

The clause-mate condition on resumption: Evidence from Kaqchikel*

Yusuke Imanishi
Kwansei Gakuin University
imanishi@alum.mit.edu

Abstract:

The paper will argue for the existence of null resumption in Kaqchikel (Mayan) by showing new empirical facts that the language has two strategies to make a possessor interrogative: one type of the possessor *wh* is base-generated in Spec-CP and heads a resumptive chain, while the other type undergoes movement to Spec-CP. I will present a set of paradoxical cases in which resumption in Kaqchikel displays no movement properties in a simple clause, whereas it does in a long-distance dependency. I will suggest that the domain of locality relevant to resumptive dependencies in Kaqchikel is more constrained than in other widely discussed resumptive languages like Irish and Hebrew. Specifically, it will be proposed that a resumptive pronoun in Kaqchikel must be licensed within a clause: the *Clause-Mate Condition on Resumptive Chains (CCRC)*. The CCRC will explain why resumptive dependencies in Kaqchikel display island effects, while those in Irish and Hebrew do not by suggesting that the CCRC is not operative in Irish and Hebrew.

Keywords: resumption, possessor *wh* phrases, the clause-mate condition on resumptive chains, island (in)sensitivity, Kaqchikel (Mayan)

1 Introduction

Resumption has been one of the central issues in linguistic theory (see [Rouveret 2011](#) for an extensive overview of resumption). Constructions that contain a resumptive pronoun are often viewed in opposition to those that contain gaps in many respects ([Ross, 1967](#), etc.). To be precise, the difference between resumptive constructions and gap constructions can be reduced to the presence/absence of movement. One of the diagnostics for the distinction between the two constructions is whether they display island sensitivity. When a given dependency is formed via movement, it is sensitive to syntactic islands. A resumptive dependency,

*I am indebted to my Kaqchikel teachers and consultants for their assistance and patience with my fieldwork research, and for sharing their language with me: Ana López de Mateo, Anacleto Catú, Jairo Bala López, Rufino Xinico and Alberto Sipac Aju. I am also grateful to Jessica Coon, Michael Yoshitaka Erlewine, Robert Henderson, Pedro Mateo Pedro, David Pesetsky, Masha Polinsky, Norvin Richards, Coppe van Urk and an anonymous reviewer of *Studia Linguistica* for valuable comments and suggestions on (earlier versions of) the paper. I benefited from comments and questions at NELS 42 at the University of Toronto, CLS 48 at the University of Chicago, CGG 22 at the Universitat Autònoma de Barcelona as well as at MIT, Osaka University and Okinawa University, where portions of this work were presented. An earlier version of this paper appeared in [Imanishi \(2013\)](#). This research has been funded by MIT's Ken Hale Fund for Field Research and the JSPS Grant-in-Aid for Young Scientists (B) (No.15K16752). Any shortcomings or errors in the data or analysis are my own.

on the other hand, does not exhibit (strong) island effects. This contrast has been confirmed in those languages such as Irish (McCloskey, 1979, 1990, 2002, 2006, 2009) and Hebrew (Borer, 1984), which make a fairly productive use of resumption. At the same time, it has been observed that resumptive constructions in some languages behave as if they involved movement with respect to island effects and reconstruction effects etc. (see, for example, Tuller 1986 for Hausa and Aoun et al. 2001 for Lebanese Arabic). In light of the mixed nature of resumption, recent debates have centered on whether resumption truly lacks movement (e.g., McCloskey, 1990; Borer, 1984), involves (some type of) movement (Boeckx, 2003), involves a mix of movement and non-movement depending on the environments (Aoun et al., 2001; Willis, 2000), or simply involves Agree, which is constrained by phase theory (e.g., Adger and Ramchand, 2005; Adger, 2011; Rouveret, 2002, 2008).

In this paper, I will claim that Kaqchikel (Mayan) exhibits resumption as well as movement in a possessor position, on the basis of two types of possessor interrogatives. The paper will then present a set of paradoxical cases of resumptive dependencies in Kaqchikel, which do not display movement properties from a clause-internal position in local dependencies, but point to the existence of movement in long-distance dependencies. I will advocate for a license-by-binding analysis of a resumptive pronoun in Kaqchikel, but demonstrate that resumptive dependencies in Kaqchikel are constrained in a rather different way, contrary to those analyses that argue that the binding of resumptive pronouns is unbounded. It will be shown that Kaqchikel contrasts sharply with Irish and Hebrew in that resumptive dependencies in Kaqchikel are more locally restricted than their counterparts in those languages: resumption in Kaqchikel exhibits island effects, whereas the one in Irish and Hebrew does not. To capture this, I will claim that the *Clause-Mate Condition on Resumptive Chains* (CCRC) constrains resumptive dependencies in Kaqchikel, yet does not in Irish and Hebrew. The CCRC will provide important insights into the domain of locality relevant to resumption. In particular, resumption in a subset of resumptive languages must be licensed within a clause.

The organization of the paper is as follows. In section 2, I will review some basics of Kaqchikel and show that one dialect of Kaqchikel uses two distinct possessor *wh* phrases to form possessor interrogatives. Section 3 will outline an analysis of possessor interrogatives in Kaqchikel. I will present pieces of evidence for the proposed distinction between two types of possessor *wh* phrases. Section 4 will consider the long-distance dependencies of possessor resumption and provide a solution (= the CCRC) to the problematic prediction that the analysis makes. Section 6 concludes the paper.

2 Possessor interrogatives in Kaqchikel

2.1 Some basics of Kaqchikel

Kaqchikel is a member of the K'ichean branch of Mayan languages, spoken in Guatemala by about half a million people.¹ Throughout the paper I will focus on the Patzún dialect of Kaqchikel (see Brown et al. 2006 and García Matzar and Rodríguez Guaján 1997, for example, for detailed grammatical descriptions of other dialects of Kaqchikel). Kaqchikel is an ergative agreement language with no overt case-marking on nominals. The agreement for person and number is head-marked (Nichols, 1986) on the predicate with a set of ergative and absolutive morphemes, which I will label as (*set*) *A* and (*set*) *B*, respectively, following

¹The paper will use the following phonetic conventions: x = a voiceless alveopalatal fricative, j = voiceless glottal fricative, tz = a voiceless dental affricate, ch = a voiceless alveopalatal affricate, q = a uvular stop, b' is a voiced bilabial implosive stop, and apostrophe = glottal stop (following a vowel) or glottalization (following a consonant) (Brown et al., 2006). The following abbreviations will be used: A = set A (ergative/genitive) agreement; AF = Agent Focus (morpheme); AP = antipassive morpheme; B = set B (absolutive) agreement; CL = proper name clitic; DET = determiner; IMPF = imperfective aspect; NOMNL = nominalizing suffix; P = preposition; PRFV = perfective aspect

the tradition of Mayan linguistics: set A and B markers will be used in the following discussion, unless otherwise noted. Set A markers cross-reference transitive subjects and possessors, whereas set B markers cross-reference intransitive subjects and transitive objects: as a family trait of Mayan languages, ergative and genitive are homophonous. All pronominal arguments in Kaqchikel, including subjects, objects and possessors, may be pro-dropped.²

Like other Mayan languages, Kaqchikel has prevocalic and preconsonantal allomorphs of set A markers and some set B markers. The agreement morphemes of Kaqchikel are summarized in Table 1 (see also [Patal Majtzul 2007](#) and [Henderson 2012](#)).

Table 1: Set A and set B markers of Kaqchikel

Ergative/genitive (= set A)		Absolutive (= set B)	Person & number
V-initial	C-initial		
inw-/in-/w-/	(i)n-	i(n)-	1 person singular
aw-	a-	a(t)-	2 person singular
r-	ru-/u-	∅-	3 person singular
q-	qa-	oj-	1 person plural
iw-	i-	ix-	2 person plural
k-	ki-	e-	3 person plural

The examples showing the transitive and intransitive sentences are given in (1-a) and (1-b).

- (1) a. (yïn) x-e-in-tz'ët (rje')
 (I) PRFV-B3p-A1s-see (they)
 'I saw them'
 b. (rje') x-e-wär
 (they) PRFV-B3p-sleep
 'They slept.'

The absolutive agreement for third person singular is a null morpheme, which I will label as ∅.

- (2) a. (rja') n-∅-u-tz'ët (rja')
 he IMPFV-B3s-A3s-see he
 'He sees him'
 b. (rja') x-∅-wär
 he PRFV-B3s-sleep
 'He slept'

The word order of most Mayan languages is predicate-initial in pragmatically neutral contexts ([England, 1991](#); [Aissen, 1992](#)). In declarative clauses, grammatically encoded arguments such as external and internal arguments follow predicates. The elements functioning as predicates include verbs, adjectives and predicative nouns. Some dialects of Kaqchikel exhibit V(O)S order in pragmatically neutral clauses (e.g., [García Matzar and Rodríguez Guaján, 1997](#); [Patal Majtzul, 2007](#), cf. [England 1991](#)), as shown in (3).

²It appears that overt pronouns in the variant of Kaqchikel studied in the paper do not serve as emphatic pronouns with additional semantic effects such as a focus or topic interpretation - overt pronouns can be thus used as independent pronouns (cf. [England 1991](#)).

- (3) a. x-ø-u-sik' ri ab'äj ri achi.
 PRFV-B3s-A3s-catch DET stone DET man
 'The man picked up the stone.'
- b. x-ø-apon ri achi.
 PRFV-B3s-arrive DET man
 'The man arrived.'

(Patal Majtzul, 2007, : 48-49)

In contrast, the pragmatically neutral word order of declaratives in the Patzún dialect is SVO, as seen in (4).

- (4) Ri a Juan x-ø-u-sech jun sik'iwuj.
 DET CL Juan PRFV-B3s-A3s-lose a book
 'Juan lost a book.'

As England (1991) writes, "Kaqchikel is the language of the K'ichean branch that is perhaps the most insistent on SVO order today" (England, 1991, : 472). Clemens (2013) finds that verb-initial word order (with rising intonation) in simple sentences is understood as a polar question in the Patzún dialect. Clemens also observes that the Patzún dialect allows VOS order as well as SVO order for transitive sentences in embedded contexts. Despite the interesting nature of word order variation in Mayan languages, I will not attempt to provide an analysis for it in this paper (see Clemens and Polinsky in press for a recent overview of analyses of word order in Mayan and Austronesian languages).

Kaqchikel is a *wh*-movement language with V2 effects. The *wh* interrogative sentence becomes ungrammatical unless the *wh* phrase overtly moves to a left-peripheral position. This is demonstrated by (5-a) and (5-b).

- (5) a. **Achike_i** x-ø-u-sech ri a Juan?
 WH PRFV-B3s-A3s-lose DET CL Juan
 'What did Juan lose?'
- b. *ri a Juan x-ø-u-sech **achike**?
 DET CL Juan PRFV-B3s-A3s-lose WH

As will be introduced shortly, a possessor *wh* phrase in Kaqchikel can be realized as *achike* as well as *achoj*. As (5-a) and (5-b) show, however, *achike* can denote *what*. It also corresponds to *who* and *which* in English, depending on the context in which it is used. Despite their homophony, I will argue that possessor *achike* and non-possessor *achike* are derived different ways. Since Kaqchikel has no overt case-marking on nominals, this position seems a reasonably possible one.³ As we will see, these two types of *achike* behave differently in various respects. I will specifically refer to non-possessor *achike* as *general WH*, given its general use. Throughout the paper I will gloss non-possessor *achike* and possessor *achike* as WH and *whose*, respectively. Unless otherwise noted, *achike* in the paper refers to possessor *achike*. This is summarized in (6).

(6)

Gloss	(general)WH = who/what/which	whose
<i>Wh</i> phrase	<i>achike</i>	<i>achoj, achike</i>

³I will remain agnostic about the morphological realization of *wh* phrases in Kaqchikel.

2.2 Possessor constructions in Kaqchikel

Let us now turn to possessive constructions in Kaqchikel, which will be the focus of this paper. In Kaqchikel, a non-interrogative possessor follows the possessum as in the following examples. The set A marker signals possessor agreement. As briefly mentioned above, ergative and genitive are homophonous in Kaqchikel.⁴

- (7) a. R-ixjayil nu-xb'al x-ø-pe
 A3s-wife A1s-brother PRFV-B3s-come
 'My brother's wife came.'
- b. Ru-nupq'a r-ixjayil nu-xb'al x-ø-tzaq
 A3s-ring A3s-wife A1s-brother PRFV-B3s-fall
 'My brother's wife's ring fell.'

On the other hand, a possessor *wh* phrase must precede the possessum. I will show that Kaqchikel has two distinct types of possessor *wh* phrases — a fact which has not been reported in previous literature (see Broadwell 2005 for somewhat similar two types of possessor *wh* phrases in K'iche'). One type of a possessor *wh* phrase is *achoj*. *Achoj* must precede and pied-pipe its possessum. It cannot appear clause-initially by itself. As the following examples demonstrate, extraction of *achoj* alone is not possible from any position: unaccusative, unergative and transitive subjects and objects.⁵ In section 3.1, I will argue that the possessor *wh* phrase *achoj* undergoes movement. I will assume that *wh* movement in Kaqchikel targets Spec-CP.

- (8) a. [Achoj ru-nupq'a] x-ø-sach?
 whose A3s-ring PRFV-B3s-disappear
 'Whose ring disappeared?'
- b. *Achoj x-ø-sach ru-nupq'a ___?
 whose PRFV-B3s-disappear A3s-ring
- (9) a. [Achoj ru-te] x-ø-xajo ___?
 whose A3s-mother PRFV-B3s-dance
 'Whose mother danced?'
- b. *Achoj x-ø-xajo ru-te ___?
 whose PRFV-B3s-dance A3s-mother
- (10) a. [Achoj ru-tz'i'] x-a-b'a-o' ___?
 whose A3s-dog PRFV-B2s-bite-AF
 'Whose dog bit you?'
- b. *Achoj x-a-b'a-o' ru-tz'i' ___?
 whose PRFV-B2s-bite-AF A3s-dog
- (11) a. [Achoj ru-te] x-ø-a-k'ul ___?
 whose A3s-mother PRFV-B3s-A2s-meet
 'Whose mother did you meet?'

⁴As discussed by Aissen (1979) for Tzotzil, possessive constructions in Kaqchikel neutralize different notional relations such as (in)animate possessors, kinship, body-parts etc.: all these notions are expressed structurally in the same way.

⁵This contrasts with other Mayan languages like Tzotzil (Aissen, 1996) and Chol (Coon, 2010). In these languages, a possessor *wh* phrase can be extracted without pied-piping from unaccusative subjects and transitive objects, while such extraction is impossible from unergative and transitive subjects.

- b. *Achoj x-ø-a-k'ul ru-te ___?
 whose PRFV-B3s-A2s-meet A3s-mother

Let us now observe extraction patterns with multiple possessors. Example (7-b) constitutes a base-line sentence. (12-a) shows that *achoj* and one possessum noun can be subextracted out of the larger DP containing *ru-nupq'a* after *achoj* moves to precede its possessum. In (12-b), *achoj* undergoes DP-internal movement to precede both *ru-nupq'a* and *r-ixjayil*, and pied-pipes the whole DP. Notice that the order of *ru-nupq'a* and *r-ixjayil* remains unaltered. An intonational break (= #) is preferably placed between the preposed phrases and the verb. Example (12-c) demonstrates that the extraction pattern with an English-type word order (so-called *roll-up movement*) is impossible in Kaqchikel, as observed in other Mayan languages such as Tzotzil (Aissen, 1996) and Chol (Coon, 2009). Although the question arises of how roll-up movement is excluded and extraction patterns such as (12-b) and (12-a) are derived, I abstract away from detailed discussion of DP-internal movement as our primary purpose is to discern whether *achike* and *achoj* involve movement to Spec-CP (see below for a brief discussion). Of our particular interest is the fact that the possessor extraction with *achoj* in Kaqchikel allows both *subextraction* (12-a) and *maximal extraction* (12-b).

- (12) a. [Achoj r-ixjayil] x-ø-tzaq [ru-nupq'a ___]?
 whose A3s-wife PRFV-B3s-fall A3s-ring
 'Whose wife's ring fell?'
 b. [Achoj ru-nupq'a r-ixjayil] ??(#) x-ø-tzaq ___?
 whose A3s-ring A3s-wife PRFV-B3s-fall
 c. *[Achoj r-ixjayil ru-nupq'a] x-ø-tzaq ___?
 whose A3s-wife A3s-ring PRFV-B3s-fall

Consider the other possessor *wh* phrase, namely *achike*. In contrast to *achoj*, it must appear by itself in left-peripheral position, as seen in (13-a). When it pied-pipes a nominal, it is understood as *which*, as shown in (13-b): a non-possessor use of *achike*. *Achike* is separated from its possessum DP (= *r-ixjayil*) in post-verbal position.⁶ Possessor questions with *achike*, though available for the speakers I consulted, are less preferred than possessor questions with *achoj*.

- (13) a. Achike ?(chike rje') x-ø-sach [r-ixjayil ___] ?
 whose (among them) PRFV-B3s-disappear A3s-wife
 'Whose wife disappeared?'
 b. Achike r-ixjayil x-ø-sach ___ ?
 whose A3s-wife PRFV-B3sg-disappear
 *'Whose wife disappeared?'
 'Which wife disappeared?'

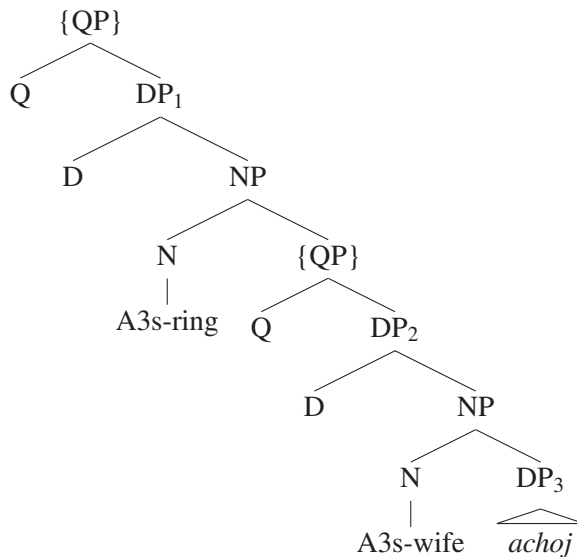
I will focus on these two types of possessor *wh* phrases and discuss how their surface positions are derived. The alternation between *achoj* and *achike* is possible with possessives encoding animate possessors, kinship, and body-part relations.⁷

⁶Note that in the case of *achike* the speakers' preference is to add *chike rje'* 'among them'. It is then tempting to relate the presence of *chike rje'* to the D-linking or referentiality of a *wh* phrase in the sense of Pesetsky (1987) and Cinque (1990). However it appears that the absence of *chike rje'* does not lead to ungrammaticality and that the speakers can receive a possessor interpretation without the phrase. For this reason I will parenthesize the phrase throughout the paper, and refrain from exploring a possible correlation between *possessor achike* and D-linking/referentiality.

⁷Although I will not provide complete paradigms for each of these relations throughout the paper, it should be acknowledged that the observed properties apply to all of the possessive constructions encoding these relations.

Before proceeding, let us briefly discuss the structure of possessive DPs and possessor questions formed with *achoj*. I adopt the analysis proposed by Coon (2009) for possessive questions involving (multiple) pied-piping in Chol. Coon (2009) argues that possessor questions of the language involve movement and that different patterns of extraction such as (12-a) and (12-b) can be correctly captured by adopting a QP analysis (Cable, 2007, 2010a,b). The gist of the QP analysis is that a *wh* phrase is contained by a phrase headed by a question particle (= QP), and what is attracted by the interrogative C is the QP, but not the *wh* phrase. Following Coon (2009), I posit the structure of possessive DPs such as (12), as shown in (14). On the assumption that Q can merge with either DP₁ or DP₂ (but not both), regular phrasal movement of the QP yields “pied-piping” extraction patterns. The QP analysis can thus dispense with special mechanisms such as feature percolation to derive pied-piping (see Coon 2009 for discussion of problems with a feature percolation approach to pied-piping in Mayan languages such as Chol). I go through each extraction pattern below — I defer detailed discussion of feature valuation until §3.1.

(14) *Q can merge with either DP₁ or DP₂*



I assume, based on Coon (2009), that the D head in interrogative possessives contains an unvalued Q-feature with an EPP feature, both of which need to be checked by the structurally closest element with a valued Q-feature: the *wh* phrase and the QP are assumed to bear a valued Q-feature. To derive the extraction pattern such as (12-a), the Q head merges with DP₂. The *wh* phrase moves to Spec-DP₂ to check the unvalued Q-feature on the D head. When DP₁ is merged, the QP, which contains *achoj* and *r-ixjayil*, moves to Spec-DP₁ to check the unvalued Q-feature — the QP is closer to Spec-DP₁ than the *wh* phrase. When the interrogative C is merged, it probes the QP and triggers phrasal movement of the QP to Spec-CP. This phrasal movement derives the extraction pattern in which *achoj* “pied-pipes” the possessum *r-ixjayil*.

In a sentence such as (12-b), the Q head merges with DP₁. The *wh* phrase moves through Spec-DP₂ to Spec-DP₁ for the purpose of the unvalued features on each D head: as a result, *achoj* precedes both *ru-nupq’a* and *r-ixjayil*. The QP, which contains the entire possessive phrase, is probed by C and undergoes phrasal movement to Spec-CP. This results in maximal extraction. To ensure that *achoj* must pied-pipe at least one nominal as shown above, I assume that the QP in Kaqchikel cannot directly merge with the DP₃ solely containing the possessor *wh* phrase. This type of merger of a QP is available in other Mayan languages such as Chol (Coon, 2009) and Tzotzil (Aissen, 1996) — the *wh* phrase alone can be extracted in possessor questions of these languages. I suspect that this difference might be reducible to a selectional

property of the Q head, though I leave its detailed discussion for further research.

Furthermore, under the QP analysis, Coon argues, the ban on roll-up movement such as the one in (12-c) can be explained on semantic grounds without recourse to additional assumptions or principles (see [Abels 2012](#), [Aissen 1996](#) and [Heck 2009](#) for different analyses of extractions involving pied-piping). Given that every possessor phrase is fronted in (12-c), one would need to merge a Q head with DP₁ and DP₂ in (14) to yield such a derivation under the QP analysis. To exclude multiple merge of a QP within a single possessive DP containing only a single *wh* phrase, Coon adopts a semantic analysis of Q-particles by [Cable \(2007, 2010b\)](#) and argues that the derivation of a sentence such as (12-c) is ruled out because it is uninterpretable by the semantics. While I cannot go into detail about Coon-Cable’s analysis of illicit roll-up movement here, its upshot is that some of the Q-particles in the structure cannot receive an argument of the right semantic type when multiple Q heads are merged in a sentence containing only a single *wh* phrase.⁸ Therefore, this analysis can derive the fact that at most one Q head may be associated with a single *wh* phrase.

3 Distinguishing two possessor *wh* phrases

3.1 Two types of C

In this section, I will make specific proposals about the two possessor *wh* phrases introduced in the previous section (i.e., *achoj* and *achike*).

I propose that *achike* is base-generated (or External-Merged) in Spec-CP, whereas *achoj* undergoes movement (or Internal-Merge) to Spec-CP. This is illustrated in (15). In (15-a), I posit a null resumptive pronoun (= *pro*) coindexed with *achike* in a possessive DP.⁹ I claim that this coindexation is made possible by the binding of *pro* by *achike*, following a base-generation analysis of resumption in Irish ([McCloskey, 1990, 2002](#)). The questions formed with *achike* thus do not involve movement but only a binding relation between an operator and its variable. Furthermore, it is assumed that the null resumptive pronoun receives a Possessor theta role inside the possessive DP and is morphologically licensed by possessor agreement on the possessum.

- (15) a. [_{CP} *Achike*_i [C . . . [_{DP} *pro*_i]]], where *pro* is a null resumptive pronoun.
b. [_{CP} [*Achoj* . . .]_i [C . . . [*t*_i . . .]]]

In (15-b), on the other hand, the *wh* phrase *achoj* pied-piping the possessum undergoes movement to Spec-CP. This minimal difference between (15-a) and (15-b) will play a crucial role in explaining the asymmetric syntactic behaviors of *achike* and *achoj*.

Let us address the question of how to account for the presence/absence of movement for the two possessor *wh* phrases. In what follows, we will limit our discussion to movement to Spec-CP (see §2.2 for discussion on DP-internal movement). I assume, following [Chomsky \(2000, 2001\)](#) and [Pesetsky and Torrego \(2007\)](#), that Agree, a precondition for movement, is initiated when a probe bears an unvalued feature. For convenience, I partly adopt the feature specifications of [Pesetsky and Torrego \(2007\)](#) for *wh* interrogatives.

⁸In Cable’s theory, Q-particles are analyzed as focus-sensitive operators in the sense of [Rooth \(1985\)](#): the operators take focus-semantic values such as the ones carried by *wh* phrases as arguments ([Coon, 2009, 174](#)).

⁹It seems difficult to predict the phonological overtiness of resumptive pronouns both across and within languages. It has been argued that many resumptive pronouns are non-overt ([McCloskey and Hale, 1984](#); [Sells, 1984, 1987](#)). In fact, Irish, which makes a fairly productive use of overt resumptives, does not overtly show resumption in possessor positions ([McCloskey, 1990](#)). I abstract away from discussion of the distribution of resumption in Kaqchikel (see [Imanishi 2013](#) for relevant discussion).

A probe with an unvalued feature X searches for a goal with a valued feature X within its c-command domain, and receives a value X from the goal via Agree.

Building on the analysis of resumptive and movement dependencies of Irish proposed by McCloskey (2002), I assume that the complementizer in the derivation of questions with *achike* bears a valued Q-feature and an EPP feature: the Q-feature corresponds to an *Op*-feature in McCloskey's analysis.¹⁰ Due to its valued nature, the Q-feature does not initiate an Agree operation between C (*probe*) and a *wh* phrase (*goal*). If the complementizer bears an EPP feature but no unvalued features like an unvalued Q-feature, the EPP feature can only be satisfied by External Merge. The possessor *wh* phrase is then External-Merged into Spec-CP to satisfy the EPP feature of the complementizer.¹¹ The derivation of a possessor *wh* question with *achike* is illustrated in (16). I notate valued and unvalued features as *v* and *u*, respectively.

- (16) *The derivation of a resumptive chain*
 $[_{CP} Achike_i = [vQ] [C = [vQ, +EPP] [_{TP} \dots [_{DP} pro_i] \dots]]]$

By contrast, let us assume that the complementizer found in possessor questions formed with *achoj* has an unvalued Q-feature and an EPP feature. The unvalued Q-feature triggers Agree, which demands the presence of a goal with a valued Q-feature in the c-command domain of a probe (Chomsky, 2000, 2001). As a result, *achoj* with a valued Q-feature must appear in a DP-internal possessor position and enter an Agree relation with C.¹² In addition, since C carries the EPP-feature, *achoj* must undergo movement to Spec-CP. The derivation of possessor *wh* questions with *achoj* is given in (17).¹³

- (17) *The derivation of a movement chain*
 $[_{CP} [Achoj = [vQ] \dots]_i [C = [uQ, +EPP] [_{TP} \dots t_i \dots]]]$

It is now necessary to mention *general WH achike*. As I will show in the subsequent sections, *wh* questions formed with *general WH achike* are derived via movement, in contrast to possessor *achike*. I suggest that the complementizer for questions with *general WH achike* is identical with the one for *achoj* in (17), as both of them involve movement.

To summarize, different types of complementizers result in two types of possessor *wh* questions in Kaqchikel. The following discussion will focus on the presence vs. absence of movement of possessor *wh* phrases to Spec-CP in order to support the proposed distinction between movement and resumptive dependencies found in possessor questions of Kaqchikel.

¹⁰I leave it open what is the range of possible values of this type of Q-feature. Pesetsky and Torrego (2007) speculate that a valued Q-feature which is interpretable might appear in yes/no questions with *if*.

¹¹To block a non-*wh* phrase from merging in Spec-CP to check the EPP feature on C, I assume that an interrogative C requires that an element with the denotation of a *wh* phrase be merged in its specifier.

¹²To be more precise, I assume that the valued Q-feature is carried by the QP as well as the *wh* phrase, as discussed in §2.2. While what is probed by C is actually the QP under the QP analysis, I will only refer to the *wh* phrase in discussing derivations for ease of exposition.

¹³To correctly yield derivations such as (16) and (17), I conjecture that the numeration in the sense of Chomsky (1995) for questions formed with *achike* contains a complementizer without an unvalued Q feature as in (16), whereas the one for questions formed with *achoj* comes with a complementizer with an unvalued Q feature as in (17) — here I do not assume the concept of *sub-numerations* (Chomsky, 2000): sub-numerations only contain lexical items used for the next phase (see Abels 2012 for critiques of sub-numerations). I state this as a condition on the numeration (see Chung 2006, for example, for a certain condition on the numeration including sluiced constituents).

3.2 Extraction out of a PP

In this subsection, I will provide evidence for the movement vs. resumption distinction of the possessor *wh* phrases *achoj* and *achike*, based on extraction out of a PP.

Like many other Mayan languages, Kaqchikel has an all-purpose preposition *pa*.¹⁴ It denotes *at*, *toward*, *in*, *near*, and *around*, depending on the context. Example (18) is a base-line sentence.

- (18) yin x-i-loq'-o'n [pa ru-k'ayij ri a Juan].
 I PRFV-B1s-shop-AP P A3s-store DET CL. Juan
 'I shopped at Juan's store.'

Let us now examine how possessor *wh* phrases behave with respect to extraction out of a PP. First, consider *achoj* in (19). As demonstrated by (19-b), full extraction of the DP out of the PP is banned: P-stranding is impossible. In order to yield a grammatical output, the whole PP must be pied-piped as in (19-a). Note in passing that *achoj* fronts to precede the possessum DP *ru-k'ayij*.¹⁵

- (19) a. [Pa achoj ru-k'ayij]_i x-a-loq'-o'n t_i ?
 P whose A3s-store PRFV-B2s-shop-AP
 'Whose store did you shop at?'
 b. *[Achoj ru-k'ayij]_i x-a-loq'-o'n [pa t_i] ?
 whose A3s-store PRFV-B2s-shop-AP P

Example (20-b) further shows that the subextraction of the DP out of the PP is not possible. Here too, the PP as a whole must be pied-piped, as seen in (20-a).¹⁶

- (20) a. [Pa achoj ru-k'ayij ru-chaq'araxel ru-xb'al]_i x-a-loq'-o'n t_i(wi)?
 P whose A3s-store A3s-younger A3s-brother PRFV-B2s-shop-AP (LOC)
 'Whose younger brother's store did you shop at?'
 b. ???[Achoj ru-chaq'araxel ru-xb'al]_i x-a-loq'-o'n [pa ru-k'ayij t_i] ?
 whose A3s-younger A3s-brother PRFV-B2s-shop-AP P A3s-store

That the source of the degraded status of (20-b) is the PP boundary can be confirmed by the near-minimal pair for (20-b) given in (21).

- (21) [Achoj ru-chaq'araxel ru-xb'al]_i x-ø-a-tz'ët [ru-k'ayij t_i] ?
 whose A3s-younger A3s-brother PRFV-B3s-A2s-see A3s-store
 'Whose younger brother's store did you see?'

In (21), the possessor *wh* phrase and the possessum are extracted out of the DP, not the PP. The resulting sentence is grammatical, in contrast to (20-b). Given these observations, we conclude that the PP is an

¹⁴Like other Mayan languages, Kaqchikel also has functional elements called *relational nouns* in the Mayan literature. Some relational nouns behave like inflected prepositions found in Irish and Welsh (see [García Matzar and Rodríguez Guaján 1997](#) and [Patal Majtzul 2007](#) for details about these relational nouns).

¹⁵The ordering in which the *wh* phrase precedes the preposition (= P-inversion) in examples such as (19-a) is also ill-formed. In contrast to Kaqchikel, other Mayan languages like Tzotzil allow this ordering, although it does not allow any extraction out of a PP, just as in Kaqchikel ([Aissen, 1996](#)). I leave it for future research whether the availability of P-inversion is reducible to the internal structure of PPs or some other sources of variation. What is important is that this variation does not have anything to do with the possibility of extraction from PPs.

¹⁶*Wi* behaves like a locative resumptive pronoun in that it appears when locative (*wh*) phrases are fronted. In (20-a), however, *wi* is optional when *pa* appears with the fronted *wh* phrase. I abstract away from detailed discussion of *wi* in the paper.

absolute island for extraction in Kaqchikel.

The ban on the extraction of *achoj* (and the nominal(s) it pied-pipes) out of a PP follows straightforwardly if (i) *achoj* undergoes movement and (ii) non-complements such as adjuncts and subjects are not transparent for movement whereas complements are. As shown by the following examples, these effects have been couched under *the Condition on Extraction Domains* (Huang, 1982) (see also Cattell 1976 and Chomsky 1986): henceforth the CED effects.

- (22) a. *[Which politician]_i did pictures of t_i upset the voters?
 b. *[Which paper]_i did you read *Don Quixote* before filing t_i?

(Nunes and Uriagereka, 2000)

While I do not develop a particular analysis of the CED effects (and particularly adjuncts) as it will go beyond the scope of the paper, I suggest, following a derivational view of islands (Chomsky 1986, Ross 1967 etc.), that the PP adjunct in the above examples of Kaqchikel constitutes an opaque domain for extraction as well as Agree and thus disallows extraction out of it, as in many other languages: (19-b) and (20-b) (see Nunes and Uriagereka 2000, Rackowski and Richards 2005, Stepanov 2007, Uriagereka 1999 among others for proposals of deriving the CED effects, and Boeckx 2008 and Abels 2012 for a succinct summary of the CED and the history of islands). On the other hand, the PP itself can be extracted along with the possessor *wh* phrase, as seen in (19-a) and (20-a).¹⁷ In §3.3.1, I will provide a specific analysis of a ban on extraction of and out of transitive subjects, but not intransitive subjects, in Kaqchikel.

While non-complements such as adjuncts do not allow subextraction, elements inside them must be still visible for the purpose of binding since binding into islands is generally possible, as shown by the following example of the binder-variable relationship across the adjunct island (see Boeckx and Grohmann 2007 for similar discussion of binding and spell-out domains).

- (23) Some linguist_i slept [while another linguist spoke to her_i].

(Johnson, 2009)

Given this, it can be assumed that non-complements allow binding into the elements inside them when a binder is merged. To the extent that possessor questions formed with *achike* involve a resumptive dependency, we predict that *achike* can freely bind and license a resumptive pronoun inside the PP when the former is merged in Spec-CP. This is confirmed by the following examples.

- (24) a. Achiket_i ?(chike rje') x-a-loq'-o'n [pa ru-k'ayij pro_i] ?
 Whose (among them) PRFV-B2s-shop-AP P A3s-store
 'Whose store did you shop at?'
 b. Achiket_i ?(chike rje') x-a-loq'-o'n [pa ru-k'ayij r-ixjayil pro_i] ?
 Whose (among them) PRFV-B2s-shop-AP P A3s-store A3s-wife
 'Whose wife's store did you shop at?'

In (24-a) and (24-b), *achike* is separated from the possessum within the PP. The grammaticality of the examples is consistent with our analysis that *achike* forms a resumptive chain, in contrast to *achoj*.

¹⁷I assume that a QP with a valued Q-feature is merged above the PP and the QP containing the PP and the elements inside it undergoes movement and checks an unvalued Q-feature as well as an EPP feature on C (see §2.2. for discussion of DP-internal movement).

3.3 Two types of possessor *wh* phrases and (sub)extraction

In what follows, I will support the movement vs. resumption distinction of the possessor *wh* phrases, based on several extraction facts of Kaqchikel. The first test I will employ as a testing ground for the present analysis is the phenomenon known as *agent focus* in Mayan languages. Second, I will discuss the asymmetry concerning subextraction of *wh* phrases out of the subject and the object.

3.3.1 Agent focus

As widely attested in Mayan languages, A-bar extraction of the transitive subject (e.g., *wh* question, relativization, clefts), but not the intransitive subject, in Kaqchikel triggers *agent focus* (= AF). The verb in the AF construction bears special verbal morphology: *-ö/o'o* (= AF morphology) in root transitives (= CVC or monosyllabic) or *-n* in derived transitives (= *-j*). In AF constructions, the verb loses its set A (= ergative) marker. As a result, the verb only bears a set B (= absolutive) marker. Consider the examples in (25).

- (25) a. Achike x-ø-u-tz'ët ri achi?
WH PRFV-B3s-A3s-see DET man
'Who did the man see?' / *'Who saw the man?'
- b. Achike x-ø-tz'et-ø ri achi?
WH PRFV-B3s-see-AF DET man
'Who saw the man?' / *'Who did the man see?'

(Ajsivinac and Henderson, 2011)

In (25-a), the object *wh* phrase is fronted, and the verb is transitive in that it has two sets of agreement markers. As indicated by the translation, the sentence cannot be interpreted as a subject *wh* question. In (25-b), by contrast, the ergative *wh* subject is extracted. The verb must have the AF morphology *-o*, and it only has a set B (= absolutive) marker. It cannot be an object *wh* question, as suggested by the translation. The AF construction should be distinguished from antipassives since the patient argument in the former is not demoted to an oblique, unlike in the latter: the patient argument in antipassives is often omitted or appears as oblique (see Polinsky 2011 among others for a crosslinguistic overview of antipassives).

Many different proposals have been made to explain the nature of AF constructions (Aissen, 1999; Ajsivinac and Henderson, 2011; Assmann et al., 2013; Campana, 1992; Dayley, 1981; Erlewine, 2015; Larsen and Norman, 1979; Norcliffe, 2009; Stiebels, 2006).¹⁸ For convenience, I will adopt a phase-based account by Coon et al. (2014). This account focuses on a particular characteristic of those languages that display AF (= AF languages), building on the insights of Tada (1993). As has been noted by Bricker (1977), Robertson (1980), Tada (1993), Mayan languages can be divided into two classes, depending on the position of a set B marker (= absolutive morpheme) on the predicate: *high* vs. *low absolutive* languages. In high absolutive languages, the absolutive morpheme precedes both the ergative morpheme and the verb. As can be seen from the examples above, Kaqchikel is a high absolutive language. On the other hand, the absolutive morpheme in low absolutive languages follows the set A marker (= ergative morpheme) and the verb, as seen in the examples of Chol in (26).

¹⁸See Preminger (2011, 2014) for an extensive study of agreement properties governed by a person/number hierarchy found in AF of K'ichean, primarily Kaqchikel.

- (26) a. Tyi a-k'el-e-yoñ
 PRFV A2s-watch-TV-B1s
 'You watched me.'
 b. Tyi ts'am-i-yoñ
 PRFV bathe-ITV-B1s
 'I bathed.'

(Coon, 2010, : 48)

The verbal template of high and low absolutive languages is illustrated as below.

- (27) HIGH VS. LOW ABSOLUTIVE LANGUAGES IN MAYAN
 a. *High absolutive* languages: Asp-ABS-ERG-V (Q'anjob'al, Kaqchikel etc.)
 b. *Low absolutive* languages: Asp-ERG-V-ABS (Chol, Tseltal etc.)

The gist of Coon et al. (2014) is, developing the generalization by Tada (1993), that high absolutive languages like Kaqchikel display AF, whereas low absolutive languages like Chol do not. I show below that the phase-based analysis by Coon et al. (2014), which focuses primarily on Q'anjob'al, can capture AF constructions in Kaqchikel.¹⁹

Building on proposals such as Legate (2002, 2008) and Aldridge (2004, 2008) that the variation among ergative languages can be reduced to the locus of absolutive Case assignment, Coon et al. (2014) argue that absolutive Case in high-absolutive languages is assigned by finite Infl (hereafter Infl) and ergative Case by transitive *v* — I will use capital-C “Case” for abstract Case to distinguish it from morphological case.²⁰ In the discussion that follows, I suppose (i) that absolutive/ergative Case is morphologically null in Mayan and (ii) that there is a one-to-one correspondence between the absolutive/ergative morpheme and absolutive/ergative Case: the presence of the absolutive or ergative morpheme implies the presence of absolutive or ergative Case, respectively, and vice versa (see Imanishi 2014 for detailed discussion).

I show that the Case assignment model in high absolutive languages introduced above is supported by the contrast between finite and non-finite clauses in Kaqchikel, using a diagnostic first developed by Legate (2002, 2008) for Warlpiri (see also Aldridge 2004, 2008 for discussion of Austronesian languages). In finite complement clauses of Kaqchikel such as (28), the absolutive morpheme as well as the aspectual marker (= *y-*) is present.

- (28) Rin kan qitzij [chi y-ix-in-wajo'].
 I truly true that IMPF-B2p-A1s-love
 'As for me it's true that y'all love me.'

(Henderson and Coon, 2015)

There is a set of predicates in the language that take non-finite clauses as their complement. For instance, non-finite clauses may appear in the complement of verbs like *chäp* 'begin' and the progressive aspectual

¹⁹There is further division when we consider non-verbal predicates. For example, the absolutive morpheme in some Mayan languages such as Q'eqchi' (Berinstein, 1985; DeChicchis, 1989) and Q'anjob'al (Coon et al., 2014) is “high” in verbal predicates, whereas it is “low” in non-verbal predicates such as copular sentences - the absolutive morpheme follows the predicative noun.

²⁰For low-absolutive languages, Coon et al. propose that absolutive Case for the transitive object as well as ergative Case for the transitive subject is assigned by *v*, whereas absolutive Case for the intransitive subject is assigned by Infl. The difference between high absolutive and low absolutive languages regarding the way of absolutive Case assignment is stated as a *Mayan Absolutive Parameter* in Coon et al. (2014).

predicate *ajin*.²¹ These non-finite clauses lack an aspectual marker and have been argued to undergo nominalization (Imanishi, 2014). Crucially, no absolutive agreement morpheme appears in the non-finite clause, as seen in (29) and (30). The bracketed form is a non-finite clause.

- (29) rat x-ø-a-chäp [atin-ik]
 you PRFV-B3s-A2s-begin bathe-NOMNL
 ‘You began to bathe.’
- (30) röj x-ø-qa-chäp [ki-k’ul-ik rje’].
 we PRFV-B3s-A1p-begin A3p-meet-NOML they
 ‘We began to meet them.’

Example (30) further shows that the set A marker, but not the set B marker (= absolutive morpheme), appears inside the non-finite clause, and that the set A marker is cross-referenced by the third person plural object (see Imanishi 2014 for detailed discussion of alignment patterns found in nominalization of various Mayan languages including Kaqchikel).

The absence of the absolutive morpheme in non-finite clauses of Kaqchikel follows from the aforementioned analysis that finite Infl assigns absolutive Case in high absolutive languages: absolutive Case disappears altogether when Infl is absent in contexts such as non-finite clauses. As for the set A marker cross-referencing the transitive object in (30), I suggest that it is actually genitive Case assigned by the D of the nominalized clause — recall that ergative and genitive are homophonous across Mayan (see Imanishi 2014 for a detailed analysis of nominalized non-finite clauses in Kaqchikel).²² In this respect, I follow one of the syntactic approaches to nominalizations (particularly process nominals) in that nominal functional projections dominate verbal projections containing arguments (Borsley and Kornfilt, 2000; Alexiadou, 2001; Fu et al., 2001; Coon, 2010, 2013; Kornfilt and Whitman, 2011, *inter alia*).

Coon et al. (2014) take this particular way of absolutive Case assignment in AF languages a step further. The crucial components of Coon et al.’s analysis of AF are (i) that a ν P phase has a single escape hatch, and (ii) that the transitive subject is properly contained within the ν P. As for (i), they conjecture that ν Ps pattern with CPs in that they may be parameterized as to whether they are restricted to a single escape hatch: Bulgarian CPs have multiple escape hatches, whereas English CPs are restricted to a single escape hatch. In Coon et al.’s analysis, Mayan ν Ps realize “the English of verb-phrases” (Coon et al. 2014: 35), thereby restricting the ν P domain to a single escape hatch.

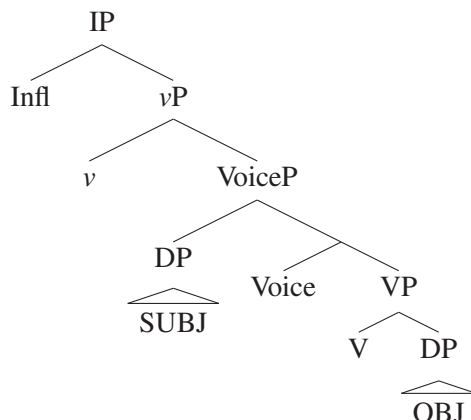
Regarding (ii), they propose the structure for transitive clauses as shown in (31), on the assumption that transitive subjects are generated externally to a lexical VP (Hale and Keyser, 1993; Chomsky, 1995; Kratzer, 1996) and specifically in Spec-VoiceP (see Harley 2013 for motivations for the separation of ν P and VoiceP).²³

²¹Although not only non-finite clauses but finite clauses may appear in the complement position of *ajin* and *chäp*, I will focus on non-finite complement clauses in this paper.

²²I remain silent about why both ergative and genitive are realized as set A markers, although they are assigned different ways under the present analysis: recall that ergative is assigned by ν , following Coon et al. (2014).

²³The exact labels of the projections within a verbal domain are irrelevant – VP, VoiceP and ν P are all extended projections of a verb in the sense of Grimshaw (1991). What is crucial is that the highest projection of the domain (here ν P) constitutes a phase.

(31)



Voice is taken to be the locus of voice morphology such as the active or (anti)passive voice morpheme and the AF morpheme. Coon et al. argue that transitive v P s are phases, while all intransitive v P s are not. Under this analysis, the phasehood of v P s correlate with the transitivity of the verb (see Coon et al. 2014 and Imanishi 2014 for evidence for v P above VoiceP).²⁴

Assuming that a transitive v P constitutes a phase and the complements of the phase head are Spell-Out domains and inaccessible to further syntactic operations (= the *Phase Impenetrability Condition*, henceforth PIC) (Chomsky, 2001), Coon et al. argue that the object will move to the single escape hatch of a v P (= Spec- v P) in high absolutive languages, as illustrated in (32). Specifically, they posit that the movement of the object is triggered by an EPP feature on v : not only transitive v but intransitive v is assumed to bear an EPP feature.²⁵ If the object stays within a VP, it cannot receive absolutive Case from Infl since it is contained inside the Spell-Out domain of a v P. We have demonstrated that Infl is the source of absolutive Case in Kaqchikel.²⁶ The subject receives ergative Case from transitive v . The framed constituent in (32) is a Spell-Out domain of the phasal v P.²⁷

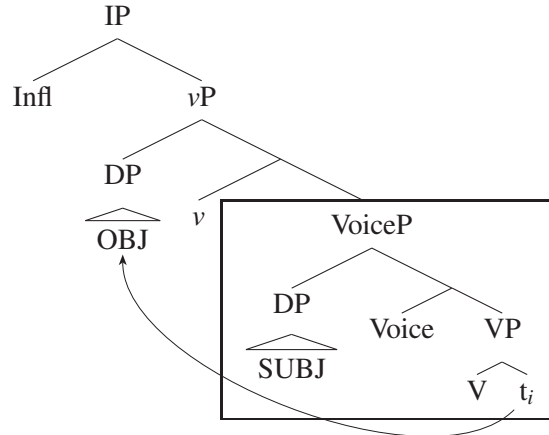
²⁴This is similar to Chomsky (2001), who assumes that the phasehood of v P s relates to whether an external argument appears in Spec- v P (contra Legate 2003).

²⁵Coon et al. (2014) acknowledge that the movement of the object might involve a violation of minimality since the subject is closer to v than the object is. Although they do not provide an answer to this potential problem of minimality, they mention that it could be solved by assuming that the transitive subject is not equipped with the feature(s) which would intervene v 's probing of the object, saying "probing will be intervened with only by other targets that also bear the feature(s) sought by the probe" (Coon et al. 2014: 35).

²⁶Coon et al. posit that absolutive morphemes or set B markers appearing adjacent to the aspect marker in high absolutive languages are derived via clitic doubling of the full absolutive DP. Following recent analyses such as Preminger (2009) in that clitic doubling requires a strict adjacency condition, they suggest that the absolutive object, which moves to the position adjacent to Infl (= a host of cliticization) as shown in (32), undergoes clitic doubling. This captures the "high" position of absolutive morphemes (at least of verbal predicates) in high absolutive languages like Kaqchikel (see Coon et al. for discussion on non-verbal predicates).

²⁷I assume, without further argument, that the surface SV(O) order in declarative clauses of Patzún Kaqchikel is derived by post-syntactic preposing of the subject to Spec-CP via operations such as PF movement. This post-syntactic movement should be distinguished from the type of PF movement advanced in Sauerland and Elbourne (2002) — they argue that PF movement is governed by the same constraints as the ones regulating regular syntactic operations. The post-syntactic movement that I assume here takes place in the PF component simply to affect linear order. It is thus not subject to syntactic and/or syntax-PF interface constraints such as the one responsible for AF to be discussed below: it is "stylistic" in a sense (see Aoun and Benmamoun 1998 for a similar, though not identical, idea of PF movement). As mentioned in §2.1, VOS order as well as SVO order is possible in embedded clauses. I leave it for future research why the pragmatically neutral order is derived by PF movement in matrix clauses and why PF movement is optional in embedded clauses. Clemens (2013) also proposes that the subject targets Spec-CP in SVO

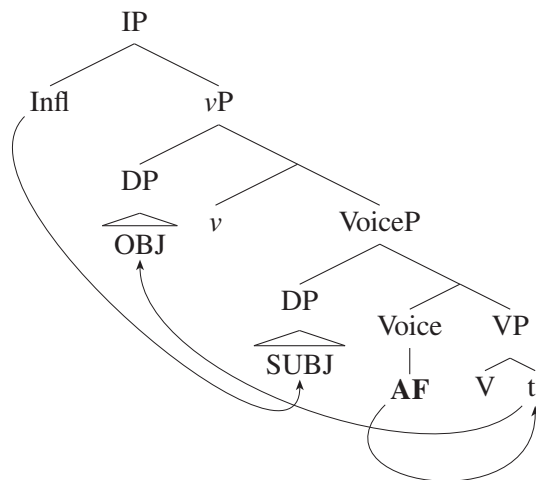
(32)



This configuration becomes relevant to AF, as Coon et al. argue. Crucially, when C probes the transitive subject in *wh* questions, the absolutive object blocks subject extraction by “trapping” the subject in situ. In other words, since the single escape hatch of a *vP* is occupied by the object, the subject cannot be probed by C, as it is in the Spell-Out domain of the *vP*. In contrast, the object can be probed by C since it is in the edge of the *vP*. This explains the extraction asymmetry, as shown in (25-a). Since the intransitive *v* does not constitute a phase by hypothesis, the subject can be probed by C in *wh* questions. The intransitive subject also receives absolutive Case from Infl: intransitive *v* does not assign ergative Case under Coon et al.’s analysis and many other analyses which associate *v* with ergative Case (Legate, 2002; Aldridge, 2004; Woolford, 2006, *inter alia*).

Unless there is any way to get around the ban on extraction of the transitive subject, it cannot be A-bar extracted in AF languages such as Kaqchikel. Coon et al. (2014) propose that the grammar employs the AF morpheme in order to circumvent this ban in the following way. Building on the analysis of AF in the related language Popti’ (also known as Jacalteco or Jakalteco) by Ordóñez (1995), they suggest that the AF morpheme assigns Case to the notional object. They take Voice head found in AF constructions to be responsible for this Case assignment. As a result, Infl can assign absolutive Case to the subject. This is illustrated in (33).

(33)



Given that the ergative morpheme does not appear in AF sentences (see (25-b)), Coon et al. propose that the

order of Patzún Kaqchikel, but she claims that such movement takes place in the syntax to satisfy an EPP feature on C (see also Aissen 1992 for the claim that subjects in the preverbal position of some Mayan languages move to A' positions associated with topic and focus).

head of νP in AF constructions is intransitive ν and hence does not assign ergative Case. This means that the νP in AF constructions does not constitute a phase.²⁸ Crucially, the notional object *does not* trap the subject even though the former raises to the single escape hatch of the νP for the purpose of the EPP feature, since the νP does not trigger Spell-Out — recall that intransitive ν as well as transitive ν bears an EPP feature which attracts the object. As a result, the subject can be probed by C and extracted in *wh* questions.²⁹

In Coon et al.’s account of AF, which follows the insights of [Ordóñez \(1995\)](#), the use of the AF morpheme in transitive subject extraction is a ‘last-resort’ strategy. In fact, they postulate that the type of Voice head found in AF constructions, namely the one which assigns Case to the object, “cannot be merged in derivations where the notional subject ultimately remains in situ” ([Coon et al. 2014](#): 47). I follow and develop this statement to propose the following condition on insertion of the AF morpheme (see [Erlewine 2015](#) for discussion on some exceptions).

(34) *The condition on the insertion of the AF morpheme*

The AF morpheme is inserted if and only if the transitive subject in the edge of VoiceP is probed and attracted by C in A-bar constructions.

I suggest that the condition in (34) functions as an output filter when phase head C triggers Spell-Out.³⁰ The insertion of the AF morpheme is prohibited when the transitive subject is not extracted as in object *wh* questions or resumptive constructions, according to (34). The condition in (34) also bans the use of the AF morpheme in derivations such as the one in which a *wh* phrase is extracted *out of* the subject (= subextraction), as this would leave the subject in situ. In contrast, the AF morpheme may and must be inserted when the subject is extracted along with the *wh* phrase embedded inside it via pied-piping as in possessive constructions.

The following examples of possessor *wh* questions confirm part of (34) (see §3.3.2 for more discussion). In (35-a), the transitive subject (= *ru-tz’i’*) is extracted while it is pied-piped by its *wh* possessor (= *achoj*). Crucially, the AF morpheme is inserted to the verb. As shown by (35-b), the absence of the AF morpheme results in ungrammaticality. Since possessor questions formed with *achoj* are derived via movement under our analysis, they are expected to pattern with simple transitive subject extraction, as seen in (25-b), in terms of the insertion of the AF morpheme.

- (35) a. [Achoj ru-tz’i’]_i x-a-b’a-o’ t_i ?
 whose A3s-dog PRFV-B2s-bite-AF
 ‘Whose dog bit you’

²⁸As Coon et al. point out, the verbal morphology of Q’anjob’al further supports the intransitive status of the verb found in AF constructions.

²⁹As [Assmann et al. \(2013\)](#) point out, however, there are several counterexamples to Coon et al.’s analysis. First, the ergative subject can undergo A-bar extraction without AF if the absolutive object is also A-bar extracted in some Mayan languages including Kaqchikel. This fact poses a problem for the assumption that a νP is restricted to a single escape hatch. Another problem concerns *undergeneration*. Coon et al.’s analysis would predict that the absolutive object blocks extraction of not only the ergative subject but all elements inside a νP such as PPs, since the object occupies the single escape hatch of the νP . However, extraction of instrumental and locative phrases is possible in Kaqchikel and other Mayan languages, contrary to the prediction. See Coon et al for possible solutions to the undergeneration problem.

³⁰One might argue that a phase-boundary problem might arise for (34): how one can relate the presence of an AF morpheme within νP to the presence of an A-bar moved subject in Spec-CP. This problem does not arise in the case of AF constructions since νP is not a phase by hypothesis as discussed above. As for transitive sentences, I suggest that elements inside the already spelled out domain are still visible for a certain type of licensing such as binding and that insertion of the AF morpheme is subject to this type of licensing — as [Boeckx and Grohmann \(2007\)](#) point out, pronominal binding is possible across phase-boundary (see §3.3.2 for relevant discussion). The filter such as (34) may be necessary in any type of analysis which takes insertion of the AF morpheme as a last resort strategy such as [Ordóñez \(1995\)](#) and [Coon et al. \(2014\)](#).

- b. *[Achoj ru-tz'i']_i x-a-r-b'a' t_i ?
 whose A3s-dog PRFV-B2s-A3s-bite
 '(intended) Whose dog bit you'

The question emerges as to how subextraction of *wh* phrases proceeds. The phase-based account of AF we have adopted would predict that nothing can be extracted out of the transitive subject since the object occupying the single escape hatch of a phasal *vP* blocks not only extraction of the transitive subject but extraction *out of* the transitive subject: both the transitive subject and elements inside it are contained within the Spell-Out domain of the *vP* and hence cannot be probed by C. Recall that the *wh* phrase *achoj* cannot be extracted by itself. The subextraction of *achoj* thus cannot be tested in situations such as (35). The next subsection will address this issue and demonstrate that the present analysis of possessor *wh* phrases can account for subextraction facts in Kaqchikel, combined with the phase-based analysis of AF.

3.3.2 Extraction asymmetry: subextraction

In this subsection, I will support the proposed distinction between *achoj* and *achike*, based on the asymmetry regarding subextraction out of subjects and objects. As shown by (36), extraction out of the subject is banned in English, whereas extraction out of the object is not. This extraction asymmetry has been captured by the CED (see §3.2 for discussion on the CED and adjuncts).

- (36) a. ?*Who_i does a picture of t_i hang on the wall?
 b. Who_i did you see a picture of t_i?

As will become clear, not all subjects behave the same way regarding subextraction in Kaqchikel, unlike in English. I will show that the phase-based analysis of AF discussed in §3.3.1 fares better than the CED or whatever theory treats all subjects together in explaining subextraction facts in Kaqchikel. In the following discussion, I will focus on subextraction out of subjects and objects (see §3.2 for subextraction out of a PP).

Assuming that the presence of an extraction asymmetry of any type is a diagnostic for movement, we can make a set of predictions, based on the present analysis. If *achike* does not involve movement but forms a resumptive chain, it should not display an extraction asymmetry. By contrast, the asymmetry should manifest itself in the case of *achoj* since it involves movement. As I will show below, these predictions are indeed borne out. The examples in (37) show that *achike* does not exhibit the subject-object asymmetry.

- (37) a. Achike_i ?(chike rje') x-a-r-b'a' [ru-tz'i' pro_i]?
 whose (among them) PRFV-B2s-A3s-bite A3s-dog
 'Whose dog bit you'
 b. Achike_i ?(chike rje') x-ø-a-tz'ët [ru-tz'i' pro_i]?
 whose (among them) PRFV-B3s-A2s-see A3s-dog
 'Whose dog did you see?'

As shown by the ungrammaticality of (38), the AF morpheme cannot be inserted in possessor questions with *achike* even when it is associated with the transitive subject. This is because the condition in (34) is violated: *achike* does not involve extraction and the transitive subject is in situ.

- (38) *Achike_i ?(chike rje') x-a-b'a-ø' [ru-tz'i' pro_i] ?
 whose (among them) PRFV-B2s-bite-AF A3s-dog
 '(intended) Whose dog bit you'

Turning to possessor questions formed with *achoj*, recall that it cannot move by itself (see 3.1.2 for detailed discussion): instead it must pied-pipe a DP, as shown by the repeated examples below.

- (39) a. [Achoj r-ixjayil]_i x-ø-sach t_i
 whose A3s-wife PRFV-B3s-disappear
 ‘Whose wife disappeared?’
 b. *Achoj_i x-ø-sach [r-ixjayil t_i]
 whose PRFV-B3s-disappear A3s-wife

Because of this, it seems difficult to construct an example in which *achoj* is extracted out of the subject. The subject as a whole must be extracted in such a case. Once another possessor is added, however, it becomes possible to construct a subextraction test. It is now our task to examine if *achoj* can be extracted out of the transitive subject with multiple possessors. As (40-b) shows, *achoj* cannot be subextracted out of the transitive subject. To derive a grammatical sentence, the whole subject must be pied-piped as in (40-a).³¹

- (40) a. [Achoj ru-tz’i’ r-ixjayil]_i x-a-b’a-o’ rat t_i ?
 whose A3s-dog A3s-wife PRFV-B2s-bite-AF you
 ‘Whose wife’s dog bit you?’
 b. *[Achoj r-ixjayil]_i x-a-r-b’a rat [ru-tz’i’ t_i]?
 whose A3s-wife PRFV-B2s-A3s-bite you A3s-dog

Furthermore, the counterpart of (40-b) with the AF form is also ungrammatical, as seen in (41).³²

- (41) *[Achoj r-ixjayil]_i x-a-b’a-o’ rat [ru-tz’i’ t_i]?
 whose A3s-wife PRFV-B2s-bite-AF you A3s-dog
 ‘(intended) Whose wife’s dog bit you?’

This can be captured by the condition on AF in (34). Since the subject (= *ru-tz’i’*) remains in situ, insertion of the AF morpheme is prohibited, according to (34). Hence, only the maximal extraction pattern as in (40-a) is possible — the AF morpheme is inserted since the subject is extracted.

By contrast, the subextraction of *achoj* out of the object is possible, as we saw earlier in (21). This is shown in (42-b). As seen in (42-a), the extraction of the whole DP is also possible.³³

- (42) a. [Achoj ru-tz’i’ r-ixjayil]_i x-ø-a-che’y t_i rat?
 whose A3s-dog A3s-wife PRFV-B3s-A2s-hit you
 ‘Whose wife’s dog did you hit?’
 b. [Achoj r-ixjayil]_i x-ø-a-ch’ey [ru-tz’i’ t_i] rat?
 whose A3s-wife PRFV-B3s-A2s-hit A3s-dog you

³¹The examples in (40) and (42) suggest that the subject does not move to Spec-CP and remains in postverbal position following the raised object if other elements such as *wh* phrases move to the position in the syntax (see Clemens 2013 for relevant discussion). This is consistent with the assumption made in 3.3.1 that the movement of the subject follows syntactic movement and targets the same position (= Spec-CP) as the one to which the *wh* phrase moves.

³²Recall that the object needs to move to Spec-*v*P to check an EPP feature on *v* in AF constructions as well as transitive sentences under the analysis of Coon et al. (2014): the order between the object and the subject is thus an expected one. I have confirmed that the sentence is still ungrammatical if the object follows the subject in (41).

³³One of the speakers does not allow subextraction from either subject or object position. There is thus no contrast between (40-b) and (42-b). It is, however, relevant to note that this speaker is reluctant to accept multiple pied-piping patterns such as (40-a) and (42-a) in the first place. It might be the case that the speaker forms (pied-piping) *wh* extractions in a different manner than other speakers. A proper account of the speaker variation regarding the availability of certain (sub)extraction patterns will stay beyond the scope of this paper.

The asymmetry regarding the extraction of *achoj* can receive a natural account from the phase-based analysis of AF discussed in §3.3.1 (Coon et al., 2014). As outlined in §3.3.1, the notional object moves to the single escape hatch of the phasal *vP* to satisfy an EPP feature on *v* in transitive sentences. This is schematized in (43).

(43) $[_{CP} C [_{IP} \text{Infl } [_{vP} [_{DP} \text{OBJ}]_i v [_{VoiceP} [_{DP} \text{SUBJ}] \text{Voice } [_{VP} V t_i]]]]]$

In this configuration, the subject cannot be probed and extracted by C, unless the AF verbal form is used — the subject is trapped inside the Spell-Out domain of the phasal *vP*. For the same reason, elements inside the subject cannot be extracted out of it, as they are in the Spell-Out domain of the *vP*. The ungrammatical extraction pattern of (40-b) realizes this derivation. In this case, the AF morpheme cannot be inserted since it would violate the condition on AF (= (34)). The elements inside the subject can be extracted via pied-piping of the subject by using the AF form (see §3.3.1 for details about how AF facilitates subject extraction), as shown in (40-a).

In contrast, the object allows subextraction in configurations such as the one in (43). Given that it is in the edge of the *vP*, elements inside the object are not trapped and can be extracted out of it. Hence, both maximal extraction and subextraction patterns are possible, as we observed in (42).

As for possessor questions formed with *achike* such as the ones in (37), we have argued that the *wh* phrase *achike* directly merged in Spec-CP binds *pro* in the possessor position: therefore, the extraction asymmetry does not arise. However, the question emerges as to how *achike* can access *pro* in the possessor position of the subject as in (37-a): *pro* is in the Spell-Out domain of the *vP* under the present analysis, as seen in (43). To address this problem, I suggest, following the insights of Boeckx and Grohmann (2007), that syntactic items in the already spelled-out domain are still accessible for pronominal binding, just as in the case of adjuncts (see §4 for more discussion). Whatever theory of binding one may adopt, an assumption of this sort may need to be made under phase theory.

Combined with the movement analysis of *achoj*, the phase-based analysis of AF predicts that *achoj* can be extracted out of intransitive subjects. Since the object does not occupy the single escape hatch of a *vP* plus the non-phasal status of intransitive *v*, elements inside the intransitive subject should be able to be extracted. This prediction is confirmed. Recall that the subextraction of *achoj* is possible out of the unaccusative subject, as seen in example (12-a), repeated as (44). *Achoj* can also be subextracted out of the unergative subject, as seen in (45). We also observed in §2.2 that extraction of unergative and unaccusative subjects per se is possible.

(44) $[Achoj \text{ r-ixjayil}]_i \text{ x-}\emptyset\text{-tzaq} \quad [ru\text{-nupq}'a \quad t_i]?$
 whose A3s-wife PRFV-B3s-fall A3s-ring
 ‘Whose wife’s ring fell?’

(45) $[Achoj \text{ r-ixjayil}]_i \text{ x-}\emptyset\text{-xajo}' \quad [ru\text{-te} \quad t_i]?$
 whose A3-wife PRFV-B3s-dance A3s-mother
 ‘Whose wife’s mother danced?’

The asymmetry between intransitive and transitive subjects with respect to subextraction is unexpected under other theories of movement such the CED (Huang 1982; cf. Stepanov 2007): all subjects would be expected to disallow subextraction. Thus, the subextraction facts discussed in this section provide further support for the phase-based account of AF.

Before closing this subsection, it is also relevant to note that *general WH achike* displays the extraction asymmetry, as shown by the examples in (47), suggesting that it is derived via movement. Example (46) is a base-line sentence of (47-a). As seen in (47-a), *general WH achike* cannot be extracted out of the subject: the

AF verbal form does not make the sentence grammatical. In contrast, *general WH achike* can be extracted out of the object in (47-b). The contrast between (47-a) and (47-b) receives the same account as the one developed above for the subject-object asymmetry found in possessor questions formed with *achoj*.

- (46) Ru-chofer ri taxi x-ø-u-b'an accidente.
 A3s-driver DET taxi PRFV-B3s-A3s-do accident
 'A driver of the taxi had an accident.'
- (47) a. *Achike_i x-ø-u-b'an/x-ø-b'an-o' accidente [ru-chofer t_i]?
 WH PRFV-B3s-A3s-do/PRFV-B3s-do-AF accident A3s-driver
 'What_i did a driver of t_i have an accident?'
- b. Achike_i x-ø-a-tz'ët [ru-chofer t_i]?
 WH PRFV-B3s-A2s-see A3s-driver
 'What did you see a driver of t_i?'

The existence of the subject-object asymmetry with *wh* questions as in (47-a) and (47-b) supports our claim that two identical *wh* phrases (= possessor *achike* and *general WH achike*) involve different derivations, but happen to be spelled-out as the same form.

The present analysis predicts that (47-a) can have a grammatical reading if the question is formed by *possessor achike*, which under our analysis involves resumption, and has a possessor interpretation: *whose driver had an accident?*. The resumptive dependency should not exhibit an extraction asymmetry, as we observed in (37-a). This prediction is confirmed. Example (47-a) with a possessor interpretation improves when the AF morpheme is removed. This is consistent with our analysis that *possessor achike* does not involve movement and hence the AF morpheme cannot be inserted, according to the condition in (34).

To summarize, the subextraction facts have provided further support for the claim that *achoj* heads a movement chain, whereas (*possessor*) *achike* heads a resumptive chain. In particular, the impossibility of extraction out of the transitive subject, but not the transitive object and the intransitive subject, has strongly suggested that *achoj* is derived via movement, and that the phase-based analysis of AF (Coon et al., 2014) offers a principled account of the extraction asymmetry found in dependencies headed by *achoj*. The absence of such asymmetry in questions formed with (*possessor*) *achike* can be explained by lack of movement.

4 The clause-mate condition on resumption

4.1 Island effects in resumptive dependencies

In this subsection, I will show that the proposal so far makes some incorrect predictions about the range of island violations that should be observable with *achike*. I will provide a solution to the problem and show that the solution can make further correct predictions, coupled with the proposal I have advocated.

I have argued that a null resumptive pronoun appears in possessor questions formed with *achike*, and that *pro* as a variable must be bound by its operator *achike*. The discussions in the preceding sections have revealed the absence of movement from a clause-internal position in the case of possessor questions formed with *achike*, in contrast to the ones with *achoj*. This predicts that *achike* should violate island constraints because it only requires a variable binding relation. In fact, it was shown that possessor questions with *achike* can be formed across a PP island, while the ones formed with *achoj* cannot. We would thus predict that the contrast between *achike* and *achoj* regarding island (in)sensitivity generalizes to other syntactic islands. It is well-known that variable binding is immune to various islands, while movement is not, as demonstrated by the following examples involving a complex NP.

- (48) a. Every linguist_i reviewed [the claim that this interested her_i].
 b. *Which linguist_i did you review [the claim that this interested t_i]?

(Johnson, 2009)

As it turns out, however, this prediction is not confirmed. Crucially, *achike* as well as *achoj* displays island effects. In particular, the island insensitivity of *achike* is not generalized to other types of islands. Example (49) gives the grammatical cases of long-distance dependencies with *achike* and *achoj*.

- (49) a. [Achoj ru-tz'i']_i x-ø-a-b'ij [chin x-ø-a-tz'ët t_i]?
 whose A3s-dog PRFV-B3s-A2s-say that PRFV-B3s-A2s-see
 'Whose dog did you say that you saw?'
 b. Achike_i ?(chike rje') x-ø-a-b'ij [chin x-ø-a-tz'ët [ru-tz'i' pro_i]]?
 whose (among them) PRFV-B3s-A2s-say that PRFV-B3s-A2s-see A3sg-dog
 'Whose dog did you say that you saw?'

The following data demonstrate that *achike* as well as *achoj* is sensitive to both strong and weak islands: a *wh*-island in (50), a complex NP in (51) and an adjunct island in (52). The island sensitivity of *achoj* is expected since it involves movement.

- (50) a. Aw-etama [si ri a Juan x-ø-u-loq' ri sik'iwuj]?
 A2s-know whether DET CL Juan PRFV-B3s-A3s-buy DET book
 'Do you know whether Juan bought the book?'
 b. *[Achoj ru-sik'iwuj]_i aw-etama [si ri a Juan x-ø-u-loq' t_i]?
 whose A3g.-book A2s-know whether DET CL Juan PRFV-B3s-A3s-buy
 '(intended)Whose book do you know whether Juan bought?'
 c. *Achike ?(chike rje') aw-etama [si ri a Juan x-ø-u-loq' [ru-sik'iwuj
 whose (among them) A2s-know whether DET CL Juan PRFV-B3s-A3s-buy A3s-book
 pro_i]]?

'(intended)Whose book do you know whether Juan bought?'

- (51) a. *[Achoj ru-tz'i']_i x-ø-a-tz'ët [ri achin ri [x-ø-ch'ey-o t_i]]?
 whose A3s-dog PRFV-B3s-A2s-see DET man DET PRFV-B3s-hit-AF
 '(intended) Whose dog did you see the man who hit?'
 b. *Achike_i ?(chike rje') x-ø-a-tz'ët [ri achin ri [x-ø-ch'ey-o [ru-tz'i'
 whose (among them) PRFV-B3s-A2s-see DET man DET PRFV-B3s-hit-AF A3s-dog
 pro_i]]]?

'(intended) Whose dog did you see the man who hit?'

- (52) a. rja' x-ø-b'e [antes-de-que x-ø-u-sk'ij ri ru-wuj].
 s/he PRFV-B3s-go/leave before PRFV-B3s-A3s-read DET A3s-book
 'S/he left before reading his/her book.'
 b. *[Achoj ru-wuj]_i x-ø-b'e rja' [antes-de-que x-ø-u-sk'ij t_i]?
 whose A3s-book PRFV-B3s-go/leave s/he before PRFV-B3s-A3s-read
 '(intended) Whose book did s/he leave before reading?'

c.??*Achike_i ?(chike rje') x-ø-b'e rja' [antes-de-que x-ø-u-sk'ij
 whose (among them) PRFV-B3s-go/leave s/he before PRFV-B3s-A3s-read
 [ru-wuj *pro*_i]]?
 A3s-book
 '(intended) Whose book did s/he leave before reading?'

In this respect, Kaqchikel appears to contrast sharply with other languages that employ a resumptive strategy such as Irish and Hebrew. It has been observed by McCloskey (1979, 1990, 2002, 2006) and Borer (1984) that island effects are absent in relative clauses with a resumptive pronoun, whereas the relative clause formed by movement displays island sensitivity. The representative data from Hebrew in (53) illustrates this point.

- (53) a. raiti et ha-yeled še dalya makira et ha-iša še ohevet **oto**
 saw-I ACC the-boy that Dalya knows ACC the-woman that loves him
 'I saw the boy that Dalya know the woman that loves him.'
 b. *raiti et ha-yeled še dalya makira et ha-iša še ohevet __
 saw-I ACC the-boy that Dalya knows ACC the-woman that loves
 'I saw the boy that Dalya know the woman that loves him.'

(Borer, 1984)

One might now argue that the postulation of a resumptive pronoun in Kaqchikel is misguided and that *achike* is actually derived via movement. If *achike* involved movement in the same way that *achoj* does, the presence of island effects would naturally follow. The full picture of resumption is by no means so simple, as has been pointed out in the literature. Aoun et al. (2001) claim that resumptive pronouns in Lebanese Arabic are derived via either movement or base-generation, on the basis of the presence of reconstruction effects. In particular, they propose that the resumptive dependency can be formed via movement when the pronoun is not separated from its antecedent by an island. It is in this type of resumptive constructions that reconstruction effects are observed in Lebanese Arabic (see §4.2 for discussion on reconstruction in resumptive constructions). When a resumptive pronoun is derived via movement in the language, they claim, movement originates from a clause-internal position or more precisely a DP-internal position (see Aoun et al. 2001 for details). Moreover, it has been reported that some languages that make use of a resumptive pronoun display island sensitivity in some types of resumptive pronouns. Hausa is one of these languages. Tuller (1986) observes that *wh* interrogatives with a resumptive pronoun are sensitive to islands, whereas relative clauses with a null resumptive pronoun (which is indicated by *pro*) are not (see also Asudeh 2011, 2012 and Guillot and Malkawi 2011 for recent discussion of different types of resumption in relation to island sensitivity). This is shown in (54).

- (54) a. *Waa ka san maatar da ta yi maganaa da **shii**
 who 2sg.masc. know woman REL 2sg.fem. do speech with him
 'Who do you know the woman that talked to him?'
 b. mutumin da ka san littaaftin da *pro* ya rubuutaa
 man REL 2sg.masc. know book-the REL 3sg.masc. write
 'the man that you know the book that wrote'

(Tuller, 1986)

Koopman (1983) also shows that the resumptive pronoun obligatorily present in the subject position of A-bar constructions in Vata is a spelled-out trace: it is derived via movement (see Engdahl 1985, 1986 for

a similar analysis of subject resumptives in Swedish).³⁴ As Koopman argues, the resumptive pronoun in Vata is employed in order to rescue a potential violation of the *Empty Category Principle* (ECP) in subject position. Other positions thus do not host a resumptive pronoun in the language. If a resumptive pronoun in Kaqchikel were a subset of these kinds of resumptive pronouns (i.e., Lebanese Arabic/Hausa/Vata), the presence of island effects would be unproblematic. Recall, however, that the properties of *achike* that we have uncovered in the preceding sections strongly suggest that it does not involve movement from a clause-internal position, contra Aoun et al. (2001) and Koopman (1983). The presence of island effects with dependencies formed with *achike* thus presents us with a paradox.

To resolve the paradox, I propose that a resumptive operator (i.e., *achike*) and a null resumptive pronoun (i.e., *pro*) in Kaqchikel must meet the Clause-Mate Condition (see Iatridou 1994 for a precursor of this proposal). Here ‘clause’ is intended to mean CP. The condition can be stated in (55).

(55) **Clause-Mate Condition on Resumptive Chains (CCRC)**

The resumptive operator (i.e., *achike*) and its variable (i.e., *pro*) must be clause-mates at the point when the operator is External-Merged.

Combined with our proposal, which holds that *achike* be External-Merged (or base-generated) in Spec-CP, the CCRC forces it to be External-Merged into the same CP as a resumptive pronoun. However, the CCRC raises a non-trivial question of how it can be incorporated in phase theory (Chomsky, 2001). If (transitive) ν P and CPs are phases, the immediate question is how to evaluate whether the CCRC is satisfied when a resumptive pronoun is in a different Spell-Out domain from its operator in Spec-CP. As shown in §3.3, extraction of the subject *wh* phrase out of the Spell-Out domain of the previous phase is impossible due to the PIC. Simultaneously, I have suggested in §3.3.2 that elements in the already spelled-out domain are still visible for the purpose of binding (see also Boeckx and Grohmann 2007). With this, it can be argued that when the pronoun is in the Spell-Out domain of the transitive ν P phase, it is visible to the operator appearing in the next phase (= Spec-CP), and hence the evaluation of the CCRC is possible across phase boundary. Recent works such as Baker (2014, 2015) have also independently argued that the contents of the Spell-Out domain of a ν P phase in a certain group of languages remain visible in the next phase for the purpose of (dependent) case assignment: to be precise, only new c-command relationships among constituents in the prior phase are considered.³⁵

Let us now show that the CCRC can resolve the paradox I stated above. The CCRC derives the configuration in (56) for long-distance dependencies of *achike* such as (49-b) (see McCloskey 1979, 2002 for the same type of resumptive chains found in Irish). For ease of exposition I ignore intermediate landing sites other than Spec-CPs.

(56) $[_{CP2} \text{Achike}_i \text{ (Internal-Merge) } \dots [_{CP1} t_i \text{ (External-Merge) } [\dots [_{DP} \text{pro}_i]]]]]$

Achike is External-Merged into the embedded Spec-CP to satisfy the CCRC since *pro* appears in the embedded clause. *Achike* then undergoes movement to the matrix Spec-CP in order to take scope.³⁶ Since

³⁴This type of a resumptive pronoun would be predicted to display reconstruction properties, given that it involves movement, as pointed out by an anonymous reviewer. In contrast, the type of a resumptive pronoun that is not analyzed as a case of movement such as the one in Irish would not be expected to display reconstruction effects (see §4.2, however, for the complexity of this issue).

³⁵Baker (2014, 2015) updates the model of dependent case assignment originally proposed by Marantz (1991) under phase theory. He claims that dependent case assignment takes place at the interface (= Spell-Out) between the syntax and PF.

³⁶I assume that the embedded complementizer responsible for the initial merge of *achike* only bears the EPP feature and forms a resumptive dependency, and that the matrix complementizer triggers Agree and attracts *achike* due to its unvalued Q-feature and EPP feature, just as it normally does in the case of *achoj*. As noted above, the mixed chain of this kind has been observed in languages such as Irish (McCloskey, 1979, 1990, 2002, *inter alia*). As shown by works by McCloskey, two different complementizers (the

the data we examined in the preceding sections involve a simple clause, it just happens to be the case that quantification (i.e., scope-determination of a *wh* phrase) and satisfaction of the CCRC both take place at the root Spec-CP, or the only position for meeting the two needs in a simple clause. This can account for the non-movement properties of *achike*: as long as a single clause is involved, *achike* is not derived via movement.

When the surface position of *achike* is separated by an island from its first Merge position in (56), however, island effects arise. Regarding the *wh*-island such as (50), *si*, which I assume occupies Spec-CP, blocks the merge of the *wh* phrase, thereby incurring a violation of the CCRC: *achike* cannot be merged in the same clause as *pro*. In the case of *achoj*, the island effect arises because the movement of the *wh* phrase from clause-internal position violates *relativized minimality* (Rizzi, 1990) or the *Minimal Link Condition* (Chomsky, 1995): *si* serves as an intervener. For other islands such as the complex NP in (51) and the adjunct island in (52), assuming that the relative clause in (51) is merged as an adjunct (Lebeaux, 1991; Chomsky, 2004), extraction out of the adjuncts in (51) and (52) is impossible because they are opaque domains for extraction, as discussed in §3.2: *achike* must be first merged inside the adjunct which contains *pro*. The CCRC can thus account for the presence of island effects with *achike* in (50) through (52).

The CCRC can also capture the absence of island effects with *achike* across the PP boundary in a single clause. This is repeated below.

- (57) a. Achike_i ?(chike rje') x-a-loq'-o'n [pa ru-k'ayij pro_i] ?
 Whose (among them) PRFV-B2s-shop-AP P A3s-store
 'Whose store did you shop at?'
 b. Achike_i ?(chike rje') x-a-loq'-o'n [pa ru-k'ayij r-ixjayil pro_i] ?
 Whose (among them) PRFV-B2s-shop-AP P A3s-store A3s-wife
 'Whose wife's store did you shop at?'

Since there is no CP boundary between the operator position and the PP, *achike* is External-Merged into Spec-CP and binds *pro* within the PP from that position (see §3.2 for discussion). Thus island effects are not expected to arise, in accordance with the fact. The CCRC predicts that *achike* does not void PP island effects when it is separated by an island other than a PP island from *pro* appearing inside the PP. This is illustrated below.

- (58) *_{[CP₂ Achike_i . . . [island . . . [CP₁ t_i [. . . [PP [DP pro_i]]]]]]]}

Since CP₁ is the clause that contains both *achike* and *pro*, *achike* must be first merged in CP₁ due to the CCRC. When *achike* raises to its scope position (i.e., Spec-CP₂), the island effect arises (see above for a possible analysis of islands). This prediction is confirmed by the following example of the complex NP, which is taken as a representative test of the prediction in question.

- (59) *<sub>[CP₂ Achike_i ?(chike rje') x-ø-a-tz'ët [DP ri achin ri [CP₁ t_i [x-ø-loq'-o'n [pa
 whose (among them) PRFV-B3s-A2s-see DET man DET PRFV-B3s-shop-AP P
 ru-k'ayij pro_i]]]]]]]?
 A3s-store
 '(intended)Whose store did you see the man who shopped at?'</sub>

one that triggers movement and the one that does not) are realized as different forms in Irish. The actual form of complementizers thus helps identify the existence of the mixed chain as well as other types of (mixed) chains in Irish. In particular, (McCloskey, 2002, 204), whose idea I have adopted, offers a similar analysis of the feature composition of the complementizers involved in derivations such as (56) in Irish.

In (59), *achike*, which is merged in Spec-CP₁ to satisfy the CCRC, is separated by the complex NP from its scope position. Furthermore, (60) confirms that the ungrammaticality of (59) is not due to a CP boundary.

- (60) [CP₂ Achike_i ?(chike rje') x-ø-a-b'ij rat [CP₁ t_i [chin x-ø-loq'-on ri a
 whose (among them) PRFV-B3s-A2s-say you that PRFV-B3s-buy-AP DET CL
 Juan [pa ru-k'ayij pro_i]]]]?
 Juan P A3s-store
 'Whose store did you say that Juan shopped at?'

Importantly, the contrast between (57) and (59) strongly suggests that the domain of locality that is relevant to resumption in Kaqchikel is not the PP containing a resumptive pronoun, but the CP. If the licensing of a resumptive pronoun must take place at PP, the examples in (57) would be expected to be ungrammatical in parallel with *achoj*, since *achike* would have to move out of it in that case. However, the (un)grammaticality of (57) and (59) along with (60) indicates that what is needed for the licensing of a resumptive pronoun is the clause-mateness of the operator and the resumptive pronoun.

Before closing this section, let us note two implications of our analysis. It was noted above that resumptive languages like Hebrew and Irish do not display island effects when a resumptive pronoun is employed, in contrast to Kaqchikel. We can capture this difference by arguing that the CCRC is not operative in Hebrew and Irish, while it is in Kaqchikel.³⁷ In other words, a resumptive operator in Hebrew and Irish can be merged into the higher clause than the one containing a resumptive pronoun due to the absence of the CCRC. When the operator is separated by an island from the resumptive pronoun, it can bind the resumptive pronoun via long-distance (see McCloskey 1990, 2002 for this line of analysis of resumption in Irish). Therefore island effects do not arise, as variable binding is possible across an island boundary. The relevant contrast between Kaqchikel and Irish/Hebrew is shown below.³⁸

- (61) a. *[CP₂ Op = *achike*_i . . . [**island** . . . [CP₁ t_i [. . . [DP . . . RP_i]]]]] Kaqchikel
 b. [CP₂ Op_i . . . [**island** . . . [CP₁ [. . . [RP_i]]]]] Irish/Hebrew
 (RP = resumptive pronoun)

Another implication concerns the way of chain formation in language. The configuration in (56) reveals that *achike* forms a resumptive chain first in the embedded CP, and then forms a movement chain en route to the matrix CP. This is tantamount to saying that resumptive and movement chains are mixed in a single non-local dependency. As mentioned above, it has been observed in a few languages such as Irish (McCloskey, 1979, 2002) and Selayarese (Finer, 1997) that the mixed chain of a similar kind is allowed by UG. If our analysis is correct, Kaqchikel can thus provide further evidence that both resumptive and movement chains can be mixed in a single derivation.

To summarize this section, it has been shown that our proposal makes a problematic prediction, particularly the presence of island effects with *achike*. To solve this problem, I have proposed that the CCRC is operative in Kaqchikel, and demonstrated that it can explain the island sensitivity of *achike*. In addition, by suggesting that the CCRC is parameterizable, the present analysis can capture the absence of island effects in resumptive dependencies of Hebrew and Irish.

³⁷This is not intended to argue that the CCRC is a language-particular rule or a primitive of the theory. I posit that the CCRC results from the interaction of different sets of primitives. I leave a proper account of the issue for future research (see §4.2 for relevant discussion).

³⁸Kaqchikel does not seem isolated with respect to the CCRC. Iatridou (1994) argues that the Clitic Left Dislocation in Modern Greek and Italian is constrained by a condition similar to the CCRC. Likewise, Bhatt (2003) proposes a condition on Merge for correlatives, where a CP rather than a phase is relevant.

4.2 Towards a better understanding of the CCRC

Now that it has been shown that the CCRC can capture a series of facts regarding resumptive dependencies in Kaqchikel, I briefly address the question of whether the CCRC could be derived from any grammatical principles, though further work is necessary to answer the question definitively. It is worth noting that one of the Agree-based approaches to resumption may provide future direction for a better understanding of the nature of the CCRC.³⁹ Among several analyses resorting to the operation Agree such as [Adger and Ramchand \(2005\)](#) (see [Rouveret 2011](#) for a succinct summary of these analyses as well as other types of approaches to resumption), [Rouveret \(2002, 2008\)](#) proposes that resumptive dependencies (in Welsh) are formed via Agree and hence subject to the PIC ([Chomsky, 2001](#)): the *Phasal Agree* approach, to use Rouveret's terms. In this analysis, resumptive chains obey strict locality constraints in the same way that movement chains do, because the resumptive pronoun and the periphery (or the C head) are linked via Agree, a precondition for movement. It is also relevant to note that the resumptive construction in Welsh displays island effects just as in Kaqchikel. In what follows, we will consider whether the insights of the Phasal Agree approach could be extended to better understand clause-mate effects found in resumptive constructions of Kaqchikel.

The gist of the Phasal Agree approach can be summarized as follows. Rouveret suggests that the relative complementizer (or C) *y* found in resumptive constructions of Welsh such as the one given in (62) enters into an Agree relation with the resumptive pronoun (= *ef*).

- (62) *y dyn y siaradasoch chwi ag ef*
the man C spoke you with him
'The man that you spoke with'

([Rouveret, 2008](#))

Rouveret hypothesizes that Agree is not followed by movement in resumptive strategies, unlike in the case of gap (or movement) strategies. In particular, Rouveret proposes the following feature composition of the relative C head found in resumptive constructions as well as the resumptive pronoun ([Rouveret, 2008](#)). The relative C *y* bears uninterpretable ϕ features, which receive their values from the interpretable counterparts on the resumptive pronoun via Agree. In addition, the C head carries an interpretable [Rel] feature, which is responsible for the relative status of the clause, whereas the resumptive pronoun is equipped with the uninterpretable [Rel] feature. The relative C also comes with an EPP feature. Given that Agree is not followed by movement in resumptive structures under this analysis, Rouveret posits, the EPP feature on the C head can only be checked by the direct merge of a null operator into Spec-CP. The operator in Spec-CP binds the resumptive pronoun.

Rouveret further suggests that the Agree relation between the resumptive C head and the resumptive pronoun is successively established. When the resumptive pronoun is contained within a phasal ν P, it cannot be accessed by the C head due to the PIC: the complement of the phase head ν undergoes Spell-Out.⁴⁰ To ensure that the pronoun is accessible to the C head, it is proposed that the intermediate (phasal) ν head carries uninterpretable ϕ and [Rel] features ([Rouveret, 2008](#)). The feature configuration of Welsh resumptive relative constructions can be schematized as below (RP = resumptive pronoun).

³⁹I am grateful to an anonymous reviewer for helpful discussion on this issue.

⁴⁰In Welsh, the movement strategy must be employed when local subjects and objects are relativized ([Rouveret, 2008](#)). Rouveret assumes that these elements can be merged at or move to Spec- ν P so that they are eligible for Agree and can undergo movement. Other positions such as the object of a preposition and non-local subjects and objects must use a resumption strategy for relativization, Rouveret suggests, because these positions do not have access to the edge of ν P phase.

(63) [y T [...v RP...]]
u- ϕ /i-Rel/EPP u- ϕ /u-Rel i- ϕ /u-Rel

(Rouveret, 2008, *slightly modified*)

The resumptive pronoun first forms an Agree relation with the v and values its uninterpretable ϕ features. Due to their uninterpretable [Rel] features, the v and the pronoun remain syntactically active after the initial instance of Agree. Subsequently, the v enters into an Agree relation with the C head, resulting in the valuation of the uninterpretable ϕ features on the latter. Furthermore, the C values the uninterpretable [Rel] feature on v . Importantly, the Agree relation between C and v ultimately values the uninterpretable [Rel] feature on the pronoun via the formation of an *Agree chain* in the sense of Rouveret (2011): the links of the chain are “connected through a series of Agree relations” (Rouveret, 2011, 21). Finally, a null operator is merged into Spec-CP to check the EPP feature on the C head and binds the pronoun. This completes the derivation of resumptive structures as seen in (63). Rouveret (2008) offers a similar explanation for long-distance dependencies formed with resumption: intermediate phase heads such as v and C are argued to bear uninterpretable ϕ and [Rel] features so that successive Agree relations can be formed between these heads, with the result that the resumptive pronoun can be linked to the topmost C.

As mentioned above, resumptive constructions in Welsh display island effects. To capture this under the Phasal Agree analysis, Rouveret (2008) suggests that islands are opaque domains for Agree either because island-inducing heads do not bear the features necessary for agreement across a phase boundary (such as the ones discussed above) or because the heads introduce another phase boundary so that the resumptive pronoun is deeply embedded and inaccessible for further operation. Given that Agree is involved in both movement and resumptive chains in this approach and subject to the PIC (*contra* Bošković 2007), the presence of islands effects in both cases follow straightforwardly (see also Rouveret 2008 for discussion on the extension of the Phasal Agree analysis to resumption in Irish).⁴¹

If we hypothesize, following Rouveret’s analysis, that resumptive dependencies in Kaqchikel are derived via Agree (which is not followed by movement), we could capture clause-mate effects found in resumptive constructions of the language, although we do not attempt to develop an analysis of the feature composition of the items involved in the constructions here. In particular, when it comes to long-distance dependencies of resumption, we could extend the analysis for Welsh to Kaqchikel. One can posit that the topmost C can form an Agree relation with the resumptive pronoun via successive Agree relations with intermediate phase heads such as (transitive) v and C, just as in the case of relative constructions formed with resumption in Welsh: recall that we have assumed that only a transitive v P as well as a CP in Kaqchikel is phasal, following Coon et al. (2014). The *wh* phrase is directly merged into a specifier of the topmost C to check its EPP feature in the same way as a null operator in Welsh: therefore, no movement of the *wh* phrase takes place in long-distance dependencies of resumption, in contrast to our analysis. To explain island effects found in resumptive constructions of Kaqchikel, we could follow Rouveret (2008) in that islands are opaque domains for Agree (see above for details on this proposal). Therefore, neither movement nor resumptive dependencies can be formed across islands, given that Agree is a precondition for movement. We can then capture the fact that movement and resumption alike are sensitive to island constraints in Kaqchikel.

However, regarding the positions where only resumption is possible, one would need to assume that movement is subject to some independent constraints of which Agree is free — recall that resumptive dependencies in Kaqchikel can be formed across the PP boundary and the transitive subject, whereas movement dependencies cannot, as seen in §3.2 and §3.3.2. While I abstract away from detailed discussion on how

⁴¹As for the island insensitivity of resumption in languages such as Irish and Hebrew, Rouveret (2008, 2011) suggests that the A’-binding option which does not resort to Agree is employed as proposed in McCloskey (1990).

to derive the complementary distribution between movement and resumption in Kaqchikel using the Phasal Agree analysis, it would be necessary to state particular conditions on movement, since Agree is involved in both movement and resumptive chains in this analysis.⁴² By contrast, under the analysis developed throughout the paper, we do not need to state additional conditions that hold only for movement but not Agree, as resumptive chains do not involve Agree. Movement cannot take place out of the PP and the transitive subject in Kaqchikel because Agree cannot access these positions in the first place due to locality constraints such as the PIC, and accordingly movement cannot be invoked. Since our analysis adopts a license-by-binding analysis of resumption, resumptive dependencies can be formed across these positions: (variable) binding is generally possible across phase boundary or adjuncts, as discussed in §3.2 and §3.3.2.

Setting aside these potential challenges that the Phasal Agree analysis might face to account for a set of facts about resumption in Kaqchikel, it is important to note that our analysis, particularly the CCRC, and the Phasal Agree analysis make different predictions. One of the salient predictions concerns reconstruction. According to the CCRC, resumptive and movement chains can be mixed in long-distance dependencies formed with possessor *achike*, as seen in (56). Since the *wh* phrase undergoes movement from its initial merge position (= the embedded Spec-CP) and leaves a trace/copy in these configurations, our analysis would predict that reconstruction effects can be observed. By contrast, the Phasal Agree analysis would predict that long-distance dependencies formed with *achike* lack these effects completely or partly, since they do not involve movement. Rouveret (2008) shows that resumptive relatives in Welsh (which are analyzed as involving Agree) do not display the same range of reconstruction effects as in movement strategies, but they display reconstruction properties in a limited way. For example, Principle C effects are absent, whereas reconstruction effects associated with pronominal and anaphoric binding emerge in resumptive constructions of Welsh. Therefore, the investigation of reconstruction effects would serve to distinguish between our analysis adopting the CCRC (and hence the existence of a mixed chain such as (56) in Kaqchikel) and the Phasal Agree analysis.⁴³ I leave this task for future work.

5 Conclusion

I have argued for the existence of resumption in Kaqchikel on the basis of the analysis of possessor interrogatives. Our analysis has shown that resumptive dependencies in Kaqchikel are constrained by the *Clause-Mate Condition on Resumptive Chains* (CCRC). This forces a resumptive operator to be merged into the same clause as a resumptive pronoun. As a result, in the case of long-distance dependencies a resumptive construction displays movement properties such as island sensitivity, whereas it does not in simple clauses. We have suggested that resumptive dependencies in languages like Irish and Hebrew do not display island effects unlike in Kaqchikel because the CCRC is not operative in these languages. Thus, the investigation into Kaqchikel has provided a new insight into the domain of locality relevant to resumption in language. I leave it for future research how the CCRC can be derived in grammar.

⁴²Rouveret (2011) suggests that the movement of the prepositional complement in Welsh is impossible (partly) because neither pied-piping nor P-stranding is allowed: resumption is obligatory for this position. However, this analysis does not straightforwardly extend to Kaqchikel. As shown in §3.2, P-stranding *per se* is not the source of the ill-formedness of movement: (19-b) vs. (20-b). In addition, pied-piping is available in Kaqchikel. Thus, some other constraints on movement would be necessary under the Phasal Agree analysis to rule out movement, but not Agree, across the PP.

⁴³I thank an anonymous reviewer for helpful discussion.

References

- Abels, Klaus. 2012. *Phases: An essay on cyclicity in syntax*. Berlin/Boston: Walter de Gruyter.
- Adger, David. 2011. Bare resumptives. In *Resumptive pronouns at the interfaces*, ed. Alain Rouveret. Amsterdam/Philadelphia: John Benjamins.
- Adger, David, and Gillian Ramchand. 2005. Merge and move: Wh-dependencies revisited. *Linguistic Inquiry* 36:161–193.
- Aissen, Judith. 1979. Possessor ascension in Tzotzil. In *Papers in Mayan linguistics*, ed. Laura Martin, 89–108. Columbia, Mo: Lucas Publishers.
- Aissen, Judith. 1992. Topic and focus in Mayan. *Language* 68:43–80.
- Aissen, Judith. 1996. Pied-piping, abstract agreement, and functional projections in Tzotzil. *Natural Language and Linguistic Theory* 14:447–491.
- Aissen, Judith. 1999. Agent focus and inverse in Tzotzil. *Language* 75:451–485.
- Ajsivinac, Sina Juan, and Robert Henderson. 2011. Agent focus morphology without a focused agent: Restrictions on objects in Kaqchikel. In *The proceedings of FAMLi*, ed. Kirill Shklovsky, Pedro Mateo Pedro, and Jessica Coon. Cambridge, MA: MIT working papers in linguistics.
- Aldridge, Edith. 2004. Ergativity and word order in Austronesian languages. Doctoral Dissertation, Cornell University.
- Aldridge, Edith. 2008. Generative approaches to ergativity. *Language and Linguistic Compass: Syntax and Morphology* 2:966–995.
- Alexiadou, Artemis. 2001. *Functional structure in nominals: Nominalization and ergativity*. Amsterdam/Philadelphia: John Benjamins.
- Aoun, Joseph, and Elabbas Benmamoun. 1998. Minimality, reconstruction, and PF movement. *Linguistic Inquiry* 29:569–597.
- Aoun, Joseph, Lina Choueiri, and Norbert Hornstein. 2001. Resumption, movement, and derivational economy. *Linguistic Inquiry* 32:371–403.
- Assmann, Anke, Doreen Georgi, Fabian Heck, Gereon Müller, and Philipp Weisser. 2013. Ergatives move too early: On an instance of opacity in syntax. In *Rule interaction in grammar*, ed. Fabian Heck and Anke Assmann, *Linguistische Arbeitsberichte* 90, 363–412. Leipzig: Universität Leipzig.
- Asudeh, Ash. 2011. Towards a unified theory of resumption. In *Resumptive pronouns at the interfaces*, ed. Alain Rouveret, 121–187. Amsterdam/Philadelphia: John Benjamins.
- Asudeh, Ash. 2012. *The logic of pronominal resumption*. Oxford: Oxford University Press.
- Baker, Mark C. 2014. On dependent ergative case (in Shipibo) and its derivation by phase. *Linguistic Inquiry* 45:341–379.
- Baker, Mark C. 2015. *Case: Its principles and its parameters*. Cambridge: Cambridge University Press.
- Berinstein, Ava. 1985. *Evidence for multiattachment in K'ekchi Mayan*. New York/London: Garland Publishing.
- Bhatt, Rajesh. 2003. Locality in correlatives. *Natural Language and Linguistic Theory* 485–541.
- Boeckx, Cedric. 2003. *Islands and chains: Resumption as stranding*. Amsterdam: John Benjamins.
- Boeckx, Cedric. 2008. Islands. *Language and Linguistics Compass* 2:151–167.
- Boeckx, Cedric, and Kleanthes K. Grohmann. 2007. Remark: Putting phases in perspective. *Syntax* 10:204–222.
- Borer, Hagit. 1984. Restrictive relatives in Modern Hebrew. *Natural Language and Linguistic Theory* 2:219–260.

- Borsley, Robert D., and Jaklin Kornfilt. 2000. Mixed extended projections. In *Syntax and semantics: The nature and function of syntactic categories*, ed. Robert D. Borsley, volume 32, 101–131. San Diego: Academic Press.
- Bošković, Željko. 2007. On the locality and motivation of Move and Agree: An even more minimal theory. *Linguistic Inquiry* 38:589–644.
- Bricker, Victoria R. 1977. Pronominal inflection in the Mayan languages. In *Occasional paper 1*. New Orleans: Middle American Research Institute at Tulane University and the Zemurray Foundation.
- Broadwell, George Aaron. 2005. Pied-piping and optimal order in Kiche (K'iche'). Manuscript. University at Albany, State University of New York.
- Brown, McKenna R., Judith M. Maxwell, and Walter E. Little. 2006. *La ütʷ awächʷ?*. Austin: University of Texas Press.
- Cable, Seth. 2007. The grammar of Q: Q-particles and the nature of *wh*-fronting. Doctoral Dissertation, MIT, Cambridge, MA.
- Cable, Seth. 2010a. Against the existence of pied-piping: evidence from Tlingit. *Linguistic Inquiry* 41:563–594.
- Cable, Seth. 2010b. *The grammar of Q: Q-particles, wh-movement, and pied-piping*. Oxford: Oxford University Press.
- Campana, Mark. 1992. A movement theory of ergativity. Doctoral Dissertation, McGill University, Montreal, Canada.
- Cattell, Ray. 1976. Constraints on movement rules. *Language* 52:18–50.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Martin Roger, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge: MIT Press.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and beyond: The cartography of syntactic structures*, ed. Adriana Belletti, volume 3, 104–131. Oxford: Oxford University Press.
- Chung, Sandra. 2006. Sluicing and the lexicon: The point of no return. In *Proceedings of the Annual Meeting of the Berkeley Linguistics Society*, volume 31, 73–91.
- Cinque, Guglielmo. 1990. *Types of A-bar-dependencies*. Cambridge, MA: MIT Press.
- Clemens, Lauren Eby. 2013. Kaqchikel SVO: V2 in a V1 language. In *Studies in Kaqchikel grammar*, ed. Michael Kenstowicz. Cambridge, MA: MIT Working Papers in Linguistics (MITWPL).
- Clemens, Lauren Eby, and Maria Polinsky. in press. Verb-initial word orders. In *The Blackwell Companion to Syntax*, ed. Martin Everaert and Henk van Riemsdijk. Blackwell Publishers, 2 edition.
- Coon, Jessica. 2009. Interrogative possessors and the problem with pied-piping in Chol. *Linguistic Inquiry* 40:165–175.
- Coon, Jessica. 2010. Complementation in Chol (Mayan): A theory of split ergativity. Doctoral Dissertation, MIT, Cambridge, MA.
- Coon, Jessica. 2013. *Aspects of split ergativity*. Oxford: Oxford University Press.
- Coon, Jessica, Pedro Mateo Pedro, and Omer Preminger. 2014. The role of Case in A-bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation*.
- Dayley, Jon. 1981. Voice and ergativity in Mayan languages. *Journal of Mayan Linguistics* 2:3–82.
- DeChicchis, Joseph. 1989. Q'eqchi' (Kekchi Mayan) variation in Guatemala and Belize. Doctoral Dissertation, University of Pennsylvania.

- Engdahl, Elisabet. 1985. Parasitic gaps, resumptive pronouns, and subject extractions. *Linguistics* 23:3–44.
- Engdahl, Elisabet. 1986. *Constituent questions: The syntax and semantics of questions with special reference to Swedish*. Dordrecht, The Netherlands: Reidel.
- England, Nora. 1991. Changes in basic word order in Mayana languages. *International Journal of American Linguistics* 57:446–486.
- Erlewine, Michael Yoshitaka. 2015. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language and Linguistic Theory* 1–51.
- Finer, Daniel L. 1997. Contrasting A'-dependencies in Selayarese. *Natural Language and Linguistic Theory* 15:677–728.
- Fu, Jingqi, Thomas Roeper, and Hagit Borer. 2001. The VP withing process nominals: Evidence from adverbs and the VP anaphor do-so. *Natural Language and Linguistic Theory* 19:549–582.
- García Matzar, Lolmay Pedro, and José Obispo Rodríguez Guaján. 1997. *Rukemik ri Kaqchikel Chi': Gramática Kaqchikel*. Guatemala City: Cholsamaj.
- Grimshaw, Jane. 1991. Extended projection. Ms., Brandeis University.
- Guilliot, Nicolas, and Nouman Malkawi. 2011. Weak versus strong resumption. In *Resumptive pronouns at the interfaces*, ed. Alain Rouveret, 395–423. Amsterdam/Philadelphia: John Benjamins.
- Hale, Kenneth, and Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In *The view from building 20*, ed. Kenneth Hale and Samuel Jay Keyser, 53–110. Cambridge, MA: MIT Press.
- Harley, Heidi. 2013. External arguments and the mirror principle: On the distinctness of Voice and v. *Lingua* 125:34–57.
- Heck, Fabian. 2009. On certain properties of pied-piping. *Linguistic Inquiry* 40:75–111.
- Henderson, Robert. 2012. Ways of pluralizing events. Doctoral Dissertation, University of California, Santa Cruz.
- Henderson, Robert, and Jessica Coon. 2015. When adverbs embed clauses: An explanation of variability in Kaqchikel agent focus. Paper presented at NELS 46.
- Huang, James C-T. 1982. Logical relations in Chinese and the theory of grammar. Doctoral Dissertation, MIT, Cambridge, MA.
- Iatridou, Sabine. 1994. Clitics and island effects. In *U.Penn working papers in linguistics*, ed. Roumyana Izvorski and Victoria Tredinnick, volume 2, 11–38. Philadelphia, PA: University of Pennsylvania.
- Imanishi, Yusuke. 2013. How to merge a possessor *wh* in Kaqchikel (Mayan). In *Proceedings of NELS 42*. GLSA, University of Massachusetts, Amherst.
- Imanishi, Yusuke. 2014. Default ergative. Doctoral Dissertation, MIT, Cambridge, MA.
- Johnson, Kyle. 2009. Why movement? Talk presented at Chicago Linguistics Society meeting, April 2009.
- Koopman, Hilda. 1983. Control from COMP and comparative syntax. *The Linguistic Review* 2:365–391.
- Kornfilt, Jaklin, and John Whitman. 2011. Afterword: Nominalizations in syntactic theory. *Lingua* 121:1297–1313.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Larsen, Thomas W., and William M. Norman. 1979. Correlates of ergativity in Mayan grammar. In *Ergativity: Towards a theory of grammatical relations*, ed. Frans Plank, 347–370. London/New York: Academic Press.
- Lebeaux, David. 1991. Relative clauses, licensing and the nature of the derivation. In *Syntax and semantics 25: Perspectives on phrase structure*, ed. Susan Rothstein, 209–239. New York: Academic Press.

- Legate, Julie Anne. 2002. Warlpiri: Theoretical implications. Doctoral Dissertation, MIT, Cambridge, MA.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34:506–515.
- Legate, Julie Anne. 2008. Morphological and abstract case. *Linguistic Inquiry* 39:55–101.
- Marantz, Alec. 1991. Case and licensing. In *Proceedings of the Eighth Eastern States Conference on Linguistics (ESCOL 8)*, ed. German Westphal, Benjamin Ao, and Hee-Rahk Chae, 234–253. Ithaca, NY: CLC Publications.
- McCloskey, James. 1979. *Transformational syntax and model theoretic semantics: A case-study in Modern Irish*. Dordrecht: Reidel.
- McCloskey, James. 1990. Resumptive pronouns, A-bar binding and levels of representation in Irish. In *Syntax of the modern celtic languages*, ed. Randall Hendrick, volume 23, 199–248. Academic Press.
- McCloskey, James. 2002. Resumption, successive cyclicity, and the locality of operations. In *Derivation and explanation*, ed. Samuel Epstein and Daniel Seeley, 184–226. Blackwell Publishers.
- McCloskey, James. 2006. Resumption. In *The blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk, volume 4, 94–117. Blackwell Publishers.
- McCloskey, James. 2009. Further reflections on movement and resumption. Paper presented at MIT.
- McCloskey, James, and Kenneth Hale. 1984. On the syntax of person-number inflection in Modern Irish. *Natural Language and Linguistic Theory* 1:487–533.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62:56–119.
- Norcliffe, Elisabeth. 2009. Revisiting agent focus in Yukatec. In *New perspectives in Mayan linguistics*, ed. Heriberto Avelino, Jessica Coon, and Elisabeth Norcliffe, 135–155. Cambridge, MA: MIT working papers in linguistics.
- Nunes, Jairo, and Juan Uriagereka. 2000. Cyclicity and extraction domains. *Syntax* 3:20–43.
- Ordóñez, Francisco. 1995. The antipassive in Jacalteco: A last resort strategy. *CatWPL* 4/2:329–343.
- Patal Majtzul, Filiberto. 2007. *Rusoltzil ri Kaqchikel: Diccionario bilingüe estándar Kaqchikel ilustrado*. Guatemala: OKMA.
- Pesetsky, David. 1987. Wh-in-situ: Movement and unselective binding. In *The representation of (in)definiteness*, ed. Eric J. Reuland and Alice G.B. ter Meulen, 98–129. Cambridge, MA: MIT Press.
- Pesetsky, David, and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and clausal architecture: syntactic derivation and interpretation*, ed. Simin Karimi, Vida Samiian, and Wendy K. Wilkins. Amsterdam: John Benjamins.
- Polinsky, Maria. 2011. Antipassive constructions. In *The World Atlas of Language Structures Online*, ed. Dryer Matthew and Martin Haspelmath, chapter 108. Munich: Max Planck Institute for Evolutionary Anthropology.
- Preminger, Omer. 2009. Breaking agreements: Distinguishing agreement and clitic doubling by their features. *Linguistic Inquiry* 40:619–666.
- Preminger, Omer. 2011. Agreement as a fallible operation. Doctoral Dissertation, MIT, Cambridge, MA.
- Preminger, Omer. 2014. *Agreement and its failures*. Linguistic Inquiry Monographs. Cambridge, MA: MIT Press.
- Rackowski, Andrea, and Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36:565–599.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.
- Robertson, John S. 1980. *The structure of pronoun incorporation in the Mayan verbal complex*. New York/London: Garland Publishing.

- Rooth, Mats E. 1985. Association with focus. Doctoral Dissertation, University of Massachusetts, Amherst.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT, Cambridge, MA.
- Rouveret, Alain. 2002. How are resumptive pronouns linked to the periphery? *Linguistic Variation Yearbook* 2:123–184.
- Rouveret, Alain. 2008. Phasal agreement and reconstruction. In *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 167–195. Cambridge, MA: MIT Press.
- Rouveret, Alain. 2011. Some issues in the theory of resumption: A perspective on early and recent research. In *Resumptive pronouns at the interfaces*, ed. Alain Rouveret, 1–62. Amsterdam/Philadelphia: John Benjamins.
- Sauerland, Uli, and Paul Elbourne. 2002. Total reconstruction, PF movement, and derivational order. *Linguistic Inquiry* 33:283–319.
- Sells, Peter. 1984. Syntax and semantics of resumptive pronouns. Doctoral Dissertation, University of Massachusetts, Amherst.
- Sells, Peter. 1987. Binding resumptive pronouns. *Linguistics and Philosophy* 10:261–298.
- Stepanov, Arthur. 2007. The end of CED?: Minimalism and extraction domains. *Syntax* 10:80–126.
- Stiebels, Barbara. 2006. Agent focus in Mayan languages. *Natural Language and Linguistic Theory* 24:501–570.
- Tada, Hiroaki. 1993. A/A-bar partition in derivation. Doctoral Dissertation, MIT, Cambridge, MA.
- Tuller, Laurice. 1986. Bijective relations in universal grammar and the syntax of Hausa. Doctoral Dissertation, UCLA.
- Uriagereka, Juan. 1999. Multiple spell out. In *Working minimalism*, ed. Samuel D. Epstein and Norbert Hornstein, 251–282. Cambridge, MA: MIT Press.
- Willis, David. 2000. On the distribution of resumptive pronouns and *wh*-trace in Welsh. *Journal of Linguistics* 36:531–573.
- Woolford, Ellen. 2006. Lexical case, inherent case, and argument structure. *Linguistic Inquiry* 37:111–130.