq winaq ix ix.
ASP 3ERG-see-TV CLF man CLF woman
'The man saw the woman.'

b. Patient extraction
Maktxel$_1$ max y-il[-a'] naq winaq ___$_1$?
Who ASP 3ERG-see-TV CLF man
'Who did the man see?'

In addition to the two languages which do not clearly fit into the typology above, this classification includes two apparent outliers: Yucatec and Ixil. The so-called Agent Focus construction in Yucatec differs significantly from that of the other languages both in form and in distribution (Bricker 1978, 1979; Gutiérrez Bravo & Monforte 2009; Tonhauser 2003, 2007; and Norcliffe 2009). Norcliffe (2009) argues that AF in Yucatec is best analyzed as belonging to the group of *resumptive/gap alternations*; if her analysis is on the right track, Yucatec does not in fact exhibit syntactic ergativity of the type seen in the HIGH-ABS languages presented here.

Finally, while absolutive markers follow the verb in Ixil, they are unique in that they are not enclitics – as they are in the other LOW-ABS languages – but separate words: "The absolutive markers are independent words, and it can be observed that they are identical to the independent first and second person pronouns" (Ayres 1991:134). If the absolutive morphemes are simply full pronominal forms in Ixil, we might attribute their low position to a phonological condition, as in the case of the Tsotsil pattern above, and on par with overt 3rd person nominals in other HIGH-ABS languages, discussed in Section 3.2.

9. We use the following traditional notation for core clausal arguments: **S** for intransitive subjects; **A** for transitive subjects ("Agents"); and **P** for transitive objects ("Patients").

c. Agent extraction
*Maktxel$_1$ max-Ø y-il[-a'] ___$_1$ ix ix?
who ASP-3ABS 3ERG-see-TV CLF woman
intended: 'Who saw the woman?'
(grammatical as: 'Who did the woman see?')

Extraction of A arguments is impossible not only in *wh*-questions like (21c), but also in other kinds of A-bar dependencies, such as relativization and focusing of 3rd person subjects (we return to focused 1st/2nd person subjects in Section 5.1, below).

The state of affairs demonstrated above for Q'anjob'al differs crucially from what one finds in a LOW-ABS language, like Chol. In a Chol transitive where both arguments are 3rd person, A-bar extraction results in ambiguity – precisely the ambiguity that is blocked in the Q'anjob'al (21c), above. This is due to a confluence of the following factors: (**i**) both core arguments are normally post-verbal in Chol (the basic word order is VOS; see Coon 2010; Vázquez Álvarez 2002, 2011); (**ii**) nominals in Chol, as in all of Mayan, lack morphological case marking of their own; and most importantly for our current purposes, (**iii**) both subjects and objects can in principle be targeted for A-bar extraction. The resulting ambiguity is demonstrated in (22b):

(22) Chol transitive (cf. the Q'anjob'al (21))

a. Tyi y-il-ä x-'ixik jiñi wiñik.
ASP 3ERG-see-DTV CLF-woman DET man
'The man saw the woman.'

b. Maxki$_1$ tyi y-il-ä (___$_1$) jiñi wiñik (___$_1$)?
who ASP 3ERG-see-TV DET man
'Who saw the man?'/'Who did the man see?'

This ambiguity disappears if the arguments differ in their person features, since in that case, the agreement markers will disambiguate which argument is the subject/agent/ergative, and which is the object/patient/absolutive:

(23) Maxki$_1$ tyi y-il-ä-yety ___$_1$?
who ASP 3ERG-see-TV-2ABS
'Who saw you?'
(cannot mean: 'Who did you see?')

Crucially, ambiguity of the kind shown in (22b) never arises in a HIGH-ABS language like Q'anjob'al: if the verb is in its transitive form, the *wh*-phrase must be interpreted as the **P** argument (see (21b–c), above). Exactly this type of ambiguity has been proposed as a functional motivation for the AF structure (see e.g. Stiebels 2006), though note that this cannot be the whole story since AF also occurs in

clauses where no ambiguity would arise, as with a 1st or 2nd person object. It also does not (obviously) explain why it is consistently subjects, and not objects, which are banned from extraction out of transitives.

In Section 3, we will offer an account for why *Tada's Generalization* (19) should hold. First, however, we will establish that in Mayan, the surface position of absolutive correlates with the head responsible for licensing absolutive arguments in transitive clauses, in the manner shown in (24). As discussed above, we assume that transitive subjects and intransitive subjects are each licensed in a consistent manner across Mayan: transitive subjects are licensed by transitive v^0, while intransitive subjects are licensed by Infl^0. The variation arises in the locus of case for transitive objects:

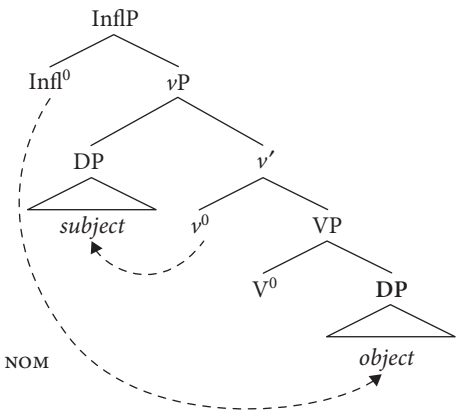
(24) Mayan Absolutive Parameter

	licensing of transitive objects
HIGH-ABS (ABS realized on the aspect marker)	ABS assigned by Infl^0
LOW-ABS (ABS realized on the verb stem)	ABS assigned within *v*P

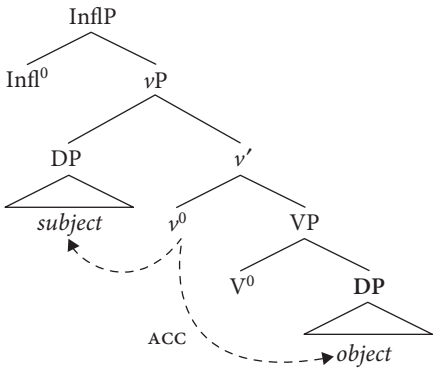
2.3 The locus of absolutive

In this sub-section, we provide evidence for the parameter in (24). Recall that the differences between Legate's *ABS=NOM* (which we propose corresponds to Mayan HIGH-ABS) and *ABS=DEF* (corresponding to Mayan LOW-ABS) are found in the case-assignment configurations of *transitive clauses* – since intransitive subjects are uniformly licensed by Infl^0. In *ABS=NOM*, transitive objects are licensed by Infl^0; in *ABS=DEF*, transitive objects are licensed by transitive v^0. Structures for transitives are repeated in (25) and (26) below.

(25) *ABS=NOM*



(26) *ABS=DEF*



As discussed in work by both Aldridge and Legate on unrelated languages, these two different possibilities for assigning case to transitive ("absolutive") objects make different predictions about the behavior of transitive objects in non-finite clauses. Just as nominative becomes unavailable in non-finite embedded clauses in a nominative-accusative language, "absolutive" objects should lose the ability to be licensed by Infl^0 in an *ABS=NOM* language as in (25). In an *ABS=DEF* configuration like (26), on the other hand, Infl^0 is not responsible for licensing transitive objects in the first place, and so the licensing of such objects should in principle still be possible, even in non-finite environments. Since Infl^0 is responsible for licensing intransitive subjects in both *ABS=NOM* and *ABS=DEF* languages (see (7) and (9) above), intransitive "absolutive" subjects should become unavailable in both. These predictions are summarized in (27).

(27) Licensing absolutive DPs

	ABS=NOM	non-finite?	*ABS=DEF*	non-finite?
intransitive subject	Infl^0	✖	Infl^0	✖
transitive object	Infl^0	✖	v^0	✔

In Mayan, non-finite embedded clauses lack the pre-verbal aspect markers found in matrix clauses. Though aspectual distinctions are more prevalent than grammatical tense distinctions throughout the family (Kaufman 1990), in at least some Mayan languages tense and aspect information appear to be bundled together in these preverbal morphemes (Grinevald & Peake 2012), which we assume occupy Infl^0 (following Aissen 1992). Below we see that the predictions of our Mayan Absolutive Parameter in (24) are borne out: non-finite embedded transitive objects require some special morphosyntactic means to be licensed in HIGH-ABS languages, but not in LOW-ABS languages. In embedded intransitives, absolutive subjects are impossible across the family.

2.3.1 *Absolutive in HIGH-ABS languages*

In Q'anjob'al and other HIGH-ABS languages, we predict that absolutive DPs – either 1st/2nd person clitics, or full 3rd person nominals – will be unavailable in both transitive and intransitive non-finite environments (or, more precisely, unavailable absent some special licensing mechanism). As we will see, this prediction is borne out.

Q'anjob'al matrix transitive constructions are shown in (28). Here, the objects are marked with the 1st and 2nd person absolutive clitics, *-in* and *-ach*, which attach to the initial aspect marker.

(28) a. Ch-**in** y-il[-a'] ix Malin.
ASP-1ABS 3ERG-see-TV CLF Maria
'Maria sees me.'

b. Max-**ach** hin-laq'-a'.
ASP-2ABS 1ERG-hug-TV
'I hugged you.'

The matrix verb *uj* 'be able to' and the progressive predicate *lanan* both embed non-finite (aspectless) clauses (see Mateo-Toledo 2003a). However, embedding aspectless equivalents of the transitive forms in (28) is impossible, as shown by the ungrammatical constructions in (29).

(29) a. *Chi uj [**hin** y-il ix Malin].
ASP be.able.to 1ABS 3ERG-see CLF Maria
intended: 'Maria can see me.'

b. *Lanan [**hach** hin-laq'-a'].
PROG 2ABS 1ERG-hug-TV
intended: 'I am hugging you.'

Though the absolutive arguments in (29) are the freestanding forms *hin* and *hach* (see also Section 5.1, below), a reviewer wonders whether the problem with (29a–b) may still be a morphological one. Suppose that absolutive morphemes in HIGH-ABS languages like Q'anjob'al *must* attach to an aspect marker, as in the grammatical matrix clauses in (28) above. Since the non-finite embedded clauses in (29) have no aspect marker, perhaps this is the reason that the absolutive cannot appear. The contrast in (30) illustrates that this is not the problem. Recall that there are no 3rd person absolutive morphemes in Mayan (see (13) above); a sentence with a full 3rd person NP is shown in (30a). The embedded equivalent in (30b) is nonetheless impossible. This indicates that the problem is not morphological, but syntactic: with no finite Infl^0, there is no means to license a transitive object.

(30) a. Max hin-laq' **naq winaq**.
ASP 1ERG-hug CLF man
'I hugged the man.'

b. *Lanan [hin-laq' **naq winaq**].
PROG 1ERG-hug CLF man
intended: 'I am hugging the man.'

In order to embed non-finite transitives in Q'anjob'al, a special construction known as the "Crazy Antipassive" is required. We return to this construction in Section 5.1 below.

The difference between finite and non-finite *intransitives* is perhaps even more striking. Examples of Q'anjob'al matrix intransitives are given in (31). Here, the intransitive subjects are marked by the absolutive clitics *-on* and *-ach*, which again attach to the clause-initial aspect markers.

(31) a. Ch-**on** b'ey-i.
ASP-1ABS.PL walk-ITV
'We walk.'

b. Max-**ach** way-i.
ASP-2ABS sleep-ITV
'You slept.'

Non-finite embedded equivalents are shown in (32). Again, the bracketed embedded clauses have no aspect marking. The single argument of the intransitive is marked not by an absolutive clitic, but with the *ergative* prefix, normally reserved for transitive subjects and possessors.[10]

(32) a. Chi uj [**ko**-b'ey-i].
ASP be.able.to 1ERG.PL-walk-ITV
'We can walk.'

b. Lanan [**ha**-way-i].
PROG 2ERG-sleep-ITV
'You are sleeping.'

---

10. Indeed, many analyses propose that these ergative prefixes co-index grammatical *possessors*. Mateo Pedro (2009) argues that non-finite embedded clauses like the bracketed forms in (32) are nominalizations – the subject is marked as the *possessor* of a nominalized clause (though we gloss ergative/possessive morphemes consistently as 'ERG' for simplicity). The sentence in (32a) would then be more literally translated as 'Our walking is allowed/possible'; see also Larsen & Norman 1979; Bricker 1981 on Yucatec & Coon 2013 on Chol. We return to this in Section 5.1 below; for now, what is important is that absolutive does not appear in these nonfinite embedded intransitives.

Using the absolutive morpheme (either free-standing, given here, or bound forms) results in ungrammaticality, as shown in (33). The behavior of these intransitives has been described as an instance of split ergativity, since these particular intransitive subjects fail to pattern with transitive objects; see Coon 2013 for discussion.

(33) a. *Chi uj [**hon** b'ey-i].
ASP be.able.to 1ABS.PL walk-ITV
intended: 'We can walk.'

b. *Lanan [**hach** b'ey-i].
PROG 2ABS walk-ITV
intended: 'You are sleeping.'

The transitive and intransitive non-finite embedded forms contrast with fully finite embedded clauses like the one shown in (34). Here the embedded form appears with aspectual marking and the absolutive morphemes are again possible. The complementizer *tol* is optional.

(34) a. Chi w-oche-j [(tol) ch-**in** y-il[-a'] ix **Malin**].
ASP 1ERG-want-DTV COMP ASP-1ABS 3ERG-see-TV CLF Maria
'I want Maria to see me.'

b. Chi w-oche-j [(tol) ch-**ach** b'ey-i].
ASP 1ERG-want-DTV COMP ASP-2ABS walk-ITV
'I want you to walk.'

We predict more generally that absolutive should be unavailable in non-finite embedded clauses in HIGH-ABS Mayan languages. While we find variation in how non-finite embedded clauses are expressed across HIGH-ABS Mayan languages, the general absence of absolutives holds in all of the languages we examine. We briefly discuss Kaqchikel, K'ichee', Q'eqchi', and Mam below, before turning to LOW-ABS languages in the following section. While a comprehensive analysis of non-finite clauses in Mayan languages is beyond the scope of this paper, we provide the examples below to illustrate the striking unavailability, in HIGH-ABS Mayan languages, of absolutive in non-finite environments – both for transitive objects and for intransitive subjects.

A Kaqchikel (K'ichean) matrix transitive is shown in (35a). In (35b), we see that the verb 'want' can embed a fully finite clause which is itself marked for aspect. Here, the embedded object is marked with the 2nd person absolutive *-at*, just as in the matrix transitive. In (35c–d), on the other hand, the verb *chäp* 'begin' embeds an aspectless clause, discussed in detail in Imanishi 2014. In (35c), the embedded verb stem is passivized and then nominalized and the

single argument of the passive triggers the ergative/possessive prefix, as in the Q'anjob'al intransitive forms in (32) above. Alternatively, an embedded transitive may undergo antipassivization, as in (35d); in the incorporating antipassive in (35d) the object must be a bare noun. With Imanishi, we follow a range of work which assumes that bare objects are licensed by being *incorporated* (Baker 1988) or *pseudo-incorporated* (Massam 2001) into the verb stem, and thus do not require the kind of licensing discussed earlier (see also §5.2). Embedding a full transitive is impossible, and absolutive does not appear in non-finite environments, discussed in detail in Imanishi 2014.

(35) Kaqchikel (K'ichean)

a. X-**at**-in-tz'et.
ASP-2ABS-1ERG-see
'I saw you.'

b. X-inw-ajo' [x-**at**-in-tz'et].
ASP-1ERG-want ASP-2ABS-1ERG-see
'I wanted to see you.'

c. Röj x-qa-chäp [**ki**-q'ete-x-ïk ri ak'wal-a'].
we ASP-1ERG.PL-begin 3ERG.PL-hug-PASV-NML DET child-PL
'We began to hug the children.' (Imanishi 2014)

d. X-qa-chäp [choy-**oj** che'].
ASP-1ERG.PL-begin cut-AP tree
'We began to cut trees.' (Imanishi 2014)

Corresponding intransitives are shown with the verb *k'iy* 'grow' in (36). As in the transitives above, the embedded clause with aspect in (36b) patterns identically to the matrix intransitive in (36a). When aspect is lost, as in the embedded clause in (36c), absolutive marking also disappears. The verb appears in a nominalized form and in the single argument is again represented using the ergative/possessive prefix, *qa-*. K'ichee' (another K'ichean language) patterns similarly (Robert Henderson, pers. comm.).

(36) a. X-**oj**-k'iy.
ASP-1ABS.PL-grow
'We grew.'

b. X-q-ajo' [x-**oj**-k'iy].
ASP-1ERG.PL-want ASP-1ABS.PL-grow
'We wanted to grow.'

c. X-qa-chäp [**qa**-k'iy-en].
ASP-1ERG.PL-begin 1ERG.PL-grow-NML
'We began to grow.' (lit.: 'Our growing began.')

Similar facts are found in HIGH-ABS Q'eqchi', also from the K'ichean branch.[11] Transitive and intransitive matrix clauses are shown in (37), which realize the HIGH-ABS morpheme order.

(37) Q'eqchi' (K'ichean)

a. X-**at**-ka-ch'aj.
ASP-2ABS-1ERG.PL-wash
'We washed you.'

b. X-**at**-yajer.
ASP-2ABS-be.sick
'You got sick.' (Berinstein 1998: 213)

Two options available for realizing transitive aspectless embedded clauses in Q'eqchi' are demonstrated in (38a–b). In (38a), the verb appears in a nominal stem form and the thematic object is marked with the ergative/possessive prefix, comparable to (35c), as well as (32). The embedded verb may also be antipassivized, as in (38b); here, the object must be bare and non-referential, as in the Kaqchikel example in (35d) above (see also Berinstein 1990).

(38) a. T-inw-aj [**aaw**-il-bal].
ASP-1ERG-want 2ERG-see-NML
'I want to see you.' (lit.: 'I want your seeing.')

b. Laa'in t-inw-aj [lo'-o-k **tul**].
PRON1 ASP-1ERG-want eat-AP-NF banana
'I want to eat bananas.' (Berinstein 1985: 265–9)

England (to appear) discusses various types of aspectless embedded clauses in the HIGH-ABS language Mam (Mamean branch). What they all appear to share is an absence of absolutive marking. What she labels "infinitive" forms are marked with the suffix *-l*, as in (39). In (39a), the object is introduced via ergative/possessive marking on what is known in Mayanist literature as a "relational noun". Relational nouns in Mayan – not to be confused with relational nouns in the sense of Adger 2013 – are effectively prepositions which cross-reference their complements via ergative/possessive morphology, and are a common strategy across the Mayan family for introducing oblique arguments. In the form in (39b), the object must be bare and thus presumably incorporated, comparable to Q'eqchi' (38b). England (to appear) states: "One can express the patient of a non-finite transitive verb, but in an oblique or generic (non-specific) form."

11. For the remaining languages in this section – Q'eqchi', Mam, and Popti' – we rely on data from secondary sources. While ungrammatical examples and full paradigms are not provided, the discussion in the cited sources appears to confirm the pattern we describe here.

(39) Mam (Mamean)

a. O chi e'x xjaal [laq'oo-**l** **t-ee**]
ASP 3ABS.PL go people buy-NF 3ERG.SG-RN
'The people went to buy it.'

b. Ma tz'-ok n-q'o-'n-a [tx'eema-**l** **sii'**]
ASP 3ABS.SG-DIR 1ERG.SG-give-SD-1SG cut-NF wood
'I made him cut wood.'

Other aspectless clauses are formed by passivization of transitive stems. In (40), the single argument of the passive, *a'* 'water', gives rise to the ergative/possessive marker *t-*.

(40) Walaan [t-k'aa-**njtz** a']
good 3ERG.SG-drink-PASV water
'Drinking water is good.' (lit.: 'The water's drinking is good.')
(England to appear)

Subjects in non-finite intransitives also appear with ergative marking, as in (41), rather than the absolutive, as one would have perhaps expected given the general ergative-absolutive pattern of the language.

(41) Ok [**q**-poon-a q-jaa-y'].
when 1ERG.PL-arrive.there-1PL 1ERG.PL-house-1PL
'When we arrived at our houses…' (England to appear)

To summarize, in finite clauses in Mam we find a standard distribution of ergative and absolutive markers: transitive subjects are marked ergative, while transitive objects and intransitive subjects are marked absolutive. In non-finite embedded clauses, only a single argument is possible, and it must be marked ergative. This means that – as with Kaqchikel and Q'eqchi' above – thematically transitive verbs must be somehow detransitivized via passivization, antipassivization, or incorporation; see England (1983:260) for further discussion.

Finally, in Popti' (HIGH-ABS; see Craig 1977: ch. 8) aspectless embedded clauses appear to behave like those in Q'anjob'al (discussed further in §5.1).

To the best of our knowledge, there is no HIGH-ABS language which allows absolutive arguments – either transitive objects or intransitive subjects – to occur in non-finite aspectless clauses. Importantly, this is not a definitional matter: the initial classification of HIGH-ABS vs. LOW-ABS was based not on this syntactic behavior, but on the position of absolutive agreement morphology within the verb-aspect complex (see (19), above).

The Mayan Absolutive Parameter in (24), above, provides a straightforward account for the lengths these HIGH-ABS languages go to circumvent the appearance of absolutives (1st and 2nd person clitics, as well as full 3rd person arguments)

in aspectless embedded clauses. Following proposals which equate Mayan preverbal aspect markers with Infl^0, if HIGH-ABS languages are *ABS=NOM*, then the absence of absolutive DPs in aspectless environments follows directly.

2.3.2 *Absolutive in LOW-ABS languages*

Recall now the predictions for non-finite embedded clauses in LOW-ABS languages (those in which absolutive agreement morphology appears at the end of the verb-aspect complex), given in (27) above. These language, we argue, instantiate Legate's *ABS=DEF* class. Thus, in these languages, intransitive subjects are licensed by finite Infl^0 ("nominative case"), while transitive objects are licensed by transitive v^0 ("accusative case"), but both happen to receive the same morphological spell-out (descriptively labeled "absolutive"); this was illustrated in (8–9) above. If it is indeed the case that LOW-ABS languages instantiate this type of system, then we predict absolutive to be possible in non-finite transitive clauses, but not in non-finite intransitives.

This prediction is borne out in Chol, a LOW-ABS language. In contrast with the state of affairs in the HIGH-ABS languages examined above, absolutive *objects* are fine in aspectless embedded clauses in Chol (42).[12]

(42) Chol

a. Mejl [i-k'el-**oñ**].
be.able.to 3ERG-see-1ABS
'She can see me.'

12. While we predict that absolutive would be unavailable in aspectless clauses in a HIGH-ABS language (at least without recourse to some special licensing mechanism), we do not predict that absolutive would necessarily be available in all aspectless clauses in a LOW-ABS language. For example, it may be possible to embed elements smaller than *v*P (cf. Abney 1987; Wurmbrand 2001, a.o.), in which case even the low absolutive-assigner v^0 would not be included in the embedded domain. It is the case that non-finite clauses throughout the Mayan family take the form of nominals; while some may be nominalizations above the *v*P level, others may contain less structure than that (see Coon 2013).

A reviewer asks whether the fact that non-finite clauses are nominal weakens our claim that the absence of absolutive case in non-finite environments points to Infl^0 as the locus of absolutive in HIGH-ABS languages. Namely, if embedded clauses are nominal, the absence of a case-assigner for the object in HIGH-ABS languages could be the result of a nominalization which does not include v^0, rather than the absence of Infl^0. However, non-finite embedded clauses in HIGH-ABS and LOW-ABS languages alike appear to contain verbal structure. In Q'anjob'al, for example, the embedded forms may appear with verbal morphology such as passive and antipassive; see also Imanishi's 2014 discussion of nominalization above *v*P in HIGH-ABS Kaqchikel.

b. Choñkol [k-mek'-**ety**].
PROG 1ERG-hug-2ABS
'I am hugging you.'

Crucially, absolutive is still unavailable in non-finite *intransitives* – exactly as predicted. A baseline matrix intransitive is shown in (43a); when an intransitive is embedded under the aspectual predicate *choñkol*, person must be marked with a prefix from the ergative series (43b); absolutive is impossible (43c), regardless of the morphological form of the embedded intransitive stem.

(43) a. Tyi ts'äm-i-**yoñ**.
ASP bathe-ITV-1ABS
'I bathed.'

b. Choñkol [**k**-ts'äm-el].
PROG 1ERG-bathe-NML
'I am bathing.'

c. *Choñkol [ts'äm-i-yoñ].
PROG bathe-ITV-1ABS
intended: 'I am bathing.'

Importantly, the availability of absolutive for objects in aspectless transitive clauses is not restricted to Chol. Absolutive-marked transitive objects are grammatical in the LOW-ABS Yucatecan languages Yucatec and Itzaj, as shown in (44) and (45).

(44) Yucatec
In-k'áat [inw-il-**ech**]
1ERG-want 1ERG-see-2ABS
'I want to see you.' (Bricker 1981: 96)

(45) Itzaj
K-u-jo'm-ol [ki-b'et-ik **kiw-uk'-ul-ej**].
ASP-3ERG-end-ITV 1ERG.PL-make-TV 1ERG.PL-drink-NML-TOP
'… after we make our drink.' (Hofling 2000: 486)

Absolutive is lost, however, in non-finite intransitives, exactly as in the Chol examples above. Compare the matrix intransitive in (46a) with the non-finite clause embedded under the aspectual predicate *táan* in (46b).

(46) Yucatec

a. h-k'uch-**ech**
ASP-arrive-2abs
'You arrived.'

b. táan [**in**-k'uch-ul].
PROG 1ERG-arrive-IMPF
'I am arriving.' (Bricker 1981: 84)

In other non-finite ("dependent") intransitives, person simply goes unmarked, as is the case in each of the embedded clauses in the following two examples (from Yucatec and Itzaj):

(47) a. Yucatec
In-k'áat [han-al].
1ERG-want eat-NML
'I want to eat.' (Bricker 1981: 96)

b. Itzaj
U-k'a'tij [wen-el].
3ERG-want sleep-NML
'She wants to sleep.' (Hofling 1998: 216)

Tojol-ab'al has been grouped alternately with Tseltalan languages (McQuown 1956), and with Chuj in the Q'anjob'alan branch (Campbell & Kaufman 1985). Despite its questionable genetic status, it behaves as predicted according to the typology presented here. Absolutive markers in Tojol-ab'al follow the predicate, which would lead us to classify it as a LOW-ABS language; and indeed, absolutive is available in aspectless embedded clauses in Tojol-ab'al, as shown in (48).[13]

(48) Tojol-ab'al

a. Hose x-y-il-a [s-mak'-e' Manwel].
Jose ASP-3ERG-see-TV 3ERG-hit-3ABS.PL Manuel
'Jose sees Manuel hit them.'

b. Oh [k-il-Ø-eh].
go 1ERG-see-3ABS-NF
'I am going to see it.' (Furbee-Losee 1976: 207–209)

While these sections have provided only a cursory survey of the range of patterns found in non-finite clauses in Mayan, the data examined have all supported the proposal stated earlier. In non-finite environments in HIGH-ABS languages, we do not find absolutive with transitives or intransitives. In non-finite environments in LOW-ABS languages, on the other hand, absolutives are possible with transitives, while still impossible with intransitives. These findings support the typology described by Legate (2008), in which in some ergative-absolutive systems, what is called "absolutive" does not have a uniform source, but is instead a cover term for the case of transitive objects and that of intransitive subjects. In the following section, we examine how the different locations of the absolutive morphemes in Mayan languages correspond to the their mechanisms of syntactic licensing.

13. The null 3rd person absolutive gloss in (48b) is present in the original cited source.

3. HIGH-ABS and the ban on extracting transitive subjects

We now turn to the ban on extracting transitive subjects. This ban is referred to under the umbrella of *syntactic ergativity* because in languages that exhibit this ban, it is not only morphology that treats transitive subjects differently from transitive objects and intransitive subjects, but syntax as well (see also Aldridge 2008b; Dixon 1994; Manning 1996).

We argue that syntactic ergativity, at least in Mayan, arises because assignment of absolutive to the transitive object requires movement of the object out of the verb-phrase, effectively "trapping" the transitive subject in situ. Crucially, this locality problem arises *only* in HIGH-ABS languages, because in LOW-ABS languages, the object has, in v^0, a perfectly local assigner of absolutive (see the discussion in §2.3). Thus, no extraction restrictions arise in LOW-ABS languages, even though they too are morphologically ergative.

Note that we do not, in this section, discuss the alternative morphosyntactic means employed in the languages in question to express those utterances that are affected by this ban on extracting transitive subjects. One such strategy, the Agent Focus construction, will be the topic of the subsequent section (§4). Instead, we first concentrate on the nature of ban itself, and its distribution within the Mayan language family.

3.1 HIGH-ABS and locality

Recall the typology of Mayan languages from (19) above: HIGH-ABS languages exhibit extraction restrictions, while LOW-ABS languages do not. Any account of syntactic ergativity in Mayan must attend to two significant aspects of (19). First, it is clear that morphological ergativity is not a *sufficient* condition for syntactic ergativity (cf. Assmann et al. 2013). Every language listed in (19) is morphologically ergative; nevertheless, only those in which the absolutive morpheme is low allow the transitive subject to extract freely. Second, as observed by Tada (1993) and discussed in some detail in §2.2, only HIGH-ABS Mayan languages exhibit a ban on extracting the transitive subject; LOW-ABS languages show no such ban. Furthermore, as Larsen & Norman (1979) point out, it is clear that the solution must be a *syntactic* one (rather than e.g. a morphological one), since ergative-marked *intransitive* subjects in non-finite and "split" environments, such as the Q'anjob'al forms in (32) above, are free to extract, as illustrated in (49) (further examples of ergative extraction are discussed in Section 5.2 below).

(49) a. Maktxel chi uj [s-b'ey-i].
who ASP be.able.to 3ERG-walk-ITV
'Who can walk?'

b. Maktxel lanan [s-way-i].
who PROG 3ERG-sleep-ITV
'Who is sleeping?'

In §2.3, we proposed and substantiated the *Mayan absolutive parameter*, repeated in (50):

(50) Mayan Absolutive Parameter

	licensing of transitive objects [=(*24*)]
HIGH-ABS (ABS realized on the aspect marker)	ABS assigned by $Infl^0$
LOW-ABS (ABS realized on the verb stem)	ABS assigned within *v*P

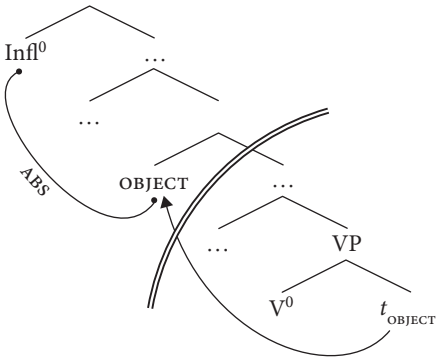
The immediate question that arises from juxtaposing the results of §2.2 and §2.3 is the following: Why would the emergence of syntactic ergativity correlate with the identity of the absolutive case assigner?

We assume, with much recent work in minimalist syntax, that transitive verb-phrases constitute a locality domain (a *phase*, in the terminology of Chomsky 2000, 2001). We briefly postpone the discussion of precisely which category, in the extended verbal projection, constitutes the boundary in question (*v*P, VoiceP, VP, etc.); we return to this question shortly. Regardless of its precise categorial identity, however, the locality domain in question will contain the base position of the transitive object, and crucially, will not contain the $Infl^0$ node.

As shown in §2.3, "absolutive case" in HIGH-ABS languages like Q'anjob'al is assigned by $Infl^0$.[14] We demonstrated this independently of syntactic ergativity (i.e. the ban on extracting transitive subjects), using the diagnostics put forth by Aldridge (2004) and Legate (2008). Given the standard assumption that case-assignment must take place internal to the phase, the existence of a verb-phrase-level locality boundary and the fact that the source of absolutive case in HIGH-ABS languages is $Infl^0$ entail that in these languages, the transitive object will have to escape the verb-phrase in order to receive its absolutive case. This is schematized in (51), below:

14. Recall from Section 2 above that under the theory adopted here, there is no such thing as "absolutive case"; we continue to use the label here as a cover term for whatever means are being employed to license transitive objects and intransitive subjects.

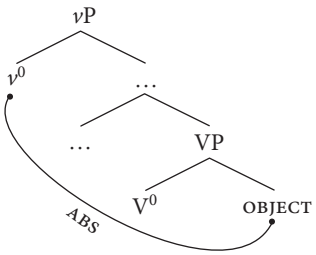
(51) ABS assignment in HIGH-ABS languages



This much follows directly from the existence of a verb-phrase-level locality domain, coupled with the structurally high source of absolutive case in the languages in question.

Crucially, in a LOW-ABS language, where the source of absolutive case is v^0, the kind of movement shown in (51) is not necessary for the assignment of absolutive (provided that v^0 itself is not outside of the verb-phrase-level locality domain):

(52) ABS assignment in LOW-ABS languages



Now recall *Tada's Generalization* (19): within the Mayan language family, only HIGH-ABS languages exhibit the ban on extracting the transitive subject. The juxtaposition of Tada's Generalization with (51–52) suggests that it is precisely this movement of the transitive object (for case purposes) that "traps" the transitive subject in situ in HIGH-ABS languages.

Below, we present a syntactic account that derives precisely this correlation. But before proceeding, we would like to summarize the desiderata that *any* adequate theory of syntactic ergativity in Mayan must meet. First, we have seen that Mayan languages fall into two categories with respect to the linear position of absolutive agreement relative to the verb stem (§2.2), and that in transitive constructions these two types of languages – HIGH-ABS and LOW-ABS – exhibit the

hallmarks of absolutive case assignment by Infl^0 and by v^0, respectively (§2.3). Furthermore, we have shown that given commonplace assumptions regarding locality boundaries at the verb-phrase level, these different loci of absolutive case assignment will entail movement of the transitive object for case purposes in HIGH-ABS languages, but not in LOW-ABS ones. Crucially, as first observed by Tada (1993), it is only the former – HIGH-ABS languages – that exhibit syntactic ergativity (i.e. the ban on extracting transitive subject; see §2.2).

A successful theory of syntactic ergativity in Mayan must explain why these two modes of absolutive case assignment, and their attendant consequences for movement of the transitive object, correlate with the possibility or impossibility of extracting the transitive subject.

3.2 How the subject in HIGH-ABS languages becomes "trapped"

We propose an account of syntactic ergativity in Mayan based on the following two assumptions: (**i**) the verb-phrase-level locality domain has a single escape hatch; and (**ii**) the base position of the transitive subject is properly contained within this locality domain.[15]

The kind of parameterization embodied by (i) is well-supported for locality domains at the CP level: English CPs, for example, are restricted to a single escape hatch, whereas Bulgarian CPs are not (see Richards 2001; Rudin 1988).[16] If the locality boundary found at the verb-phrase level is of the same sort as the one found at the CP level (e.g. because both are *phases*; Chomsky 2000, 2001), then we would in fact expect some language to be "the English of verb-phrases," so to speak, restricting the verb-phrase-level locality domain to a single escape hatch. We suggest that Mayan languages realize precisely this typological expectation.

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15. Recall from Section 1.2 above that while we suggest that these two factors result in syntactic ergativity in those Mayan languages which exhibit it, the means of circumventing the ban on extraction may vary from language to language (see Henderson, Coon & Travis 2013). We return to this issue in Section 4.2.

16. A reviewer asks whether a Mayan language with multiple *wh*-movement would be expected to then lack extraction asymmetries, i.e. whether the availability of multiple specifiers of CP would ensure the availability of multiple specifiers of *v*P. This prediction rests on the assumption that the availability of multiple specifiers is consistent across functional projections within a given language. No Mayan languages allow multiple *wh*-movement, so this prediction is untestable.

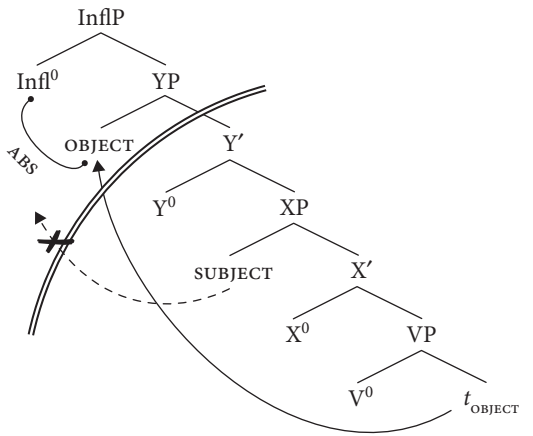
Regarding (ii), it has been argued that at least for languages like English, the opposite is the case – i.e. the base position of the transitive subject is *above* the verb-phrase level phase boundary (Chomsky 2000, 2001; Deal 2009; Legate 2003; Nissenbaum 2000; Rackowski & Richards 2005). We tentatively propose that the inverse picture – with the subject base-generated *below* the verb-phrase level phase boundary – is a parametric option instantiated by Mayan but not by English. We concede that in the present context, this constitutes a stipulation; but we contend that this stipulation facilitates what is by far the most straightforward account of the desiderata surveyed in §3.1 (it also receives some morphological support in Mayan, discussed below).

The reason is that movement of the transitive object out of the verb-phrase in HIGH-ABS languages has to proceed through this single escape hatch; and as a result, the transitive subject cannot move out of its locality domain.[17] This is schematized in (53), below, where we make temporary use of the following labels: YP is the verb-phrase-level projection which constitutes a locality domain for extraction (per (i), above); XP is the projection that introduces the subject (per (ii), above).

17. A reviewer asks whether a derivation along the lines of (53) constitutes a violation of *minimality*, given that the transitive subject is closer to the landing site at [Spec, YP] than the object is. Whether or not such a violation is expected depends crucially on the feature(s) that Y^0 probes for – since, generally speaking, probing will be intervened with only by other targets that also bear the feature(s) sought by the probe (see Abels 2012; Preminger 2011a; Starke 2001, a.o.). Furthermore, there are ways in which a putative intervener – even one that does bear the feature(s) sought by the probe – may cease to intervene (one notable example is clitic doubling; see Anagnostopoulou 2003 and related work, and see Preminger 2011b for a recent review). We do not, at the present time, have arguments for one of these options over the other; we leave this issue for future research.

Related questions arise with respect to the positions of the ergative and absolutive arguments. As in other Mayan languages, the ergative binds the absolutive (see the discussion of reflexives in Section 5.2 below). We thus assume that the movement of the internal argument across the external one is subject to obligatory reconstruction (cf. Collins' (2005a, 2005b) "smuggling" movement). The ergative argument behaves as a typical subject in many respects (e.g. with respect to reflexives, control, and omission under passivization); see Larsen & Norman 1979 for a detailed discussion of subjecthood properties of ergative arguments in Mayan. That the ergative argument remains in situ yet retains many canonical subject properties is consistent with the findings of McCloskey 1997. He considers a variety of languages and constructions – including other VSO languages – and concludes: "The minimal conclusion forced seems to be that there is no 'subject position' – in the sense of a unitary position in which all subject properties are expressed and licensed" (McCloskey 1997:216). We are grateful to a reviewer for raising these issues.

(53)



Because such movement of the transitive object is not necessary in LOW-ABS languages, where the assigner of absolutive is located within the verb-phrase (§3.1), the escape hatch remains free and the transitive subject in LOW-ABS languages can extract freely.

It will also be crucial to our proposal that the phase boundary indicated in (53) arises in formally transitive verb-phrases, but not in formally intransitive ones. That is because we will follow Ordóñez (1995) in ascribing an intransitivizing role to the Agent Focus suffix (see Section 4.2 for a discussion of the Agent Focus suffix and its syntactic role). This is reminiscent of Chomsky 2001 and related work, where it is assumed that transitive verb-phrases include a phase boundary, while intransitive ones do not (*pace* Deal 2009; Legate 2003). For Chomsky, this phasehood (or lack thereof) could be tied directly to the presence or absence of an External Argument at the edge of the verb-phrase; but once the (possibly-)phasal category is distinguished from the category that introduces the EA (as in Harley 2013 separation of *v*P and VoiceP, for example), such a direct connection is not possible, and must instead be mediated by some formal property – e.g. selectional features ensuring that the phasal category co-occurs only with the EA-introducing category, and vice versa. It is this formal property that we are referring to when discussing *formally transitive* and *formally intransitive* verb-phrases.

Let us now address the issue of labeling, with respect to a structure like (53). As it stands, YP is the projection whose opacity for locality purposes – whose *phasehood* – covaries with the transitivity of the verb. Transitivity is also morphologically expressed in the languages under consideration; recall (54), repeated from §2.1:

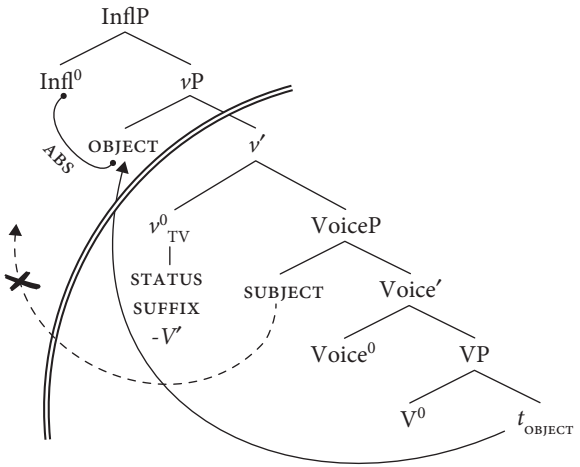
(54) Q'anjob'al status suffixes [=(*14*)]

intransitive	*-i*	-ITV
transitive	*-V'*	-TV

Given that the projection in question is already sensitive to transitivity in one respect (phasehood), the most parsimonious analysis of the exponents in (54) would take them to be the spellout of the head of this very same projection.

The projection labeled "YP" in (53) is thus a projection whose properties vary with transitivity, but which is not responsible for introducing the external argument, the latter occurring in [Spec,"XP"]. We take this to indicate that "XP" corresponds to Harley's (2013) *VoiceP* – which similarly introduces the external argument – and "YP" to *v*P (the locus of the (anti-)causative alternation, for example).[18] We will therefore label the relevant projections in (53) in the manner shown in (55) (though, of course, the important thing is not the labels we attach to each of these projections but the properties ascribed to each of them in the preceding discussion).

(55)



Recall that the original basis for the Mayan Absolutive Parameter was the differing placement of 'absolutive agreement' in the two classes of Mayan languages; see (56), repeated from earlier.

(56)

HIGH-ABS	ASPECT	**ABS**	ERG	ROOT	(DERIV.)	SUFFIX		
LOW-ABS	ASPECT		ERG	ROOT	(DERIV.)	SUFFIX	**ABS**	[=(*16*)]

18. For Harley (2013), VoiceP is located *above* *v*P, and its head (Voice⁰) is what selects *v*P. As noted at the outset of this sub-section, the languages under consideration here appear to require the exact inverse of this hierarchical arrangement. We leave for future research the question of whether this is a point of irreducible parameterization, or can be reduced to some other source of variation (e.g. ergativity). Alternatively, the phrase we are labelling *v*P could be a distinct projection, higher than Harley's Voice⁰ and *v*⁰; see Halpert's (2012) "LP" in Bantu and Oxford's (2014) "InflP" in Algonquian.

In what follows, we will assume that the so-called 'absolutive agreement markers' that show up right-adjacent to the aspect marker in HIGH-ABS languages arise via clitic doubling of the full absolutive DP argument (which can be *pro*). Crucially, the locality conditions on clitic doubling are known to be even more stringent than those that apply to "pure" syntactic agreement (see, e.g. Preminger 2009). Therefore, this instance of clitic doubling can only obtain if the full DP has moved into the same locality domain as the cliticization host (i.e. Infl^0), which is precisely what we see in (55).

We have attributed the ban on extraction of A arguments in transitives to the high position of the absolutive DP. While 1st and 2nd person absolutive arguments are realized affixed to the aspect marker (57a), this is not the case for full 3rd person DPs (57b). Nonetheless, extraction of A arguments is impossible irrespective of the person features of the object.

(57) a. Max-**in** h-el-a'.
ASP-1ABS 2ERG-see-TV
'You saw me.'

b. Max-$\emptyset_i$ h-el[-a'] **naq** **winaq**$_i$.
ASP-3ABS 2ERG-see-TV CLF man
'You saw the man.'

There are at least two possibilities for accounting for this: we can assume that 3rd person objects involve a null pronominal in the specifier of *v*P, and the full DP is adjoined higher in an adjunct position, as in pronominal argument languages (Jelinek 1984). A second possibility is that the full DP object forms a chain headed in Spec,*v*P, but only the *lower* copy is pronounced, perhaps due to a phonological restriction. We adopt the latter option here, and note that the pattern of absolutive morphemes in Tsotsil – discussed in Footnote 8 above and in more detail in Woolford 2011 – provides some support for the relevance of phonological factors to the choice of high vs. low absolutive.

So far, we have addressed the reason the transitive subject cannot extract in HIGH-ABS languages; but we have said nothing about how a particular HIGH-ABS language might get around this ban, in the event that the speaker wishes to convey a target meaning that would normally involve such extraction. A construction known as the Agent Focus is employed throughout the HIGH-ABS Mayan languages in order to circumvent the ban on extracting transitive subjects. While recent work recognizes that AF is not a uniform construction across Mayan (e.g. Henderson, Coon & Travis 2013; Stiebels 2006), we provide below an analysis of the Q'anjob'al AF morpheme *-on*, and show how its extension to non-finite embedded clauses lends support to the analysis presented here – namely, that syntactic ergativity results from a problem of the locality of case assignment to the object.

4. The Agent Focus construction and Agent extraction

In Section 3, we explained why it is that HIGH-ABS Mayan languages do not permit extraction of the transitive subject. In this section, we discuss the Agent Focus (AF) construction, a common means used in these languages to circumvent this restriction. We argue that the Q'anjob'al AF morpheme provides an alternative means of assigning case to the transitive object, thus alleviating the locality problem which otherwise arises specifically in HIGH-ABS languages.

4.1 Agent Focus: Not an antipassive

The AF construction is characterized by a particular suffix which attaches to the verb stem, as well as changes to verbal agreement and status suffixes, discussed below. Representative examples from Q'anjob'al, where the form of this affix is *-on*, are given in (58a–c):

(58) Agent Focus

a. *wh*-Question
[Maktxel] max-ach il-**on**-i? (Q'anjob'al)
who ASP-2ABS see-AF-ITV
'Who saw you?'

b. Focus
[A ix Malin] max-ach il-**on**-i.
FOC CLF Maria ASP-2ABS see-AF-ITV
'It was Maria who saw you.'

c. Relativization
[ix ix] max-ach il-**on**-i
CLF woman ASP-2ABS see-AF-ITV
'the woman who saw you'

As these examples demonstrate, this construction can be used in Q'anjob'al to circumvent the ban against forming A-bar dependencies that target the notional subject of a transitive verb; and it can be used regardless of the particular flavor of A-bar dependency involved (e.g. *wh*-interrogation (58a), focalization (58b), relativization (58c)).

Some early descriptions of AF in Mayan characterized it as a kind of *antipassive* (see e.g. Larsen & Norman 1979). Indeed, in some HIGH-ABS Mayan languages, descendants of the Proto-Mayan Agent Focus suffix – reconstructed by Smith-Stark 1978 as *-(*V*)*n* – are used as true antipassive, i.e. with demoted objects (see discussion in Stiebels 2006). Nevertheless, later work has provided extensive argumentation that AF is not an antipassive at all (see, e.g. Aissen 1992; Ayres 1983; Craig 1979; Smith-Stark 1978; Stiebels 2006; Tonhauser 2007; though

see also Aissen 2011 for an account of K'ichee' which revives parts of the antipassive analysis).

Antipassives affect the way the notional Patient is syntactically realized: it can be *demoted* (meaning it surfaces as an oblique phrase, rather than a regular nominal); it can be incorporated (see Mondloch 1981, as well as Aissen 2011); or it can be omitted altogether. An example of a true antipassive in Q'anjob'al is given in (59):

(59) Antipassive
Max maq'-**waj**[-i] naq winaq ($_{OBL}$ y-in no tx'i'). (Q'anjob'al)
ASP hit-AP-ITV CLF man 3ERG-RN CLF dog
'The man hit the dog.'

In (59), the notional Patient need not be realized at all. If realized, it surfaces as the complement of a relational noun (glossed 'RN'; as noted in §2.3, this is a common strategy for oblique marking across Mayan). As a result, the verbal agreement morphology controlled by the subject (the notional Agent) is absolutive agreement, rather than ergative agreement. This can be diagnosed in (59) by the *absence* of overt agreement morphology: as shown in §2.1, absolutive agreement with 3rd person arguments in Q'anjob'al (as in all of Mayan) is null, while ergative agreement with such arguments is overt.

The account of syntactic ergativity put forth in Section 3 predicts that antipassives would allow extraction of the subject. Since the object in the antipassive is assigned case low within the oblique phrase, it does not raise to occupy *v*P and the subject is free to extract. This prediction is borne out:

(60) Maktxel max maq'-**waj**[-i] ($_{OBL}$ y-in no tx'i')?
Who ASP hit-**AP**-ITV 3ERG-RN CLF dog
'Who hit the dog?'

An example like (59), above, demonstrates another important difference between antipassives and AF: the antipassive can be deployed even in run-of-the-mill transitives, where the notional Agent is *not* part of an A-bar dependency. This is not the case with AF, which is restricted to environments of agent extraction.[19]

---

19. In Mam (England 1983) and Q'eqchi (Berinstein 1990), there is a construction that has been labeled "Agent Focus" but resembles true antipassives in that the object can only surface as an oblique form. Unlike the Q'anjob'al antipassives shown here, the Mam and Q'eqchi constructions in question are possible only in extraction contexts (which is perhaps why they have nevertheless received the "Agent Focus" label). While we do not account for the unavailability of these constructions in non-extraction contexts, it is important to stress that they differ significantly from Agent Focus in the rest of Mayan, which does not involve demotion of the notional Patient.

The properties of the AF construction have led some authors to describe it as *syntactically transitive*, but *morphologically intransitive* (see, for example, Aissen 1999; Craig 1979; Stiebels 2006). On the one hand, the construction involves two non-oblique core arguments, just like a regular transitive. The clearest illustration of this is a comparison of agreement in an antipassive like (61a) with agreement in an AF example like (61b):

(61) a. Q'anjob'al Antipassive → *ABS agreement co-indexes subject*
Maktxel max-**Ø** il-waj[-i] [$_{OBL}$ h-en]?
who COM-3ABS see-AP-ITV 2ERG-RN
'Who saw you?'

b. Q'anjob'al Agent Focus → *ABS agreement co-indexes object*
Maktxel max-**ach** il-on-i?
who ASP-2ABS see-AF-ITV
'Who saw you?'

In the antipassive example (61a), the absolutive agreement marker co-indexes the notional subject (*maktxel* 'who'), the single non-oblique core argument. In the AF example in (61b), the absolutive agreement marker co-indexes the notional object (*pro*$_{2abs}$), which would be impossible if the latter were oblique as it is in (61a).[20]

On the other hand, just like in a regular intransitive, the AF verb lacks ergative agreement marking, and carries only one set of agreement markers, taken from the absolutive series. Furthermore, the AF verb carries the intransitive status suffix, *-i*. Compare the AF form in (62) with the transitive and intransitive forms in (63a–b):

(62) Q'anjob'al AF
[Maktxel] max-ach il-**on**-i?
who ASP-2ABS see-AF-ITV
'Who saw you?'

(63) a. Q'anjob'al transitive
Max-ach y-il-a'.
ASP-2ABS 3ERG-see-TV
'She saw you.'

b. Q'anjob'al intransitive
Max-ach way-i.
ASP-2ABS sleep-ITV
'You slept.'

20. While we have not explained here why absolutive agreement in Q'anjob'al AF co-indexes the notional object rather than the notional subject, the mere fact that this is possible at all is what is crucial for establishing that the object in AF is non-oblique. Indeed, across HIGH-ABS Mayan languages, there are languages where the choice of which argument will be co-indexed by absolutive agreement in AF is more complicated (see Stiebels 2006 for a recent review).

The three main differences between the AF and antipassive forms in (61) can be summarized as follows: (**i**) antipassive objects are marked as obliques and may be omitted, while AF objects show no oblique marking and are obligatory; (**ii**) AF is possible only when the transitive subject is A-bar extracted, while antipassive is possible regardless of extraction; and (**iii**) the antipassive subject behaves like other intransitive subjects in triggering absolutive marking on the verb, while in Q'anjob'al AF it is the *object* which triggers absolutive marking; there is no subject marking.

This apparent mismatch between the syntax and morphology of AF (characterized as 'transitive' and 'intransitive', respectively) has inspired a large body of work on this construction across different Mayan languages – see, among others, Aissen 1999, 2011; Ajsivinac & Henderson 2011; Assmann et al. 2013; Ayres 1983; Berinstein 1990; Bricker 1979; Coon & Mateo Pedro 2011; Craig 1979; Davies & Sam-Colop 1990; Erlewine 2014; Norcliffe 2009; Ordóñez 1995; Preminger 2011a, 2014, Pye 1989; Smith-Stark 1978; Stiebels 2006; Tonhauser 2007.

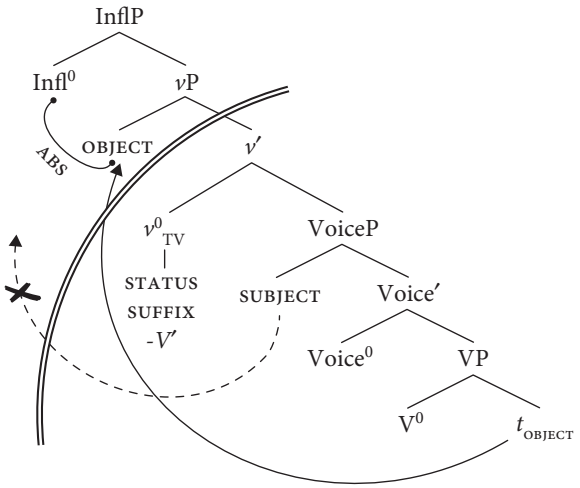
We have seen that both the antipassive construction and AF facilitate extraction of **A** arguments. In the case of the antipassive, this is unsurprising: the notional subject of an antipassive is, syntactically speaking, the subject of an intransitive verb – as is the case for any verb selecting one nominal argument and another (optional) oblique argument. Indeed, antipassives are widely attested as a mechanism for circumventing extraction asymmetries (see, e.g. Polinsky 1994 on Chukchi). But what we have seen in this subsection is that the **A** argument in AF clauses is not an intransitive subject, insofar as the clause contains **two** non-oblique core arguments. This raises the obvious question of how it is that AF facilitates extraction of the A argument; we turn to this question now.

4.2 How Q'anjob'al AF facilitates extraction

In §3.2, we argued that the ban on extraction of **A** arguments in Q'anjob'al arises because the **P** argument must raise to Spec,*v*P to receive case from Infl^0, thus blocking the subject from extracting out of the phasal transitive vP. In this subsection, we present an analysis of Q'anjob'al AF that explains how this construction circumvents that ban.

We adopt Ordóñez's (1995) analysis of AF in the related language Popti', whereby *-on* (the AF suffix) assigns case to the notional object. But while Ordóñez analyzes this suffix as a preposition incorporated into the verb, we analyze AF as a variant of Voice^0. Recall the clause structure argued for in §3.2 for regular Q'anjob'al transitives (with the attendant ban on extraction annotated):

(64)



[=(*55*)]

In regular transitives, Voice^0 is responsible for introducing the external argument (§3.2); suppose that there was a second, marked variant of Voice^0, which in addition to introducing the external argument, also assigned structural case to the notional object (under c-command). If this second variant were selected in a given derivation, the notional object would be case-marked by this Voice^0 head, and Infl^0 would be freed up to assign case to the subject instead. (Recall that HIGH-ABS languages are those in which *ABS=NOM*, and thus the source of absolutive in these languages is Infl^0; see §2.3.)

In such a clause, no ergative case would be assigned; this means that the type of v^0 that would be selected would be *intransitive* v^0, rather than its transitive variety.[21] This last point is crucial: recall that by hypothesis, v^0 in Q'anjob'al is the head whose spellout is the 'status suffix' (*-i* for intransitives, *-V'* for transitives), and whose phasehood co-varies with its transitivity (see §3.2). That means that if this second, marked variant of Voice^0 is used, we expect to see the intransitive status suffix. As already noted in §4.1, this is precisely what we find in Q'anjob'al AF:

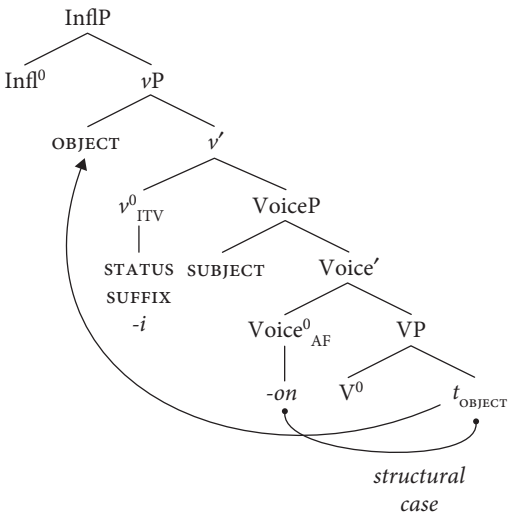
(65) [Maktxel] max-ach il-**on**-**i**? [=(*62*)]
who ASP-2ABS see-AF-ITV
'Who saw you?'

Independent of AF, it can be observed that the position of absolutive markers in Q'anjob'al is the same (namely, HIGH-ABS) in transitives and intransitives; see

21. As a reviewer points out, the fact that ergative case is not assigned when the Voice^0 head assigns case to the object (i.e. accusative), is reminiscent of Bobaljik's (1993) Obligatory Case Parameter, which links ergative and accusative as "marked" or "dependent" cases.

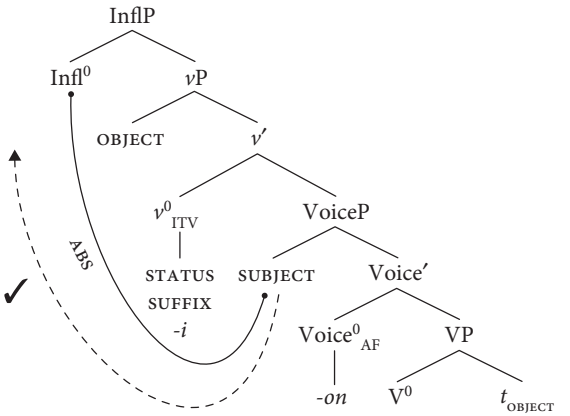
(63) above. We take this to indicate that both transitive and intransitive v^0 are equipped with an EPP feature that attracts (viz. triggers clitic doubling of) the internal argument:[22]

(66)



But by hypothesis, intransitive v^0 is not phasal. Consequently, this movement of the notional object to Spec,*v*P does not "trap" the subject in its Spec,VoiceP position in the manner detailed in §3.2:

(67)



22. Like (53) in Section 3.2, the derivation in (66) raises some questions concerning *minimality*; see footnote 17 in Section 3.2.

This means that when this marked version of Voice^0 (whose spellout is *-on*) is merged, extraction of the subject will be possible – explaining how it is that the AF 'construction' (now construed as a variant of Voice^0) circumvents the ban on extracting transitive subjects in Q'anjob'al.

The stipulation that both transitive and intransitive eventive v^0 always has an EPP feature derives the consistently "high" position of the absolutive morpheme and may also help us understand a point of variation found *within* HIGH-ABS languages in the domain of "non-verbal predicates" (NVPs). NVPs are stative forms that do not appear with the status suffixes or aspect morphology found in the verbal predicates discussed so far. In Q'anjob'al NVPs, the absolutive marker appears in a free-standing form (prefixed by *h-*) *following* the predicate (68a), while in Kaqchikel the absolutive marker maintains its typical pre-predicate position (68b).

(68) Location of ABS in NVPs

a. Q'anjob'al
Kuywom **hach**.
student 2ABS
'You are a student.'

b. Kaqchikel
At tijoxel.
2ABS student.
'You are a student.'

We capture this division as follows: In Q'anjob'al, eventive v^0 heads (whether transitive or intransitive) have an EPP feature which attracts the absolutive morpheme to its surface position alongside the aspect marker. Stative predicates lack this v^0 – as evidenced by the absence, in (68a), of the relevant status suffixes (see table (14)). Suppose, following Baker (2003, 2008), that NVPs involve a null predicative head, Pred^0. In Q'anjob'al, Pred^0 lacks the EPP, while in Kaqchikel, Pred^0 is [+EPP]. The latter derives the morpheme order seen in the Kaqchikel (68b). Crucially, the absence of this feature on an intransitive should not create any licensing problems and we might thus expect to find exactly the variation seen in (68a–b).

Before concluding this section, two more comments are in order concerning the analysis just presented. First, we follow Ordóñez's (1995) original analysis in assuming that insertion of the AF morpheme is a 'last-resort' strategy, akin to *of*-insertion in English. In the current terms, it means that the marked variant of Voice^0 cannot be merged in derivations where the notional subject ultimately remains in situ. This renders the notional subject in AF clauses on a par with, for example, embedded subjects in infinitival clauses selected by the *wager*-class of

ECM predicates (Postal's 1974 *Derived Object Constraint*). How such "obligatorily vacated" positions are to be treated theoretically is still very much up for debate; but recent work has uncovered similar scenarios in other languages and constructions (see, e.g. the discussion of Zulu raising in Halpert 2012).[23]

Second, while other HIGH-ABS Mayan languages (e.g. the languages of the K'ichean branch) have constructions that are similar to (and historically related to) the Q'anjob'al Agent Focus construction, we are not claiming that these constructions – in the synchronic grammars of the languages in question – can necessarily all be analyzed in the same fashion. Recall that the main fact we wish to account for here is that Mayan languages, all of which are morphologically ergative, split into two types: those with extraction asymmetries, and those without (see §1). We have proposed that this can be correlated with the source of "absolutive" case on the transitive object. The preceding sections have concentrated on establishing this correlation (§2), and on describing how the assignment of case to transitive objects by Infl^0 fails in contexts of agent extraction (§3). As noted in the discussion of (3), above, while the etiology of syntactic ergativity may be consistent across Mayan, different languages in the family may exhibit different means of circumventing it.

Indeed, though AF constructions across Mayan share some common properties, Stiebels 2006 summarizes a range of variation across different Mayan languages; and Henderson, Coon & Travis 2013 argue that Mayan AF simply does not constitute a unified construction. Nonetheless, Q'anjob'al is a particularly relevant language to examine, because the extension of the AF marker to non-finite embedded clauses corroborates the claim that case assignment properties of the object are implicated in syntactic ergativity. We turn to this and other predictions in the section that follows.

5. Predictions

We have concentrated so far on the counterposition of Chol (a LOW-ABS language, with no extraction asymmetries and no AF construction) with Q'anjob'al (a HIGH-

23. A reviewer raises a potential counterexample to the claim that the subject position of $\text{VoiceP}_{\text{AF}}$ is an obligatorily vacated position: the occurrence of PRO in the subject position of embedded AF clauses in the "Crazy Antipassive" construction (see (69a–b), (70), below). With English *wager*-class verbs, this possibility does not seem to exist (**John*$_i$ *wagered PRO*$_i$ *to win the race*). This can be seen as undermining the relation between $\text{VoiceP}_{\text{AF}}$ and the English *wager*-class, or it could be indicative of some licensing-/case-theoretic distinction between English PRO on the one hand, and Q'anjob'al PRO, on the other. We leave this issue for future research.

ABS language with extraction asymmetries and an AF construction), in the hope that a detailed comparison of these two languages can shed light on the nature of extraction asymmetries, and how – at least in Q'anjob'al – they are circumvented. In this section, we provide additional support for the claim that extraction asymmetries in these languages are about the assignment of case to objects, not about properties of the ergative subject itself.

5.1 The Crazy Antipassive once more

Recall from Section 2.3 that in HIGH-ABS languages like Q'anjob'al, we expect a problem with absolutive in non-finite embedded environments: Infl^0, whose substantive content in Mayan is aspect, assigns absolutive (*ABS=NOM*; Aldridge 2004; Legate 2008). We therefore predict that transitive objects and intransitive subjects should *both* require special licensing mechanisms in aspectless non-finite clauses. Recall from (33) above that intransitive subjects, which normally trigger absolutive morphology, are instead marked with the ergative/possessive morpheme in non-finite embedded clauses; this pattern is found across the Mayan family.

In most of the languages examined in Section 2.3, transitives are simply not possible in aspectless embedded clauses. In HIGH-ABS languages like Mam, for example, non-finite transitives must be passivized or antipassivized in order to appear in a non-finite embedded clause (39–41). Q'anjob'al, in contrast, *does* have a way to express embedded transitives: this is the "Crazy Antipassive", introduced briefly in Section 1, and demonstrated in (69).[24]

(69) Q'ANJOB'AL "CRAZY ANTIPASSIVE"

a. Chi uj [hin y-il-**on**[-i] ix Malin].
ASP be.able.to 1ABS 3ERG-see-AF-ITV CLF Maria
'Maria can see me.'

b. Lanan [hach hin-laq'-**on**-i].
PROG 2ABS 1ERG-hug-AF-ITV
'I am hugging you.'

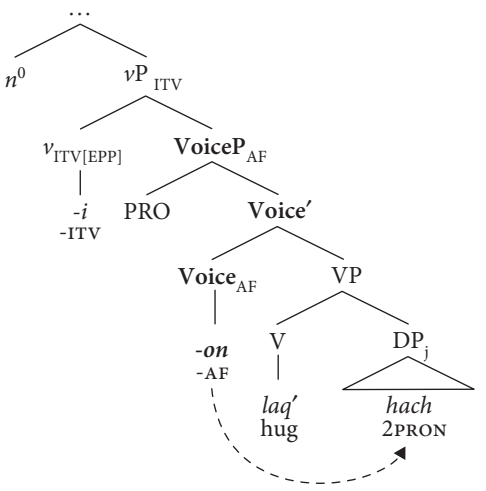
The Q'anjob'al Crazy Antipassive employs the same *-on* morpheme as the AF construction, discussed in Section 4, and does so precisely in those environments where the transitive object has no other viable source for case. Just as we have proposed for the AF construction (following Ordóñez 1995, on Popti'), here too we argue that *-on* assigns absolutive case to an otherwise caseless internal argument. More concretely, in non-finite embedded environments, just as in AF

24. If the analysis discussed below is correct, these forms are more literally translatable as, roughly, 'Maria's seeing me is possible,' and 'My hugging you is happening,' where the "Set A" marker is used in its possessive function.

constructions, *-on* has the following two functions: (**i**) assigning case to the transitive object; and (**ii**) introducing the transitive subject.

As shown in (70), the internal argument receives case from *-on* and then, just as in the AF construction, raises to Spec,*v*P to satisfy the EPP features of v^0. An important difference arises, however, between the Crazy Antipassive and the AF construction: across Mayan, non-finite embedded clauses appear to be nominalizations (Larsen & Norman 1979; Mateo Pedro 2009 on Q'anjob'al; Coon 2013 on Chol; see Footnote 10 above). We propose that the embedded predicate undergoes nominalization above the *v*P level so it may be selected by the nominal-embedding item in the matrix clause (e.g. *lanan* 'PROG', in (69b)). The overt subject is realized as a higher possessor, controlling an embedded PRO subject within the nominalization (Coon 2013, to appear). As in AF, ergative case is not assigned to the subject, here PRO; the appearance of the ergative/possessive markers on embedded transitives like those (69) is the result of a possessor above the nominalizing n^0 head in (70).

(70) Q'ANJOB'AL EMBEDDED TRANSITIVE



Recall that Crazy Antipassive forms like those in (71b) are also unlike regular finite transitives (71a), but like AF constructions (71c), in that they appear with the *intransitive* status suffix, *-i*. Above, we proposed that the relevant difference between intransitive and transitive v^0 is in the assignment of ergative case (see (54)); and since no ergative case is assigned in the Crazy Antipassive, the intransitive status suffix surfaces.

(71) a. Matrix transitive
Ch-in y-il-**a'**.
ASP-1ABS 3ERG-see-TV
'She sees me.'

b. Crazy Antipassive
Chi uj [hin y-il-on-**i**].
ASP be.able.to 1ABS 3ERG-see-AF-ITV
'She can see me.'

c. Agent Focus
Maktxel max-in il-on-**i**.
who ASP-1ABS see-AF-ITV
'Who saw me?'

This appearance of *-on*, in clauses that are specifically transitive and non-finite, is consistent with our proposal that this suffix assigns case to internal arguments in environments where case would otherwise be unavailable – here, because the absolutive-assigning aspectual head which instantiates finite $Infl^0$ is absent. Moreover, because intransitive subjects can be realized as possessors (see 2.3.1), this use of *-on* is limited to non-finite embedded *transitives*, and does not extend to intransitives.

There is a further difference between the Crazy Antipassive and the AF construction. As noted briefly in Section 2.2, AF in Q'anjob'al is restricted to clauses involving *3rd person* agents, whereas no such restriction exists with respect to the Crazy Antipassive. Compare the AF forms in (72): AF is required when the 3rd person subject extracts in (72a), but is impossible when a 1st person subjects extracts in (72b). Instead, 1st and 2nd person subjects appear in focus constructions with a regular transitive verb.

(72) a. 3rd person Agent – AF
A Juan max maq'-**on**[-i] no tx'i'.
FOC Juan ASP hit-AF-ITV CL dog
'It was Juan who hit the dog.'

b. 1st person Agent – no AF
Ay-in max hin-maq'[-a'] no tx'i'.
FOC-1ABS ASP 1ERG-hit-TV CL dog
'It was me who hit the dog.'

This is a genuine point of variation among those Mayan language that have an AF construction (see, e.g. Stiebels 2006). In Kaqchikel, for example, the equivalents of (72a–b) both require AF:

(73) Kaqchikel

a. **Ja ri a-Juan** x-Ø-tz'et-ö ri tz'i'.
FOC DET CL-Juan ASP-3ABS-see-AF DET dog.
'It was Juan who saw the dog.'

b. **Ja yïn** x-i-tz'et-ö ri tz'i'.
FOC 1PRON ASP-1ABS-see-AF DET dog
'It was me who saw the dog.'

These facts suggest that we probably do not want to derive the behavior of Q'anjob'al in (72) from deep properties of syntactic ergativity in the Mayan family. Rather, we tentatively suggest that in Q'anjob'al, 1st and 2nd person agents are allowed to be base-generated in a high position, while 3rd person agents are not.[25] This view finds some support in work such as Baker (2008), who takes the true indexical content of 1st/2nd person pronouns to be base generated in Spec,CP (building on work by Anand & Nevins 2004; Rice 1989; Schlenker 2004, and others), and apparent clause-internal 1st/2nd person expressions to be anaphoric to these clause-peripheral operators. If the overt 1st/2nd person expression an example like (72b) is base-generated in the clausal periphery, then no AF is required because no extraction has taken place. The argument position is occupied by a null pronoun, which is anaphoric to this clause-peripheral indexical expression, and it is this null pronoun that is the target of ergative agreement in (72b). While more work is required to verify this analysis, this is reminiscent of Aissen's (1992) discussion of "external topics" vs. "internal topics" in Mayan. Aissen argues that in Tsotsil and Popti' (closely related to Q'anjob'al), topics may be base-generated in a high clausal position, and demonstrates that such topics are not subject to island constraints.

We leave this as a topic for future research, but note here that regardless of how we account for the absence of AF with 1st or 2nd person **A** arguments, we correctly predict that the same restriction should *not* be found with the Crazy Antipassive. In embedded contexts, it is not extraction that is incompatible with the assignment of absolutive to the transitive object (as is the case in AF contexts; §3.2); the culprit is the outright absence of finite Infl^0, a property of embedded non-finite clauses regardless of the person features of the notional subject. Compare the embedded transitive form in (74) below with the focus construction in (72b):

(74) Q'anjob'al
Chi uj [hach w-il-**on**-i].
ASP be.able.to 2ABS 1ERG-see-**AF**-ITV
'I can see you.'

To summarize, the appearance of the morpheme *-on* in Q'anjob'al non-finite transitives supports the proposal that *-on* is a case-assigner, licensing the transitive object in environments when case is otherwise unavailable. This, in turn, supports our claim that the problem with transitive subject extraction in HIGH-ABS Mayan languages is a configurational one, involving the assignment of case to objects across the higher subject.

As noted above, different Mayan languages may have different means of circumventing this configurational problem; and indeed it is only in the Q'anjob'alan

25. Thanks to Maria Polinsky for this suggestion.

branch that the AF morpheme is extended to embedded non-finite environments. Henderson, Coon & Travis (2013) argue, for example, that the AF construction in Kaqchikel circumvents the same locality problem by permitting the subject to be *base-generated* in a higher position. For us, this has the welcome effect of predicting that the Kaqchikel AF marker should *not* be extendable to license objects in non-finite environments (see §2.3.1), since it is not a case-assigner. See also Aissen (2011), Coon & Henderson (2011) and Erlewine (2014), for different analyses of AF constructions in languages of the K'ichean branch.

5.2 Caseless objects

Another source of support for the analysis that syntactic ergativity is directly linked to object case assignment comes from *reflexive* and "*extended reflexive*" objects (the former also noted in Ordóñez 1995). As in other Mayan languages, Agent Focus is not possible in Q'anjob'al in clauses in which the object is a reflexive (Pascual 2007).[26] Instead, the regular transitive form of the verb is used. Compare the forms in (75):[27]

(75) a. Reflexive
Maktxel max y-il **s-b'a**?
who ASP 3ERG-see 3ERG-SELF
'Who saw herself?'

b. *Reflexive + AF (impossible)
Maktxel max il-**on**[-i] **s-b'a**?
who ASP see-AF-ITV 3ERG-SELF
'Who saw herself?'

c. Non-reflexive w/AF
Maktxel max il-**on**[-i] naq winaq?
who ASP see-AF-ITV CLF man
'Who saw the man?'

Furthermore, AF is impossible in sentences in which the possessor of the object is bound by the subject, as shown in (76). This construction is known as the "extended reflexive" (Aissen 1999). When AF is used – as in (76b) – the subject

26. See also Craig 1977, on Popti'; Aissen 1999, on Tsotsil; and Aissen 2011, Coon & Henderson 2011, Mondloch 1981, on K'ichee'.

27. In (75a), we do not represent the transitive status suffix in square brackets as we have above. Since the reflexive object cannot be dropped – or if it were, the clause would not be interpreted as a reflexive – we have no way of determining what the suffix would be. Nonetheless, these forms take ergative marking like other transitives.

and the possessor of the object are necessarily interpreted as having disjoint reference.

(76) a. Extended reflexive
Maktxel max s-b'on **s-na?**
who ASP 3ERG-paint 3ERG-house
'Who$_i$ painted his$_{i/*j}$ (own) house'

b. Agent Focus – disjoint reference
Maktxel max b'on-**on**[-i] **s-na?**
who ASP paint-AF-ITV 3ERG-house
'Who$_i$ painted his$_{*i/j}$ house?'

Note that the reflexive and extended reflexive constructions in (75a) and (76a) are formally identical – the difference is that a common noun is possessed in (76a), while the possessed nominal *-b'a* in (75a) no longer has any meaning outside of reflexive constructions. From this perspective, their similar behavior with respect to AF is unsurprising; we therefore propose that both should receive the same analysis.

Independent evidence from word order and the availability of nominal classifiers suggests that the bold-faced objects in the Q'anjob'al examples in (75a) and (76a) are not full DPs. Word order in the language is normally VSO, but must be VOS with reflexives.[28]

(77) a. Transitive – VSO
Max y-il[-a'] ix ix naq winaq.
ASP 3ERG-see-TV CLF woman CLF man
'The woman saw the man.'

b. Reflexive – VOS
Max y-il s-b'a ix ix.
ASP 3ERG-see 3ERG-SELF CLF woman
'The woman saw herself?'

Noun classifiers are impossible on reflexive and extended reflexive objects, as shown by the contrast in (78). In a sentence where the transitive subject binds the object's possessor, the classifier *te'* is impossible (78a), while when the subject and possessor are *non*-coreferential, the classifier is obligatory (78b).[29]

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28. This restriction does not appear to hold for extended reflexives, a fact which we cannot presently explain.

29. Craig (1986) demonstrates for related Popti' that classifiers are restricted to referential contexts, consistent with these elements occupying a higher D^0-level projection. We leave an

(78) a. Extended reflexive
Maktxel max s-b'on[-o'] (*te') **s-na**?
who ASP 3ERG-paint-TV CLF 3ERG-house
'Who$_i$ painted his$_i$ (own) house?'

b. Non-extended reflexive
Maktxel max s-b'on-**on**[-i] *(te') **s-na**?
who ASP 3ERG-paint-AF-ITV CLF 3ERG-house
'Who$_i$ painted his$_j$ house'

In a similar vein, Aissen (2011) notes that AF in K'ichee' is "systematically absent" when the object is a bare (determinerless) NP. As shown in (79a), a regular transitive form is used instead. The same form with a full DP object is ungrammatical, as illustrated in (79b).

(79) K'ichee'
a. No AF
Jachiin x-u-loq' uuq?
who ASP-3ERG-buy cloth
'Who bought cloth?'

b. AF required
*Jachiin x-u-loq' **rii** uuq?
who ASP-3ERG-buy DET cloth
intended: 'Who bought the cloth?' (Aissen 2011: 15)

The question is thus not only why reflexive and bare objects are impossible with AF – see Aissen 2011 for one account – but what *permits* the use of a regular transitive verb form with a bare/reflexive object. Examples like (79a) demonstrate another crucial desideratum of any account of "syntactic ergativity" in Mayan: the extraction asymmetries in question cannot be uniformly characterized as a ban on restricting *ergative*-marked arguments (or arguments that trigger *ergative* agreement); in the examples here an ergative argument extracts. Instead, as noted earlier, the restriction – while manifesting itself in the extraction possibilities of the transitive subject – is really about the case-related properties of the *absolutive* argument.

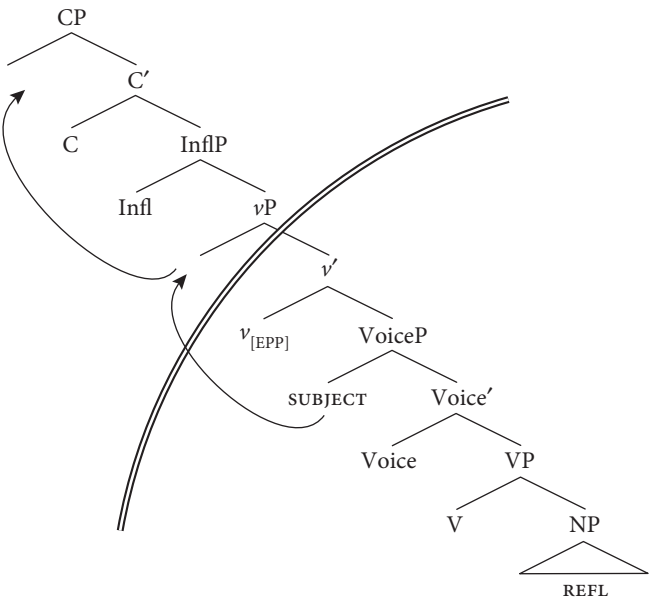
We assume that reflexive, extended reflexive, and bare NP objects are licensed by being *incorporated* (see Baker 1988) or *pseudo-incorporated* into the verb stem (see Massam 2001 on Niuean & Deal 2010 on Nez Perce). In terms of Mithun's (1984) classification of incorporation, this is an instance of 'composition by juxtaposition', where "the V and the N are simply juxtaposed to form an especially tight bond. […] The V and N remain separate words phonologically; but as in

analysis of Q'anjob'al classifiers as a topic for future work, noting that for our analysis below, all that is critical is that the classifier prevents the noun from being licensed via incorporation.

all compounding, the N loses its syntactic status as an argument of the sentence" (Mithun 1984: 849). Because the incorporated objects do not require case, we conclude that the bare objects above are *caseless* – correctly predicting the absence of AF in these constructions – since AF is precisely about assigning case to objects (§4.2).[30]

The proposed structure of examples like (75a), (76a), and (79a) is schematized in (80). Transitive v^0 is merged, and assigns ergative case to the subject. We assume that these reflexive, extended reflexive, and bare objects are all smaller than DP, and are therefore unable to satisfy the EPP feature of v^0; instead, the object remains in situ. The bare NP objects are thus trapped inside the *v*P (which is phasal, since it is headed by transitive v^0); but since they do not require case, nothing goes wrong. Crucially, even though the construction is transitive – evidenced by the ergative agreement marking – the subject can raise through the phase edge because the object has not moved into this edge to satisfy its own absolutive-assignment requirements.

(80)



Previous analyses – Aissen 2011 and Coon & Henderson 2011 – have accounted for the incompatibility of AF and reflexives in terms of the binding configuration within AF constructions. These analyses, however, do not address the question of why transitive constructions are permitted in these environments, even when

30. Note that while in Niuean and Nez Perce, when the object undergoes PNI the subject no longer receives ergative case, in K'ichee' ergative is retained for the subject, suggesting that PNI is not a uniform phenomenon across ergative languages.

the **A** argument is extracted via A-bar movement. That is, one could imagine that if there was a language-wide ban on extracting the **A** argument, coupled with a problematic binding configuration between AF subjects and reflexive objects, constructions like (75a) would simply be impossible, and a periphrastic construction would be required instead.

Our analysis not only derives the impossibility of AF – since there is no case-requiring object, and AF is a last resort case-licensing mechanism for the object (on a par with English *of*-insertion) – but also for the *possibility* of a transitive. Because the object cannot satisfy the EPP, Spec,*v*P remains free for the subject to move through. Thus, A arguments are actually free to extract so long as the object does not receive case.[31]

Support for this account of reflexives is found in closely-related Chuj (Q'anjob'alan). In Chuj, AF is *optional* with reflexive and extended reflexive objects. However, only when the AF form of the verb is used, adverbial material may intervene between the verb and the reflexive object. This contrast is shown in (81).

(81) Chuj

a. Mach s-mak' (*ewi) s-b'a?
WHO 3ERG-hit yesterday 3ERG-SELF
intended: 'Who hit himself yesterday?'

b. Mach mak'-an (ewi) s-b'a?
WHO hit-AF yesterday 3ERG-SELF
'Who hit himself yesterday?' (Hou 2013)

As Hou (2013) discusses, this contrast receives a natural explanation under the proposal advanced above. In Chuj, the reflexive object may be generated either as a case-requiring DP, or a smaller caseless form, accounting for the optionality of AF in these environments. If the reflexive object is caseless, no AF is required, but – since the object must be pseudo-incorporated into the verb in order to be licensed – intervening material is impossible (81a). If, on the other hand, the reflexive object is a full case-requiring DP, AF must be used; no incorporation takes place, and intervening adverbs are possible (81b).

5.3 Extracting non-arguments out of *v*P

On the proposal put forth in this paper, subjects are unable to extract in a normal transitive clause because this would deprive the object of its ability to receive case

31. As pointed out to us by Judith Aissen (pers. comm.), the AF morpheme *does* appear in non-finite embedded clauses with reflexive and extended reflexive objects, a fact which the analysis here does not currently explain. It is possible that a combination of binding and case facts could account for this difference, though we leave this as a topic for future work.

from Infl^0, by rendering the single escape hatch of *v*P occupied. We therefore predict not only that *subjects* should be unable to extract out of *v*P, but that *nothing* besides the object should escape from a transitive *v*P. Again, this contrasts with accounts in which extraction asymmetries are due to properties of the ergative **A** argument themselves, in which we would not necessarily predict problems with extraction of other *v*P-internal elements. In this section we examine the issue of extraction of other *v*P-internal elements of this sort.

The first thing one might test would be the second object in a double-object construction. Interestingly, neither Q'anjob'al nor Kaqchikel have double-object constructions. In fact, to the best of our knowledge, double object constructions are systematically absent in HIGH-ABS languages. While LOW-ABS Chol has an applicative (82a), Q'anjob'al benefactives are introduced with the preposition *b'ay* (82b), analyzed as an adjunct in Mateo-Toledo 2008. In Kaqchikel, a relational noun is required (82c).[32] Since Chol is LOW-ABS, we correctly predict that both objects in applicative constructions are able to extract. The bold-faced obliques in (82b–c) may also appear pre-verbally, though more work is needed to determine the nature of the constructions in question, and in particular, whether they actually involve extraction of a phrase generated *v*P-internally, in the first place.

(82) a. Chol applicative
Tyi k-mel-**be**-yety waj.
ASP 1ERG-make-APPL-2ABS tortilla
'I made you tortillas.'

b. Q'anjob'al benefactive
Max hin-man jun chanej ti **b'ay ix ha-txutx**.
ASP 1ERG-buy one skirt DEM PREP CLF 2ERG-mother
'I bought this skirt for your mother.'

c. Kaqchikel relational noun
X-in-loq' ri uq **ri-chin a-te'**.
ASP-1ERG-buy DET skirt 3ERG-RN.for 2ERG-mother
'I bought the skirt for your mother.'

Interestingly, some HIGH-ABS languages have a cognate of Chol's *-be* applicative, though its function is different. The suffix *-b'e* in Tz'utujil is called the "instrumental voice", and appears only on *transitive verbs* in which an instrument argument

32. Tseltal and Tsotsil, also LOW-ABS, both have applicative constructions using a suffix descended from the Proto-Mayan **-b'e* (Mora-Marín 2003; see Aissen 1987 on Tsotsil & Polian 2013 on Tseltal).

has been questioned, focused, or relativized (Dayley 1981:490). In (83a), the instrument *machat* is introduced with a preposition. When it appears in preverbal position for focus in (83b), however, the preposition is absent and the verb appears with *-b'e*.

(83) Tz'utujil

a. X-uu-choy tza'n machat.
ASP-3ERG-cut with machete
'He cut it with a machete.' (Dayley 1981:217)

b. Machat x-a-choy-**b'e**-j chee'.
machete ASP-2ERG-cut-INST-DTV wood
'It was a machete that you cut wood with.' (Dayley 1981:492)

While more work is needed to understand the syntax of these constructions, note that the requirement of a special "voice" precisely in *transitive* constructions from which a low argument appears to have A-bar extracted – recall that intransitive *v*P is not phasal – is consistent with the proposal outlined above.

The second type of element to test for extraction out of *v*P are low adverbials, to which we now turn our attention. As described in Mateo-Toledo 2003a and Pascual 2007, the appearance of certain pre-verbal adverbs – typically *manner adverbs* – triggers the same Crazy Antipassive verb forms we saw in the non-finite embedded clauses in Section 5.1. Manner adverbs are typically considered to be base-generated low in the syntactic structure (Cinque 1999), and our analysis might thus predict that it is precisely these adverbs which require special treatment in order to appear pre-verbally – assuming that extraction out of a normal transitive *v*P is blocked.

Post-verbal manner adverbials must be introduced with an inflected relational noun, *-in*, shown in (84). The adverbial form takes a nominal *-Vl* suffix, and triggers 3rd person agreement on the relational noun. This contrasts with the behavior of temporal adverbs like *ewi* 'yesterday' in (85), which simply appear post-verbally.

(84) Manner adverb
Max-in b'ey[-i] **y-in** **amank'wan-il**.
ASP-1ABS walk-ITV 3ERG-RN quickly-NML
'I walked quickly.'

(85) Temporal adverb
Max-in b'ey[-i] **ewi**.
ASP-1ABS walk-ITV yesterday
'I walked yesterday.'

Temporal adverbs like *ewi* can also appear pre-verbally, with no other change to the construction. When manner adverbials appear pre-verbally, however, they optionally trigger the non-finite forms of the verb, as shown in (86). Mateo-Toledo (2003a) and Pascual (2007) argue that this is another context of embedding, structurally akin to the forms in (87), in which the manner adverbs serve as the matrix predicate. (The forms in (87) are provided as a baseline for non-finite embedding in Q'anjob'al; recall from Sections 2.3.1 and 5.1 that the bracketed forms in (87) are analyzed as nominalized clauses: the subjects receive *possessive* marking and the *-on* suffix is required in the transitive to license the otherwise caseless object.)

(86) a. **Amank'wan** [hin-b'ey-i].
quickly 1ERG-walk-ITV
'My walking is/was quick.'

b. **Amank'wan** [hin-b'on-**on**[-i] te' na].
quickly 1ERG-paint-AF-ITV CLF house
'My painting the house is/was quick.'

(87) a. Embedded intransitive
Lanan [hin-way-i].
PROG 1ERG-sleep-ITV
'I am sleeping.' (~ 'My sleeping is happening.')

b. Embedded transitive = "Crazy Antipassive"
Lanan [hach hin-laq'-on-i]. [=(*69b*)]
PROG 2ABS 1ERG-hug-AF-ITV
'I am hugging you.' (~ 'My hugging you is happening.')

A similar pattern is seen in the interrogatives below. The temporal question word *b'aq'in* does not trigger an embedded verb form (88a), while the manner question in (88b) does. In (88b), the light verb and subsequent subordinated verb stem are obligatory.

(88) a. **B'aq'in** max s-b'on naq te' na?
when ASP 3ERG-paint PRON CLF house
'When did he paint the house?'

b. **Tzet** max y-un s-b'on-on naq te' na?
how ASP 3ERG-do 3ERG-paint-AF PRON CLF house
'How did he paint the house?'

Again, if manner adverbials are base-generated in a low, *v*P-internal position, it is precisely these elements which should require special constructions in order to appear pre-verbally. The constructions in (86), for example, do not appear to be derived by movement at all; the manner adverb serves as the matrix predicate, and it is not likely that this construction is derivationally related to a construction like (84).

Further support for the idea that low modifiers of this sort require special morphosyntactic means in order to appear outside the verb-phrase comes from Kaqchikel, where a similar set of low adjuncts triggers the post-verbal clitic *-wi* when fronted to a pre-verbal focus position (Henderson 2007); a similar phenomenon is found in Ixil (Ayres 1983), as well.[33]

Admittedly, further work is needed to understand precisely how these facts fit into our analysis. First, while the constructions in (86) are *only* possible with low adjuncts, they are not *obligatory* with all such adjuncts. Furthermore, all else being equal, we might expect that these constructions should only be required of transitives, as with the Tz'utujil instrumental voice above, which is not the case. Nonetheless, we take the appearance of these constructions exactly when low adverbs appear *v*P-externally, as further – if tentative – support for our analysis.

6. Conclusion

In this paper, we have argued for an account in which the appearance of extraction asymmetries in the Mayan language family reduces to independently observable differences among these languages in how absolutive arguments are licensed in the clause (following work by Aldridge 2004, 2008b, Legate 2002, 2008). We argued that the relevant difference is as follows. In languages in which absolutive is assigned internal to the *v*P phase (LOW-ABS), either argument may extract through Spec,*v*P. In contrast, if absolutive is assigned by Infl^0 (HIGH-ABS), the object must raise to Spec,*v*P, leaving the subject (along with other *v*P-internal elements) trapped. If this analysis is correct, then at least some cases of "syntactic ergativity" are not the result of special properties of the ergative subject itself, but have to do with the mechanics of case assignment to the *object*. Indeed, we observed that when the object appears to be caseless, the ergative-marked subject is free to extract. These effects would be entirely mysterious if syntactic ergativity – at least of the kind exhibited by Q'anjob'al – were about properties of the ergative noun-phrase; but they receive a natural explanation if the real restriction is on extraction of non-objects more generally.

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33. Ayres (1983) groups this construction together with "instrumental voice" in (83) and Agent Focus under the label "argument indexing", and distinguishes this from traditional "voice". Although both voice and indexing suffixes appear in the same post-verbal slot in Mayan languages, Ayres notes that the indexing suffixes do not alter grammatical relations, but simply serve to mark which argument has been A-bar extracted. This might be compared to the "voice" systems of Austronesian languages (see, e.g. Chung & Polinsky 2009 and references therein).

The above discussion has focused largely on a comparison between two Mayan languages: the HIGH-ABS language Q'anjob'al, and the LOW-ABS language Chol. The high position of the absolutive pronoun in the former type was claimed to be responsible for the syntactic ergativity found in the language: **A** arguments are unable to extract out of phasal *v*P, because they are blocked by the **P** argument, which must raise to the phase-edge to get case. Independently observable properties of non-finite embedded clauses corroborated the analysis that the locus of case assignment to transitive objects – Infl^0 in HIGH-ABS languages vs. *v*^{0} in LOW-ABS languages – is the factor which determines whether or not a language will exhibit syntactic ergativity.

Crucially, there remains room for variation. In addition to the fact that a high head, Infl^0, assigns case to transitive objects, there are at least three factors which combine to bring about the ban on extraction of **A** arguments in Q'anjob'al:[34]

(89) I. transitive *v*P is phasal
II. the transitive subject is generated *below* *v*P
III. there is only a single specifier available for extraction out of *v*P

Furthermore, while we hope to have demonstrated that syntactic ergativity does not *necessarily* arise from a deficit of the ergative argument itself, we have by no means demonstrated that this is *never* the source of syntactic ergativity.

Finally, while the correlation between the locus of case assignment and the appearance of extraction asymmetries appears to be consistent across Mayan, there is also room for variation concerning the means used to circumvent these extraction asymmetries. We presented a detailed account of the Q'anjob'al Agent Focus construction, and showed how the appearance of the AF morpheme in non-finite embedded transitives (the so-called "Crazy Antipassive") lends support to our claim that the etiology of these effects concerns the assignment of case to the transitive object.

Recent work recognizes a range of variation within AF constructions; where Q'anjob'alan languages introduce a low case-assigner, K'ichean languages may solve the problem by base-generating agents higher in the clause. We suggest that this contributes to a larger body of work showing that ergative languages cannot be regarded as a homogenous group, but must be investigated in detail on a case by case basis.

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34. Of the three ingredients listed here, (III) is certainly a parameter, and (II) is likely to be, as well (see the discussion in §3.2) – whereas (I) appears to be universal.

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A. Abbreviations

Abbreviations in glosses are as follows: ABS – absolutive; AF – agent focus; AP – antipassive; APPL – applicative; ASP – aspect marker; CAUS – causative; CLF – noun classifier; COMP – complementizer; DEIC – deictic; DET – determiner; DIR – directional; DTV – derived transitive suffix; ERG – ergative; EXCL – exclusive; FOC – focus marker; INCL – inclusive; ITV – intransitive verb suffix; NF – non-finite form; NML – nominal; PERF – perfect; PL – plural; POSS – possessive; PREP – preposition; PROG – progressive; RN – relational noun; SUF – suffix; TERM – terminative suffix; TV – transitive verb suffix.

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Authors' addresses

Jessica Coon
McGill University
McGill Department of Linguistics
1085 Dr. Penfield, 221
Montreal, QC H3A-1A7, Canada

jessica.coon@mcgill.ca

Pedro Mateo Pedro
Universidad del Valle de Guatemala, Campus Altiplano
Km. 137.5, Cantón El Xolbé, Aldea El Tablón
Sololá, Guatemala

pmateo@uvg.edu.gt

Omer Preminger
University of Maryland
Department of Linguistics
1401 Marie Mount Hall
University of Maryland
College Park MD 20742-7505, USA

omerp@alum.mit.edu