TWO KINDS OF SYNTACTIC ERGATIVITY IN MAYAN*

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1 Introduction

Some Mayan languages are syntactically ergative, i.e. they prohibit straightforward A'-extraction of transitive ergative subjects (Polinsky 2016). Observe (1) from Q'anjob'al (Coon et al. 2014).

(1) Q'anjob'al (S = intransitive subject; O = transitive object; A = transitive subject)
  a. Maktxel$_1$ max way-i   t$_1$?[1]   S-extraction
    who   ASP   sleep-ITV
    'Who slept?'
  b. Maktxel$_1$ max y-il[-a']   naq winaq t$_1$?   O-extraction
    who   ASP   ERG.3-see-TV CLF man
    'Who did the man see?'

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[1] Glosses have been altered from original sources only for consistency of exposition. Glosses are as follows: ABS = absolutive agreement; AGT = agentive; AF = agent focus; AP = antipassive; ART = article; ASP = aspect; CLF = classifier; COMP = complementiser; CS = category suffix; DET = determiner; DIR = directional; ERG = ergative agreement; FP = fronting particle; GEN = genitive; IND = indefinite; INST = instrumental; IPF = imperfective aspect; IRR = irrealis marker; ITV = intransitive status suffix; NEG = negation marker; PREP = preposition; PRF = perfective aspect; PRT = particle; RN = relational noun; TV = transitive status suffix.

c.   *Maktxel$_1$ max y-il[-a]   t$_1$ ix   ix?   *A-extraction
      who   ASP ERG.3-see-TV   CLF woman
      Intended: 'Who saw the woman?'

As (1) shows, Q'anjob'al can straightforwardly A'-extract intransitive subjects and transitive objects (i.e. absolutive arguments), but not transitive subjects (i.e. ergative arguments). In order to question a transitive subject, Q'anjob'al must use the Agent Focus or antipassive construction (Coon et al. 2014).

(2) Q'anjob'al
   a.   Maktxel$_i$ max-ach   il-**on**-i   t$_i$?   (Agent Focus)
         who   ASP-ABS.2   see-**AF**-ITV
         'Who saw you?'
   b.   Maktxel max-Ø   il-**waj**[-i]   [$_{OBL}$ h-en]?   (antipassive)
         who   ASP-ABS.3 see-**AP**-ITV   ERG.2-RN
         'Who saw you?'

In this paper, we will argue that syntactic ergativity (SE) is not a uniform phenomenon across the Mayan family. Instead, we propose that there are two derivational pathways which lead to a similar but distinct extraction restriction.

Let us first lay out our theoretical assumptions. It has previously been argued that the presence/absence of SE in the Mayan family is correlated with the height of absolutive case (Campana 1992; Tada 1993; Coon et al. 2014). *High absolutive* (high ABS) Mayan languages, where absolutive case is assigned by INFL, have SE; *low absolutive* (low ABS) Mayan languages, where absolutive case is assigned by *v*, (usually) do not.[2] We adopt this high ABS vs. low ABS distinction, arguing further that the ergative (ERG) DP in high ABS languages is a defective intervener for absolutive case assignment.

(3) INFL$_{[PHI]}$ … DP$_{[ERG]}$ … DP$_{[Case: \_]}$ (DP$_{[ERG]}$ is a defective intervener)

We propose that there are two ways to avoid this defective intervention configuration, which we call *leapfrogging* and *sidestepping*. Crucially, we argue that a subset of syntactically ergative languages correspond to one of the two strategies, which are schematically illustrated below.

(4) *Leapfrogging*
    INFL$_{[PHI]}$ … DP$_{i[Case: \_]}$ DP$_{[ERG]}$ … t$_i$

(5) *Sidestepping*
    DP$_{i[ERG]}$ INFL$_{[PHI]}$ … t$_i$ … DP$_{[Case: \_]}$

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[2] In high ABS languages, the ABS marker precedes the ERG one, whereas in low ABS languages, the ABS marker follows the ERG one. There are two low ABS languages which appear to display SE: Ixil and Yucatec (Coon et al. 2014). We do not discuss these languages here for reasons of space. Coon et al. (2014) claim that they are not true counterexamples, but see Imanishi (2014: ch4) on Ixil. Moreover, see Sheehan (2017) for examples of other low ABS languages which appear to have SE. The existence of such languages is not incompatible with our core proposal, but we set aside discussion of this issue here for reasons of space.

In the leapfrogging derivation (4), the internal argument DP 'leapfrogs' past the ERG DP to an outer specifier of the same head (the term *leapfrog* is taken from Bobaljik (1995) via Legate (2014)). The ERG DP no longer intervenes and INFL can assign ABS case to the internal argument. In the sidestepping derivation (5), the ERG DP moves out of the way to a position higher than INFL. Assuming that the lower copy of the ERG DP is not a (defective) intervener, INFL can then assign ABS case to the internal argument without any problem.

We argue that these two strategies yield two different kinds of syntactically ergative language within the Mayan family. We show that the chosen strategy correlates with (i) differences in basic word order, (ii) the extractability of low adjuncts, and (iii) the existence of *partial* SE, i.e. when only a subset of A'-extraction configurations in a given language exhibits the extraction restriction on the ERG argument (see Stiebels 2006).

2   Syntactic Ergativity and Defective Intervention

For the syntactically ergative Mayan languages, we assume, for concreteness, that ERG case is an inherent case assigned by transitive *v* to the external argument introduced in its specifier, and that ABS case is a structural case assigned by INFL (Legate 2008; Coon et al. 2014). We also assume that the ERG DP is a defective intervener that would block ABS case assignment from INFL to the internal argument DP in transitive contexts (see (3)). As above, we propose that Mayan languages vary in the strategy used to avoid the problem of defective intervention by the external argument. We now turn to each of these strategies and the predictions of our analysis.

2.1   Leapfrogging

In a *leapfrogging* derivation, the internal argument moves over the ERG DP to the outer specifier of Spec*v*P. This movement is possible because the ERG DP is not c-commanded by the attracting head (*v*) and so does not act as an intervener for the attraction of the internal argument. INFL is then able to assign ABS case to the internal argument, since the ERG DP no longer intervenes between the probe (INFL) and its goal (the internal argument).

(6) *Leapfrogging*
    $\text{INFL}_{[\text{PHI}]} \dots \text{DP}_{i[\text{Case: \_}]} \text{DP}_{[\text{ERG}]} \dots t_i$

The leapfrogging derivation has been invoked in several analyses of SE both in Mayan and beyond (see Aldridge 2004, 2008, 2012 on Austronesian; and Campana 1992; Coon et al. 2014 for related analyses of Mayan). In simple terms, movement of the ABS DP to Spec*v*P blocks the escape hatch from the lower phase. Consequently, the ERG DP is trapped inside the *v*-domain and cannot be A'-extracted. This analysis makes three crucial predictions. First, being trapped, the ERG DP cannot be A'-extracted for any purpose (questioning, focusing, relativising, etc.). In other words, SE will hold of all A'-constructions, which we will refer to as *full* SE. Second, if the movement of the ABS DP closes off the relevant phasal domain, it will also block extraction of all other *v*P-internal elements, e.g. low adjuncts. Third, if the ABS argument leapfrogs across the ERG DP, all else being equal, we expect the basic word order of transitive clauses to be O>S.

Consequently, given the V-initial order of virtually all Mayan languages (England 1991), we would expect basic VOS order. These three predictions are summarised in (7).

(7) *Leapfrogging derivation*
  INFL$_{[PHI]}$ … DP$_{i[Case: \_]}$ DP$_{[ERG]}$ … t$_i$
    a.   will exhibit full SE
    b.   only the ABS DP is accessible for extraction
    c.   basic O>S order

2.2 Sidestepping

In a *sidestepping* derivation, the ERG DP moves to SpecINFLP. INFL is then able to assign ABS case to the internal argument on the assumption that the lower copy of the ERG DP does not count as an intervener.

(8) *Sidestepping*
  DP$_{i[ERG]}$ INFL$_{[PHI]}$ … t$_i$ … DP$_{[Case: \_]}$

A sidestepping derivation has been invoked as a strategy to avoid dative intervention in Icelandic (Holmberg & Hróarsdóttir 2003, 2004) and as an analysis of K'ichean Mayan by Preminger (2014) (see also Anand & Nevins 2006; Imanishi 2014). Unlike in the leapfrogging derivation, the ABS DP does not necessarily undergo any movement in such cases. We thus predict that the sidestepping derivation will have different properties compared with the leapfrogging derivation. First, *v*P-internal elements, e.g. low adjuncts, should be freely extractable, since there is no element blocking escape from the lower phase. Second, since the ABS DP does not leapfrog across the ERG DP, we would expect the basic word order of transitive clauses to be VSO.

If movement of the ABS DP is not the cause of SE in this derivation, why then do we find A'-extraction restrictions on the ERG DP? We propose that SE in a sidestepping derivation is a consequence of anti-locality, specifically *Spec-to-Spec anti-locality* as defined in (9):

(9) *Spec-to-Spec Anti-locality*
  A'-movement of a phrase from the Specifier of XP must cross a maximal projection other
  than XP.   (Erlewine 2016: 445).

Douglas (2017) extends this proposal to an account of subject extraction asymmetries in English, e.g. the anti-*that*-trace effect in subject relative clauses. Now, assuming INFLP is immediately below the C-domain, if there is a single C head in the C-domain, movement of the subject from SpecINFLP to SpecCP would be anti-local, yielding a violation of (9) (see Erlewine 2016 for an account of this kind for Kaqchikel). However, if the C-domain is more fine-grained, as in cartographic studies following Rizzi (1997), Spec-to-Spec anti-locality (henceforth, simply *anti-locality*) will only rule out A'-movement of the subject from SpecINFLP to the specifier of the lowest C head. Cartographic studies have shown that the A'-movements underlying the various A'-constructions may target distinct positions in the left periphery, depending on how articulated the left periphery is. For example, Douglas (2017) argues that the English left

periphery may contain a single C head (complement and relative clauses introduced by the null complementiser) or multiple C heads (complement and relative clauses introduced by *that* or a relative pronoun). Given anti-locality, we thus expect A'-movement of the subject to be impossible in some A'-constructions, but possible in others.

We propose that the Mayan family exhibits such variation, which becomes apparent when looking closely at the existing SE patterns. In other words, some languages may have more articulated left peripheries than others. In languages whose left periphery has a single C head and the subject in SpecINFLP, A'-extraction of the subject will be ruled out by anti-locality for all A'-constructions. In the case of sidestepping ergative languages, this yields full SE. However, in languages whose left periphery has multiple C heads (and where the subject is in SpecINFLP), A'-extraction of the subject will only be ruled out by anti-locality if A'-movement targets the specifier of the lowest C head. If A'-movement targets a higher position, it will not violate anti-locality. Put differently, there is the possibility that A'-extraction of the subject is impossible in some A'-constructions, but not in others. With respect to Mayan, this would mean that in the sidestepping derivation, A'-extraction of the ERG DP will be impossible in some A'-constructions, but available in others, i.e. partial SE (see Stiebels 2006; Heaton et al. 2015). The predictions of the sidestepping derivation are summarised in (10).

(10)   *Sidestepping derivation*
        $DP_{i[ERG]}$ $INFL_{[PHI]}$ … t_i … $DP_{[Case: \_]}$
        a.   full or partial SE
        b.   anything but the ERG DP is accessible for extraction
        c.   basic S>O order

In the following sections, we show that the predictions of the leapfrogging and sidestepping derivations are borne out. However, let us first elaborate on the proposal that the C-domain can be more or less articulated. We will assume a feature scattering approach (Giorgi & Pianesi 1997) and that the features [REL], [WH] and [FOC] drive A'-movement for relativisation, questioning, and focus, respectively. Cartographic studies have shown that, in articulated C-domains, relativisation generally targets a higher position than questioning or focus (Rizzi 1997; Abels 2012). Assuming feature scattering, [REL] could be higher than [WH/FOC], or they could be in complementary distribution on the same C head [REL/WH/FOC], but we would never expect [WH/FOC] to be higher than [REL]. Furthermore, interrogative functional heads have been posited higher than focus (see Rizzi 2004; Abels 2012). We thus assume that [WH] may be higher than [FOC] but not vice versa. Combining this with anti-locality, we might expect there to be partial SE languages where, for example, SE is found in questions and focus but not in relative clauses, but we would not expect partial SE languages where SE is found in relative clauses, but not in questions and focus. This implicational prediction is schematised below:

(11)   Feature bundling in the C domain

Languages	C_1 (higher C)	C_2 (lower C)
Type A	[REL] [WH] [FOC]	-
Type B	[REL] [WH]	[FOC]
Type C	[REL]	[WH] [FOC]
Type D	-	[REL] [WH] [FOC]

We therefore expect the following types of language where SE is the result of sidestepping:

(12)   Sidestepping languages
    a.   Type A: REL, WH and FOC movement are possible.[3]
    b.   Type B: FOC movement will violate anti-locality.
    c.   Type C: WH and FOC movement will violate anti-locality.
    d.   Type D: REL, WH and FOC movement will all violate anti-locality.

3   Predictions of the Analysis

In this section, we show that Mayan languages that display SE do not behave uniformly, as predicted by our analysis. The extraction restriction arises via two different pathways, yielding two types of SE.

3.1   Word Order and (Partial) SE

Recall that we predicted that languages in which SE arises via sidestepping will exhibit S>O order and might exhibit full or partial SE. Now, there are four different basic word order patterns observed across Mayan:

(13)   a.   VSO languages which do not permit unmarked VOS order.
    b.   VOS languages which do not permit VSO except in highly pragmatically marked contexts.
    c.   Mixed VSO/VOS languages,
    d.   Mixed VOS/VSO languages

Strict VSO order is probably innovative based on its geographical distribution and the fact that strict VSO languages seem to share other areally diffused features as well (Norman & Campbell 1978; England 1991). Our prediction is apparently correct: of the VSO languages, many show partial SE. For instance, Q'anjob'al appears to be losing the extraction restriction in relativisation as argued by Gagliardi et al.'s (2014) experimental investigation of subject extraction. Consider the following, which was reported to be ambiguous between relativisation of the transitive subject or of the object (note that there is no Agent Focus or antipassive morphology):

(14)   No' chiwo chi   teq no' kalnel.   [Q'anjob'al]
    CLF goat   IMPF hit CLF sheep
    'The goat that the sheep rams.' (object relative)
    'The goat that rams the sheep.' (subject relative)   (Gagliardi et al. 2014)

In the table below, we show a typology of the VSO languages in the family:[4]

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[3] This would be a VSO language without SE. Interestingly, there are no such languages in Table 1. It remains to be seen whether this is a genuine gap but, if it is, it requires an explanation. It would arguably be difficult to acquire a sidestepping system in the absence of SE, as there would be no evidence that the subject has raised to SpecINFLP.

Table 1: VSO languages[5]

Language	Family	Basic word order	ABS[i]	SE in __?			Reference for SE data
				Focus	**Questions**	**Relatives**	
Awakatek	Mamean	VSO[ii]	H	Y	N	N	(Stiebels 2006)
Chuj	Q'anjob'alan	VSO[iii]; VOS/VSO[iv]	H	Y	N	N	(Stiebels 2006)
Popti' (Jakaltek)	Q'anjob'alan	VSO[v]	H	Y	Y	N	(Stiebels 2006)
Mam	Mamean	VSO[vi]	H	Y	Y	Y/N[vii]	(England 1983; Stiebels 2006)
Q'anjob'al A	Q'anjob'alan	VSO	H	Y	Y	Y/N	(Gagliardi et al. 2014)
Q'anjob'al B	Q'anjob'alan	VSO[viii]	H	Y	Y	Y	(Coon et al. 2014)
Tektitek	Mamean	VSO	H	Y	Y	Y	(Pérez Vail 2007)

In contrast, VOS languages show either full SE or no SE, but never partial SE:

Table 2: VOS languages

Language	Family	Basic word order	ABS[ix]	SE in __?			Reference for SE data
				Focus	**Questions**	**Relatives**	
Q'eqchi'	K'ichean	VOS[x]	H	Y	Y	Y	(Stiebels 2006)
Tz'utujiil	K'ichean	VOS[xi]; VOS/VSO[xii]	H	Y	Y	Y	(Stiebels 2006)
Poqomam	K'ichean	VOS[xiii]	H	Y/N	Y/N	Y/N	(Stiebels 2006)
Poqomchi'	K'ichean	VOS[xiv]	H	Y/N	Y/N	Y/N	(Stiebels 2006)
Ixil	Mamean	VSO[xv]; VOS[xvi]	L	Y	Y	Y	(Stiebels 2006)
Yucatec	Yucatecan	VOS[xvii]	L	Y	Y	Y[xviii]	(Tonhauser 2003; Stiebels 2006)
Itzaj	Yucatecan	VOS[xix]	L	N	N	N	(Coon et al. 2014)
Lakantun	Yucatecan	VOS[xx]	L	N	N	N	(Coon et al. 2014)
Mopan	Yucatecan	VOS[xxi]	L	N	N	N	(Coon et al. 2014)
Tojol-ab'al	Q'anjob'alan	VOS[xxii]	L	N	N	N	(Coon et al. 2014)
Tzotzil	Ch'olan–Tseltalan	VOS[xxiii]	H/L	(Y)	(Y)	(Y)	(Aissen 1999)[xxiv]

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[4] Given the large number of sources consulted to establish our empirical claims regarding basic word order, we have provided the details as endnotes to maximise readability.

[5] At least some dialects of the languages reported by Stiebels (2006) to be partially SE display full SE according to other sources (Jakaltek, Craig 1979; Awakatek, Larsen & Norman 1979; Akatek, Zavala 1992; Chuj, Buenrostro Díaz 2013). We leave a full investigation of this matter for future research.

Note that Chuj and Tz'utujiil are listed as having alternating basic word order VOS/VSO in addition to being VSO and VOS respectively. This is because different sources classify their basic word orders differently, suggesting dialectal divergence. In fact, the VOS/VSO order reported for varieties of Chuj and Tz'utujiil is actually very common. We call these 'mixed languages': VOS/VSO systems are those in which VOS is the dominant order, and VSO/VOS systems are those in which VSO is dominant.

Table 3: Mixed languages

Language	Family	Basic word order	ABS[xxv]	SE in __?			Reference for SE data
				Focus	**Questions**	**Relatives**	
Akatek	Q'anjob'alan	VSO/VOS[xxvi]	H	Y	N	N	(Stiebels 2006)
Chuj	Q'anjob'alan	VSO[xxvii]; VSO/VOS[xxviii]	H	Y	N	N	(Stiebels 2006)
Kaqchikel A	K'ichean	VSO/VOS[xxix]	H	Y/N	Y/N	N	(Heaton 2015; Heaton et al. 2015)[xxx]
Sipakapense	K'ichean	VOS/VSO	H	Y	Y	N	(Barrett 1999; Stiebels 2006)
Kaqchikel B	K'ichean	VOS/VSO[xxxi]	H	Y	Y	Y	(Erlewine 2016)
K'iche' (Quiché)	K'ichean	VOS/VSO[xxxii]	H	Y	Y[xxxiii]	Y	(Stiebels 2006; Pye 2007)
Sakapulteko	K'ichean	VOS/VSO[xxxiv]	H	Y	Y	Y	(Stiebels 2006)
Tz'utujiil	K'ichean	VOS[xxxv]; VOS/VSO[xxxvi]	H	Y	Y	Y	(Stiebels 2006)
Uspantek	K'ichean	VOS/VSO[xxxvii]	H	Y	Y	Y/N	(Can Pixabaj 2007)[xxxviii]
Chol	Ch'olan–Tseltalan	VOS~VSO[xxxix]	L	N	N	N	(Coon et al. 2014)
Chontal	Ch'olan–Tseltalan	VOS~VSO[xl]	L	N	N	?	(Osorio May 2005; Tandet 2013)[xli]
Tseltal	Ch'olan–Tseltalan	VOS~VSO[xlii]	L	N	N	N	(Coon et al. 2014)

Our analysis of SE does not immediately predict the existence of such languages, but the way they pattern in terms of SE suggests that they are either underlyingly VOS or VSO, depending on which is their dominant word order. Most of the languages which permit partial SE have dominant VSO order, and most of the languages with dominant VOS order have full SE or no SE. For example, Sakapulteko is described as having mixed VOS/VSO word order, and displays full SE, like VOS languages, whereas the varieties of Kaqchikel described by Heaton (2015) and Heaton et al. (2015) (Kaqchikel B) are losing SE, with the loss most advanced in relative clauses.[6]

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[6] There are exceptions to these patterns, however, for example Sipakapense, which, according to Barrett (1999: 267), permits VSO only as a marked order but shows no SE in relativisation. This is a potential problem for our analysis and one which requires investigation. However, given that Barrett (2008) notes that there is variation across

So how does this word order variation arise? In the spirit of Clemens and Coon (to appear), we assume that there are various ways of interrupting basic word order in these languages:

(15)   **Mixed VSO/VOS** (partial SE; Akatek, Chuj, Kaqchikel A)
                VOS available through**:**
                a**.**   Heavy NP shift of the subject
                b.   Pseudo noun incorporation of bare object
                c.   Rightward topicalisation of the subject

Either the subject can shift to the right of the object (either in the PF-component via heavy-NP shift or as a right-hand topic), or the object, if bare, can incorporate into the verb. This leaves the question of the VOS/VSO languages. It would have to be the case that in these languages the object can shift to the right of S, either via heavy-NP shift or as a right-hand topic. We leave a full consideration of this proposal to one side here for reasons of space. However, below we present further support for the claim that some mixed languages displaying SE are underlyingly VSO while others are VOS from the availability of low adjunct extraction.

3.2   Low Adjunct Extraction

Recall that our proposal predicts that languages in which SE is the result of leapfrogging, which have VOS as their dominant or only word order, should ban the A'-extraction of all *v*P-internal material in addition to the ERG DP, such as low adjuncts. This prediction is borne out. Example (16) from Kaqchikel shows that the extraction of locatives for focus requires the presence of the particle /wi/ immediately after the verb. Crucially, temporal adjuncts which adjoin higher, do not permit the presence of the particle (Henderson 2008).

(16)   Pa   k'aybal$_1$ x-Ø-in-löq t$_1$ *(**wi**).   [Kaqchikel]
        PREP market PRF-ABS3SG-ERG1SG-buy WI
        'In the market I bought it.'   (adapted from Henderson 2008)

The class of adjuncts triggering the particle consist of instrumentals, comitatives, and locatives. Similar data is reported for K'iche' (Can Pixabaj 2015), San Pedro Tz'utujiil (García Ixmatá 1997), Q'eqchi' (Caz Cho 2007), Sakapulteko (Mó Isém 2007), Uspanteko (Can Pixabaj 2007), and Santiago Tz'utujiil (Mendes & Ranero 2017).[7] We hypothesise that the fronting particle permits the extraction of the adjunct just as Agent Focus allows for the circumvention of the extraction restriction on the ERG DP.[8]

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[7] Poqomam and Poqomchii', which according to Stiebels (2006) show Agent Focus optionally in instances of A'-extraction of adjuncts, also exhibit the particle (Malchic et al. 2000). We note as well that Mendes & Ranero (2017) show that the Tecpán dialect of Kaqchikel lacks the fronting particle. We leave for future research whether this variety of Kaqchikel is also best analysed as a sidestepping language.

[8] The possibility that a special morpheme must be used for the extraction of low adjuncts in some Mayan languages was already mentioned in Coon et al. (2014), who discuss briefly the use of the voice marker /-b'e/ in Tz'utujiil to extract instrumentals (see Dayley 1981).

generations in other domains (see fn. 11 below), it might be that there is also variation among dialects of the language regarding partial SE and word order. We leave this matter for future research.

In contrast, our analysis predicts that languages where SE is the result of sidestepping will allow for the free extraction of *v*P-internal material other than the ERG DP, i.e. no fronting particle is required.[9] The examples below from Tektitek (17) and Popti' (18) involving locative and instrumental focus respectively bear out this prediction.

(17)   **T-uj**   **te** bey ma kyin   jaw tz'aq-ik.
         GEN3SG-RN DET road COMP ABS1SG DIR fall-CS
         'It was on the road that I fell.'   (Pérez Vail 2007: 409)

(18)   **Maxhtaj y-u**   **ch'en echeh** ma Ø   is-poh   naj winaj te' si'.
         NEG   GEN3SG-RN CLF   **ax**   PRF ABS3SG ERG3SG-cut CLFman CLF firewood
         'It wasn't with an ax that the man cut firewood.'   (Ross et al. 2000)

Other VSO or VSO/VOS languages which we analyse as involving sidestepping also allow for the extraction of low adjuncts freely: Q'anjob'al (Raymundo González et al. 2000), Mam (England 1983), Chuj (Buenrosto Díaz 2013), and Akatek (Zavala 1992).[10] In these languages, SE is a restriction applying only to the ERG DP and this follows from our analysis which attributes SE in these languages to anti-locality violations: it is movement of the ERG DP from SpecINFLP to a lower C-domain head in these languages which is banned.[11]

4   Conclusion and Future Directions

In this paper, we have argued that there are two different kinds of SE in Mayan languages. In both cases SE arises because INFL needs to license the internal argument DP but the ERG DP is a defective intervener for this licensing. In VSO languages, we have proposed that the ERG DP sidesteps out of the way by moving to SpecINFLP, whereas in VOS languages, the object leapfrogs past the ERG DP to an outer Spec*v*P. Both of these movement types give rise to accessibility issues, but for different reasons. In VSO sidestepping languages, the ERG DP raises to a position from which movement to a (low) SpecCP is too local to take place. In VOS leapfrogging languages, the movement of the object to an outer Spec*v*P traps all the material internal to the *v*P phase. These two different types of SE, in addition to being linked to different word orders then, also exhibit distinct properties. SE in sidestepping VSO languages can be full or partial, and it affects only the ERG DP. In contrast, SE in VOS languages is always full and it

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[9] We also predict that languages that do not display SE at all (low ABS languages) should permit the extraction of *v*P level adjuncts freely. This is also borne out in all the languages we have been able to survey so far: Chol (Vásquez Álvarez 2011), Chontal (O'Connor 2004), Lakandon (Bergqvist 2008), Itzaj (Hofling 2000).

[10] We have been unable to find clear data on this prediction for Awakatek. A normative grammar by the Academy of Mayan Languages of Guatemala (ALMG) does not provide morpheme breakdowns, making the relevant examples difficult to judge. However, the author does not mention the use of any special morphology in the context of questioning locatives (Ramírez 2013: 317).

[11] The correlation, however, is not perfect. Sipakapense shows the fronting particle when focusing locatives, but not for relativisation (Barrett 1999: ex. 305 and 321). Relativisation of instrumentals does not trigger the particle either (Barrett 1999: 266). However, note that Barrett (2008) shows that use of the fronting particle varies depending on the age of the speakers. We leave for future investigation whether there are differences between Sipakapense speakers who show full SE and require the fronting particle, versus speakers who show partial SE and do not use the fronting particle. Different dialects might then be best analysed as using leapfrogging or sidestepping derivations.

affects all material inside *v*P, notably low adjuncts. We have presented evidence for our proposal from across Mayan which suggest that our approach is on the right track to account for the variation observed in SE across the family.[12]

An important question for the future is the status of this general approach outside the Mayan family. Interestingly, Aldridge (2006) reports a similar connection between basic word order and the extractability of low adjuncts in Austronesian languages. However, there are also apparent counterexamples, not least Chukchi, in which relative clauses exhibit SE whilst *wh*-questions do not. In this way, Chukchi appears to have partial SE, but it does not fit into the implicational hierarchy we have suggested to be at work in the Mayan languages (see Polinsky 2016). We hope to take up these matters in future research.

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[12] While we cannot go into detail, we consider our approach overall superior to other analyses in analysing the patterns presented here. For instance, Deal (2016) takes SE to be the result of case discrimination: in SE languages, some or all A'-probes are relativised to target only ABS DPs. Deal proposes that, since Mayan languages do not show overt morphological marking, then either (i) case discrimination is indeed active in Mayan, but the probes discriminate on the basis of abstract syntactic Case, rather than overt morphological realisation, or (ii) there is no extraction restriction on ERG arguments at all in the family, i.e. the phenomenon has been analysed incorrectly and should be better treated as an instance of *wh*-agreement. However, Deal's account makes several wrong predictions. Regarding (i), ERG DPs can actually extract in exceptional situations, like when the ABS is a reflexive (Q'anjob'al, Coon et al. 2014) or a bare indefinite (K'iche', Aissen 2011). For us, these cases can be explained if the licensing needs of these DPs are met differently than via licensing by INFL (following Coon et al. 2014). As such, the defective intervention problem never arises and the extraction restriction disappears precisely in these contexts. Moving on to (ii), if the AF were a *wh*-agreement morpheme, then we should never see it appear in instances where the ERG DP has not been A'-extracted. This is incorrect. In embedded aspectless clauses in Q'anjob'al, the AF morpheme arises (Coon et al. 2014: 224). For us, this is expected since INFL is not available in these embedded clauses to license the ABS DP. Moving on to Polinsky's (2016) account of SE, she takes languages with the extraction restriction to be of the PP type, i.e. the external argument is generated inside a P shell, out of which it cannot subextract. Once again, however, if the properties of the ERG DP across the board were responsible for SE, then we would not expect the variation and differences in patterns we observe in Mayan. Finally, we take Clemens & Coon's (to appear) analysis to be problematic for the strict VSO or VOS types because their postsyntactic account of word order fails to explain any of the correlations we have presented here, since prosodic constraints should not affect narrow syntactic operations like A'-extraction. Furthermore, there are empirical challenges to a prediction their account makes. According to Clemens & Coon, there should not be Mayan languages with VOS order in which the O and S are DPs and the S is not a topic. However, we find such examples from Poqomam and Poqomchii' (Malchic et al. 2000: 340-342) and Santiago Tz'utujiil:

(i)   Santiago Tz'utujiil (O = DP, definite; S = DP, indefinite)
        X-i-ru-to'   j'iye'la' ak'ala'   jun ixoq.
        COM-ABS3P-ERG3S-help DET   children one woman
        'One woman helped the children.'   (Ranero, field notes)

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[i] Data from Coon et al. (2014), except Tektitek (Pérez Vail 2007).

[ii] (Norman & Campbell 1978; England 1991: 451). See also Quizar (1979) and Tomlin (1986: 156).

[iii] (England 1991: 451): specifically the San Sebastián variety. See also Tomlin (1986: 174).

[iv] (England 1991: 454): specifically the San Mateo variety. See also Tomlin (1986: 174).

[v] (England 1991: 451).

[vi] (England 1991: 451).

[vii] In Mam relative clauses, when the antipassive is used (i.e. when there is syntactic ergativity), the action of the relative clause must precede that of the main clause. When the transitive is used (i.e. when there is no syntactic ergativity), the actions of the relative and main clauses must be interpreted as simultaneous (England 1983: 216-217).

[viii] (England 1991: 451). See also Quizar (1979) and Tomlin (1986: 196).

[ix] Data from Coon et al. (2014).

[x] (Sandra Pinkerton 1976; Tomlin 1986: 198; Caz Cho 2007).

[xi] (Dayley 1985; England 1991: 454): specifically the San Juan and Santiago varieties. Claimed to be SVO in Tomlin (1986: 249) though varieties are not distinguished.

[xii] (England 1991: 454): specifically the San Pedro variety. Claimed to be SVO in Tomlin (1986: 249) though varieties are not distinguished.

[xiii] (Tomlin 1986: 228)

[xiv] (Tomlin 1986: 228)

[xv] (Ayres 1980; England 1991: 451): specifically the Nebaj and Chajul varieties. See also Tomlin (1986: 192).

[xvi] (England 1991: 454): specifically the Cotzal variety. This variety does not permit unmarked SVO.

[xvii] (Durbin & Ojeda 1978; Hofling 1984; England 1991: 454).

[xviii] Stiebels (2006: 511) claims that SE is not found in relative clauses, but Tonhauser (2003) claims that it is.

[xix] (Hofling 1984; England 1991: 454).

[xx] (Hofling 1984; England 1991: 454).

[xxi] (Hofling 1984; England 1991: 454).

[xxii] (Brody 1984; England 1991: 454). See also Tomlin (1986: 246).

[xxiii] (Aissen 1987; England 1991: 454). Claimed to be VSO in Tomlin (1986: 249).

[xxiv] SE is only found in inverse contexts in Tzotzil.

[xxv] Data from Coon et al. (2014).

[xxvi] (Peñalosa 1987; England 1991: 454).

[xxvii] (England 1991: 451): specifically the San Sebastián variety. See also Tomlin (1986: 174).

[xxviii] (England 1991: 454): specifically the San Mateo variety. See also Tomlin (1986: 174).

[xxix] (Sis Iboy et al. 1990; England 1991: 454). Claimed to be SOV in Tomlin (1986: 170). England notes that is it difficult to ascertain which order is more basic. Given the presence of partial SE, we tentatively assume that for these varieties, VSO is more basic. Note that, as far as we can tell, the experimental stimuli used by Heaton (2015) and Heaton et al. (2015) were SVO; they do not discuss the basic word order preferred by their participants, who

spoke different dialects of Kaqchikel (Tecpán, San Juan Comalapa, Santa María de Jesús, Patzún, Patzicía, San Andrés Itzapa, and San José Poaquil).

[xxx] According to Heaton, agent focus is obligatory in focus constructions and *wh*-questions for older generations only. For younger speakers it is optional, especially in *wh*-questions.

[xxxi] (Sis Iboy et al. 1990; England 1991: 454). Claimed to be SOV in Tomlin (1986: 170).

[xxxii] (Mondloch 1981; Sam Colop 1987, 1988; Larsen 1988; Sis Iboy et al. 1990; England 1991: 454). Claimed to be SVO in Tomlin (1986: 230).

[xxxiii] Stiebels (2006: 511) claims that SE is not found in *wh*-questions, but Pye (2007: 49) claims that it is.

[xxxiv] Data from Mó Isém (2007); VSO acceptable when the S is higher in the animacy hierarchy than the O.

[xxxv] (Dayley 1985; England 1991: 454): specifically the San Juan and Santiago varieties. Claimed to be SVO in Tomlin (1986: 249) though varieties are not distinguished.

[xxxvi] (England 1991: 454; García Ixmatá 1997): specifically the San Pedro variety. Claimed to be SVO in Tomlin (1986: 249) though varieties are not distinguished.

[xxxvii] (Can Pixabaj 2007).

[xxxviii] Can Pixabaj gives some examples with AF upon relativisation (p. 366) and another without antipassive or AF (p. 415); in the example of the latter case the object in the relative clause is a bare indefinite.

[xxxix] (Coon 2010).

[xl] (Osorio May 2005).

[xli] For focus, see Tandet (2013: 45, ex 53); for *wh*-questions, see Osorio May (2005: ex 73). We could not find a reliable example of relativisation.

[xlii] (Norman & Campbell 1978; England 1991: 454). See also Tomlin (1986: 249).