

Contents

1	Introduction	2
1.1	Implications	3
1.2	Outline	4
2	Ergative and absolutive in Mayan	4
2.1	Q'anjob'al basics	4
2.2	A Mayan Absolutive Parameter	6
2.3	The locus of ABS	8
2.3.1	Absolutive in HIGH-ABS languages	9
2.3.2	Absolutive in LOW-ABS languages	11
2.4	Deriving HIGH-ABS	12
2.5	Summary	15
3	The Crazy Antipassive (is not so crazy)	15
3.1	Embedded intransitives	15
3.2	Embedded transitives	16
3.3	Analysis of the Crazy Antipassive	17
4	The other use of <i>-on</i>: AF	18
4.1	Extraction asymmetries in Q'anjob'al	18
4.2	The transitivity of AF forms	20
4.3	The Mayan Absolutive Parameter and AF	21
4.3.1	The problem with subject extraction	22
4.3.2	The solution	24
4.4	Crazy Antipassive and AF compared	26
5	Further support	27
5.1	Caseless objects and AF	27
5.2	Hierarchy effects and AF	30
5.3	Recap	32
6	Syntactic Ergativity in Mayan: Beyond Q'anjob'al	33
6.1	Tzotzil	33
6.1.1	Position of absolutive	33
6.1.2	Extraction in Tzotzil	35
6.2	Yukatek and Ixil	35
6.2.1	Ixil	36
6.2.2	Yukatek	36
7	Beyond Mayan	37
8	Conclusion	38

The Role of Case in A-Bar Extraction Asymmetries: Evidence from Mayan

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November 2011

Abstract

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). Extraction asymmetries are found in many languages of the Mayan family, where in order to extract transitive subjects (for focus, question, or relativization), a special construction known as the “Agent Focus” (AF) must be used. These AF constructions have been described as syntactically transitive and semantically dyadic, 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 Mayan AF construction 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, 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

1. Introduction

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 third 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-ABS2 see-SUF-ITV

‘Who saw you?’

(2) “*CRAZY ANTIPASSIVE*”

Chi uj [hach y-il-on-i].

ASP be.able.to ABS2 ERG3-see-SUF-ITV

‘S/he can see you.’

*We are especially grateful to our language consultants: for Chol we thank Virginia Martínez Vázquez, Doriselma Gutiérrez Gutiérrez, and Matilde Vázquez Vázquez, and for Kaqchikel we thank Ana López de Mateo. Thanks also to the audiences at FAMLi, WSCLA, Leipzig, the Harvard Agent Extraction reading group, and UCSC, and especially to Judith Aissen, Ava Bernstein, Edith Aldridge, Robert Henderson, David Pesetsky, Maria Polinsky, Clifton Pye, Norvin Richards, Kirill Shklovsky, and Valentina Vapnarsky for useful feedback and discussion. This work was completed thanks to postdoctoral funding from the Polinsky Lab at Harvard University.

¹Unless otherwise noted, all Q’anjob’al data are from Pedro Mateo Pedro, all Kaqchikel data are from Ana López de Mateo, and all Chol data are from Jessica Coon’s fieldnotes. A list of gloss abbreviations can be found in the appendix. 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.

The use of *-on* (or a cognate form) in Agent Focus environments like (1) is widespread throughout the family as a means of circumventing “syntactic ergativity”—the ban on extracting ergative-marked arguments (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 (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 Mayan Agent Focus construction, and thus about the nature of the restriction against A-bar extracting transitive subjects (ergatives) more generally.

Specifically, we argue—extending the analysis in Ordóñez 1995—that the morpheme *-on* is responsible for *assigning case to internal arguments in environments where (absolute) case is otherwise unavailable*. In non-finite embedded environments like (2), there is otherwise no absolutive case-assigner; we argue that extraction environments like (1) are similar, in that extracting the subject would make the normal mechanism of absolutive case-assignment unavailable. Our 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 appearance of two full 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. We begin with an analysis of the Crazy Antipassive, and use this construction as a basis to account for the role of AF in agent extraction contexts.

1.1. Implications

Though the analysis focuses on Q’anjob’al, we suggest that it has important consequences for other languages as well. First, we produce a typology of Mayan languages which predicts which languages will and which will not show extraction asymmetries. Second, we reduce the appearance of syntactic ergativity (the ban on extracting ergative subjects) to independently observable morpho-syntactic properties of the languages in question. Specifically, we argue that those Mayan languages where absolutive morphology is located high in the clausal structure—which overwhelmingly, are the ones that exhibit syntactic ergativity—are languages where the Patient (i.e., the transitive object) must move to the edge of the *vP* in order to receive case from Infl. This occupies the only verb-phrasal escape hatch available, effectively “trapping” the Agent (i.e., the transitive subject) within the verb-phrase.

This has the interesting consequence that syntactic ergativity, at least in the languages in question, is not a direct result of properties of the *ergative* noun-phrase at all—but rather, the result of properties of *absolutive* case-assignment. Obviously, this is not the only conceivable approach to syntactic ergativity; an alternative that presents itself quite readily is reducing syntactic ergativity to properties of the ergative noun-phrase itself (e.g. Markman 2009, Polinsky 2011). Such accounts, however, face serious problems in Mayan. First, there are no discernible differences whatsoever 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 (instead, as mentioned above, they differ in the locus of *absolutive* morphology). Second, we provide further evidence that it is the case properties of internal argument *per se* that determine syntactic ergativity in Mayan: certain internal arguments (namely, reflexives and “extended” reflexives)—which crucially, can independently shown to be *caseless*—do not trigger syntactic ergativity, even when they are the internal argument of a dyadic predicate.

Thus, the account we provide goes beyond accounting for syntactic ergativity in the general case, providing more intricate predictions which are confirmed in the case of Mayan. We do not presently claim that instances of syntactic ergativity in other language families are reducible to the same mechanism. It may be the case that syntactic ergativity is not, after all, a homogeneous phenomenon (a theoretical trajectory that mirrors, to some extent, that of ergativity itself; see e.g. Johns 2000 and Aldridge 2008a 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 cross-linguistically of a uniform nature.

1.2. 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, a language of the Cholan branch spoken in Chiapas, Mexico. 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 assigning absolutive. Next, in section 3, we examine the *Crazy Antipassive*. Drawing on the proposal in Ordóñez 1995 for the closely related language Jakalteq, we propose that the suffix *-on* assigns case to transitive objects in non-finite environments. In section 4, we return to Agent Focus, arguing that here too the suffix *-on* is introduced to assign case to objects. We proceed to show, in section 5, how this proposal captures more intricate facts within Mayan: the apparent amnesty granted to the extraction of transitive subjects by certain caseless internal arguments, as well as the distribution of so-called “hierarchy effects” within the Mayan family. Section 6 presents further typological predictions of our proposal within Mayan, while section 7 situates the proposal in a broader cross-linguistic setting. Section 8 concludes.

2. Ergative and absolutive in Mayan

2.1. Q'anjob'al basics

Mayan languages, for the most part, show basic verb-initial word order and an ergative system of person marking. Q'anjob'al's word order is VSO and the basic ergative pattern is shown in (3): core arguments are head-marked on the predicate with two sets of morphemes. Ergative prefixes mark the transitive subject in (3a), while transitive objects and intransitive subjects receive the same marking, here the second person absolutive *-ach*.

(3) Q'ANJOB'AL'S ERGATIVE SYSTEM

- a. Max-**ach** y-il-a'.
ASP-ABS2 ERG3-see-TV
'S/he saw you.'
- b. Max-**ach** way-i.
ASP-ABS2 sleep-ITV
'You slept.'

Q'anjob'al's paradigm of person markers is shown in the table in (4). The ergative markers have pre-consonantal and pre-vocalic allomorphs. As in other Mayan languages, third person absolutive is null and ergative and genitive prefixes are identical.² The clitic *-heb'* corresponds to third 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*...). See Mateo-Toledo 2008 for more information.

²The 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; GEN – genitive; and ABS – absolutive.

(4) *Q'ANJOB'AL PERSON MORPHOLOGY*

	ERGATIVE		ABSOLUTIVE
	__C	__V	
1 st singular	<i>hin-</i>	<i>w-</i>	<i>-in</i>
2 nd singular	<i>ha-</i>	<i>h-</i>	<i>-ach</i>
3 rd singular	<i>s-</i>	<i>y-</i>	<i>-Ø</i>
1 st plural	<i>ko-</i>	<i>j-</i>	<i>-on</i>
2 nd plural	<i>he-</i>	<i>hey-</i>	<i>-ex</i>

Finite eventive predicates are headed by one of several aspectual markers, for example the completive *max* in (3). Nominals are not morphologically marked for case and can be freely omitted. The verb stem consists of a root, possibly followed by derivational morphology, and often a final “status suffix”. Status suffixes vary with transitivity, stem class, and aspect of the clause. The three suffixes relevant to our discussion below are shown in (5). Here it is relevant to note that 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).

(5) *Q'ANJOB'AL STATUS SUFFIXES*

intransitive	<i>-i</i>	-ITV
root transitive	<i>-V'</i>	-TV
derived transitive	<i>-j</i>	-DTV

It will also be important for our purposes here that in Q'anjob'al, the status suffixes *-i* and *-V'* only surface phrase-finally (Mateo Pedro 2011; see also Henderson to appear 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 (6a); this does not indicate that they are optional.

- (6) a. Max-Ø way-i.
 ASP-ABS3 sleep-ITV
 ‘S/he slept.’
 b. Max-Ø way[-i] naq winaq.
 ASP-ABS3 sleep-ITV DET man
 ‘The man slept.’

Finally, Mayan languages distinguish between what are known as “verbal predicates”, which include stem forms like *yila'* and *wayi* in (3), and “non-verbal predicates” (NVPs) like *saq* ‘white’ in (7). While the former appear with aspectual morphology and consist mainly (perhaps entirely) of eventive predicates, NVPs typically (perhaps always) denote states and are unable to appear with aspectual morphology. NVPs also do not appear with the status suffixes described above. Most, if not all, lexical items—nouns, adjectives, quantifying expressions—can serve as NVPs; there is no overt copula.

(7) *NON-VERBAL PREDICATE*

Saq an pichilej.
 clean CL clothes
 ‘The clothes are clean.’

2.2. A Mayan Absolute Parameter

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

(8) *MAYAN FAMILY CLASSIFICATION (CAMPBELL AND KAUFMAN 1985)*

- a. **Wastekan:** Wastek
- b. **Yukatekan:** Yukatek, Lakandon; Mopan, Itza’
- c. **Greater Tzeltalan:**
 - i. *Cholan:* Chol, Chontal; Ch’orti’
 - ii. *Tzeltalan:* Tzeltal, Tzotzil
- d. **Greater Q’anjob’alan:**
 - i. *Q’anjob’alan:* Q’anjob’al, Akatek, Jakalteq; 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:* Tekiteko, Mam; Awakatek, Ixil

Though most Mayan languages share the properties discussed for Q’anjob’al above, we find an interesting point of variation in the *location* of the absolutive morphemes: in what we will refer to as “HIGH-ABS” languages, the absolutive morpheme immediately follows the aspect marker.³ 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 order, as shown in the table in (9). This basic division of Mayan languages is discussed in Bricker 1977, who notes that the HIGH-ABS languages are spoken predominantly in highland Guatemala, while the LOW-ABS languages are found in Mexico.

(9)

HIGH-ABS	ASPECT	ABS	ERG	ROOT	(VOICE)	SUFFIX	
LOW-ABS	ASPECT		ERG	ROOT	(VOICE)	SUFFIX	ABS

Q’anjob’al illustrates the former type, while Chol shows the latter type.

- (10) a. *Q’ANJOB’AL (=HIGH-ABS)*
 Max-**ach** hin-[way-tzene-j].
 ASP-ABS2 ERG1-sleep-CAUS-DTV
 ‘I made you sleep.’
- b. *CHOL (=LOW-ABS)*
 Tyi k-[wäy-is-ä]-**yety**.
 ASP ERG1-sleep-CAUS-DTV-ABS2
 ‘I made you sleep.’

Tada (1993:106) notes a correlation within Mayan languages between the presence of extraction asymmetries (and thus the appearance of an AF construction) on the one hand, and the location of the absolutive morpheme on the other. HIGH-ABS like Q’anjob’al overwhelmingly show extraction asymmetries, while LOW-ABS languages like Chol lack them. In the majority of LOW-ABS languages

³Here we discuss only verbal predicates which show aspectual morphology. We return to discuss aspectless NVPs below.

surveyed, all core arguments freely extract. This is shown in the table in (11), where languages absent from Tada’s original typology are italicized (see [Stiebels 2006](#) and references therein). The two outliers—Ixil and Yukatek—are discussed in more detail, along with the more complicated case of Tzotzil, in section 6 below.⁴

(11) *RELATIONSHIP BETWEEN LOCATION OF ABSOLUTIVE AND AF*

	+AF	-AF
HIGH-ABS	<i>Q’anjob’al</i> , <i>Akatek</i> , <i>Jakalte</i> , <i>Chuj</i> , <i>Q’eqchi’</i> , <i>Uspantek</i> <i>Poqomchi’</i> , <i>Poqomam</i> , <i>K’ichee’</i> , <i>Kaqchikel</i> , <i>Tz’utujil</i> , <i>Sakapultek</i> <i>Sipakapense</i> , <i>Mam</i> , <i>Awakatek</i>	
LOW-ABS	<i>Yukatek</i> , <i>Ixil</i>	<i>Lakandon</i> , <i>Mopan</i> , <i>Itza’</i> , <i>Chol</i> , <i>Chontal</i> , <i>Tzeltal</i> , <i>Tojol’ab’al</i>

Below we offer an account for why Tada’s generalization should hold. To preview, we argue that in Mayan *the surface position of absolutive correlates with the head responsible for licensing absolutive arguments*, as in (12). We will show that syntactic ergativity is connected to the case-assignment properties of the clause; AF constructions provide an alternate means of case-assignment to absolutive arguments, thus circumventing the problem with extracting transitive subjects.

(12) *MAYAN ABSOLUTIVE PARAMETER*

HIGH-ABS (ABS realized on the aspect marker)	ABS assigned by Infl ⁰
LOW-ABS (ABS realized on the verb stem)	ABS assigned within vP

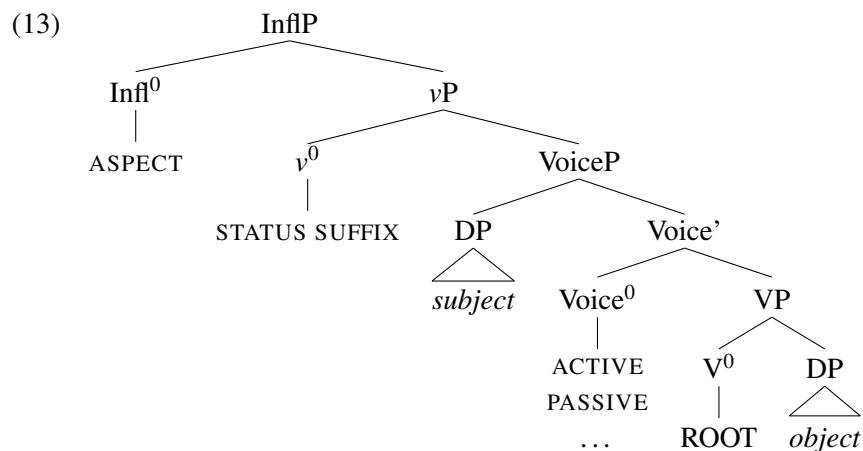
Crucially, we will show that this proposal does more than account for syntactic ergativity itself (i.e., the extraction ban); it also provides an account for certain otherwise mysterious properties within Mayan: (i) why the ban on extraction of transitive subjects is lifted in the presence of reflexive objects (§5.1); and (ii) why in some Mayan languages, so-called “salience hierarchy” effects emerge exactly and only in the context of Agent Focus clauses (§5.2). But we must ask the reader to bear with us: before these achievements can be seen, there is quite a bit of technical groundwork to be laid; while each piece of the puzzle is independently supported by evidence from within the same language family, that the completed puzzle provides a superior account of syntactic ergativity in Mayan can only be seen once all the pieces are in place.

We assume the structure in (13) for both *Q’anjob’al* and *Chol* clauses. Infl⁰ is instantiated by *aspect* (see [Aissen 1992](#)); *aspect* is obligatory in all eventive finite clauses. The status suffixes are overt instantiations of little-*v*⁰ heads ([Coon 2010a](#), [Coon and Preminger to appear](#)). The verb root undergoes head-movement through Voice⁰ and *v*⁰, giving the order of stem suffixes in accordance with the Mirror Principle ([Baker 1985](#)): [ROOT-VOICE-SUF]. The exact labels given to these projections are not crucial for our analysis.⁵

⁴Wastek also does not fit clearly into this typology, and we omit it from discussion here. It appears to be HIGH-ABS, but does not appear to show extraction asymmetries (based on data in ([Edmonson 1988](#))). It is the most divergent member of the family, having split off from the family before any of the other languages, and is classified in its own sub-branch ([Campbell and Kaufman 1985](#)). While the absolutive markers precede the verb stem, Wastek is unusual within Mayan in having three series of person markers, including a series of portmanteau person markers.

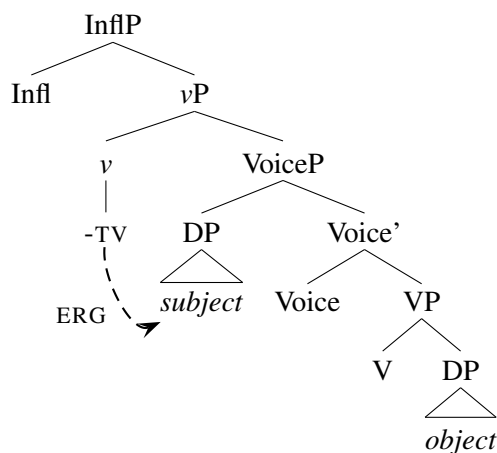
⁵Note that the *v*⁰ head we associate with status suffixes is above the Voice⁰ head which introduces the agent. Both heads are part of the extended verbal projection; this is not inconsistent with a categorizing *v*⁰ head below Voice⁰. Again, we use the labels here simply for convenience to capture the morphemes visible on the stem.

What is important is that status suffixes are generated *above* the head that introduces the subject, a fact which is supported by the stem-final appearance of these morphemes.

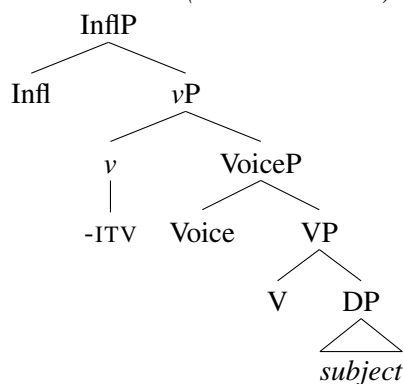


We assume the “Case Filter”: All DPs require abstract case in order to be licensed in the clause (see e.g. Chomsky 1980, Rouveret and Vergnaud 1980, Vergnaud 1976/2006). We assume further that case is assigned through a “Probe–Goal” relation between a functional head with uninterpretable ϕ -features (e.g. Infl⁰ or v⁰) and a DP (Chomsky 2000). Ergative case is licensed *low* in the derivation by transitive v⁰. In the trees below we represent ergative as a structural case assigned by v⁰, though the analysis laid out here is compatible with various other theories of ergative case assignment (e.g. inherent, as proposed by Woolford (1997) and Legate (2008) or relational, as in Marantz 1991), and we do not take a stance on this issue here. The person features of the ergative subject are spelled out as a prefix on the verb stem.

(14) TRANSITIVE



(15) INTRANSITIVE (UNACCUSATIVE)



2.3. The locus of ABS

We now turn to the question of how to account for the different position of the absolutive morphemes. Recall that transitive objects and intransitive subjects both receive absolutive marking in Q'anjob'al and Chol, as shown in (16) and (17) below.

(16) Q'ANJOB'AL

- a. Max-**ach** y-il-a'.
COM-ABS2 ERG3-see-TV
'S/he saw you.'
- b. Max-**ach** way-i.
COM-ABS2 sleep-ITV
'You slept.'

(17) CHOL

- a. Tyi y-il-ä-**yety**.
PRFV ERG3-see-DTV-ABS2
'S/he saw you.'
- b. Tyi wäy-i-**yety**.
PRFV sleep-ITV-ABS2
'You slept.'

Here we follow analyses in which the absolutive morphemes are pronominal clitics; see Woolford 2000 on Jakaltek and Coon 2010a on Chol. Like other DPs, these pronouns require case in order to be licensed. We adopt recent proposals which suggest that languages vary as to how absolutive arguments are licensed in the clause (Aldridge 2004, 2008b, Legate 2002, 2008). Specifically, as presented in (12) above, we propose that in Mayan, the surface position of absolutive correlates with the head responsible for licensing absolutive arguments. In Q'anjob'al (and other HIGH-ABS languages) the head of a finite clause, Infl⁰, is responsible licensing absolutive arguments, while in Chol (and other LOW-ABS languages) the head of the verbal projection, v⁰, is responsible for licensing absolutive arguments.

2.3.1. ABSOLUTIVE IN HIGH-ABS LANGUAGES

As discussed in work by both Aldridge and Legate on unrelated languages, the different possibilities for assigning absolutive case make different predictions about its availability in non-finite clauses (recall that in Mayan, "non-finite" amounts to *aspectless* embedded clauses (Aissen 1992)). Specifically, in Q'anjob'al if absolutive is assigned by the head of a finite clause, Infl⁰, we predict absolutive to be unavailable in non-finite embedded clauses—analogueous to nominative in nominative-accusative languages. This prediction is borne out, as seen by the ungrammaticality of the forms in (18). The bracketed embedded clauses have no aspect marking. We represent the absolutive marker in its free-standing form (more on this below), though the sentences remain ungrammatical regardless of how and where absolutive is realized.

(18) Q'ANJOB'AL

- a. * Chi uj [**hin** y-il ix Malin].
ASP be.able.to ABS1 ERG3-see CL Maria
intended: 'Maria can see me.'
- b. * Lanan [**hach** hin-laq'-a'].
PROG ABS2 ERG1-hug-TV
intended: 'I am hugging you.'

These forms contrast with fully finite embedded clauses like the one shown in (19). Here the embedded form appears with aspectual marking and the absolutive morpheme is again possible. The complementizer *tol* is optional.

- (19) Chi w-oche-j [(tol) ch-**in** y-il[-a'] ix Malin].
ASP ERG1-want-DTV COMP ASP-1ABS 3ERG-see-TV CL Maria
'I want Maria to see me.'

We predict more generally that absolutive should be unavailable in non-finite aspectless clauses in HIGH-ABS languages like Q'anjob'al.⁶ This prediction is borne out at least in the HIGH-ABS languages K'ichee' and Kaqchikel (K'ichean branch). In (20b) we see the verb 'want' can embed a clause which is itself marked for aspect (the completive *x-*); compare the finite form in (20a). Here the embedded object is

⁶More precisely, absolutive should be unavailable without the addition of a special licensing mechanism, discussed for Q'anjob'al in section 3 below.

marked with the second person absolutive *-at*. The verb ‘begin’ in (20c), on the other hand, embeds a smaller aspectless clause. The stem is nominalized with the suffix *-ik* and the embedded object must be expressed as a possessor.

(20) *KAQCHIKEL (K’ICHEAN)*

- a. X-at-in-tz’et.
ASP-ABS2-ERG1-see
‘I saw you.’
- b. X-inw-ajo’ [x-at-in-tz’et].
ASP-ERG1-want ASP-ABS2-ERG1-see
‘I wanted to see you.’
- c. X-in-chöp [a-tz’et-ik].
ASP-ERG1-begin GEN2-see-NML
‘I began to see you.’ (lit.: ‘I began your seeing.’)

Similar facts are found in HIGH-ABS Q’eqchi’, also from the K’ichean branch. In (21) we see at least two options available for aspectless embedded clauses. In (21a) the verb appears in a nominal stem form and the object is expressed as a possessor, comparable to (20b). Alternatively, in (21b) the embedded verb may be antipassivized; here the object must be non-referential (see also [Berinstein 1990](#)).

(21) *Q’EQCHI’ (K’ICHEAN)*

- a. T-inw-aj [aaw-il-bal].
ASP-ERG1-want GEN2-see-NML
‘I want to see you.’ (lit.: ‘I want your seeing.’)
- b. Laa’in t-inw-aj [lo’-o-k tul].
PRON1 ASP-ERG1-want eat-AP-NF banana
‘I want to eat bananas.’

([Berinstein 1985:265–9](#))

[England \(to appear\)](#) discuss 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*. Here the object is either introduced via a relational noun (22a), or must be bare (22b) and thus presumably incorporated (see the discussion in §5.1). Other aspectless clauses are formed either by antipassivization, in which the object is again introduced by a relational noun (22c), or by passive (22d).

(22) *MAM (MAMEAN)*

- a. O chi e’x xjaal [laq’oo-l t-ee].
ASP ABS3.PL go people buy-NF GEN3.SG-RN
‘The people went to buy it.’
- b. Ma tz’-ok n-q’o’-n-a [tx’eema-l sii’].
ASP ABS3.SG-DIR ERG1.SG-give-SD-1SG cut-NF wood
‘I made him cut wood.’
- c. [Aj nti’ n-qo-kaamb’a-n t-i’j schab’il] n-qo-jaw b’iisa-n
when NEG ASP-ABS1.PL-win-AP GEN3.SG-RN game ASP-ABS1.PL-DIR be.sad-AP
‘When we don’t win the game, we’re sad.’
- d. Walaan [t-k’aa-njtz a’].
good ERG3.SG-drink-PASV water
‘Drinking water is good.’ (lit.: ‘It is good for the water to be drunk.’)

([England to appear](#))

Subjects in non-finite intransitives also appear with ergative marking, rather than the absolutive expected in an ergative-absolutive system.

- (23) Ok [q-poon-a q-jaa-y'].
 when ERG1.PL-arrive.there-1PL GEN1.PL-house-1PL
 ‘When we arrived at our houses...’ (England to appear)

England (1983:260) summarizes the difference between person marking in independent and dependent clauses in the table in (24). The absence of absolutive markers in the dependent clauses supports the generalization made above.⁷

- (24) MAM PERSON MARKING

	transitive subject (A)	transitive object (P)	intransitive subject (S)
independent clause	ergative	absolutive	absolutive
dependent clause	ergative	ergative	ergative

Finally, in Jakalteq (HIGH-ABS, see Craig 1977:ch. 8) aspectless embedded clauses appear to behave like those in Q'anjob'al, discussed further in section 3. To the best of our knowledge, there is no HIGH-ABS language which permits absolutive—either for transitive objects or intransitive subjects—in unmarked aspectless clauses.

2.3.2. ABSOLUTIVE IN LOW-ABS LANGUAGES

Turning to LOW-ABS Chol, if v^0 —and *not* Infl⁰—is responsible for assigning absolutive, we correctly expect absolutive case to be available in aspectless non-finite embedded clauses like those shown in (25).⁸ For Chol, there is additional language-internal evidence that a vP -internal head is responsible for the assignment of absolutive case, discussed in Coon 2010a and Coon and Preminger to appear.

- (25) CHOL
 a. Mejl [i-k'el-oñ aj-Maria].
 be.able.to ERG3-see-ABS1 DET-Maria
 ‘Maria can see me.’
 b. Choñkol [k-mek'-ety].
 PROG ERG1-hug-ABS2
 ‘I am hugging you.’

The availability of absolutive in aspectless clauses appears to be a more general feature of LOW-ABS languages. Absolutive is available in the LOW-ABS Yukatekan languages Yukatek (26) and Itza' (27).⁹

⁷Because ergative and genitive are marked identically in the Mayan family, it is possible that some or all of the dependent clauses seen above and schematized in (24) are nominalizations. Whether this marking should be labeled “ergative” or “genitive” is not crucial to our story. Instead, we are concerned with the consistent lack of *absolutive* in these embeddings.

⁸Note that while we predict that absolutive should require special licensing in HIGH-ABS languages, we do not necessarily predict that absolutive should be available in all aspectless complements in LOW-ABS languages. It may be possible to embed elements which are smaller than vP ; non-finite clauses throughout the Mayan family take the form of nominals, some may be nominalizations above vP , while others are simply nominal (Coon 2010a). Alternatively, embedded v^0 may be unable to assign absolutive in some languages. Note that in Chol and Yukatek (below), the status suffixes are absent in the aspectless stems, suggesting some variation in the realization of finite versus embedded v^0 . In LOW-ABS Tzeltal, absolutive markers are possible in aspectless transitives which take the suffix *-bel* (Polian to appear). Further work is needed to determine the status of the Tzeltal forms.

⁹In Chol, Yukatek, and Itza', intransitive subjects are marked ergative in non-finite clauses, as in Mam above; see also section 3 below on Q'anjob'al. The transitive examples here show that in these languages this is not due to a strict impossibility of absolutive in aspectless contexts, but should instead be analyzed as a requirement that non-finite embedded clauses be nominal (recall that

- (26) *YUKATEK*
 In-k'áat [inw-il-**ech**]
 ERG1-want ERG1-see-ABS2
 'I want to see you.' (Bricker 1981:96)

- (27) *ITZA'*
 K-u-jo'm-ol [ki-b'et-ik **kiw-uk'-ul-ej**].
 ASP-ERG3-end-ITV ERG1.PL-make-TV GEN1.PL-drink-NML-TOP
 'After we make our drink.' (Hofling 2000:486)

The LOW-ABS language Tojol'ab'al has been grouped alternately with Tseltalan languages (McQuown 1956), and with Chuj in the Q'anjob'alán branch (Campbell and Kaufman 1985). Despite its questionable genetic status, it behaves as predicted according to the typology presented here: absolutive is available in aspectless embedded clauses, as shown by the examples in (28). The null third person absolutive gloss in (28b) was provided in the original.¹⁰

- (28) *TOJOL'AB'AL*
 a. Hose x-y-il-a [s-mak'-**e'** Manwel].
 Jose ASP-ERG3-see-TV ERG3-hit-ABS3.PL Manuel
 'Jose sees Manuel hit them.'
 b. Oh [k-il-Ø-eh].
 go ERG1-see-ABS3-NF
 'I am going to see it.' (Furbee-Losee 1976:207–209)

2.4. Deriving HIGH-ABS

Above we proposed that the relative height of the absolutive marker correlates with the locus of absolutive case assignment. Support from this was found in the availability of absolutive in aspectless embedded clauses. We now offer an account of why these two factors should correlate. Here we return to focus on Q'anjob'al and Chol, our representative of HIGH-ABS and LOW-ABS languages. Recall that v^0 is instantiated by the status suffixes: -ITV (intransitive verb); -TV (transitive verb); and -DTV (derived transitive verb). Crucially, we follow analyses under which transitive v^0 heads are *phasal*; intransitive v^0 is not (Chomsky 1995). We assume that the phase-hood of v^0 is directly correlated with the assignment of ergative case: v^0 heads which assign ergative are phasal, while v^0 heads which do not assign ergative are not, as in (29).¹¹

	assigns ergative?	phasal?	Q'anjob'al	Chol
(29) ITV	no	no	-i	-i
TV	yes	yes	-V'	-V
DTV	yes	yes	-j	-V

Following the Phase Impenetrability Condition (PIC), we take the domains of phasal heads (at least transitive v^0 and C^0) to be syntactically impermeable. Only elements at the phase edge (i.e. Spec,vP,

ergative and genitive are identical); see Bricker 1981 on Yukatek and Coon 2010a on Chol. Alternatively, one could argue that this is consistent with Legate's (2008) "ABS=DEF" system, in which transitive v^0 assigns abstract case to transitive objects, but Infl⁰ assigns case to intransitive subjects; absolutive is simply a default morphological realization of these forms. Adopting one choice or the other will not affect the overall account below.

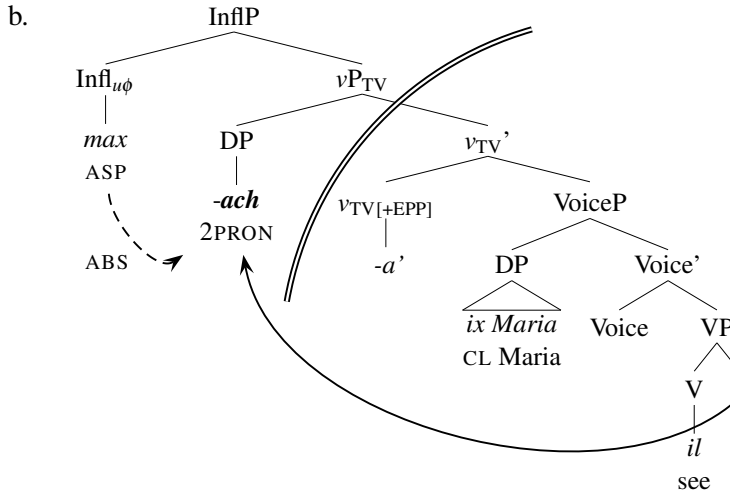
¹⁰In addition to lacking aspect, Furbee-Losee (1976:209) gives the suffix *-eh* in (28b) as evidence of non-finiteness: "A test for the infinitive of a transitive root is the phonological terminal *-eh* which is required when the root is not compounded or derived."

¹¹In Chol the root transitive status suffix is a harmonic vowel, while the derived transitive status suffix is a vowel which varies from stem to stem, but which is not necessarily harmonic.

Spec,CP) are accessible to further syntactic operations (Chomsky 2001). In a HIGH-ABS like Q'anjob'al, there is no vP -internal mechanism to license the transitive object. Because transitive vP is phasal, the transitive object must therefore raise to the phase edge in order to receive absolutive case from Infl^0 . This is illustrated in (30).¹²

(30) Q'ANJOB'AL

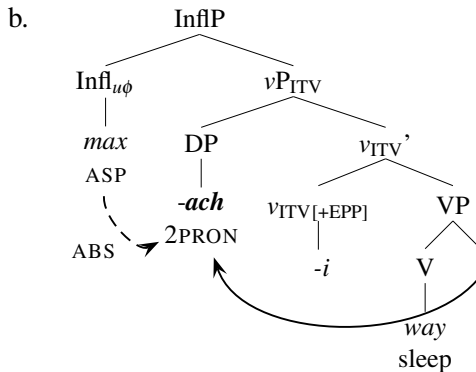
- a. Max-**ach** y-il[-a'] ix Malin.
 ASP-ABS2 ERG3-see-TV CL Maria
 'Maria saw you.'



In order to capture the uniformly high position of the absolutive pronouns in Q'anjob'al (cf. (16)), we propose that in Q'anjob'al v^0 —both transitive and intransitive variants—has an EPP feature which attracts the absolutive pronoun to its specifier.

(31) Q'ANJOB'AL

- a. Max-**ach** way-i.
 ASP-ABS2 sleep-ITV
 'You slept.'



¹²For now we assume that in Q'anjob'al, the ergative argument is invisible to the EPP probe. We formalize this by assuming that the EPP feature only targets DPs with unvalued case features; because the ergative argument has its case features valued immediately after merging, it is not attracted to Spec,vP. A different view might derive the same behavior from ergative case marking being oblique in nature (Markman 2009, Polinsky 2011), and the general invisibility of oblique phrases to EPP processes (cf. PPs in English).

Note that in intransitive clauses like the one represented in (31) the internal argument raises to Spec,vP even though nothing would go wrong if it did not. That is, since there is no phase, Infl⁰ could assign case to the internal argument *in situ*. The stipulation that transitive and intransitive eventive v⁰ *always* has an EPP feature derives the consistently “high” position of the absolutive morpheme, and will turn out to provide us a welcome result in section 5.2 below. Additionally, this may help us understand a point of variation found *within* HIGH-ABS languages in the domain of the non-verbal predicates (NVPs) introduced in section 2.1 above. While in the eventive verbal predicates (the focus to this point) absolutive markers appear immediately following the aspect marker in both HIGH-ABS Q’anjob’al and HIGH-ABS Kaqchikel, in Q’anjob’al NVPs the absolutive marker appears in a free-standing form (prefixed by *h-*) *following* the predicate (32a), while in Kaqchikel the absolutive marker maintains its pre-predicate position (32b).

(32) LOCATION OF ABS IN NVPs

a. Q’ANJOB’AL

Kuywom **hach**.

student ABS2

‘You are a student.’

b. KAQCHIKEL

At tijoxel.

ABS2 student.

‘You are a student.’

We capture this division as follows. In Q’anjob’al, eventive v⁰ heads—both transitive and intransitive—have the EPP feature which attracts the absolutive morpheme to its high position. Stative predicates lack this v⁰, as evidenced by the absence of the status suffixes from table 5. We assume that NVPs in Mayan involve a null predicative head, PRED⁰. In Q’anjob’al PRED⁰ lacks the EPP, while Kaqchikel PRED⁰ is specified as [+EPP]. We remain agnostic about whether the internal arguments are licensed by a null Infl⁰ (recall aspect marking is impossible with NVPs), or by the PRED⁰ head itself. What is important for our story here is this: the EPP feature on eventive intransitives like (31) is simply a stipulation used to get the correct morpheme order. The absence of this feature on an intransitive should not create any licensing problems and we might thus expect to find variation see in (32).

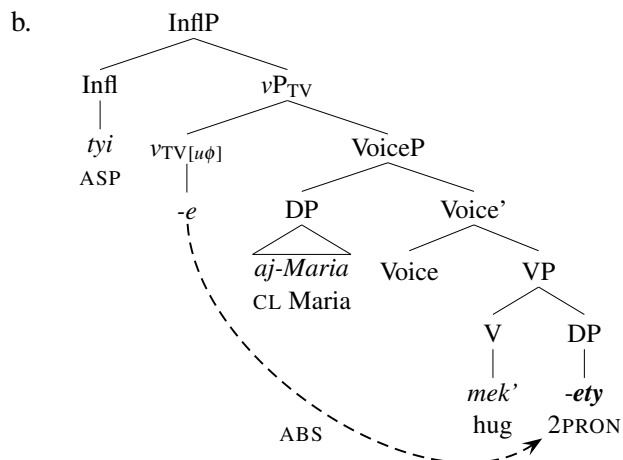
In LOW-ABS Chol, in contrast, the subject and object are both licensed internal to the vP, as shown below. There is no EPP feature on v⁰ and the internal argument does not raise, accounting for LOW-ABS word order.

(33) CHOL

a. Tyi i-mek’-e-**yety** aj-Maria.

ASP ERG3-hug-TV-ABS2 DET-Maria

‘Maria hugged you.’



2.5. Summary

To summarize, in this section we saw that Mayan languages show variation in the location of the absolutive morpheme: in what we call HIGH-ABS languages, the absolutive marker is attached to the initial aspect marker, while in LOW-ABS languages, it appears at the end of the verb stem. We proposed that this variation corresponds to the functional head responsible for *licensing* absolutive arguments, which we formulated as the MAYAN ABSOLUTIVE PARAMETER. In languages where absolutive is low (e.g. Chol), *the verb* assigns absolutive, while in languages where absolutive is high (e.g. Q'anjob'al), *the aspect marker* (i.e. Infl⁰) assigns absolutive. We proposed that the raising of the absolutive pronoun is necessary in HIGH-ABS languages, at least in transitive clauses, to make the internal argument visible to the absolutive-assigning Infl⁰ head.

3. The Crazy Antipassive (is not so crazy)

We will now use our understanding of the distribution of absolutive case to account for the appearance of the “Crazy Antipassive” in Q'anjob'al. Recall that in Q'anjob'al, we predict a problem with absolutive in non-finite embedded environments: Infl⁰, instantiated by aspect, assigns absolutive in Q'anjob'al (absolutive = nominative; Aldridge 2004, Legate 2008). We therefore predict that transitive objects and intransitive subjects should both require special licensing mechanisms in non-finite clauses, since there is no finite Infl⁰. We begin with a look at embedded intransitives in Q'anjob'al in section 3.1, and then turn to embedded transitives in 3.2. The analysis of the Crazy Antipassive is presented in section 3.3.

3.1. Embedded intransitives

While subjects of finite intransitive clauses are marked absolutive (34a), non-finite intransitive subjects appear with *ergative/genitive* marking (34b). Because both transitive and intransitive subjects appear with this marking in embedded contexts, these constructions are often described as exhibiting “split ergativity”.

- (34) a. Ch-ach b'ey-i.
 ASP-ABS2 walk-ITV
 ‘You walk.’
 b. Chi uj [ha-b'ey-i].
 ASP be.able.to GEN2-walk-ITV
 ‘You can walk.’

(Mateo Pedro 2009:7)

Mateo Pedro (2009) argues that non-finite embedded clauses like the bracketed form in (34b) are *nominalizations*—the subject is marked as the *possessor* of a nominalized clause. Recall that ergative and genitive marking are identical throughout the Mayan family. The sentence in (34b) would then be more literally translated as *Your walking is allowed/possible*. See also Larsen and Norman 1979; Bricker 1981 on Yukatek and Coon 2010a on Chol. We assume that genitive is licensed internally to the possessive phrase (perhaps analogous to ergative within the vP). The subject of the nominalized vP is either absent, or does not require case. Whatever the correct analysis of the ergative/genitive markers here, we crucially do not find absolutive marking on non-finite intransitives (see e.g. Mateo-Toledo 2003a), as we expect under an analysis in which non-finite embedded clauses have no absolutive case-assignment mechanism.

3.2. Embedded transitives

We saw above in (18) that absolutive is impossible in embedded transitives—at least without an additional morphosyntactic apparatus. The ungrammatical forms are repeated in (35).

- (35) a. * Chi uj [**hin** y-il ix Malin].
 ASP be.able.to ABS1 GEN3-see CL Maria
 intended: ‘Maria can see me.’
 b. * Lanan [**hach** hin-laq’-a’].
 PROG ABS2 GEN1-hug-TV
 intended: ‘I am hugging you.’

In HIGH-ABS languages like Mam, seen in 2.3.1 above, non-finite transitives simply cannot be embedded; instead they must be detransitivized. Q’anjob’al, in contrast, *does* have a way to express embedded transitives. This is the Crazy Antipassive introduced in section 1 and illustrated in (36).

- (36) Q’ANJOB’AL “CRAZY ANTIPASSIVE”
 a. Chi uj [hin y-il-**on**[-i] ix Malin].
 ASP be.able.to ABS1 GEN3-see-AF-ITV CL Maria
 ‘Maria can see me.’
 b. Lanan [hach hin-laq’-**on**-i].
 PROG ABS2 GEN1-hug-AF-ITV
 ‘I am hugging you.’

As with the intransitives above, the bracketed embedded stem forms in (36) are analyzed as nominalizations—what we glossed above as ergative markers are grammatical *possessors*; again, see Mateo Pedro 2009. Since, under this analysis, transitive and intransitive subjects of embedded clauses receive genitive case, it is only *transitive objects* which must still be licensed. This is schematized in (37).

- (37) EMBEDDED CLAUSES

transitive: **SUBJ**_{GEN}–nominalized stem—**OBJ**

intransitive: **SUBJ**_{GEN}–nominalized stem

Since only transitive objects require absolutive, it is exactly with non-finite transitives where we find the suffix *-on*—the “Crazy Antipassive” in (38a). Because no argument is left caseless in embedded intransitives, the suffix *-on* does not appear in those—a fact which an analysis of *-on* as simply a “dependent clause” suffix would fail to capture.

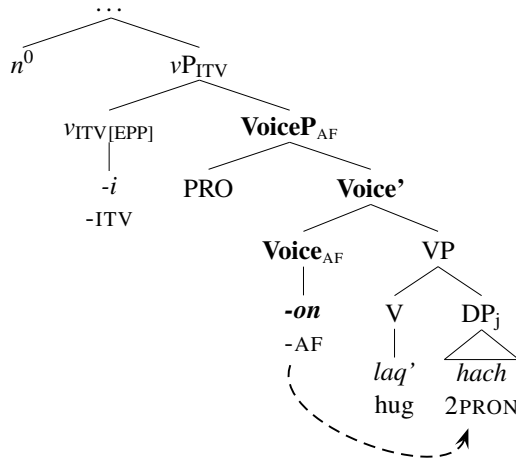
- (38) a. *EMBEDDED TRANSITIVE* = “*CRAZY ANTIPASSIVE*”
 Lanán [DP **hach hin**-laq’-on-i].
 PROG ABS2 GEN1-hug-AF-ITV
 ‘I am hugging you.’ (∼ ‘My hugging you is happening.’)
- b. *EMBEDDED INTRANSITIVE*
 Lanán [DP **hin**-way-i].
 PROG GEN1-sleep-ITV
 ‘I am sleeping.’ (∼ ‘My sleeping is happening.’)

3.3. Analysis of the Crazy Antipassive

The generalization is that in Q’anjob’al absolutive arguments are possible in non-finite contexts *only* in the presence of the morpheme *-on*. Building on this observation, we propose that *-on* assigns absolutive case to the internal argument in environments where it is otherwise unavailable. More concretely, in non-finite embedded environments, *-on* has the following two characteristics: (i) it assigns case to the transitive object (building on Ordóñez 1995 on Jakaltek); and (ii) it introduces the transitive subject. In this respect, AF might be compared with v^0 in nominative-accusative languages like English (though here it occupies the head that we have labeled Voice^0 , see section 7).

As shown in (39), the internal argument receives case and then raises to Spec, νP to satisfy the EPP features of v^0 . The νP then must undergo nominalization in order to be embedded. The overt subject is realized as a higher possessor, possibly controlling an embedded PRO subject within the nominal. Either way, ergative case is not assigned.

- (39) Q’ANJOB’AL EMBEDDED TRANSITIVE



Recall that Crazy Antipassive forms like those in (40a) are also unlike regular finite transitives (40b) 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 (29))—since no ergative is assigned, the intransitive *-ITV* suffix appears.

- (40) a. *CRAZY ANTIPASSIVE*
 Chi uj [hin y-il-on-i].
 ASP be.able.to ABS1 GEN3-see-AF-ITV
 ‘S/he can see me.’

- b. *MATRIX TRANSITIVE*
 Ch-in y-il-a'.
 ASP-ABS1 ERG3-see-TV
 'S/he sees me.'

To summarize, the appearance of *-on* in specifically transitive non-finite embedded clauses 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 is absent. Since intransitive subjects are expressed instead via ergative/genitive morphology, *-on* is not needed.

4. The other use of *-on*: AF

In the section above we proposed, following the work of Ordóñez on related Jakaltek, that *-on* assigns case to transitive objects in non-finite embedded contexts in Q'anjob'al. In this section we examine the context for which the suffix *-on* is perhaps better known: the *Agent Focus* (AF) construction.

In this section, we will demonstrate that the same analysis provides an account of the ban on ergative extraction (i.e., the source of syntactic ergativity) in Q'anjob'al. In the following section (§5), we will show that it also explains two more subtle properties of syntactic ergativity in Mayan—namely, its disappearance in the context of reflexives and “extended” reflexives (§5.1), and the appearance of “salience hierarchy” effects in certain Mayan languages (e.g. Kaqchikel) exactly and only in the context of Agent Focus (§5.2).

4.1. Extraction asymmetries in Q'anjob'al

Many morphologically ergative languages show asymmetries in the extraction of core arguments (see e.g. Aldridge 2008b, Dixon 1994, Manning 1996). While absolutive arguments (transitive objects and intransitive subjects) extract freely, ergative arguments (transitive subjects) do not. This is sometimes referred to as “syntactic ergativity”. We use the traditional labels for core clausal arguments: **S** for intransitive subjects; **A** for transitive subjects (“agents”); and **P** for transitive objects (“patients”).

The examples below show the pattern of syntactic ergativity found in Q'anjob'al. The examples in (41) illustrate that an **S** argument may freely extract. Verb stems are underlined for ease of comparison.

- (41) *SUBJECT EXTRACTION*
 a. Max way[-i] naq winaq.
 ASP sleep-ITV CL man
 'The man slept.'
 b. Maktxel_i max way-i _____i?
 who ASP sleep-ITV
 'Who slept?'

Transitive objects (Ps) also extract freely, as shown in (43a). Transitive subjects (As), on the other hand, cannot be extracted from a regular transitive clause, as shown by the unavailability of an **A**-extraction reading for (43b); as expected, this sentence is grammatical under a **P**-extraction reading: 'Who did the woman see?'

- (42) *TRANSITIVE*
 Max y-il[-a'] naq winaq ix ix.
 ASP ERG3-see-TV CL man CL woman
 'The man saw the woman.'

(43) a. *PATIENT EXTRACTION*

Maktxel_i max y-il[-a'] naq winaq ____i?
 Who ASP ERG3-see-TV CL man
 ‘Who did the man see?’

b. *AGENT EXTRACTION*

* Maktxel_i max-Ø y-il[-a'] ____i ix ix?
 who ASP-ABS3 ERG3-see-TV CL woman
 intended: Who saw the woman?

Agent extraction is impossible not only with *wh*-questions like (43b), but also with relative clauses and third person focussed subjects—that is, any instances of A-bar extraction (we return to first and second person focussed subjects below). Instead, in constructions where transitive subjects are A-bar extracted, we again find the suffix *-on* in what is known in Mayanist literature as the “Agent Focus”.¹³ Examples are shown in (44).

(44) *AGENT FOCUS*

a. *WH-QUESTION*

[Maktxel] max-ach il-on-i.
 who ASP-ABS2 see-AF-ITV
 ‘Who saw you?’

b. *FOCUS*

[A ix Malin] max-ach il-on-i.
 FOC CL Maria ASP-ABS2 see-AF-ITV
 ‘It was Maria who saw you.’

c. *RELATIVIZATION*

[ix ix] max-ach il-on-i
 CL woman ASP-ABS2 see-AF-ITV
 ‘The woman who saw you’

These constructions have been described as syntactically *transitive*, but morphologically *intransitive* (Aissen 1999, Craig 1979, Stiebels 2006). These puzzling properties have inspired a number of works on the topic—see for example, Aissen 1999, to appear, Ajsivinac and Henderson 2010, Ayres 1983, Berinstein 1990, Bricker 1979, Coon and Mateo Pedro to appear, Craig 1979, Davies and Sam-Colop 1990, Norcliffe 2009, Ordóñez 1995, Preminger 2011, Pye 1989, Smith-Stark 1978, Stiebels 2006, Tonhauser 2007.

AF constructions have been considered transitive because there are two non-oblique DPs, for example ‘who’ and ‘you’ in (45), discussed further in section 4.2. Yet they also exhibit intransitive properties: there is no ergative marking (i.e. in (45) the third person subject does not trigger agreement); and the verb appears with an intransitive status suffix, *-i*. Compare the AF form in (45) with the transitive and intransitive forms in (46).

(45) *Q’ANJOB’AL AF*

[Maktxel] max-ach il-on-i.
 who ASP-ABS2 see-AF-ITV
 ‘Who saw you?’

¹³Agent Focus has also been called “agent voice” (Smith-Stark 1978) and “focus antipassive” (Dayley 1981). The difference between Agent Focus and antipassive is discussed further below.

- (46) a. *Q'ANJOB'AL TRANSITIVE*
 Max-ach y-il-a'.
 ASP-ABS2 ERG3-see-TV
 'She saw you.'
- b. *Q'ANJOB'AL INTRANSITIVE*
 Max-ach way-i.
 ASP-ABS2 sleep-ITV
 'You slept.'

4.2. The transitivity of AF forms

Though it has been described as such (e.g. Larsen and Norman 1979), Mayanists have argued that AF is *not* an antipassive (see e.g. Aissen 1992, Craig 1979, Smith-Stark 1978, Stiebels 2006, Tonhauser 2007; also Ayres 1983). Q'anjob'al, for example, does have a separate antipassive construction, which involves the suffix *-waj*, as shown in the forms in (47). In contrast with Agent Focus, in the *-waj* antipassive the object is clearly demoted, and the agent thus patterns as an intransitive subject.

- (47) *ANTIPASSIVE*
 Max maq'-waj[-i] naq winaq [OBL y-in no tx'i'] .
 ASP hit-AP-ITV CL man GEN3-RN CL dog
 'The man hit the dog.'

The antipassive object in (47) is realized optionally as an oblique, embedded under a relational noun (a general strategy for introducing oblique arguments in many Mayan languages). As such, it cannot control person-marking on the predicate. Like other intransitives, the verb takes the intransitive status suffix *-i* and the subject is expressed via absolutive morphology—this contrasts with AF forms in which it is the non-oblique *object* that triggers absolutive marking.¹⁴ There is no ergative marking on an antipassive because there is no transitive subject. Finally, since the subject is an intransitive subject, we also correctly predict that it can extract, as the example in (48) illustrates.

- (48) Maktxel max maq'-waj[-i] [OBL y-in no tx'i']?
 who ASP hit-AP-ITV GEN3-RN CL dog
 'Who hit the dog?'

This is another important point of distinction between antipassive and AF forms, compared in (49): while AF is possible *only* in constructions from which an **A** argument has undergone A-bar extraction, antipassive also appears in the language in non-extraction contexts like (47) above.¹⁵ Antipassives cross-linguistically have the discursive effect of drawing attention to the agent; the object is frequently indefinite or non-referential; this is not necessarily the case with AF forms.

¹⁴There is variation within Mayan in which argument triggers absolutive in the AF construction; see section 5.2 on K'ichean and Stiebels 2006 for an overview.

¹⁵In Mam (England 1983) and Q'eqchi (Berinstein 1990), so-called AF constructions resemble Q'anjob'al antipassives in that the object is in an oblique form. They are still referred to as AF because they are possible *only* in extraction contexts. We do not account for these constructions here.

- (49) a. AGENT FOCUS → *Absolutive co-indexes object*
 Maktxel max-**ach** il-on-i?
 who ASP-ABS2 see-AF-ITV
 ‘Who saw you?’
- b. ANTIPASSIVE → *Absolutive co-indexes subject*
 Maktxel max-**Ø** il-waj[-i] [_{OBL} h-en]?
 who COM-ABS3 see-AP-ITV GEN2-RN
 ‘Who saw you?’

The three main differences between the AF and antipassive forms in (49) 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 appears regardless of extraction; (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.

Further evidence that in AF both subject and object are core arguments—and that AF sentences are at least, in some sense, transitive—comes from languages of the K’ichean branch, like Kaqchikel in (50). Here either the subject or the object can control the absolutive morpheme, depending on a person hierarchy: 1/2 >> 3-plural >> 3-singular (see Davies and Sam-Colop 1990 on related K’ichee’ and Preminger 2011 for discussion). The result is that the verb stems in (50) are *identical*: in sentences with a first person argument and a third person argument, the first person argument will always control absolutive agreement—here the first person *i*—despite the fact that the first person pronoun is the subject in (50a) and the object in (50b). The fact that both the **A** and **P** arguments are possible controllers of agreement suggests that both are core arguments. We return to these facts in section 5.2 below.

- (50) KAQCHIKEL
- a. Ja yīn x-i-tz’et-ö ri achin
 FOC PRON1 ASP-ABS1-see-AF DET man
 ‘It was me who saw the man.’
- b. Ja ri achin x-i-tz’et-ö yīn
 FOC DET man ASP-ABS1-hit-AF PRON1
 ‘It was the man who saw me.’

To summarize, both AF and antipassive constructions can facilitate extraction of **A** argument. In an antipassive, this is unsurprising: the subject is simply an intransitive subject. Antipassives are a widely attested mechanism to circumvent extraction asymmetries cross-linguistically, see for example Polinsky 1994 on Chukchi. That is, in languages which ban the extraction of transitive subjects, agents can be extracted by demoting them to the status of intransitive subjects. We hope to have shown here, however, that the Agent Focus subject is *not* an intransitive subject insofar as there are two distinct DP arguments present in the clause—either of which, across the family, can control agreement. The question we then need to address is: what allows the agent to extraction in an AF construction?

4.3. The Mayan Absolutive Parameter and AF

To get at the question of why AF constructions permit **A** arguments to extract, we begin with a look at what prohibits **A** extraction in the first place. Mayan languages provide a particularly useful testing ground for this question, because despite displaying a range of relatively stable characteristics across the family—morphological ergativity, verb-initial word order, identical ergative/genitive prefixes—these

languages differ in whether they exhibit the extraction asymmetries noted for Q'anjob'al in section 4.1 above.

In Chol transitive subjects and objects and intransitive subjects can all extract without any special morphological marking. Chol is thus morphologically ergative but *not* syntactically ergative. The extraction of an **S** argument is illustrated in (51).

(51) *CHOL INTRANSITIVE* (cf. *THE Q'ANJOB'AL EQUIVALENT IN (41)*)

- a. Tyi wäy-i jiñi wiñik.
ASP sleep-ITV DET man
'The man slept.'
- b. Maxki tyi wäy-i?
who ASP sleep-ITV
'Who slept?'

Chol **A** and **P** extraction is shown in (53). In sentences with two third person arguments, the extraction of one results in ambiguity: since both arguments are post-verbal (basic order in Chol is VOS, Coon 2010b, Vázquez Álvarez 2002), and nominals do not show morphological case marking, the *wh*-word can be interpreted as having originated in either subject or object position, illustrated in (53a). As (53b) shows, this ambiguity does not result when one argument is a non-third person, since the person-marking on the verb will disambiguate.

(52) *CHOL TRANSITIVES* (cf. *THE Q'ANJOB'AL EQUIVALENT IN (42)*)

- Tyi y-il-ä x-'ixik jiñi wiñik.
ASP ERG3-see-DTV CL-woman DET man
'The man saw the woman.'

- (53) a. Maxki_{i/k} tyi y-il-ä {_{*t_i*}} jiñi wiñik {_{*t_k*}}?
who ASP ERG3-see-TV DET man
'Who saw the man?' / 'Who did the man see?'
- b. Maxki tyi y-il-ä-yety?
who ASP ERG3-see-TV-ABS2
'Who saw you?'

Crucially, the ambiguity of sentences like (53a) never arises in a language like Q'anjob'al: if the verb is in its transitive form the *wh*-word must be interpreted as the **P** argument, while if it is in its AF form, it is the **A** argument. While ambiguity avoidance has been proposed as a functional motivation for AF constructions (e.g. Craig 1979, Stiebels 2006), we will demonstrate below that this cannot be the full story.

(54) *Q'ANJOB'AL P AND A EXTRACTION*

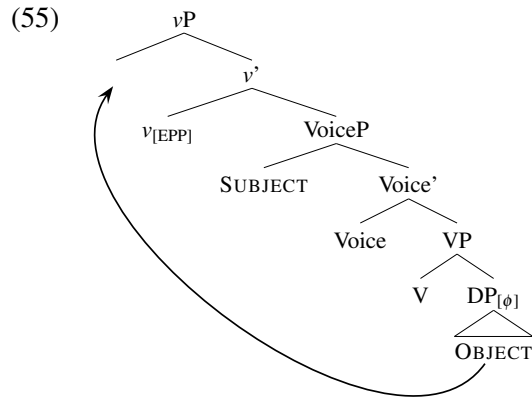
- a. Maktxel_i max y-il[-a] naq winaq _{*t_i*}?
who ASP ERG3-see-TV CL man
'Who did the man see?'
- b. Maktxel_i max il-on[-i] _{*t_i*} naq winaq?
who ASP see-AF-ITV CL man
'Who saw the man?'

4.3.1. THE PROBLEM WITH SUBJECT EXTRACTION

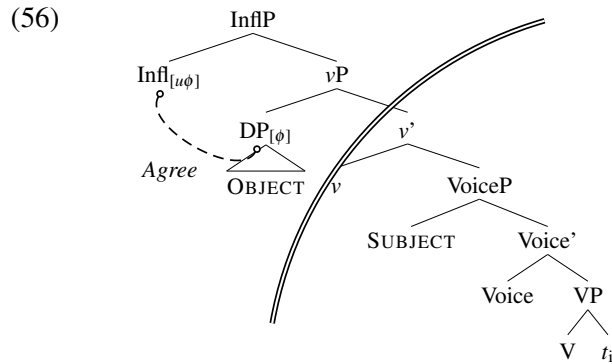
Recall that under the proposal above the location of the absolutive morpheme correlates with the locus of absolutive case assignment: in HIGH-ABS languages, absolutive is licensed by Infl⁰, while in LOW-ABS

languages, absolutive is licensed either internally to vP , or perhaps in some languages is a morphological default (see e.g. Legate 2008). This leads us to the proposal we develop below that the problem with extracting ergative arguments lies *not* in properties of the ergative arguments themselves, but rather in how the absolutive arguments are licensed.¹⁶

Specifically, in order for absolutive arguments in HIGH-ABS languages like Q'anjob'al to receive case from Infl^0 (absolutive = nominative), they must raise to the edge of the vP phase— Infl^0 cannot probe into the transitive vP phase. As proposed above, v^0 heads in Q'anjob'al have EPP features which attract internal arguments to their specifiers, as shown in (55).

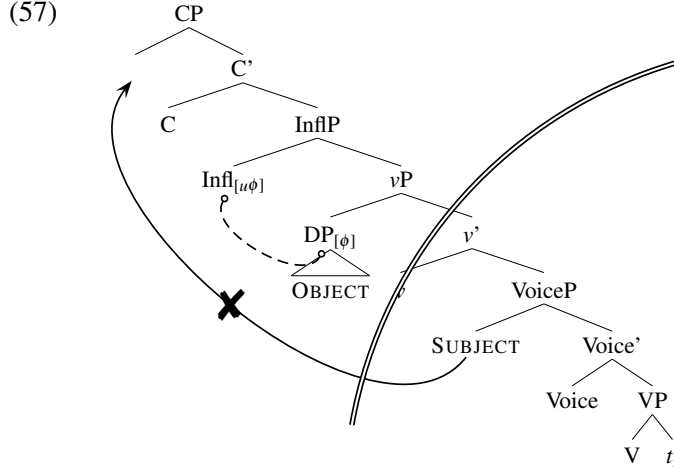


The transitive vP phase is then spelled out as in (56). Infl^0 merges and assigns case to the object, located in Spec, vP .



We propose that the raised absolutive argument *blocks* the subject from extracting out of the phase, as in (57). Crucially we assume that at least in Q'anjob'al, only one specifier position is available for extraction out of the vP . Presumably, this could be a point of cross-linguistic variation, along the lines of the availability of multiple CP specifiers as landing sites for *wh*-extraction (see e.g. Rudin 1988 on Bulgarian).

¹⁶Thanks to Gereon Müller for emphasizing this point. Note that this predicts that, all else being equal, not just transitive subjects but *all* vP -internal arguments should be trapped inside the phasal vP . Because Q'anjob'al—and all HIGH-ABS Mayan languages—lack true double object constructions, this cannot be tested. Double object constructions *are* present in LOW-ABS languages like Chol and Tzeltal, and as we predict, both objects are able to extract.



Note that this problem will only surface in a language where the object is licensed by a high clausal element, above the subject. There is no problem in a nominative-accusative language, since v^0 assigns case (i.e. accusative) to the object internal to the phase; the object does not need to raise.¹⁷ Likewise, there will not be any problems in morphologically ergative languages like Chol in which v^0 assigns case to transitive objects since the object does not raise to be licensed.

We have attributed the ban on **A**-extraction in transitives to the high position of the absolutive DP. However, while first and second person absolutive arguments are realized affixed to the aspect marker (58a), this is not the case for full third person DPs (58b). Nonetheless, extraction of **A** arguments is impossible irrespective of the person features of the object.

- (58) a. **Max-in** h-el-a'.
 ASP-ABS1 ERG2-see-TV
 'You saw me.'
- b. Max- \emptyset_i h-el[-a'] **naq winaq_i**.
 ASP-ABS3 2ERG-see-TV CL man
 'You saw the man.'

There are at least two possibilities for accounting for this: we can either assume that third person objects involve a null pronominal in the specifier of vP . The full DP is adjoined higher in an adjunct position, as in pronominal argument languages (Jelinek 1984). A second possibility would be to say that the full DP object forms a chain headed in Spec, vP , but only the *lower* copy is pronounced. We adopt the latter option here, and provide additional support for this type of analysis in section 6 below.

4.3.2. THE SOLUTION

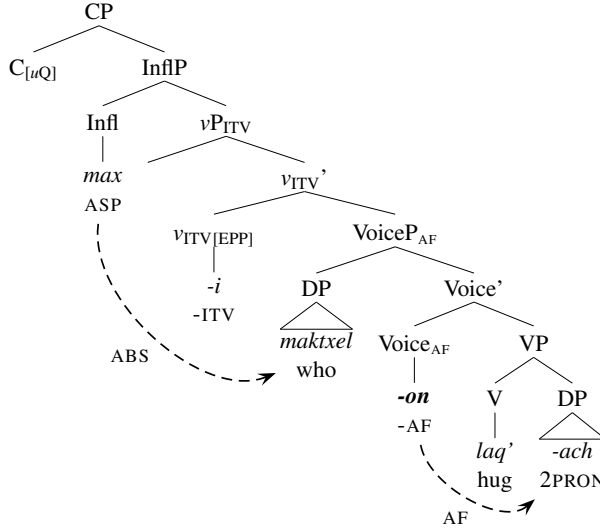
The proposed problem with extracting **A** arguments in Q'anjob'al is that the **P** argument must raise to Spec, vP in order to receive case from Infl^0 , thus blocking the subject from extracting out of the phasal vP . We now return to the question of how an AF construction permits the **A** argument to extract. Related is the question of why AF constructions show morphological properties of intransitives: the status suffix *-i* and the absence of ergative agreement marking.

Just as in the Crazy Antipassive, discussed in section 3 above, we propose that the morpheme *-on* in the AF construction is a Voice head which alters the case-assignment properties of the clause. Specifically,

¹⁷Though see section 7 on predictions for the extraction of *objects* in nominative-accusative languages.

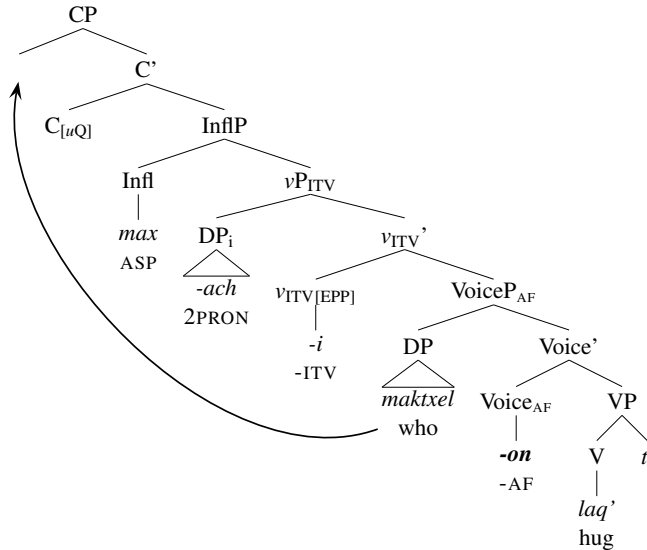
it assigns case to the transitive object, and introduces the transitive subject, as shown in (59).¹⁸ Since the object has already been licensed, Infl⁰ is free to assign case to the *subject* (absolutive = nominative). Just as in the Crazy Antipassives above, no ergative case is assigned—here because the **A** has been licensed by a different functional head—so intransitive v^0 is merged. These facts explain both the -ITV suffix, as well as the absence of ergative morphology.

(59) *AGENT FOCUS*



As in other constructions, the internal argument is attract to Spec,vP by v^0 's EPP features. Crucially, however, the subject is still free to extract because intransitive vP is *not phasal*. This is illustrated in (60). Again, we assume the verb (here *laq'*) undergoes head movement through Voice⁰ and v^0 , not shown here.

(60) *AGENT FOCUS*



¹⁸Again, the proposal that *-on* assigns case draws on the work of Ordóñez, though our analysis differs in important respects. Ordóñez 1995 analyzes the AF morpheme as an incorporated preposition, merged between the root and the object, which he likens to “*of*-insertion” in English. He takes it as a given that ergative subjects are unable to extract, and argues that by rendering the complement of the verb a PP, the result is an intransitive verb from which the subject can extract. Here we aim to independently derive these extraction asymmetries.

To situate the discussion: we are familiar with languages in which Infl^0 licenses *subjects*. Conceivably, Infl^0 can also license *objects* in a language where the transitive subject has its own means for getting case (= ergative); see Bittner and Hale 1996a,b, Bok-Bennema 1991, Bok-Bennema and Groos 1984, Campana 1992, Johns 1992, Murasugi 1992. However, we propose that in order for this to happen in a theory in which transitive vP is phasal, the transitive object must move to a more local relation with Infl^0 . In a regular transitive clause in Q'anjob'al, the high position of the object then blocks the **A** argument from extracting. AF circumvents this problem by providing an alternate means for the **P** argument to receive case. Since Infl^0 is now free to assign case to the **A** argument, ergative case is not required, therefore a non-phasal v head is merged, and extraction is again possible.

4.4. Crazy Antipassive and AF compared

Before turning to additional evidence for the proposal laid out above, we briefly summarize by returning to the two examples we started with—the Crazy Antipassive and the Agent Focus, repeated in (61)–(62).

- (61) “*CRAZY ANTIPASSIVE*”
 Chi uj [hach y-il-on-i].
 ASP be.able.to ABS2 GEN3-see-AF-ITV
 ‘S/he can see you.’
- (62) *AGENT FOCUS*
 Maktxel max-ach il-on-i.
 who ASP-ABS2 see-AF-ITV
 ‘Who saw you?’

In the Crazy Antipassive, there is no finite Infl^0 in the embedded clause. Recall that Infl^0 is instantiated by aspect in Q'anjob'al, which is impossible in the bracketed clause in (61). Here *-on* assigns case to transitive objects. As in all clauses, the internal argument is attracted to Spec, vP . Since there is no aspect marker to host the person clitic, a free-standing form *hach* is used. No ergative is assigned internal to the non-finite clause. The intransitive v^0 (*-i*) is merged and the subject is marked as a *possessor* (=genitive).

In the Agent Focus form in (62), there *is* a finite Infl^0 —but in order for it to license the object, the object must raise above the subject, blocking the subject from extracting out of the vP phase. *-on* assigns case to the object; Infl^0 assigns case to the subject. As with the Crazy Antipassive, no ergative case is assigned and the intransitive v^0 is again merged. There is no ergative agreement marking on the verb stem. Because there is no vP phase, so the subject is allowed to extract

There are two important differences between the forms in (61) and (62). The first is the presence of the ergative/genitive morpheme in (61). As noted above, this is explained under an analysis along the lines of Mateo Pedro 2009 in which the bracketed form in (61) is an embedded nominalization and the morpheme is thus the *genitive*. The second difference is the fact that Agent Focus only occurs in Q'anjob'al when *third person* agents extract, while this restriction is not found with the Crazy Antipassive.

Compare the AF forms in (63). AF is required when the third person subject extracts in (63a), but is impossible when a first person subjects extracts in (63b). Instead, first and second person subjects appear in focus constructions with a regular transitive verb.

- (63) 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-ABS1 ASP ERG1-hit-TV CL dog
 'It was me who hit the dog.'

This is a point of variation among Mayan language with AF (see e.g. Stiebels 2006). In Kaqchikel, for example, equivalents of the sentences in (63) both require AF:

- (64) *KAQCHIKEL*
 a. **Ja ri a-Juan** x-Ø-tz'et-ö ri tz'i'.
 FOC DET CL-Juan ASP-ABS3-see-AF DET dog.
 'It was Juan who saw the dog.'
 b. **Ja y'in** x-i-tz'et-ö ri tz'i'.
 FOC PRON1 ASP-ABS1-see-AF DET dog
 'It was me who saw the dog.'

These facts suggest that we do not want to derive the Q'anjob'al facts in (63) from deep properties of the AF construction. Rather, we assume that in Q'anjob'al, first and second person agents are allowed to be base-generated in a high position (see e.g. Aissen's (1992) discussion of internal and external topics in Tzotzil), perhaps due to higher discourse prominence.¹⁹ Third person agents are not. If this story is correct, no AF is required in (63b) because nothing has extracted. We leave this as a topic for future research, but note here that regardless of how we account for the absence of AF with first or second person **A** arguments, we correctly predict that the same restriction should *not* be found in embedded contexts: *-on* occurs in *all* non-finite transitives, regardless of the person features of the subject. Compare the embedded transitive form in (65) below with the focus construction in (63b). The obligatory appearance of the suffix *-on* in all embedded environments is exactly what our analysis predicts, since in embedded contexts there simply is no (finite case-assigning) Infl⁰—the presence or absence of AF marking is not tied to extraction.

- (65) *Q'ANJOB'AL*
 Chi uj [hach w-il-on-i].
 ASP be.able.to ABS1 GEN3-see-AF-ITV
 'I can see you.'

5. Further support

In this section we provide additional support for the proposal for extraction asymmetries and Agent Focus constructions laid out above. In section 5.1 we show that sentences in which objects *do not* require case also do not trigger the AF construction. This fact would seem mysterious if extraction asymmetries were about properties of the **A** (ergative) argument, but is straightforwardly predicted by our analysis. Finally, in section 5.2 we return to the hierarchy effects noted for K'ichean languages above, and show how these can be accounted for under our case-based approach.

5.1. Caseless objects and AF

One source of support for the analysis that AF 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 (e.g. Jakaltek (Craig 1977), Tzotzil (Aissen 1999), and K'ichee' (Aissen to appear, Coon and Henderson 2011, Mondloch 1981)), Agent Focus is not possible in Q'anjob'al in clauses in which the object

¹⁹Thanks to Maria Polinsky for this suggestion.

is a reflexive (Pascual 2007). Instead, the regular transitive form of the verb is used.²⁰ Compare for example the forms in (66).

- (66) a. *REFLEXIVE*
 Maktxel max y-il **s-b'a?**
 who ASP ERG3-see GEN3-SELF
 'Who saw herself?'
 b. *NON-REFLEXIVE*
 Maktxel max il-on[-i] naq winaq?
 who ASP see-AF-ITV CL man
 'Who saw the man?'

AF is also not possible in sentence in which the possessor of the object is coreferential with the subject, as shown in (67). This construction is known as the “extended reflexive” (Aissen 1999). When AF appears, as in (67b), the subject and the possessor of the object are necessarily interpreted as having disjoint reference.

- (67) a. *EXTENDED REFLEXIVE*
 Maktxel max s-b'on **s-na?**
 who ASP ERG3-paint GEN3-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 GEN3-house
 'Who_i painted his_{*i/j} house?'

Note that the reflexive and extended reflexive constructions in (66a) and (67a) are formally identical—the difference is that a common noun is possessed in (67a), while the possessed nominal *-b'a* in (66a) no longer has any meaning outside of reflexive constructions. Their similar behavior with respect to AF is thus unsurprising, and we propose that both should receive the same analysis.

Independent evidence from word order, the availability of nominal classifiers, and coordination, suggests that the bold-faced objects in the Q'anjob'al examples in (66a) and (67a) are not full DPs. Word order in the language is normally VSO, but must be VOS with reflexives.

- (68) a. *TRANSITIVE – VSO*
 Max y-il[-a'] ix ix naq winaq.
 ASP ERG3-see-TV CL woman CL man
 'The woman saw the man.'
 b. *REFLEXIVE – VOS*
 Max y-il s-b'a ix ix.
 ASP ERG3-see GEN3-SELF CL woman
 'The woman saw herself?'

Noun classifiers are impossible on reflexive and extended reflexive objects, as shown by the contrast in (69). In a sentence where the transitive subject is co-referential with the object's possessor, the classifier *te'* is impossible (69a), while when the subject and possessor are *non*-coreferential, the classifier is obligatory (69b).

²⁰In (66a) 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.

- (69) a. *EXTENDED REFLEXIVE*
 * Maktxel max s-b'on[-o'] (*te') s-na?
 who ASP ERG3-paint-TV CL GEN3-house
 'Who_i painted his_i (own) house?'
- b. *NON-EXTENDED REFLEXIVE*
 Maktxel max s-b'on-on[-i] *(te') s-na?
 who ASP ERG3-paint-AF-ITV CL GEN3-house
 'Who_i painted his_j house'

Objects in Q'anjob'al can be coordinated with the conjunction *k'al*, as shown in (70a). In (70b) the attempt to conjoin a reflexive object with a full DP object results in ungrammaticality.²¹ The above facts are consistent with an analysis of reflexive and extended reflexive objects as being smaller than full DPs, discussed below.

- (70) *Q'ANJOB'AL CONJUNCTION*
- a. Max w-il[-a'] [naq **Matin** k'al naq **Xhimon**].
 ASP ERG1-see-TV CL **Matin** and CL **Simon**
 'I saw **Matin** and **Simon**.'
- b. * Max w-il[-a'] [**hin-b'a** k'al naq **Xhimon**].
 ASP ERG1-see-TV GEN1-SELF and CL **Simon**
 intended: 'I saw myself and **Simon**.'

In a similar vein, Aissen (to appear) notes that AF in K'ichee' is "systematically absent" when the object is a bare (determinerless) NP. As shown in (71a), a regular transitive form is used instead. The same form with a full DP object is ungrammatical, as illustrated in (71b).

- (71) *K'ICHEE'*
- a. *NO AF*
 Jachiin x-u-loq' uuq?
 who ASP-ERG3-buy cloth
 'Who bought cloth?'
- b. *AF REQUIRED*
 * Jachiin x-u-loq' rii uuq?
 who ASP-ERG3-buy DET cloth
 intended: 'Who bought the cloth?' (Aissen to appear:15)

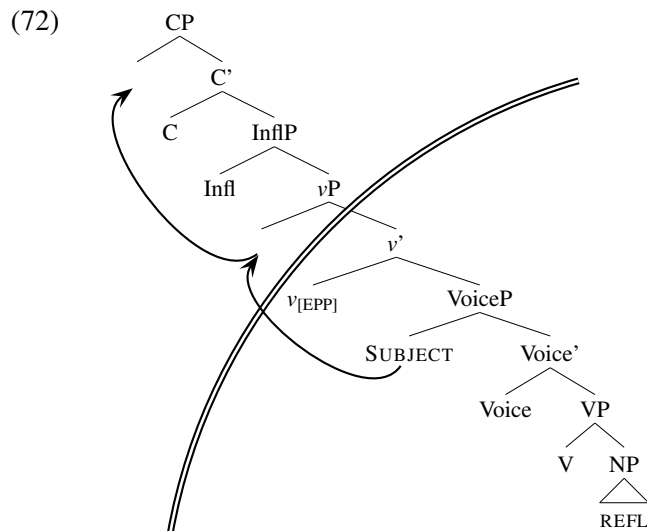
The question is thus not only why reflexive and bare objects are impossible with AF—see Aissen to appear for one account—but what *permits* the use of a regular transitive verb form with a bare/reflexive object. Note that examples like (71a) demonstrate that at least in Mayan languages, extraction asymmetries cannot be uniformly characterized as a ban on restricting ergative-marked arguments (or ergative agreement-triggering arguments): in the examples here an ergative argument extracts. Instead, as noted above, the restriction appears to be about the nature of the *absolutive* argument.

We assume that reflexive, extended reflexive, and bare NP objects are licensed by being incorporated (Baker 1988) or *pseudo-incorporated* into the verb stem (see e.g. Massam 2001 on Niuean, Coon 2010b on Chol). In Mithun's (1984) classification of incorporation, this is an instance of *composition by juxtaposition*, in which "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 all compounding, the N loses its syntactic status as an argument

²¹This sentence can be interpreted as meaning 'I saw myself and Simon saw himself'—it cannot mean that I also saw Simon.

of the sentence” (Mithun 1984:849). Regardless of the specific analysis adopted, we conclude that the bare objects above are *caseless*. Since the incorporated objects do not require case, we correctly predict the absence of AF in these constructions—since AF is precisely about assigning case to objects.²²

The proposed structures of forms like (66a), (67a), and (71a) are schematized in (72). We assume that these reflexive, extended reflexive, and bare objects are all smaller than DP and are unable to satisfy the EPP feature of v^0 . Instead, the object remains *in situ*. Transitive vP is merged and assigns ergative case to the subject; the bare NP objects are trapped inside the vP phase, 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 is not there blocking it.



Previous analyses—Aissen to appear and Coon and 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, despite the extraction of the **A** argument. 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 (66a) would simply be impossible, and a periphrastic construction would be required instead. Our analysis not only accounts for the impossibility of AF—since there is no case-requiring object—but also for the *possibility* of a transitive: since the object cannot satisfy the EPP, the subject is free to extract through Spec, vP . Under the analysis presented here, the ban on extracting **A** arguments is not about special properties of ergatives, but rather about case-assignment properties of the clause more generally. **A** arguments are actually free to extract so long as the object does not receive case.

5.2. Hierarchy effects and AF

Next, we turn to hierarchy effects. As we saw above in (50), repeated in (73), in K’ichean languages the absolutive morpheme in an AF construction may index either the subject or the object, depending on which is highest on a person hierarchy: 1/2 \gg 3-plural \gg 3-singular (see e.g. Davies and Sam-Colop 1990 on K’ichee’).²³

²²As pointed out to us by Judith Aissen (p.c.), 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.

²³The relative ranking of first and second person cannot be established because AF does not occur when both arguments are local persons. See Preminger 2011 for an analysis of why this is banned. While the AF form of the verb is clearly ungrammatical,

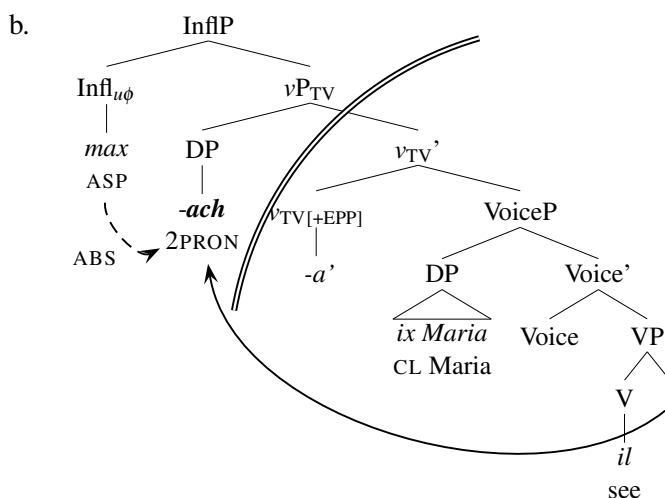
(73) KAQCHIKEL

- a. Ja yĭn x-i-tz'et-ö ri achin
 FOC 1PRON ASP-ABS1-see-AF DET man
 'It was me who saw the man.'
- b. Ja ri achin x-i-tz'et-ö yĭn
 FOC DET man ASP-ABS1-see-AF 1PRON
 'It was the man who saw me.'

This construction is unique within Kaqchikel in that this is the only place in the grammar, to the best of our knowledge, where hierarchy effects emerge. The present case-based proposal offers a possible account of the appearance of hierarchy-based effects in precisely the AF environment. Recall that in a regular transitive, the EPP features of transitive v^0 must target the object to raise it to the edge of the phase, to a position from which it may receive case from Infl^0 , as shown in (74).

(74) Q'ANJOB'AL

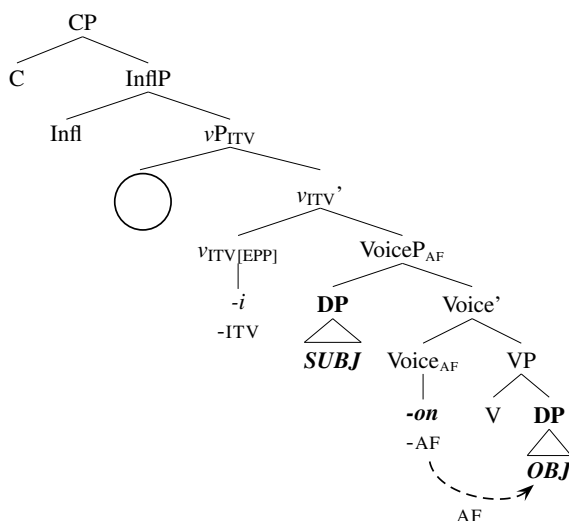
- a. Max-**ach** y-il[-a'] ix Malin.
 ASP-ABS2 ERG3-see-TV CL Maria
 'Maria saw you.'



In an AF construction, however, there is no phase: the AF head assigns case to the object, the subject receives case from Infl^0 , and thus transitive v^0 does not merge to assign ergative. Since the phasehood of v^0 is determined by the assignment of ergative case, *intransitive* v^0 is not phasal. In principle, then, precisely in AF environments the EPP features on v^0 could target *either* the subject or the object, without depriving either of the ability to receive case. It then depends on the properties of the EPP probe whether it will invariably target the Patient (as in Q'anjob'al), or be more selective in its probing. In Kaqchikel, we see that the probe targets whichever argument bears a [participant] feature, skipping the subject if it does not bear this feature (not unlike a *wh*-probe skipping non-*wh* arguments; see Preminger 2011 for further discussion). Thus in the Kaqchikel form in (73a) the subject is targeted by the EPP, while in (73b) the object is targeted.

our Kaqchikel consultant finds constructions in which an agent is focused out of a transitive clause with two local persons to be degraded as well.

(75) *AGENT FOCUS*



Recall that for Q'anjob'al above the fact that all internal arguments are targeted by the EPP features of v^0 was simply a stipulation, used to derive the uniformly high position of the absolutive morpheme across the language. What we are seeing here is that this in fact *should* be a stipulation. It is not a necessary property of AF, but is a point subject to cross-linguistic variation, as shown by the hierarchy effects of the K'ichean branch languages.

More importantly, our proposal explains why such hierarchy effects emerge only in this corner of the Kaqchikel grammar. On an approach that takes the “salience hierarchy” at face value, this is quite surprising: Agent Focus examples are characterized (by their very nature) by a very rigid information structure; the subject is necessarily—as the name of the construction conveys—the focus of the clause. It is therefore completely unexpected that in this construction, “salience” could be ascribed to either the subject or the object (depending on which was 1st/2nd-person), but in normal transitives it could not.

On the current approach, Agent Focus clauses are the only place where on the one hand, there is no case-theoretic requirement for one argument but not the other to vacate the verb-phrase (cf. regular transitives, where the Patient must vacate the verb-phrase to receive absolutive due to the phasehood of vP); but on the other hand, there are still two non-oblique arguments in the domain of a single probe, Infl^0 (again, due to the non-phasehood of vP in Agent Focus clauses).

5.3. Recap

In this section we have seen that the prohibition on extracting ergative subjects is not about the ergative subject itself: when the object is caseless, the ergative-marked subject is free to extract (§5.1). 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.

Additionally, we saw evidence in section 5.2 that the AF construction is tied to the removal of an otherwise-present locality boundary associated with the transitive (ergative-assigning) vP phase. This evidence came from hierarchy effects that emerge exactly in the Agent Focus construction in K'ichean languages like Kaqchikel, but are absent elsewhere in the language. This is expected under our account because AF provides an environment in which a single probe has two potential DP targets.

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 vP , because they are blocked by the **P** argument, which must raise to the phase-edge to get case. There are three factors which combine to bring about this result in Q'anjob'al:²⁴

- (76) I. transitive vP is phasal
 II. the transitive subject is generated *below* the vP phase
 III. there is only a single specifier available for extraction out of vP

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. In the sections below we discuss predictions and extensions of our analysis to other languages, both within the Mayan family (§6) and outside of it (§7).

6. Syntactic Ergativity in Mayan: Beyond Q'anjob'al

For the most part, Mayan languages fall neatly into Tada's typology in (11) above: HIGH-ABS languages show syntactic ergativity, while LOW-ABS languages do not. Again, this is straightforwardly predicted by our analysis of the locus of absolutive assignment in the respective groups. At least three languages, however, do not conform to this pattern: Yukatek (Yukatekan), Ixil (Mamean), and Tzotzil (Tseltalan). We discuss each of these in some detail below. Readers not interested in these details may skip to section 7 without missing anything crucial to the analysis above.

6.1. Tzotzil

6.1.1. POSITION OF ABSOLUTIVE

As discussed in Woolford 2011, Tzotzil does not clearly belong to either the HIGH-ABS or LOW-ABS division noted in (9) above. Rather, Tzotzil has two distinct sets of absolutive morphemes, shown in (77) and (78). As in other Mayan languages, third person absolutive is null.²⁵ We discuss the Tzotzil person marking system here at some length, as we believe it provides support for our claim about third person objects in Q'anjob'al above (see §4.3.1).

(77) TZOTZIL HIGH-ABS SERIES

- 1 -i-
 2 -a-

(78) TZOTZIL LOW-ABS SERIES

- 1SG -on
 2SG -ot
 1PL.INCL -otik
 1PL.EXCL -otikotik
 2PL -oxuk
 PLURAL -ik

Aissen (1987) describes the high series as a *subset* of the low series. Woolford (2011) argues that while this is an adequate description of their function, these markers should be considered two distinct series: not only do they have distinct forms and positions, but they encode different features. The low forms distinguish both number and person, while the high forms encode only person.

²⁴For a discussion of these ingredients with respect to a nominative-accusative argument alignment, see section 7.

²⁵Woolford 2011 includes the third person plural -ik in the LOW-ABS series. The third person plural suffix, however, has special characteristics across the Mayan family: for example, it can mark plural on nouns as well as agreement on verbs, and can be associated with **A**, **P**, and **S** arguments. In Chol, it can be shown to appear in a different syntactic position from other person markers. See also Mateo-Toledo 2008 on Q'anjob'al.

What governs the appearance of these sets of morphemes? Aissen (1987:44–45) states that the high series is used if a stem-initial prefixal aspect marker is present (i.e. eventive or “verbal” predicates), like the inceptive *ch-* in (79a), while the low series must be used when there is no aspect marker, as in stative or “non-verbal” predicates like (79b).²⁶ Aspect markers are impossible in non-verbal or stative predicates like the perfect form in (79b).

- (79) a. **Ch-a-s-mil.**
 ASP-ABS2-ERG3-kill
 ‘He is going to kill you.’
 b. **J-mala-oj-oxuk.**
 ERG1-wait-PERF-ABS2.PL
 ‘I have waited for you_{PL}.’

There is one important exception to this generalization: in transitives with a second person subject and a first person object the high series is not used, even in the presence of an initial aspect marker (Aissen 1987:45), as shown in (81a). Compare the ungrammatical form in (80b) with the grammatical sentence in (81).

- (80) a. **Ch-a-mil-on.**
 ASP-ERG2-kill-ABS1
 ‘You are going to kill me.’
 b. * **Ch-i-a-mil.**
 ASP-ABS1-ERG2-kill
 intended: ‘You are going to kill me.’

- (81) **L-i-s-maj** a-tot.
 ASP-ABS1-ERG3-hit 2GEN-father
 ‘Your father hit me.’

(Aissen 1987:40)

Woolford (2011) proposes that this is not an accidental gap. The order of Tzotzil morphemes parallels the order we have seen in the other languages above (see e.g. (9)): ASP-ABS-ERG-STEM-ABS, where again Tzotzil is unique in making use of both absolutive slots. The gap arises exactly in the only situation in which a vocalic absolutive marker would precede the only vowel-initial ergative marker: the second person.²⁷ The form in (80b) is thus ruled out on phonological grounds, due to a ban against adjacent vowels (common throughout the Mayan family).

(82) *TZOTZIL ERGATIVE PREFIXES*

	__C	__V
1 st person	<i>j-</i>	<i>k-</i>
2 nd person	<i>a-</i>	<i>av-</i>
3 rd person	<i>s-</i>	<i>y-</i>

We account for the Tzotzil facts in our system as follows: eventive v^0 heads contain an EPP feature which probes for person, but not number (see Preminger 2011). Person features are attracted to Spec, v P and spelled out as the HIGH-ABS morphemes—unless this is prevented due to a phonological restriction—while number features remain low and are spelled out as the LOW-ABS series.

²⁶Woolford 2011 formalizes this as a constraint against onset-less syllables. Another option, proposed for Q’anjob’al NVPs in section 2 above, is that only eventive v heads have the EPP features which trigger absolutive movement.

²⁷The other possible two-vowel combination would be the second person ergative and the second person absolutive, ruled out on binding theoretic grounds (e.g. a reflexive must be used instead).

The fact that phonological factors play a role in the surface spell-out of the absolutive forms is relevant to our discussion of Q'anjob'al third person objects in section 4.3.1. Specifically, this may lend support to the claim that third person objects form a chain headed in Spec,vP—thus blocking other elements from extracting out of the phase—but only the lower copy of the chain is spelled out, perhaps due to phonological heaviness of full nominal arguments.

6.1.2. EXTRACTION IN TZOTZIL

Just as Tzotzil straddles the HIGH-ABS/LOW-ABS divide, it also does not clearly show extraction asymmetries. As discussed in Aissen 1999, Tzotzil *does* have an Agent Focus construction, shown in (83). Like the AF constructions examined above, it is morphologically marked by the suffix *-on* (one of the reconstructed Proto-Mayan AF suffixes), and ergative marking is absent.

- (83) Buch'u i-kolta-**on** li tzeb-e?
 who ASP-help-AF DET girl-ENC
 'Who helped the girl?' (Aissen 1999:455)

Unlike any of the languages discussed above, AF in Tzotzil is limited to clauses in which both subject and object are third person, but even in these contexts it is not obligatory. Rather, AF alternates with regular transitive forms like the one in (84). As with the Chol transitives discussed above (cf. (53a)), this results in ambiguity when both arguments are third person. AF is instead limited to clauses in which both arguments are third person. Aissen (1999:459) writes that “the major factor determining the distribution of [transitive] and AF verbs under agent extraction is the relative prominence of subject and object: the AF form requires that the object be more prominent than the subject; the [transitive] form requires roughly the opposite.” She compares Tzotzil AF to obviation systems in languages of the Algonquian family (e.g. Bloomfield 1962, Frantz 1966).

- (84) Buch'u i-s-kolta li tzeb-e?
 who ASP-ERG3-help DET girl-ENC
 'Who helped the girl' / Who did the girl help? (Aissen 1999:459)

While in Q'anjob'al the HIGH-ABS morphemes are cliticized pronouns, and thus block extraction, we propose that the “HIGH-ABS” markers in Tzotzil in (77) are simply the morphological spell-out of person features. Since person features alone are spelled out, and no pronoun is actually occupying Spec,vP, extraction is not blocked. This accounts for the grammaticality of forms like (84).

At this point we do not have an account for how the inverse pattern emerges. Note, however, that AF in Tzotzil appears only when the **P** argument is more prominent than the **A** argument. This is reminiscent of the facts discussed in section 5.1: in languages like Q'anjob'al and K'ichee', AF is *not* possible in contexts where the **P** argument is smaller than a DP. That is, perhaps the proximate object in Tzotzil requires special licensing, and the AF morpheme is thus brought in exactly these contexts. We leave this as a topic for future research.

6.2. Yukatek and Ixil

Yukatek (Yukatekan branch) and Ixil (Mamean branch) present the two remaining apparent counterexamples to Tada's generalization in (11). Both of these are languages in which the absolutive morphemes follow the verb stem, and yet both show restrictions on the extraction of ergative subjects. Interestingly, neither of these languages are “well-behaved” with respect to the phenomena we have discussed above.

6.2.1. IXIL

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). In (86a), for example, we observe that the absolutive object follows the post-verbal locative clitic *kat*. Ergative markers, on the other hand, are prefixal as in other Mayan languages.

- (85) *IXIL (MAMEAN)*
 Kat echen kat **axh**?
 where be.reside LOC ABS2
 ‘Where are you?’ (Ayres 1983:24)
- (86) Kat a-q’os **in**
 ASP ERG2-hit ABS1
 ‘You hit me.’ (Ayres 1983:27)

If the absolutive morphemes are simply full pronominal forms in Ixil, we might attribute their low position to a phonological restriction, as in the case of Tzotzil above. We leave this as a topic for future work, acknowledging the possibility that Ixil may not fit in with our typology and may instead represent a more classic instance of syntactic ergativity, discussed in section 7.²⁸

6.2.2. YUKATEK

Studies which have focused on the Agent Focus construction in Yukatek include Bricker 1978, 1979, Gutiérrez Bravo and Monforte 2009, Tonhauser 2003, 2007; and Norcliffe 2009. Like AF constructions in other Mayan languages, Yukatek AF occurs only when **A** arguments are extracted and involves the absence of ergative marking on a syntactically transitive clause (i.e. the object is not demoted). However, two important features set what has been labelled “Agent Focus” apart from AF in the languages examined above: (i) the absence of a suffix signaling AF (usually *-(V)n* or *-Vw*); and (ii) the obligatory absence of aspect in these forms. This highly reduced AF stem form is shown in (87a) and can be compared with a full transitive form in (87b).

- (87) a. *A-EXTRACTION*
 Ba’ax jant-eh?
 thing eat.AF-TERM
 ‘What ate him?’
- b. *P-EXTRACTION*
 Bu’ul k-u-jant-ik-eh
 beans ASP-ERG3-eat-SUF-TERM
 ‘Beans is what he eats.’ (Tonhauser 2003:204)

Furthermore, unlike AF in the languages above, AF in Yukatek is optional, at least in certain relativization contexts (Bricker 1978, Gutiérrez Bravo and Monforte 2009, Norcliffe 2009). Compare the forms in (88)—the “AF” form in (88a) is unambiguously interpreted as **A**-extraction; the transitive form in (88b) is ambiguous, but can receive an **A**-extraction interpretation.

- (88) a. Le cháan xibpáal ts’uts’-ik le x-ko’olel-o’
 DET little male.child kiss-SUF DET CL-woman-DEIC
 ‘the little boy who is kissing the woman’

²⁸Agent Focus constructions in Ixil also differ in that they do not appear with the intransitive status suffix, a fact which may or may not be relevant to their ultimate analysis (Ayres 1983:27).

- b. Le cháan xibpáal k-u-ts'uts'-ik le x-ko'olel-o'
 DET little male.child ASP-ERG3-kiss-SUF DET CL-woman-DEIC
 'The little boy who is kissing the woman' /
 'The little boy who the woman is kissing'

(Norcliffe 2009:139)

Norcliffe (2009) argues that AF in Yukatek is best analyzed as belonging to the group of *resumptive/gap alternations*. There are a few important ingredients to her analysis. First, she proposes that *wh*-, focus, and relative clause constructions all involve clefts in Yucatec, as illustrated for intransitives in (89); the fronted element serves as a predicate, taking the embedded clause as its argument (recall that third person absolutive is null).

- (89) a. t-inw-il-ah [NP le máak [RC h-súut]]=o'
 ASP-ERG1-see-SUF DET man ASP-return =DEIC
 'I saw the man who returned.'
 b. leti' [NP Ø [RC h-súut]]=o'
 it ASP-return =DEIC
 'It is he who returned.'
 c. máax [NP Ø [RC h-súut]]=o'
 who ASP-return =DEIC
 'Who returned?'

(Norcliffe 2009:138)

Norcliffe assumes further that the ergative marker in Yukatek is a *pronoun* which, when occurring at the foot of a long-distance dependency, functions resumptively (see e.g. McCloskey 2007). The AF verb forms are characterized by the absence of this resumptive pronoun. She shows that in simple clauses ('Who saw Maria?'), the AF form of the verb is strongly preferred. The acceptability of transitive forms improve with one level of embedding ('Who did you say saw Maria?'), while with additional levels of embedding, the transitive form is preferred, mirroring the behavior of resumptive pronouns in other languages. She demonstrates further that transitive forms are possible in island contexts, where AF forms are dispreferred. Crucially, she proposes that this alternation is restricted to **A** arguments, because third person absolutive *is always null*, and there is thus no possibility for alternation. If Norcliffe's analysis is on the right track, Yukatek does *not* show syntactic ergativity of the type described above, and thus does not pose a counter-example to Tada's typology.

7. Beyond Mayan

As discussed in section 1, this paper is primarily concerned with syntactic ergativity—the ban on extracting transitive subjects—as it manifests itself within the Mayan family. However, it is clearly of interest to consider the wider cross-linguistic consequences of the proposal.

One direction involves syntactic ergativity in other language families. We do not claim, in the present work, that the mechanism we have put forth and argued for as an account of syntactic ergativity in Mayan necessarily extends to any ergative language that bans extraction of transitive subjects. It may be the case that in some languages, it is properties of the ergative argument proper that give rise to what is a superficially similar effect; or, it may be the case that the mechanism proposed here is uniformly responsible for syntactic ergativity. However, we believe that the results of the previous sections cast serious doubt on the converse alternative—namely, a uniform account of syntactic ergativity based on properties of the ergative itself. Such an account would leave the correlation with HIGH-ABS vs. LOW-ABS (section §2) unexplained; and it is difficult to see how it would subsume the more subtle predictions discussed in section 5, concerning the behavior of reflexives (regular and “extended”; see §5.1), and the distribution of “hierarchy effects” within the Mayan family (§5.2).

Moreover, the account proposed here can be seen as a tool to investigate the very question concerning the uniformity of syntactic ergativity. Insofar as the properties in section 5 can be shown to exist in other syntactically-ergative languages (or their absence explained by independent properties of the languages in question), a uniform account of syntactic ergativity can be maintained. If these properties fail to replicate themselves in languages that nonetheless systematically ban extraction of ergatives, the uniformity conjecture can be falsified. It is in this sense that we believe the current proposal is of use to investigate broader, massively cross-linguistic questions.

A second direction involves the nature of the ergative-absolutive vs. nominative-accusative distinction. The ingredients involved in the current account, as summarized in section 5.3, are repeated here for convenience:

- (90) I. transitive vP is phasal [=(76)]
 II. the transitive subject is generated *below* the vP phase
 III. there is only a single specifier available for extraction out of vP

In principle, none of these ingredients seems necessarily unique to ergative languages; we could (or in fact, should) therefore ask what the combination of these same ingredients would yield in a language with a nominative-accusative alignment.

If the nominative argument in such a language—like the absolutive in Q'anjob'al—needed to escape the verb-phrase to receive its case (e.g. in [Spec,InflP]), then the transitive object would be predicted to be trapped inside the verb-phrase, by virtue of the restriction of vP to a single escape-hatch. We would therefore predict the existence of nominative-accusative languages which are the mirror image of Q'anjob'al: where transitive objects cannot be extracted (contra transitive and intransitive subjects), and a special construction is employed—call it, *Patient Focus*—which case-marks the subject with non-nominative case and renders the verb phrase intransitive, facilitating extraction of the Patient.

The latter part of this recipe clearly exists: *Patient Focus* is none other than *passive*. But it seems that the first part is missing: no languages exhibit this kind of extraction restriction.²⁹ A solution to this puzzle may be lurking in (90), however: a significant amount of work on ergative languages and ergativity has converged on the conclusion that the defining trait of ergative case is that it is associated with structurally low positions in the functional structure of the clause (Aldridge 2004, 2008b, Legate 2002, 2008, Merchant 2006, Woolford 1997). If so, then the property in (II) may be restricted to ergative languages, after all, explaining why the corresponding extraction restriction is unattested in nominative-accusative languages.

8. Conclusion

In this paper we argued for an account in which the appearance of extraction asymmetries reduces to independently observable differences in how absolutive arguments are licensed in the clause (Aldridge 2004, 2008b, Legate 2002, 2008). Specifically, we presented an analysis of the morpheme *-on* in Q'anjob'al Mayan. Through a comparison between Q'anjob'al and Chol, a Mayan language with no extraction asymmetries, we argued that the relevant difference is as follows: In languages in which absolutive is assigned internal to the vP phase, either argument may extract through Spec,vP. In contrast, if absolutive is assigned by a head external to the vP (Infl⁰), the object must raise to Spec,vP, leaving the subject (along with other vP-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.

²⁹One potential counterexample, brought to our attention by Claire Halpert, concerns Bantu, where extraction of transitive objects requires a non-canonical agreement pattern, and is incompatible with canonical (i.e., subject) agreement. However, this seems to arise with the extraction of *any* non-subject, not just transitive objects, and may therefore be a distinct phenomenon (as it is treated in the literature on Bantu).

Abbreviations

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

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