





RESEARCH ARTICLE

The antipassive and verbal projections

Irina Burukina¹  and Maria Polinsky² 

¹University of Florida

²University of Maryland

Corresponding author: Irina Burukina; Email: irinaburukina@ufl.edu

Received: 29 January 2024; **Revised:** 15 December 2024; **Accepted:** 25 December 2024

Keywords: Agent Focus; antipassive; external argument; implicit object; Mayan; voice

Abstract

This paper presents and analyzes antipassive constructions in the Mayan language Kaqchikel. Through various syntactic tests, we show that antipassive constructions differ from both active transitive and Agent Focus structures in that they do not syntactically project a DP-sized object. Thus, we should think of antipassives as a type of unergative. When an object seems to disappear or become less important in an antipassive, this is not a special feature of antipassives – it is simply what happens in any intransitive structure. In other words, the ‘suppression’ or ‘demotion’ of thematic object is not an inherent characteristic of the construction but rather a byproduct of its intransitive nature. To better understand how transitive and intransitive constructions function cross-linguistically, we propose a novel framework for categorizing the functional heads *v* and Voice. We show that the external argument behaves differently in transitive versus intransitive clauses, appearing in different structural positions, which is backed up by evidence from causatives in Kaqchikel and scope patterns in other languages. While transitive and passive structures include a Voice projection, Agent Focus and antipassive structures do not. We compare our analysis to previous work on antipassives and explore what our findings might mean for understanding antipassives in other languages.

1. Introduction

Voice is a valency-changing operation that affects the mapping between semantic roles and grammatical relations. The realization and types of voice vary across languages, with active and passive its two most common types. The antipassive, which is the focus of this paper, is considered another member of the voice category.

In formal terms, voice may be represented as a functional head in the clausal structure, often labeled as Voice, situated above *v*P but below TP in many analyses (Harley 2013, 2017 and further references therein). While researchers generally agree that active and passive clauses include a Voice projection, the structural composition of the antipassive verb phrases remains debated. In this paper, we use primary data from the Mayan language Kaqchikel to examine the structure of the antipassive and to explore the relationship between Voice and *v* more broadly.

We argue that antipassive is not projected via a dedicated Voice head. Rather, it is associated with the absence of Voice; its verbal categorizer *v* takes a complement that does not have an internal argument. Antipassive constructions thus emerge as a subclass of intransitive unergatives, consistent with work by Aldridge (2012), Coon (2019), and Chung (2025). We also show that unergative and transitive clauses differ crucially in that only transitive clauses project Voice.

The structure of the paper is as follows. Section 2 presents essential background information about Kaqchikel. Section 3 provides a description of Kaqchikel antipassive and Agent Focus constructions. In Section 4, we present new evidence demonstrating that the antipassive construction is syntactically intransitive. Section 5 analyzes the data showing that Kaqchikel employs a split vP-VoiceP structure with distinct roles for *v* and Voice. External arguments (EAs) can occupy either high or low structural positions rather than a uniform position – a distinction that critically separates transitive constructions from intransitive constructions. Section 6 evaluates existing approaches to antipassives in the literature. Section 7 summarizes our conclusions and outlines future research directions.

2. Background on Kaqchikel

2.1. A note on data sources and elicitation methodology

Kaqchikel is a Mayan language of central Guatemala from the K'ichean-Mamean (Eastern) branch. It is described as ‘vulnerable’ (Moseley 2010), as it is spoken by approximately 410,000 speakers, most of whom are bilingual in Kaqchikel and Spanish (Eberhard, Simons & Fennig 2022) and vary with respect to language dominance. The degree of inter-speaker variation is generally high, even among people living in the same area and with similar socioeconomic backgrounds (Patal Majzul, García Matzar & Espantzay Serech 2000).

Lyskawa & Ranero (2022) highlight the importance of studying individual grammars in their examination of microvariation in verbal agreement patterns among speakers of Santiago Tz’utujil, a language closely related to Kaqchikel. Their work cautions against broad generalizations across speakers, particularly perilous in communities with widespread unbalanced bilingualism. Following their approach, we conducted in-depth examinations of individual speakers’ grammatical knowledge over an extended period.

The data presented in this study, unless otherwise noted, come from three native Kaqchikel speakers between 30 and 45 years of age. All consultants are bilingual in Kaqchikel and Spanish, reside in Patzún (Chimaltenango department, Guatemala), and have comparable educational backgrounds. They use Kaqchikel actively in their daily lives. To ensure reliability, we tested each construction multiple times with each speaker using different lexicalizations. Additionally, we compared our findings with existing descriptive literature, including grammars and dictionaries, documenting any discrepancies.

2.2. Basics of Kaqchikel (morpho)syntax

Kaqchikel is a head-marking, morphologically, and syntactically ergative language, with common subject and object *pro*-drop (1). Grammars state that the unmarked word order in Kaqchikel is VOS (verb-object-subject); however, speakers of the Patzún variety prefer the

Table 1. Person–number markers in Kaqchikel

| | 1SG | 2SG | 3SG | 1PL | 2PL | 3PL |
|----------------------------|----------|-----|------|-----|-----|------|
| A (ERG) before a consonant | nu/in/n | a | ru/u | qa | i | ki |
| A (ERG) before a vowel | w/inw/nw | aw | r | q | iw | k |
| B (ABS) | in | at | Ø | oj | ix | e(ʔ) |

SVO (subject-verb-object) order (García Matzar & Rodríguez Guaján 1997, Patal Majzul et al. 2000, Clemens 2013). There are several derivational pathways to verb-initial orders (Clemens & Polinsky 2017, Clemens & Coon 2018), but these are not essential for our discussion.

- (1) (Rin) y-at-inw-ajo' (rat).¹
 1SG ICMP-B2SG-A1SG-love 2SG
 'I love you.'

Kaqchikel nominal phrases bear no case-marking, and only a handful of nouns can be marked for plurality. The rich verbal morphology makes up for the lack of nominal marking. In finite clauses, both the subject and the direct object are cross-referenced with agreement prefixes on the verb, as in (1), with the standard order of morphemes being TENSE/ASPECT-ABSOLUTIVE(-ERGATIVE)-ROOT(-CAUS-PASS/AP/TV). Table 1 shows the agreement prefixes; using the standard notation adopted in Mayanist literature, we gloss ergative as (Set) A and absolutive as (Set) B. Tense is not expressed separately, and a single Tense-Aspect prefix is used instead, usually glossed as either completive/incompletive (García Matzar & Rodríguez Guaján 1997; Patal Majzul et al. 2000; Patal Majzul 2007; Henderson 2012; Heaton, Deen & O'Grady 2016, among others) or perfective/imperfective (Imanishi 2014); we use the former notation.

Kaqchikel predicates form two groups: non-verbal (prohibiting Tense-Aspect marking) and verbal (requiring Tense-Aspect marking). The former group includes stative positionals (Pye 2011, Armstrong 2017), adjectival, and nominal predicates. Verbal predicates include simple intransitives, simple (underived) transitives, derived transitives with the suffix *-j*, and derived intransitives (antipassives, passives).

In this paper, we focus on the verbal-predicate type, illustrated in (2). Intransitive verbs can be divided into unergatives and unaccusatives. This division is supported by difference in agreement. In a nutshell, third-person plural agreement with an external argument is obligatory, while such agreement with an internal argument is optional (Burukina 2021); consider (2). In that regard, Kaqchikel is similar to Santiago Tz'utujil, a closely related K'ichean language (Levin, Lyskawa & Ranero 2020; Lyskawa & Ranero 2022). It is worth noting that the unergative/unaccusative distinction is not uniformly represented across Mayan languages. For instance, in Ch'ol (Western branch), all intransitive verbs are unaccusative (Coon 2013), and covert transitives (see Hale & Keyser 1993) correspond to what can be considered simple unergatives in other languages.

¹ Abbreviations follow the Leipzig Glossing Rules, with the following additions: A – ergative/genitive, AF – Agent Focus, AP – antipassive, B – absolutive, CMP – completive, ICMP – incompletive.

- (2) (a) Rōj y-(e)-qa-tz'ët ri oxi' tz'i'.
 IPL ICMP-B3PL-A1PL-see DET three dog
 'We see the three dogs.' (*transitive*)
- (b) Ri oxi' tz'i' y-*(e')-atin / y-(e)-tzaq.
 DET three dog ICMP-B3PL-bathe ICMP-B3PL-fall
 'The three dogs bathe (*unergative*) / fall (*unaccusative*).'

Mayan languages are divided into two core types with respect to absolutive case-assignment: low-absolutive and high-absolutive languages (Tada 1993; Coon, Mateo Pedro & Preminger 2014). In low-absolutive languages, absolutive is licensed in the verb phrase and is therefore available in non-finite forms, while in high-absolutive languages, the finite inflectional head is responsible for absolutive licensing; hence, absolutives do not occur in non-finite structures. This difference in licensing correlates with the order of morphological exponents in the VP. Kaqchikel instantiates the high-absolutive type. Infl uniformly assigns absolutive case downward, either to the sole DP argument or, in active transitive clauses, to the internal DP argument. Ergative is assigned lower in the structure, by a transitive Voice/v (see Aldridge 2004 and Legate 2008 for this approach beyond Mayan).

There is no unanimous perspective on the precise composition of the clausal spine in Mayan transitive clauses, in particular concerning the range of projections in the vP. Under A SINGLE VP APPROACH, the VP is dominated by a single verbal projection vP and the external argument is base-generated in spec,vP, where it receives ERG from v in a spec-head configuration (see Coon 2017 for a detailed demonstration of this approach).

A DIFFERENTIATED VOICEP-VP APPROACH assumes that the VP is dominated by two separate projections – VoiceP and vP – and that the external argument is base-generated in the lower projection but is licensed by a higher functional head. Assuming that VoiceP and vP are both present, they can be represented as split or as bundled (see Pylkkänen 2008 for the original proposal). Imanishi (2020), Burukina (2021), and Ranero (2021) adopt a split approach to Kaqchikel, while Coon, Baier & Levin (2021) propose that Mayan languages have a bundled VoiceP/vP head, which they represent as vP for simplicity.

3. Antipassive and antipassive-like constructions in Kaqchikel

3.1. Kaqchikel antipassives: Main types

Navigating the antipassive landscape in Mayan is challenging because of rampant differences between descriptive and theoretical vocabularies, between Spanish and English labels, and across individual descriptions. Our aim in this section is to bring some order to this descriptive chaos. In what follows, we rely mostly on the existing descriptive literature, including García Matzar & Rodríguez Guaján (1997); Patal Majzul et al. (2000); and McKenna Brown, Maxwell & Little (2006).

Kaqchikel has four constructions that traditional grammars describe as antipassive: absolutive, focus, oblique, and incorporating antipassive.

In the ABSOLUTIVE ANTIPASSIVE (Spanish *antipassivo absoluto*), the verb is detransitivized, and the object is not expressed; the sole remaining subject is cross-referenced by an absolutive prefix. This antipassive is marked with *-on/un* on underived transitive verbs and *-n* on derived transitive verbs, where that suffix replaces the derived transitive status

suffix *-j*. Absolutive antipassivization is highly productive in Kaqchikel (Patal Majzul 2007).² In what follows, we refer to this type as NULL ANTIPASSIVE (AP_{null}).

In the FOCUS ANTIPASSIVE (Spanish *antipasivo de enfoque*), the object is expressed as an independent noun phrase; similar to the direct object in the active transitive, it appears to be a full DP as it can contain a determiner, a possessor, modifiers, etc. However, unlike regular transitives, focus-antipassive verbs only take an absolutive prefix; this prefix can index either subject or object, instantiating so-called OMNIVOROUS AGREEMENT: agreement with the argument bearing a higher person-feature value (Preminger 2014). The predicate in this construction is marked with *-o/u* for underived transitives, and with *-n* for derived transitives. As this short description shows, the traditional name of this construction is misleading, as it has as much in common with transitive clauses (see also Heaton 2017). As a reflection of this parallel with transitives, focus antipassive has been referred to as AGENT FOCUS (AF) in the formal Mayanist literature, the term we use below.

A typical claim is that AF is restricted to contexts involving A-bar extraction of the Agent, although this restriction needs to be qualified in at least two respects. First, AF does not occur under topicalization; in Patzún Kaqchikel, the SVO order with a subject-topic is usually understood as non-derived (i.e., not involving A-bar movement), and it does not require special marking on the verb. Second, literature reports that AF can sometimes be used without agent fronting (Patal Majzul et al. 2000, Ajsivinac & Henderson 2010); however, we have not been able to observe such occurrences.

AF has received significant attention in theoretical literature; for discussion, see Clemens (2013), Erlewine (2013, 2016), Preminger (2014), Henderson & Coon (2018), and Ranero (2021) on Kaqchikel; Coon et al. (2014) on Q'anjob'al; Aissen (2017b) on Tzotzil; and Stiebels (2006) and Coon et al. (2021) on Mayan AF in general.

García Matzar & Rodríguez Guaján (1997: 376) use the term ANTIPASIVO DE ENFOQUE to refer to both AF constructions and constructions where the logical object is expressed by a PP with a relational noun (*(i)chin* in Kaqchikel). They appear to use this umbrella term because the verb in the two types of contexts is marked the same and because the logical subject in sentences with an *(i)chin*-object is often focus-fronted, similar to the logical subject in AF constructions. Likewise, Patal Majzul et al. (2000) suggest that *(i)chin*-PPs are used when the agent is focus-fronted.³ However, McKenna Brown et al. (2006) mention no

² Our data corroborate this observation. Some examples with core transitives (Levin 1999) from a comprehensive dictionary of Kaqchikel (Patal Majzul 2007) are given below. Antipassive predicates occasionally receive a special reading. Consider (ib), where the meaning of the verb in antipassive changes to 'open the door, greet': a typical repeated activity. This is not unusual; e.g., *tz'et-on* 'see-AP' is often interpreted as 'visit', that is, 'see regularly', cf. example (19).

(i) a. Atux na x-Ø-req-**on** wawe' pa jay.
 who PTCL CMP-B3SG-break-AP here PREP house
 'Know who was breaking (stuff) here in the house.' [Patal Majzul 2007: 356]
 (original Spanish translation: 'Saber quien estuvo rompiendo aquí en la casa.')

b. Xa xe x-Ø-jaq-**on** ri achi iwir.
 only PTCL CMP-B3SG-open-AP DET man yesterday
 'Yesterday the man was only opening (the door).' [Patal Majzul 2007: 189]
 (original Spanish translation: 'El señor solamente estuvo abriendo (la puerta) ayer.')

³ Patal Majzul et al. (2000: 154) illustrate *antipasivo de enfoque* exclusively with *(i)chin* examples, while using DP-object examples (with determiners) for *antipasivo de incorporación*. Both constructions require focus-fronted agents, which makes them similar to AF constructions in terms of the distribution and information-structural effects. We adopt García Matzar & Rodríguez Guaján's (1997) definitions of these terms, as they best align with nomenclature for similar constructions in other Mayan languages.

connection between focalization and antipassive verbs with an oblique object. To avoid the confusion between AF and the construction whose logical object appears as a PP headed by the preposition (*i*)*chin*, we will use the neutral descriptive term OBLIQUE ANTIPASSIVE (AP_{ob}) to refer to the latter (see more in Section 3.2).

Finally, some grammars distinguish INCORPORATING ANTIPASSIVE (Spanish *antipasivo de incorporación*); e.g., García Matzar & Rodríguez Guaján (1997: 380). Its object is a bare noun, and only the agent is cross-referenced on the verb by an absolutive marker. The predicate is typically marked with *-o/u* for underived transitives, and with *-n* for derived transitives, similar to AF; however, McKenna Brown et al. (2006: 181) provide examples where an underived transitive predicate with a bare object is marked *-on*, as in AP_{null}.

3.2. Patzún Kaqchikel data

The data obtained from our consultants confirm that they consistently draw a line between AP_{null} and AF. Both constructions are highly productive, and so far, we have not found a transitive predicate that would not be acceptable in either of them.

In AP_{null} (always marked *-Vn* in Patzún Kaqchikel), the object must be absent. No Agent extraction is required. In AF (marked *-Vn* on derived stems and *-o/u* with CVC roots), the object either is a full DP or remains unpronounced. In our data, the Agent in AF is always fronted. In what follows, we only provide examples with CVC roots, since in such cases AP_{null} and AF are morphologically distinct.

(3) active transitive

Ri ixoq-i' n-Ø-ki-kēm ri üt̃z pot(-aj).⁴
 DET woman-PL ICMP-B3SG-A3PL-weave DET good huipil-IPOSS
 'The women weave the good huipil/huipiles.'⁵

(4) null antipassive

(Ja) ri ixoq-i' y-e-kem-on (*ri üt̃z pot(-aj)).
 FOC DET woman-PL ICMP-B3PL-weave-AP DET good huipil-IPOSS
 Without *ja*: 'The women weave.'
 With *ja*: 'THE WOMEN weave.'

(5) Agent Focus

Ja ri ixoq-i' y-e-kem-o (ri üt̃z pot(-aj)).
 FOC DET woman-PL ICMP-B3PL-weave-AF DET good huipil-IPOSS
 'THE WOMEN weave good huipil(es)/It is the women that weave good huipil(es).'

⁴ The root allomorphy in (3) and in (4) and (5) – *kēm* vs. *kem* – exemplifies a regular pattern. In verbal CVC roots, a lax vowel (written as *ä, ë, ï, ö, ü*) tenses when the root is followed by a suffix, as seen in various forms of the root *tz'ët* in (i). Patal Majzul et al. (2000: 169) note that Patzún Kaqchikel has a complete 10-vowel system (5 lax and 5 tense).

(i) x-at-in-tz'ët / x-a-b'e-n-tz'et-a' / x-i-tz'et-o
 CMP-B2SG-A1SG-see CMP-B2SG-DIR-A1SG-see-TV CMP-B1SG-see-AF
 'I saw you./'I was going to see you./'I saw it.'

⁵ A huipil is a traditional embroidered tunic worn by Indigenous women.

Our data support Heaton's (2018) observation that the Patzún dialect is one of the most conservative in morphologically distinguishing AP_{null} and AF (in other varieties, the *-n/o* distinction is neutralized).

We observed significantly more inter- and intra-speaker variation in the distribution of the oblique antipassive. None of our consultants produced spontaneous examples with an object introduced by a relational noun, either when speaking Kaqchikel all along or when asked to translate examples from Spanish. The main reason for that has to do with the independent use of the relational noun (*i*)*chin* to introduce a possessor. For example, in (6), the possessor either is cross-referenced by a Set A prefix on the possession or is embedded inside the (*i*)*chin* phrase, in which case the Set A marker is absent.

- (6) X-Ø-a-tz'ët {ri ru-tz'i' [ri Pedro] / ri tz'i' [r-chin [ri Pedro]]}.
 CMP-B3SG-A2SG-see DET A3SG-dog DET Pedro DET dog A3SG-RN DET Pedro
 'You saw Pedro's dog.'

Data from Patal Majzul (2007) and a Bible corpus (courtesy of Robert Henderson) indicate that (*i*)*chin* possessors are highly productive. Consequently, when presented with examples of detransitivized predicates with (*i*)*chin* objects, consultants rejected such sentences, insisting that (*i*)*chin* phrases denote entity ownership. Heaton (2017) and Ranero (2021) reported that their consultants did not find oblique AP problematic in the elicitation context and argued that the (*i*)*chin* AP should be grouped together with AF (see also the discussion of oblique antipassives in Section 3.1 above).

Similarly, only a couple of examples of incorporating antipassive were accepted by the native speaker consultants, both with the AP *-on* and the AF *-o* marking on the verb; we mention those in Section 4.3. For now, we will focus on the AP_{null} vs. AF distinction, which is productive in Patzún Kaqchikel.

4. Unpronounced objects in the antipassive

4.1. Diagnostics of implicit arguments

4.1.1. Introductory remarks

Both AP_{null} and AF allow unpronounced objects; see examples (4) and (5) above. On the surface many such sentences look almost identical, differing only in the verbal suffix: *-on* vs. *-o*, respectively. However, we argue that the unpronounced (implicit) object in AF is still structurally present as *pro*.⁶ In contrast, the unpronounced object in AP_{null} is not syntactically projected at all. In what follows, we discuss several diagnostics for unpronounced objects: the ability to pick out a discourse referent, the licensing of depictives, and scopal relations as determined by the interaction with adverbials.

⁶ The similarity between AF predicates and active transitives has been noted in the literature (Smith-Stark 1978; Stiebels 2006; Aissen 2011, 2017a, 2017b; among others). However, descriptive literature often labels AF 'antipassive' due to the absence of ERG and frequent *-on* morphology (see Section 3.1). To our knowledge, the status of unpronounced objects in AF constructions remains understudied. The present article addresses this gap and highlights the contrast between AP_{null} and AF.

4.1.2. Extra-linguistic reference and discourse reference

The unpronounced object in AF can receive a definite, specific, or deictic interpretation, as it must be identified with either an extra-linguistic referent or a referent previously mentioned in the discourse, similarly to unpronounced objects in active transitive clauses. Generally, there is a preference to interpret the null object in AF deictically, as shown in (7) and several subsequent examples. In contrast, the unpronounced object of AP_{null} cannot be understood as referring to a specific person/object and is interpreted existentially, which makes it comparable to simple non-specific indefinites (7c).

- (7) (a) active transitive
 Ri ixoq-i' n-Ø-ki-këm.
 DET woman-PL ICMP-B3SG-A3PL-weave
 'The women weave it/this.' (about some object in front of us)
- (b) Agent Focus
 Ja ri ixoq-i' y-e-kem-o.
 FOC DET woman-PL ICMP-B3PL-weave-AF
 'THE WOMEN weave this.'
 (only if there is an object in front of the interlocutors)
- (c) null antipassive
 Ja ri ixoq-i' y-e-kem-on.
 FOC DET woman-PL ICMP-B3PL-weave-AP
 'THE WOMEN engage in weaving.'

Unpronounced objects in AF can have a discourse referent, but no such discourse reference is possible in AP_{null}, as further shown by the contrast in (8). The null object can refer back to a shirt in AF (8a) but not in the antipassive (8b), which makes the continuation that the girl lost the shirt infelicitous in the latter case.

- (8) Context: Ri ati't x-Ø-u-k'ayi-j ri ru-po't
 DET grandma CMP-B3SG-A3SG-sell-DTV DET A3SG-huipil
 'Grandma sold her huipil.'
- (a) Ja la xtän x-Ø-sach-o.
 FOC DET girl CMP-B3SG-lose-AF
 '(Then) THE GIRL lost it (=grandma's huipil).'
- (b) #La xtän x-Ø-sach-on.
 DET girl CMP-B3SG-lose-AP
 'The girl lost (something).'

Next, consider differences between AP_{null} and AF with respect to follow-up questions. Recall that null objects in AF tend to be interpreted deictically ((7b) above). In an AF sentence, it is redundant to ask about the identity of a deictic object, as the object's identity is already established. The purport of example (9) is that Pedro purchased an animal in plain sight, so no guesswork is involved.

- (9) Ja ri Pedro x-Ø-loq'-o. #Aw-etaman achike
 FOC DET Pedro CMP-B3SG-buy-AF A2SG-know what
 chiköp (x-Ø-u-löq')?
 animal CMP-B3SG-A3SG-buy
 'Pedro bought (this). Do you know what animal (he bought)?'

In contrast, the antipassive in (10) describes the general action of shopping, and there is no indication of items that changed hands, which makes asking about such items felicitous.

- (10) X-Ø-loq'-on pe pa k'ayib'äl.
 CMP-B3SG-buy-AP PTCL PREP market
 Tawla achike x-Ø-u-löq' pe!
 guess what CMP-B3SG-A3SG-buy PTCL
 'He did his shopping at the market. Guess what he bought!'

Negation is another context where the contrast between the unpronounced objects in AF and AP becomes noticeable. The base active transitive example is given in (11a); here, even a missing object is still interpreted as definite and specific, which makes the contrastive continuation felicitous. A similar pattern is observed with AF in (11b). However, if the first sentence has the antipassive (11c), it is interpreted as being about weaving in general ('she does not weave at all'), and the follow-up statement is perceived as a contradiction.

- (11) (a) Ri xta Nikte' man n-Ø-u-këm ta (ri potaj).
 DET CLF Nikte NEG ICMP-B3SG-A3SG-weave NEG DET huipil
 N-Ø-u-këm ri uqaj.
 ICMP-B3SG-A3SG-weave DET skirt
 'Señora Nikte is not weaving a huipil. She is weaving a skirt.'
- (b) Ja ri xta Nikte' man n-Ø-kem-o ta (ri potaj). Nukëm ri uqaj.
 FOC DET CLF Nikte NEG ICMP-B3SG-weave-AF NEG DET huipil
 'SEÑORA NIKTE is not weaving it/a huipil. She is weaving a skirt.'
- (c) Ri xta Nikte' man n-Ø-kem-on ta. #Nukëm ri uqaj.
 DET CLF Nikte NEG ICMP-B3SG-weave-AP NEG
 'Señora Nikte is not weaving (anything). #She is weaving a skirt.'

4.1.3. Reference to a disjunctive antecedent

Related to the discourse-reference pattern just discussed, certain unpronounced objects can pick a referent from a disjunction presented in the preceding discourse, matching the choice implied in the antecedent (Cyrino & Lopes 2016, Sakamoto 2016, Landau 2018).

Consider the following example with two transitive predicates. An unpronounced object in the second clause is interpreted as referring to one of the stated options in the disjunction in the first clause:

- (12) Ri nana Nikte' n-Ø-u-b'e-kem-a' jun po't o jun uqaj,
 DET CLF Nikte ICMP-B3SG-A3SG-DIR-weave-TV one huipil or one skirt
 chuqa' ri nana Ixk'at n-Ø-u-b'e-kem-a'.
 and/also DET CLF Ixkat ICMP-B3SG-A3SG-DIR-weave-TV
 'Señora Nikte will weave an huipil or a skirt, and Señora Ixkat will also weave one
 (= whatever Señora Nikte chooses to weave).'

In contrast, if the second clause is antipassive, no reference to the disjunction introduced in the first clause is possible. In (13), the reading that Señora Ixkat will weave the same thing as Señora Nikte is unavailable.

- (13) Ri nana Nikte' n-Ø-u-b'e-kem-a' jun po't o jun uqaj,
 DET CLF Nikte ICMP-B3SG-A3SG-DIR-weave-TV one huipil or one skirt
 chuqa' ri nana Ixk'at n-Ø-b'e-kem-on.
 and/also DET CLF Ixkat ICMP-B3SG-DIR-weave-AP
 'Señora Nikte will weave an huipil or a skirt, and Señora Ixkat will also engage in
 weaving/will weave something.'

Checking the interpretation of the unpronounced object in AF in disjunctive contexts is impossible because AF is incompatible with *chuqa'*. We hypothesize that the reason for this empirical gap lies in pragmatics. Recall that AF in Kaqchikel serves to (contrastively) focus the agent; meanwhile, *chuqa'* brings in the (contrastive) topic interpretation, and the two readings clash.

4.1.4. Paycheck pronouns

So far, discourse/extra-linguistic reference data showed that unpronounced objects of AF behave as regular anaphoric/deictic pronouns, similar to silent objects of active transitives. In addition, these objects allow a bound variable reading and can function as paycheck pronouns. Consider the context where two women, a grandmother and a young girl, each made an huipil, after which the grandmother sold her huipil, and the girl lost hers. This situation can be described as in (14).

- (14) (a) Chi ki-jujunal la ixoq-i' x-Ø-ki-t'is jun po't.
 PREP A3PL-individually DET woman-PL CMP-B3SG-A3PL-embroider one huipil
 'Each woman embroidered a huipil.'
- (b) Ri ati't x-Ø-u-k'ayi-j ri ru-po't,
 DET grandma CMP-B3SG-A3SG-sell-DTV DET A3SG-huipil
 po la xtän x-Ø-u-säch ri ru-po't.
 but DET girl CMP-B3SG-A3SG-lose DET A3SG-huipil
 'The grandma sold her huipil, but the girl lost her (own) huipil.'

The objects of the transitive verbs in (14b) can be null, as shown in (15). The strict reading is preferred (i), but a bound-variable reading (ii) is also available.

- (15) Ri ati't x-Ø-u-k'ayi-j, po la xtän x-Ø-u-säch.
 DET grandma CMP-B3SG-A3SG-sell-DTV but DET girl CMP-B3SG-A3SG-lose
 (i) 'The grandma sold all the huipiles, but (then) the girl lost them.'
 (ii) 'The grandma sold her huipil, but the girl lost hers.'

The AF construction with an unpronounced object is also felicitous (16); the context here has to be slightly modified, since AF requires that the Agent be focus-fronted.

- (16) Ri ati't x-Ø-u-säch ri ru-po't?
 DET grandma CMP-B3SG-A3SG-lose DET A3SG-huipil
 Manäq, ja la xtän x-Ø-sach-o.
 no FOC DET girl CMP-B3SG-lose-AF
 'Did the grandma lose her huipil? No, THE GIRL lost her (own) huipil.'

In contrast, AP is incompatible with the context presented here. Using it implies that the grandma sold her huipil but the girl just lost something. This incompatibility follows from the observation that there is no corresponding object to relate to the one in the transitive construction.

- (17) Ri ati't x-Ø-u-k'ayi-j (ri ru-po't),
 DET grandma CMP-B3SG-A3SG-sell-DTV DET A3SG-huipil
 # {po la xtän x-Ø-sach-on}.
 but DET girl CMP-B3SG-lose-AP

Again, we see parallels between transitives and AF and another point of difference between AF and AP.

4.1.5. Depictive licensing

Both overt and null objects of active transitive and AF predicates alike can license depictives: secondary predicates describing the state or condition of a participant concomitant with the time of the main event. This supports the idea that such null objects are present in syntax and indicates that they are so-called strong unpronounced arguments – namely, null pronouns, *pros* – and not structurally smaller weak silent ϕ Ps or NPs (see Landau 2010 for arguments that only strong implicit arguments can serve as subjects of predication, including secondary predicates). Consider (18), where the baseline sentence (18a) shows that a depictive can modify a direct object. Example (18b) with a transitive verb and a silent object is ambiguous because the depictive can be interpreted as modifying either the subject or the object. The same ambiguity is attested in AF (18c).

- (18) (a) Ri xta Maria x-Ø-u-tz'ët ri ak'wal pa'äl.
 DET CL Maria CMP-B3SG-A3SG-see DET boy standing
 'Maria saw the boy_i (as he was) standing_i.'
 (b) Ri xta Maria x-Ø-u-tz'ët pa'äl.
 DET CL Maria CMP-B3SG-A3SG-see standing
 (i) 'Maria saw someone_i as they were standing_i.'
 – allowed if we have been talking about someone specific before
 (ii) 'Maria_i saw someone as she was standing_i.'

- (c) Ja ri xta Maria x-Ø-tz'et-**o** pa'äl.
 FOC DET CLF Maria CMP-B3SG-see-AF standing
 'MARIA_k saw someone_i; standing_{i/k}.'

Unpronounced objects of AP_{null}, however, do not allow modification by a depictive predicate. Thus, the only reading available in (19) is the one where the depictive modifies the subject (Maria).

- (19) Ja ri xta Maria x-Ø-tz'et-**on** pa'äl.
 FOC DET CL Maria CMP-B3SG-see-AP standing
 'MARIA_i visited (someone_k) and she_{i/*k} was on foot (standing).'

4.1.6. Scope effects

Indefinite objects of transitive verbs can take wide scope over VP-adverbs, as in the following example, where 'one huipil' scopes over 'again':

- (20) Ri nana Nikte' x-Ø-u-kēm jun chik b'ey jun po't.
 DET CLF Nikte CMP-B3SG-A3SG-weave one other time one huipil
 'Señora Nikte wove the same huipil again.'
 Not: 'Señora Nikte wove another huipil again.'
 (one > again, #again > one)

A transitive clause and an AF clause with an unpronounced object receive the same interpretation: the unpronounced object scopes over the adverbial expression.

- (21) (a) Ri nana Nikte' x-Ø-u-kēm jun chik b'ey.
 DET CLF Nikte CMP-B3SG-A3SG-weave one other time
 Only: 'Señora Nikte wove something (the same thing) again.'
 (something > again, #again > something)
- (b) Ja ri nana Nikte' x-Ø-kem-**o** jun chik b'ey.
 FOC DET CLF Nikte CMP-B3SG-weave-AF one other time
 Only: 'It was señora Nikte who wove something (the same thing) again.'
 (something > again, #again > something)

In the antipassive construction, the interpretation is just the opposite, implying that Señora Nikte was again engaged in weaving and made different items each time:

- (22) Ri nana Nikte' x-Ø-kem-**on** jun chik b'ey.
 DET CLF Nikte CMP-B3SG-weave-AP DET one other time
 Only: 'Señora Nikte wove again.'
 (#something > again, again > something)

4.1.7. Implicit-argument diagnostics inapplicable in Kaqchikel

The following two tests are often used to diagnose the syntactic presence of an unpronounced argument: control of an embedded PRO (as in English *The doctor recommends*

Table 2. Properties of unpronounced objects in Kaqchikel

| | AP _{null} | AF | Active transitive |
|------------------------------------|--------------------|-----|-------------------|
| Extra-linguistic reference | X | ✓ | ✓ |
| Discourse reference to existential | X | ✓ | ✓ |
| Discourse reference to disjunction | X | N/A | ✓ |
| Paycheck pronouns | X | ✓ | ✓ |
| Modification by depictives | X | ✓ | ✓ |
| Adverbial scope interaction | X | ✓ | ✓ |
| Control | | N/A | |
| Binding | | N/A | |

<ec_i> [*PRO_i to eat more vegetables*]) and binding of anaphoric pronouns (*The town council helps <ec_i> with self_i's problems*); see Rizzi (1986) and Bhatt & Pancheva (2006). However, these tests are untenable in Kaqchikel.

When it comes to control, there are no infinitives in Kaqchikel, and most of the predicates that would involve control in other languages embed a finite clause or an oblique nominal dependent. Kaqchikel equivalents of typical object control sentences in English or Spanish usually involve either a causative or a periphrastic construction; for instance, ‘permit’ = ‘give permission’ (the Permission Holder is encoded as an oblique Recipient).

As for binding, Kaqchikel reflexives and reciprocals (encoded as the base *-i*’ with a Set A marker that cross-references the antecedent) are restricted to the direct object position and cannot be used as possessors or be included in an oblique construction headed by a relational noun (Burukina 2019). Because of this, it is impossible to construct an example where an unpronounced direct object could, in principle, c-command such a pronoun.

The diagnostics available in Kaqchikel (discourse reference, depictive modification, scope) are sufficient to point to robust differences between unpronounced objects in transitive and AF constructions on the one hand and AP constructions on the other. These differences are summarized in Table 2, which shows that unpronounced objects in active transitives and AF pattern together, whereas the antipassive is different.

Having established systematic differences across the two kinds of unpronounced objects, we now turn to the syntactic status of these objects.

4.2. The status of unpronounced objects in antipassives: *pros*, ϕ Ps, NPs, or absent?

4.2.1. Small or absent?

The results presented above confirm that unpronounced objects in active transitive clauses and AF clauses are silent personal pronouns – *pros* (see Epstein 1984, Rizzi 1986, Borer 1998, among others, on unpronounced arguments as *pros*). At the same time, the status of the unpronounced object in AP is less clear. Two analytical options are available: (i) AP unpronounced objects are syntactically present deficient ϕ Ps (or even smaller NP/Ns; see below), which would be consistent with their indefinite/non-specific interpretation, and (ii) AP unpronounced objects are not projected at all. Based on several considerations, we argue for the latter approach.

First, a ϕ P-analysis does not find empirical support in Kaqchikel. ϕ Ps are assumed to be ‘variables whose value is constrained by the value of its ϕ -set’ (Landau 2010: 383). ϕ Ps can be used as deictic or anaphoric (Déchaine & Wiltschko 2002, Landau 2010); however, AP unpronounced objects never receive a definite reading but are only interpreted existentially. Additionally, ϕ Ps are expected to exhibit some featural specification (gender, person, number; Šreikaitė 2022). This is not what is observed in Kaqchikel.

One might propose that AP unpronounced objects are structurally smaller than ϕ Ps and consist of a single silent nP/NP/N. Such an approach may find support in occasional examples of AP_{null} with a bare object reported in the literature, such as *pon-on wäy* ‘bake-AP tortillas’ or *b’an-on xajab* ‘make-AP sandals’ (McKenna Brown et al. 2006: 181). However, except for stable collocations (23), our consultants would not accept such examples (see Buenrosto 2013 on root-NP complement combinations receiving a special meaning).⁷

- (23) Y-*oj-pon-on* *wäy*.
 ICM-P-B I PL-bake-AP tortilla
 ‘We make tortillas.’

We propose that in (23), a bare NP is merged in the complement of the VP, but it does not function as an argument; see Maxwell (1976) and recently Coon (2019) for a similar proposal on Chuj antipassives. Instead, the NP of the type $\langle e, t \rangle$ forms a complex predicate with the lexical verb. The requirement to form a complex predicate may explain why only some, mostly lexicalized, combinations AP_{null} + N are allowed.

4.2.2. Absent in syntax and/or in semantics?

Our proposal, whereby the internal argument in antipassives is not projected in the structure, naturally leads to the following question: What allows that object to be absent? Consider, for instance, the classical Theta Criterion, according to which a thematic role must normally be assigned to an argument present in syntax. The absence of an otherwise expected argument can be accommodated in several ways. We discuss them below, arguing ultimately that the best explanation is that AP clauses lack an internal argument entirely.

THE OBJECT ARGUMENT IS PART OF THE THETA-GRID. Assuming that the object argument is still required by the theta-grid of the predicate (i.e., there is a thematic role to be assigned), the following two accounts may be proposed. In the first scenario, the argument remains unsatisfied (in the sense of E. Williams 1985), and the thematic role remains unlinked. A problem with this option is that it is not entirely clear how to derive the strictly existential reading of the unpronounced object and to ensure that the result is interpretable.

Alternatively, as proposed by some researchers, the argument variable is existentially bound. In this case, a number of analyses include the assumption that the existential closure is performed by some functional head in syntax; see Bruening (2013) on the existential

⁷ A similar pattern is observed in antipassives across Mayan languages. For instance, in Q’anjob’al, a combination V-AP + N is acceptable if the object is prototypical and/or represented by a generic term; ‘make tortillas’ and ‘make clothes’ are allowed, but ‘make cookies’ and ‘make huipiles’ are impossible (Pedro Mateo Pedro, pers. comm.).

closure of external arguments in English passives and Coon (2019) on passives and antipassives in Chuj. To summarize, these options are as follows:

- (24) (a) The null object is unlinked.
 (b) The null object is existentially closed by a functional head in syntax.

THE OBJECT ARGUMENT IS NOT PART OF THE THETA-GRID. One could also assume that the theme/patient argument is absent at both the syntactic and semantic level; in other words, it is not in the theta-grid of the predicate. This in turn can lead to two different scenarios. Unlike (24), the alternatives in (25) do not correspond to different mechanisms that can explain the absence of an argument within the same framework but rather represent two different approaches to the nature of thematic relations, which, following A. Williams (2015), can be identified as PROJECTIONIST and SEPARATIONIST. Under the assumption that relations are PROJECTED by the lexical verb itself, we may be dealing with homonymous transitive/intransitive predicates or a single predicate that undergoes a valency-changing transformation already in the lexicon (see Reinhart & Siloni 2005). In other words, the theta grid of the AP predicate is inherently different from that of a transitive predicate, and the former does not have an argument linked to the Theme/Patient role (25a). Such an approach, however, is challenged by the high productivity and regularity of Kaqchikel AP; recall that practically every transitive verb can be antipassivized and thus would need to have a lexical twin.

An alternative is that the entailed relations are not necessarily realized by a corresponding constituent at both the syntactic and semantic level of representation. This can be modeled under a SEPARATIONIST approach to the argument structure, whereby thematic relations are separated from the main event encoded in the verbal predicate and are instead introduced as separate predicates (see A. Williams 2015 for a detailed discussion and Pietroski 2018 for an implementation in Fodorian semantics).⁸ These predicates are then coordinated with the main predicate by means of conjunctive semantics. In sum, the object is not a content argument of the verb; it is added to the verb in the transitive and AF configuration but not in AP (25b).

- (25) (a) Lexical doublets (on a projectionist approach)
 (b) The object reading is an optional entailment of the predicate (on a separationist approach)

For simplicity, we adopt the ‘full absence’ approach (25b), under which the internal argument in AP clauses is absent at both syntactic and semantic levels, as this modeling option is the most economical. At this point, nothing particularly hinges on that choice. In Section 6.1, we briefly discuss an alternative existential closure approach, as proposed by

⁸ Lohndal (2014) and associated references argue for severing the Theme from the verb; Lohndal proposes that no argument occupies the verb’s complement position. The applicability of this model to Kaqchikel data warrants future investigation. For now, we tentatively assume that predicates can combine with internal arguments when yielding interpretable results. Apparent object-presence requirements (as in active transitive and AF constructions) stem from featural specifications of functional heads in the clausal spine.

Coon (2019) for Chuj. While this approach encounters certain challenges when applied to the Kaqchikel data, it is not incompatible with our analysis.

4.3. Reconsidering the antipassive

The considerations presented in this section suggest that antipassives are inherently intransitive, with no internal argument projected. If this result is on the right track, it suggests that an approach that treats antipassivization as the ‘demotion’ of an internal argument is untenable for Kaqchikel. Beyond Kaqchikel, our results also necessitate reevaluating such a dominant view of the antipassive.

While many scholars define antipassivization primarily by its effect on the internal argument (Polinsky 2017: 309; Basilico 2019: 192; Heaton 2020: 132), our analysis suggests that any ‘demotion’ of the internal argument is merely incidental rather than definitional. These findings align with both Coon (2019) and Aldridge (2012); the latter proposes ‘to connect antipassive to syntactic intransitivity, rather than forcing it to be analyzed as a derived construction in which the internal argument has been demoted to adjunct status’ (p. 195).

A crucial argument in support of this position comes from the fact that unaccusatives, which have a quintessential internal argument but lack an external one, never antipassivize. Back to Kaqchikel, the following data point illustrates this gap.⁹

- (26) (a) x-e/Ø- {kos/käm/tzaq} (b) *x-Ø- {kos/kam/tzaq} -on
 CMP-B3PL/B3SG-get.tired/die/fall CMP-B3SG-get.tired/die/fall-AP

Beyond Kaqchikel, we have not found any examples of antipassivized unaccusatives either (assuming that a given language has structural diagnostics of unaccusativity). Based on our discussion so far, we conclude that this is a principled typological gap rather than an accidental lack of data attestation. We contend that it follows from the properties of antipassive, whose function is to manipulate the EA, not the internal one.

As an interim summary, we have argued that objects are not projected in the syntax of antipassive constructions. The antipassive is therefore a genuine intransitive construction, one lacking an internal argument. The interpretation involving an internal argument is just an entailment of the intransitive predicate. This is in line with other researchers who have also emphasized the intransitivizing function on the antipassive: Aldridge (2012), Coon (2019), Heaton (2017, 2020), and Chung (2025).

We now turn to the differences between the syntactic structure of the antipassive (and comparatively, AF) and that of the transitive. The differences are twofold: the composition of the verbal spine and the status of the external argument in clausal structure.

⁹ See Section 2.2 for Kaqchikel unaccusativity diagnostics.

Bittner & Hale (1996: 38) argue that unaccusative antipassives with expletive subjects are universally ungrammatical, illustrating that with an example from Inuit (i). They note that while Inuit antipassive suffixes can in principle appear on unaccusative verbs, which yields an inchoative interpretation, without Theme demotion (e.g., *piqqip-p* ‘healthy-IND’ = ‘be healthy’/*piqqis-si-pp* ‘healthy-AP-IND’ = ‘get well’).

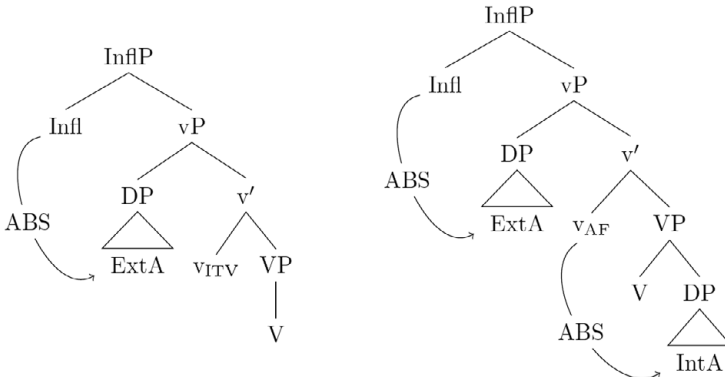
(i) **imma-mi qilalukka-nik pui-si-v-u-q* [Bittner & Hale 1996: 61]
 sea-LOC whale-PL.INS float-AP-IND-[-tr]-3SG
 Intended: ‘There floated whales on the surface of the sea.’

5. Analyzing Kaqchikel verbs: The inventory of *v* and Voice heads

5.1. Intransitive and transitive predicates

We propose that both antipassive and AF clauses lack the Voice projection altogether and that v_{ITV} and v_{AF} serve two functions: introducing a new relation corresponding to the external argument (EA) and projecting a syntactic argument. The resulting *vP* is fully saturated and is merged as a complement of a higher functional head outside of the thematic domain (recall that, following Mayanist literature, that head is Infl).

(27) (a) structure of null antipassive (b) structure of Agent Focus



While AP_{null} and AF both lack a VoiceP, their respective *v* heads differ in case-assigning properties. The v_{AF} head takes as its complement a VP with an internal argument, expressed as either an overt DP or a *pro*, which it licenses. Note that only one absolutive morpheme appears on the verb, which can be explained in terms of a general mechanism governing morphological realization of person and number features (consider Watanabe 2017). In contrast, the antipassive *v* head is incompatible with an internal argument; thus, its properties are identical to that of the unergative *v* head. It is worth noting that most unergative stems in Kaqchikel end with $-Vn$ (28), the same exponent as in the antipassive.¹⁰ Similar to AP_{null} , unergatives in Kaqchikel are incompatible with (cognate) objects, which can be explained by the absence of Voice and Infl being the only source of Case licensing.

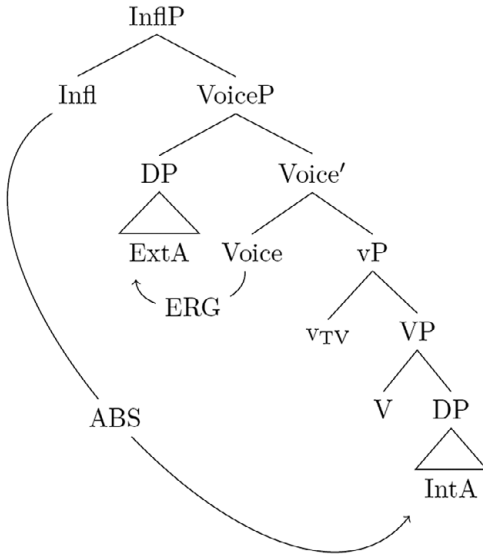
(28) b'iyin / atin / muxan / tzopin
walk bathe swim jump

¹⁰Coon (2019) makes a compelling case that Chuj antipassives share structural properties with agentive intransitives. While Kaqchikel AP_{null} lacks additional marking, Chuj absolutive antipassives crucially feature the suffix *-aj*, which Coon argues 'manifests the existential binding of implicit arguments' through overt morphology (Coon 2019: 65). Though *-aj* does not appear in Chuj incorporation antipassives, these constructions demand the presence of a bare NP (Coon 2019: 45).

Outside the Mayan family, Basilico (2023) analyzes Halkomelem Salish middle (antipassive) predicates as Voice-less unergatives, noting that the suffix *-m* appears in antipassives, canonical unergatives, and as a verbalizer in denominal verbs. However, the status of these Halkomelem structures as antipassives is subject to debate (Henry Davis, pers. comm.).

Unlike antipassive and AF clauses, transitive clauses involve a larger thematic structure, as outlined in (29). Here, VoiceP dominates v_{TV} and projects an EA that saturates the generalized Agent role.

(29) structure of active transitive



A question remains: How does v_{ITV} ‘know’ to combine with a VP without an internal argument, while v_{AF} and v_{TV} always combine with a VP with an internal argument? Our answer lies in syntax. It has been proposed that the transitive and the AF v is equipped with a special feature that triggers the raising of the internal argument (e.g., Coon et al. 2021); if the latter is not projected, the feature cannot be checked, and the derivation crashes. In contrast, the antipassive v lacks such a feature, which in principle makes the presence of an internal argument optional. At the same time, if the internal argument of AP_{null} were projected as a DP or *pro*, it would remain unlicensed because of v_{AP} ’s Case deficiency. Hence, the only option is that the internal argument is absent. (We assume a Case-licensing approach to DPs, but this proposal can also be easily modified to an account whereby DPs are licensed via agreement.)

The novelty of our proposal is that we extend the Voice-less analysis to all morphosyntactically intransitive predicates (except for passives; see below). Another key component of our approach is the two base positions available for EAs – spec,vP, as in (27), and spec,VoiceP, as in (29). This flexibility may seem to over-complicate the analysis if one takes into account only the active transitive, AP_{null} and AF clauses. However, as we expand the dataset and consider together all the patterns of verbal derivation attested in Kaqchikel, our approach captures them in a more straightforward and elegant way, compared to alternative analyses whereby the vP-VoiceP are bundled together and/or all the EAs are always base-generated in the same position.

5.2. The inventory of v and Voice heads

The following idea informs our analysis of the thematic domain: Only v is capable of introducing a new argument at the semantic level, even when that head does not project it in

Table 3. The inventory of *v* and Voice

| | Syntax | Semantics | Spell-out |
|-----------------------|---------------|----------------|--------------|
| v_{TV} | S:V | Agent(x) | Ø |
| v_{ITV} | S:V,N | Agent/Actor(x) | - <i>Vn</i> |
| v_{AF} | S:V,N + [ABS] | Agent/Actor(x) | - <i>o/n</i> |
| v_{Unacc} | S:V | – | Ø |
| Voice _{TV} | S:V,N + [ERG] | – | Ø |
| Voice _{Pass} | S:V | ∃ExtA | - <i>Ĵx</i> |

syntax.¹¹ In contrast, the main function of Voice is to manipulate the preexisting argument structure, specifically targeting the EA role (see Pyllkkänen 2008 and Harley 2013, 2017 for conceptually similar ideas). This entails that VoiceP is only added to the structure when there is an unsaturated relation; otherwise, its presence is redundant and results in an uninterpretable structure. Accordingly, *v* and Voice emerge as conceptually distinct functional categories.

The contrast between *v*P and VoiceP is reminiscent of the PossP-FP/AgrP split in the nominal domain (consider É. Kiss 2002 and Dékány 2018 on the structure of Hungarian possessive DPs). In these environments, the lower head is semantically enriched: *v* and Poss both introduce a new thematic relation. In contrast, the higher functional head is purely syntactic in nature, designed to license an argument. Additionally, both the verbal domain and the nominal domain appear to be parameterized: While many languages require a split structure, some prefer to bundle the relevant projections (consider Pyllkkänen 2008; Harley 2013, 2017; and Coon et al. 2021 for Mayan; see also footnote 16).

The proposed inventory of *v* and Voice heads is shown in Table 3. To account for the selectional properties of a particular head, we adopt the system put forward by Bruening (2013), whereby a head is equipped with certain selectional features that it needs to check by combining with dependents of particular categories. For example, [S:V,N] means that the functional item combines with a complement of the verbal category and further requires a nominal dependent in the specifier position. Every *v* takes a root projection as its complement, which we mark as VP, for simplicity.

As outlined in Section 5.1, v_{ITV} and v_{AF} (the intransitive and the AF functional heads) introduce a new agentive argument in semantics and require that a DP be merged in their specifier position to saturate that thematic role. In addition, v_{AF} is equipped with the case feature [ABS], which it checks with a c-commanded nominal. Treating the antipassive *v* and v_{AF} as distinct functional elements is critical because some Mayan languages have antipassives but no AF (the opposite is possible but not attested in Mayan). For instance, within the K'ichean branch, v_{AF} appears to be absent in Q'eqchi'; yet Q'eqchi' has antipassives (Berinstein 1998). To complete the picture, the inventory includes the unaccusative functional head, v_{Unacc} : an unspecified *v*, which can be construed as a verbalizer *sensu stricto* (recall that Kaqchikel unergatives/unaccusatives differ in their agreement patterns). While this inventory is constructed to be universal, individual languages may not realize all its

¹¹ *v* may also be understood as a general verbalizer.

members. For example, the set of intransitives may only have v_{Unacc} , as Coon (2013) proposes for Ch'ol.

Going back to the transitive structure in (29), we propose that v_{TV} introduces a new thematic relation (Agent), but that head is defective in that it does not project a syntactic argument. This leaves the transitive $v\text{P}$ unsaturated and the EA relation must be taken care of for the derivation to be interpretable at LF. Under our proposal, it is Voice that does the job.

Voice manipulates the preexisting EA relation by projecting a DP to match it (or by dealing with an existing variable, as in passives). We distinguish Voice_{TV} and $\text{Voice}_{\text{PASS}}$. Voice_{TV} introduces a DP that binds the Agent variable; see Harley (2013). Voice that projects an EA in the specifier position is further equipped with a case feature and assigns ergative to the DP under a spec-head relation (29), in line with accounts that treat ergative as an inherent case, as in Woolford (1997), Legate (2002, 2008), Aldridge (2004), Laka (2006), Coon (2013), Polinsky (2016), etc.

The role of $\text{Voice}_{\text{PASS}}$ is to existentially close the EA (see Bruening 2013; also, Alexiadou, Anagnostopoulou & Schäfer 2006 and Alexiadou & Doron 2012 on passive as a type of Voice). This treatment of $\text{Voice}_{\text{PASS}}$ is similar to the proposal in Coon (2019) for the Chuj passive.¹² As with the inventory of v heads, individual languages may lack some types of Voice; for instance, Basque and Georgian do not have passives.

5.3. Combining v and Voice: Possible and impossible derivations

We argue that VoiceP is added to the structure only when needed, that is, when v introduces a new thematic relation but does not project the required argument. We therefore expect the saturated intransitive $v\text{Ps}$ (unergative/AP, AF, and unaccusative) to be incompatible with Voice_{TV} and $\text{Voice}_{\text{PASS}}$. This prediction is borne out.

First, in Kaqchikel (as well as in many other ergative languages), the subject of unaccusatives, unergatives, antipassives, and AF is invariably absolutive.¹³ This is unsurprising under the assumption that ERG is assigned by Voice under a spec-head relation. Although in principle Voice_{TV} can select an intransitive $v\text{P}$ as its complement, it will need to project a DP in spec, VoiceP position; this DP will lack a thematic role (since the $v\text{P}$ is already saturated and Voice itself does not introduce a new thematic relation), and the derivation will yield an uninterpretable result.

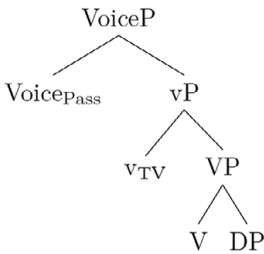
Second, only transitive predicates undergo passivization. $\text{Voice}_{\text{PASS}}$ dominates v_{TV} and manipulates the EA relation; consider (30a), derived as (30b), where $\text{Voice}_{\text{PASS}}$ existentially binds the Agent variable.

- (30) (a) X-Ø-k'ay-ix ri äk'.
 CMP-B3SG-sell-PASS DET rooster
 'The rooster was sold.'

¹² Kaqchikel has two main passives, both promoting the internal argument and demoting the external one. Due to space limitations, we only give examples of the $-V\check{x}$ passive; this type of passive has a null allomorph, which is used with underived transitives accompanied with tensing of the vowel in a CVC root. 'Completive passive' (*pasivo completivo*) is marked by $-Vi\check{a}j$ and is said to denote a completed action (García Matzar & Rodríguez Guaján 1997: 372).

¹³ Cross-linguistically, only those unergatives that are inherently transitive (Hale & Kayser 1993) have ergative subjects.

(b) passivized transitive



As (31) shows, passivization is restricted to transitive verbs.

- (31) (a) X-e/Ø-kan-ux. / X-e/Ø-q'et-ëx.
 CMP-B3PL/B3SG-search-PASS CMP-B3PL/B3SG-hug-PASS
 (b) *X-e/Ø-kan-un-ux. / *X-e/Ø-q'et-en-ëx.
 CMP-B3PL/B3SG-search-AP-PASS CMP-B3PL/B3SG-hug-AP/AF-PASS

The lack of passives formed from AF predicates is particularly striking. Despite the absence of ergative marking, AF is semantically transitive (Aissen 2011), with two argument DPs. As we show below, a passive VoiceP can be added to a causativized structure with two DP-dependents. Why could it not be added to AF? Our analysis offers an explanation: Only a transitive or causative vP is 'deficient', which in turn means that it allows/requires a VoiceP to manipulate the EA relation. Since v_{AF} projects an external argument in its specifier position, a vP in AF is fully saturated. Combining it with VoiceP_{pass} is impossible, because the latter must manipulate a preexisting variable.

Finally, the split vP-VoiceP analysis outlined in this paper provides an explanation for why morphological causativization is restricted to unergative and unaccusative predicates.^{14,15} Consider some examples of the Kaqchikel morphological causative, expressed with the suffix *-isa*:

¹⁴To the best of our knowledge, AF and antipassive predicates in Kaqchikel cannot undergo causativization. Some *-Vn-isa-j* forms (intended as *-AP-CAUS-DTV*) are consistently accepted by the native speaker consultants; however, their interpretations do not involve a causativizing sub-event (i). We discuss such constructions in more detail in Burukina & Polinsky (2024) and propose that they instantiate applicativization, with *-isa* spelling out a high applicative head that introduces a Location argument.

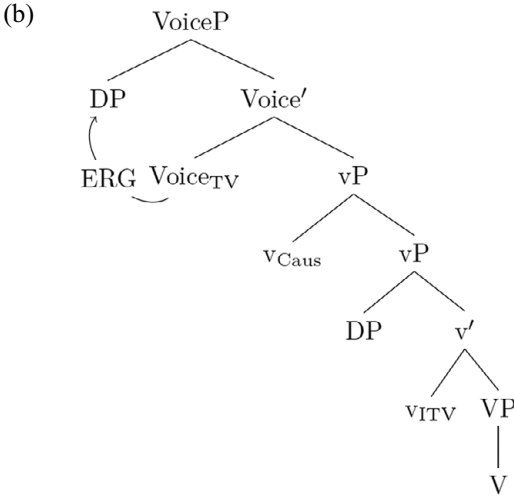
(i) La yawa' x-Ø-u-chul-**un-isa-j** ri kik'.
 DET patient CMP-B3SG-A3SG-urinate-AP-CAUS-DTV DET blood
 'The patient urinated over some blood.'

It is worth noting the common syncretism of applicative and causative markers (Jerro 2017, Polinsky 2024, Van Gysel 2024, Zúñiga & Creissels 2024, i.a.). The proposed principled distinction of v and Voice heads may be helpful in separating the two functions.

¹⁵We are not aware of Mayan languages with causativized antipassives or AF predicates. Several factors could explain this gap in the morphosyntactic system. In Kaqchikel, morphological causativization is generally unproductive (e.g., *atinisaj* 'bathe-CAUS' but **muxanisaj* 'swim-CAUS'), often yielding lexicalized readings (e.g., 'to wash' in (32) and 'to lull' in (33)). An alternative explanation can be offered for the related language K'iche', in which causativization is highly productive with inherently intransitive verbs (Maša Bešlin, pers. comm.); however, antipassivized transitives resist causativization. Importantly, K'iche' shows no systematic distinction between unergatives and unaccusatives, indicating that all inherently intransitive verbs contain a single VP-internal argument. A plausible assumption is that, in contrast to Kaqchikel, K'iche' does not allow vP recursion and the

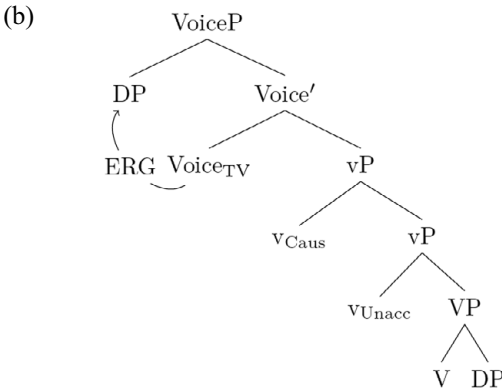
(32) causativized unergative

- (a) X-e-q-atin-isa-j ri umul-a'.
 CMP-B3PL-A1PL-bathe-CAUS-DTV DET rabbit-PL
 'We washed the rabbits.'



(33) causativized unaccusative

- (a) X-e-qa-war-sa-j ri ak'wal-a'.
 CMP-B3PL-A1PL-sleep-CAUS-DTV DET child-PL
 'We made the children sleep.'



causative *v* can merge with a VP but not with an antipassive vP. The investigation of this constraint awaits future research.

Outside Mayan, Stiebels (2003) notes that *-AP-CAUS* forms are attested in Chamorro (Austronesian) (i), though Chung (1998: 38–39, 387–388) suggests that Chamorro antipassives may be separate lexical items, derivationally unrelated to transitives.

- (i) ha=na'-fan-aitai hām i ma'estrak-ku ni esti na lebblu
 3SG.E=CAUS-AP-read 1PL.EX.N the teacher-1SG.P OBL this LINKER book
 'My teacher made us read the book' [Gibson 1992, from Stiebels 2003: 27]

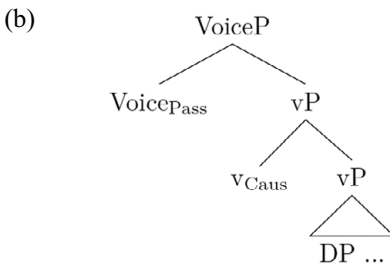
Crucially for our discussion, morphological causativization does not apply to transitive, causativized predicates or to passivized transitive verbs (instead, a biclausal structure has to be used):

- (34) *X-Ø-qa-tij-(i)sa-j / *X-Ø-qa-k'ay-ix-(i)sa-j ri äk'.
 CMP-B3SG-A1PL-eat.TV-CAUS-DTV CMP-B3SG-A1PL-sell-PASS-CAUS-DTV DET rooster
 Intended: 'We made the rooster eat it/something.' / 'We made/had the rooster be sold.'

Splitting vP and VoiceP allows us to accommodate this restriction by manipulating the selectional properties of v_{Caus} . Causativizable intransitives are all vPs, and non-causativizable transitives and passives are VoicePs; while vP recursion is allowed, a vP cannot be merged on top of a VoiceP.¹⁶ In contrast, an analysis that blends vP and VoiceP together requires a more complex explanation, especially since the restriction cannot be reduced to predicates with one vs. two syntactic arguments (since passives cannot be causativized) and Agentive vs. non-Agentive (as both unaccusatives and unergatives can combine with the causative).

To recapitulate, adding a vP on top of a VoiceP is prohibited, but adding a VoiceP on top of a transitive vP is required. Under the assumption that v_{Caus} is similar in its properties to v_{TV} , we expect causative verbs to undergo passivization. This prediction is borne out; such passivization is highly productive and shows no exceptions.

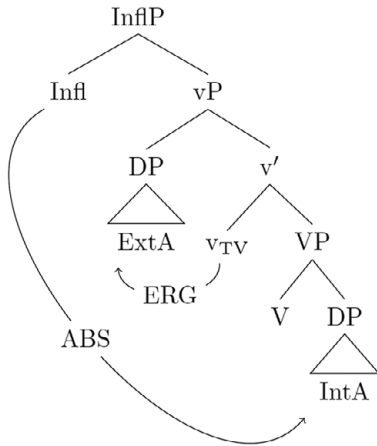
- (35) (a) X-Ø-kam-is-äx ri äk'.
 CMP-B3SG-die-CAUS-PASS DET rooster
 'The rooster was killed.'



The split vP-VoiceP analysis captures the acceptable transitive, passive, and causative patterns and rules out the ungrammatical examples, while the bundled approach would require serious adjustments. Under the bundled approach, v_{ITV} and v_{AF} would remain the same, but v_{TV} would be responsible for projecting an Agent and assigning ERG to it, combining the functions of our v_{TV} and Voice_{TV} (36). This is an essence the analysis that was proposed for Chuj antipassives by Coon (2019); see also Coon et al. (2021).

¹⁶In some languages, it is possible to causativize verbs of any adicity (see also Kittilä 2009 for cross-linguistic examples). First, such languages may have a bundled vP-Voice in the thematic domain, allowing vP recursion; this could enable causativization of passivized predicates. Second, we should distinguish between v_{Caus} and a non-verbalizing Caus head (cf. Harley 2017); if verbalization occurs elsewhere, CausP could be added at various derivation points and potentially iterate.

(36) an alternative structure of active transitive



To account for the causativization of unergatives and passivization of causatives, a bundled approach would need to allow vP/VoiceP recursion, which in turn would make causativizing passives and passivizing antipassives available, contrary to the data.

5.4. Relativized external argument positions

The idea that EAs can occupy different structural positions has been articulated by a number of researchers, e.g., Tollan (2018), Tollan & Massam (2022), and Polinsky (2016) for Polynesian; Tollan & Oxford (2018) for Algonquian; McGinnis (2022, 2023) and Nash (2020) for Georgian; Krishnan & Sarma (2023) for Malayalam; Anand & Nevins (2006) for Hindi; and Basilico (2023) for Halkomelem. Under our account, the difference in the base-position is manifested in Case. The high EAs receive ERG from the Voice head that projects them, in a spec-head configuration (Massam 2009, Tollan 2018, Tollan & Massam 2022). VoiceP is absent when the EA is merged lower, in spec,vP, requiring it to be Case-licensed by other means (such as by the higher Infl).

Structural evidence for the differential positions of EAs across languages sometimes comes from scope facts, e.g., the interaction of EAs with matrix negation; see Anand & Nevins (2006) on Hindi and Schmidt (2003) on West Greenlandic.¹⁷ In Kaqchikel, the EA positions are invariably within the thematic domain, below the matrix negation and tense, and we have not observed any scopal differences. The main empirical evidence for differentiated EA positions comes from causativization (see Tollan 2018 on this diagnostic). Causatives of intransitives are formed morphologically (see Section 5.3). Meanwhile, causatives of transitives require the use of periphrastic causative. Recall that under our

¹⁷ Tollan (2018) proposes that higher EAs are more agentive, while lower ones are Actor-like. Basilico (2023), referencing Galloway (1993), suggests a similar contrast for Halkomelem Salish:

1. *-els* antipassives: always agentive, with external arguments in spec,VoiceP.
2. *-m* antipassives (middles): ‘inconsistently agentive,’ with external arguments in spec,vP, their roles determined by root semantics.

Further research is needed to determine if Kaqchikel or other Mayan languages exhibit a similar contrast.

approach, a causative *v* cannot take an unsaturated transitive *vP* as its complement, nor can it be added on top of VoiceP. Assuming that all EAs are base-generated in *spec,vP*, we would expect the causative *v*/Voice to be equally compatible with both intransitive and transitive *vPs*, contrary to fact. To account for the observed causativization pattern, we would then need to stipulate a [\pm transitive] feature, whose real meaning would remain obscure; for instance, it could not be connected to the presence of an EA or internal argument in the *vP*. Recognizing two different EA positions, a higher *spec,VoiceP* for transitives, and a lower *spec,vP* for unergatives, antipassives, and AF straightforwardly accounts for the differences in *Kaqchikel* causatives.

An alternative analysis, whereby the EA is always generated in *spec,vP* and then, in active transitives, is Case-licensed by a higher Voice (either covertly or by raising to *spec,VoiceP*), faces further challenges: non-uniformity of Voice heads, ‘incompleteness’ of *vPs*, and the look-ahead problem.

First, an account that allows for a single EA position struggles to bring *Voice_{TV}* and *Voice_{Pass}* together; *Voice_{TV}* must take a fully saturated *vP* as its complement, but *Voice_{Pass}* can only select an ‘incomplete’ unsaturated *vP* (Bruening 2013). (We propose that both *Voice_{TV}* and *Voice_{Pass}* combine with the same transitive *vP*, which introduces an Agent role but does not itself project an argument.) This gives rise to further questions about the general nature and the distribution of such ‘incomplete’ *vPs*: Can an unergative *vP* be incomplete too and, if so, why do unergatives in *Kaqchikel* (and elsewhere) generally resist passivization?

Next, if in active transitives the Agent/Causer is externally merged in *spec,vP*, we encounter a look-ahead problem. The transitive *vP* is already fully saturated and, in principle, does not require a VoiceP: the EA can receive ABS from Infl, and the internal argument can be expressed as an oblique phrase or suppressed, which would create an antipassive structure. However, antipassive configurations without the antipassive marker are not attested in *Kaqchikel*.

Finally, allowing VoiceP with transitive Voice equipped with [ERG] to be added on top of a saturated transitive *vP* leads to overgeneration. On that analysis, nothing prevents VoiceP from being added on top of an intransitive *vP*. Accordingly, we need to explain why there are no transitive constructions with antipassive or AF morphology and an ergative subject.

Our approach explains the obligatory presence of ERG in active transitive clauses and its obligatory absence in intransitive and AF constructions by linking it to the Voice head and assuming that a VoiceP is projected only when there is an unsaturated EA role to be dealt with. It captures all the relevant data without overgeneration.¹⁸

To conclude, we have argued for a different structural composition of active transitives and passives on the one hand, and unergatives, antipassives, and AF constructions, on the other. The latter all lack the Voice projection, and, as a consequence, the two types of structures differ in the position of their EA.

¹⁸ A reviewer suggests an alternative analysis with a special *Voice_{AF}* for Agent Focus structures. This approach faces several challenges. First, it would require stipulating different ergative-assignment rules for different Voice heads. Second, if Voice introduces an EA, *Voice_{AF}* or *Voice_{Pass}* should be compatible with unaccusative *vP*, but there is no evidence for this. Third, the functional difference between *Voice_{AF/TV}* and *V_{AF}* would become unclear if both introduce EAs. And finally, empirical evidence suggests that *Kaqchikel* AF is Voice-less, unlike transitives (Ranero 2021). Our approach distinguishes between the *v* and Voice functional heads and offers their uniform description, avoiding these issues.

6. The fine structure of the verb phrase and the syntax of antipassives

In this section, we relate our discussion of Kaqchikel AP_{null} to the more general cross-linguistic distribution of what different researchers have called antipassives. In doing so, we go back to the several types identified in Section 3 and argue that antipassives do not necessarily form a homogenous class – not too surprising a conclusion given the variety of descriptive labels and approaches to the construction in question. We then compare some of these approaches to our analysis.

6.1. Antipassives cross-linguistically

In terms of the distribution of internal arguments, Kaqchikel presents two extremes. In AP_{null}, the logical object is suppressed completely and interpreted existentially, via an entailment of the predicate; recall from Section 4.2.2. that we tentatively adopted a separationist approach to argument structure (A. Williams 2015).

In contrast, in AF the logical object is projected as a definite/specific DP. Despite the absence of ergative marking, AF is akin to the active transitive clause in that both EAs and internal arguments are projected as DPs. In other words, the logical object is not ‘demoted’; thus, no parallels with the null antipassive arise (Aissen 2017a, 2017b, i.a., going back to Smith-Stark 1978).

Our account of AP_{null} can potentially be extended to other languages where the internal argument appears to be suppressed in the AP configuration. Coon’s (2019) analysis of Chuj AP_{null} is quite similar to ours in that the internal argument can also be syntactically absent in that construction. For Chuj, Coon (2019) proposes that the internal argument is existentially bound with the help of a special functional head introduced in the structure on top of the vP/VoiceP. In Kaqchikel, an approach in terms of existential closure presents some challenges. First, in Chuj, the relevant functional head is spelled out overtly and appears not only in antipassives but also in the passive. In Kaqchikel, there is no such morphosyntactic evidence. Second, if a functional head similar to that present in Chuj antipassive is introduced to the structure in K’ichean languages, its distribution will need to be carefully regulated. For instance, this head would be redundant in unergatives, and it should be banned in AF. It would also need to be optional to account for K’iche’ oblique antipassives (see Section 6.2) and even in some dialects of Kaqchikel (see Heaton 2017 and Ranero 2021). While these potential problems are not insurmountable, the approach outlined here captures the relevant data in a more straightforward way. Since antipassives appear to vary across languages, it is possible that both ours and Coon’s (2019) analysis of Chuj are needed to account for the existing variation. This highlights how ‘antipassive’ encompasses multiple distinct phenomena rather than a single unified construction. The next subsection expands on this variation.

6.2. Antipassives as a heterogeneous class

In addition to comparing Kaqchikel AP_{null} with the AF construction, we may also compare absolutive and oblique antipassives. As discussed in Section 3.2, the latter type is marginal for our Kaqchikel consultants but has been reported in other varieties of the language. Consider Kaqchikel examples in (37), where the oblique antipassive suffix is identical to the AF one (hence the denotation AF(AP) in the glosses).

- (37) (a) Ja ri jäh' x-Ø-chup-u r-ichin ri q'aq'.
 FOC DET rain CMP-B3SG-put.out-AF(AP) A3SG-RN DET fire
 'THE RAIN put out the fire.' (García Matzar & Rodríguez Guaján 1997: 374)
- (b) Ja ri xta Ana x-Ø-tz'et-o r-ichin xta Maria.
 FOC DET CLF Ana CMP-B3SG-see-AF(AP) A3SG-RN CLF Maria
 'ANA saw Maria.' (Ranero 2021: 134)

Oblique antipassives are common in other Mayan languages, such as K'iche' (38). In contrast to Kaqchikel, K'iche' oblique antipassive is marked the same way as the absolutive (null) antipassive (and not as AF) and does not require Agent-fronting.

- (38) Le achi x-Ø-il-on chwe.
 DET man CMP-B3SG-see-AP RN.A1SG
 'The man saw me.' (Davies & Sam-Colop 1990: 526)

Oblique antipassives are still awaiting their analysis. At this point, we can anticipate several analytical options, assuming that antipassive-like constructions are similar in lacking the Voice projection but differ depending on the presence and nature of the internal argument. Options (i) and (ii) below are equally appropriate with respect to the K'iche' data in (38).

- (i) Just like AP_{null}, oblique antipassive does not project an internal argument at all. The oblique dependent is associated with the antipassive predicate via conjunctive semantics (cf. Pietroski 2018), which, however, would need to be elaborated. If this is the case, the difference between absolutive and oblique antipassive is rather minimal. It is worth noting that no languages with productive antipassive require that the oblique argument be expressed in the antipassive (Polinsky 2013, 2017); it always appears optional, which may be an indication of structural similarities between the two types of antipassive.
- (ii) The *v* head in the oblique antipassive is similar to that in the absolutive antipassive in that it has no Case/[D] feature and cannot select a DP. However, instead of being absent in both syntax and semantics, as in AP_{null}, the internal argument in the oblique antipassive is projected as either a PP with an nP complement (oblique) or an nP (which would subsume cases of incorporation or pseudo-incorporation).
- (iii) Oblique antipassive is structurally identical to AF. Its *v* head selects/can license an internal argument, but the internal argument may alternate between a DP and an oblique phrase. Such an approach is close to the proposal advanced by Ranero (2021) for Kaqchikel and Aldridge (2012) for Tagalog. It allows us to explain the Kaqchikel pattern illustrated in (37) but gives rise to questions concerning the distribution of DP/PP internal arguments in transitive constructions.

Option (iii) leads us to examine the relationship between DP and oblique objects. If the DP argument in AF can alternate with an oblique phrase, do these arguments occupy the same structural position? And if yes, why is that alternation not attested in active transitive clauses?

Summarizing options (i)–(iii), we anticipate the following distribution of structures that lack Voice (see Table 4).

Table 4. Possible variation in constructions lacking VoiceP

| | | |
|---|---------------------------------|----------------------|
| Absolutive antipassive; possibly oblique antipassive | Possibly oblique antipassive | AF |
| no internal argument | internal argument other than DP | DP internal argument |

This typology requires further scrutiny, but it aligns with the notion that antipassives are cross-linguistically a heterogeneous group. As an aside, Voice-less vPs serve to circumvent the Ergative Extraction Effect (Aissen 2017a) in individual languages, but the use of such structures for extracting an EA does not motivate their existence. Even in the absence of Voice-less vPs, a language may find a way to extract an EA.

6.3. Approaches to antipassives: By way of comparison

While a thorough overview of the existing literature on antipassives would require a separate article, three main approaches can be compared with our proposal.

According to some analyses, antipassive directly manipulates the theta-grid of the predicate. Baker (1988) is a well-known example of such an account, according to which the AP morpheme absorbs both the ACC/ABS case and the thematic role normally licensing the internal argument; the antipassive becomes a mirror image of the passive (e.g., Baker, Johnson & Roberts 1989). If applied to the Kaqchikel data, this approach is not without problems. Although it still allows us to bring together antipassives and intransitives (Section 5.1), that is only possible under an assumption that all unergative verbs are hidden transitives (otherwise the function of an AP morpheme in such predicates remains unclear), and we may expect them to co-occur with an internal argument if the AP suffix is absent. We have not observed such alternations (see *atin* ‘bathe’ – *atinisaj* ‘bathe (CAUS)’ = ‘wash’, but no **ati(j)* ‘wash’).

The next class of approaches to antipassives relies on the manipulation of the verbal projection. Some researchers suggest that antipassive allows object licensing, but that its structural locus is not the same as in active transitive clauses. In the antipassive, a new licensing head is present: either a special v/VoiceAP, ApP, or Asp(ect) (Alexiadou 1999; also Johns 2001, Schmidt 2003, Yuan 2018, and references on Inuit therein). The analysis that we put forward for Kaqchikel AF falls into this category: the AF v head not only projects the EA but also Case-licenses an internal DP argument.

Other scholars choose to constrain the licensing properties of v; see Coon (2019) on Chuj and Aissen (2011) on incorporative antipassive in K’iche’, and Aldridge (2012) on Tagalog. Our analysis of AP_{null} is conceptually close to the proposals by Coon and Aldridge. However, we view the restricted licensing behavior of antipassives as a byproduct of the antipassive/unergative v, not as its defining characteristic; a similar analysis is advanced by Basilico (2023), who views antipassives in Halkomelem Salish as Voice-less unergatives. As discussed in Section 5, the v_{ITV} itself projects an EA, which results in the vP being fully saturated; as a result, VoiceP is unnecessary. Because there is no VoiceP, no ergative case can be assigned, and the EA is licensed by Infl. In turn, the internal argument is left unlicensed and is not projected. In other words, although the presence of v_{ITV} causes the internal

argument to be absent, there is nothing in the featural specification or selectional properties of v_{ITV} that would categorically preclude it from combining with a VP that contains an internal argument or require it to combine with a Theme-less/Patient-less VP. This approach allows us to treat antipassives as a subclass of intransitives and also adequately explains why there are no antipassives of unaccusatives; if antipassivization consisted of some kind of demotion of the internal argument, that gap would be puzzling.

Our analysis and the existing analyses of antipassives share the conception that the subject of absolutive antipassives is merged in an EA position. Unlike many existing approaches (see Aissen 2011, Imanishi 2014, Coon 2019, and Coon et al. 2021 on Mayan and Yuan 2018 on Inuktitut¹⁹), we propose that the thematic domains in active transitive clauses on the one hand, and the AP and AF clauses on the other, are of different sizes and have different structures: the former include a VoiceP, and the latter are Voice-less vPs. A similar approach whereby (some) antipassive-like structures are Voice-less was put forward by Ranero (2021) for Kaqchikel. Ranero suggests the VoiceP IS PROJECTED but later gets REMOVED; this analysis is motivated by a desire to avoid the look-ahead problem. Here we propose that the Voice head has a very specific function (i.e., to manipulate the EA variable) and that, similar to some other functional heads, Voice is not projected when not needed. In addition to this analytical difference, our data suggest that the account should not be limited to AF (as proposed by Ranero) but should also be extended to AP_{null}; our consultants did not replicate the difference between null antipassives and AF in elliptical contexts reported by Ranero.

7. Conclusions and outstanding questions

Our investigation of Kaqchikel absolutive antipassive shows that this construction lacks a Voice projection entirely, echoing the observation by Wood & Tyler (2025: 525):

While antipassive is a voice phenomenon in the typological sense, it is... very much an open question whether antipassive alternations involve alternations in the Voice head in any meaningful way.

We propose analyzing antipassives as vP structures with EAs in spec,vP, making them a subtype of unergative intransitives. This approach allows for a more streamlined analysis of verbal structures across different constructions. Our proposal aligns with Coon's (2019) findings for Chuj absolutive antipassives, albeit with two points of divergence: First, we propose distinct structures for unergatives and transitives; second, by differentiating v and Voice functions, we provide an effective account of AF.

¹⁹ Antipassive in Inuktitut may, in fact, be closer to Kaqchikel AF, as suggested by the behavior of unpronounced objects in such constructions. Carrier (2017) reports that, although traditionally a null Patient in antipassive is expected to receive a generic interpretation, in some Eastern dialects of Inuktitut antipassive is increasingly used when the Patient is given and omitted. The observation is confirmed by Yuan (2018). (When overtly present, the Patient in antipassive bears the suffix *-mik*. Carrier glosses it as *INS*, while Yuan describes it as *modalis*, as below.)

(i) Jaani titirauti-mik tigu-si-juq titirauti-kkuving-mik amma tuni-si-juq
 Jaani.ABS pencil-MOD take-AP-3SG.S pencil-receptacle-MOD and give-AP-3SG.S
pro Miali-mut
 3SG.PRON.MOD Miali-ALL
 'Jaani took a pencil from the pencil case and gave it to Miali.' [Yuan 2018: (54)]

Silverstein's (1972) original term 'antipassive' suggested that the construction mirrored the passive. However, our proposal indicates that middles more appropriately counterpart antipassives. Both constructions lack a Voice projection: Antipassives lack an internal argument, while middles lack an EA in their structure (Sybesma 2021).

While antipassives, unergatives, middles, and unaccusatives are best analyzed as Voiceless vPs, active transitives and passives have both vP and VoiceP projections. The two types of functional heads have principally different roles. Only v introduces a new EA relation, while Voice manipulates the already-existing role, by either projecting an EA in its specifier position or existentially binding the Agent/Causer variable. We echo Myler's (2016) principle of 'delayed gratification': a mechanism to let a theta-role go unfilled for some time during the syntactic derivation and only saturate it further up in the tree.

As a consequence of our analysis, the EA of a transitive is base-generated in a higher position (spec, VoiceP) compared to the EA of an unergative (spec, vP). Kaqchikel therefore provides novel support for the difference between high and low EAs.

Our analysis raises a question about language properties correlating with antipassivization. We suggest one potential correlation: Languages with bundled Voice and v heads likely lack Kaqchikel-type null antipassives, because removing Voice alone would be impossible. Preliminary evidence supports this prediction: For instance, Basque, argued to have bundled verbal projections (Etxebarria, Etxepare & Uribe-Etxebarria 2012), lacks antipassives. However, while bundling may block antipassives, split verbal projections don't guarantee their presence; other factors may prevent their occurrence.

Another question has to do with the multiple strategies available to syntactically introduce and license an (internal) argument. This argument can be a full DP licensed via agreement/case assignment, an oblique phrase, or a bare expression lacking the D layer, probably licensed via pseudo-incorporation/adjunction to the predicate (see Levin 2015 for a discussion). What does the choice between the strategies depend on? Is it conditioned by the structural properties, pragmatics, or semantics? We proposed that some v heads possess a Case/[D] feature, triggering DP merger as an internal argument. However, this does not fully account for the (im)possibility of AP_{null}/AP_{obl} alternation in languages like K'iche'. This issue warrants further investigation.

Acknowledgments. We are grateful to our Kaqchikel consultants, Celsa Teleguario Sipac, Juana Isabel Teleguario Sipac, and Gilda Esperanza Ixén Cum, for sharing their knowledge with us. For comments and discussions, we thank Edith Aldridge, Maša Bešlin, Sandy Chung, Jessica Coon, Henry Davis, Marcel den Dikken, Heidi Harley, Idan Landau, Beth Levin, Neil Myler, Rodrigo Ranero, Rint Sybesma, Rebecca Tollan, and audiences at NOCroDeP workshop (Frankfurt), NELS-54, LeiBeiCos-2024, and FAMILI-7. We also thank three anonymous reviewers whose feedback substantially improved the focus of this paper.

This work was affiliated with the project FK 145985 (NKFIH, Hungary) and was supported in part by NSF grants BCS-1563129, BCS-1941733, and BCS-2116344. Fieldwork on Kaqchikel was partially funded by grants from the Jacobs Research Funds and the Endangered Language Fund. We are solely responsible for all the errors in this work.

References

- Aissen, Judith. 2011. On the syntax of Agent Focus in K'iche'. In Kirill Shklovsky, Pedro Mateo Pedro & Jessica Coon (eds.), *Proceedings of formal approaches to Mayan linguistics I*, 1–16. Cambridge, MA: MIT.
- Aissen, Judith. 2017a. Correlates of ergativity in Mayan. In Jessica Coon, Diane Massam & Lisa Travis (eds.), *The Oxford handbook of ergativity*, 737–758. Oxford: Oxford University Press.

- Aissen, Judith. 2017b. Agent focus and passive in Tsotsil. In Jason Ostrove, Ruth Kramer & Joseph Sabbagh (eds.), *Asking the right questions: Essays in honor of Sandra Chung*, 139–157. UC Santa Cruz.
- Ajsivinac, Juan & Robert Henderson. 2010. Foco de agente sin un agente enfocado: Restricciones sobre objetos en kaqchikel. Talk presented at the Formal Approaches to Mayan Linguistics (FAMLi) Workshop, 23–25 April 2010, MIT.
- Aldridge, Edith. 2004. *Ergativity and word order in Austronesian languages*. Ph.D. dissertation, Cornell University.
- Aldridge, Edith. 2012. Antipassive and ergativity in Tagalog. *Lingua* 122.3, 192–203.
- Alexiadou, Artemis. 1999. Remarks on the syntax of process nominals: An ergative pattern in nominative–accusative languages. In Nancy Hall, Masako Hirotani & Pius Tamanji (eds.), *NELS 29: Proceedings of the North East Linguistic Society*, 1–15. Amherst, MA: GLSA.
- Alexiadou, Artemis, Elena Anagnostopoulou & Florian Schäfer. 2006. The properties of anticausatives crosslinguistically. In Mara Frascarelli (ed.), *Phases of interpretation*, 187–212. Berlin: Mouton de Gruyter.
- Alexiadou, Artemis & Edith Doron. 2012. The syntactic construction of two non-active Voices: Passive and middle. *Journal of Linguistics* 48.1, 1–34.
- Anand, Pranav & Andrew Nevins. 2006. The locus of ergative case assignment: Evidence from scope. In Alana Johns, Diane Massam & Juvenal Ndayiragije (eds.), *Ergativity: Emerging issues*, 3–25. Dordrecht: Springer.
- Armstrong, Grant. 2017. The syntax of non-verbal predication in Yucatec Maya. *Cuadernos de Lingüística de El Colegio de México* 4.2, 137–212.
- Baker, Mark. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press.
- Baker, Mark, Kyle Johnson & Ian Roberts. 1989. Passive arguments raised. *Linguistic Inquiry* 20.2, 219–251.
- Basilico, David. 2019. Antipassive adds an argument. *Open Linguistics* 5.1, 191–216.
- Basilico, David. 2023. Voiced and Voiceless intransitives in Halkomelem Salish: Rethinking antipassives. In Lam Suet-Ying & Ozaki Satoru (eds.), *NELS 53: Proceedings of the fifty-third annual meeting of the North East Linguistic Society*, 53–62. Amherst, MA: GLSA.
- Berinstein, Ava. 1998. Antipassive and 2-3 retreat in K'ekchi Mayan: Two constructions with the same verbal reflex. In Leanne Hinton & Pamela Munro (eds.), *Studies in American Indian languages: Description and theory*, 212–222. Berkeley, Los Angeles: University of California Press.
- Bhatt, Rajesh & Roumyana Pancheva. 2006. Implicit arguments. In Martin Everaert & Henk C. van Riemsdijk (eds.), *The Blackwell companion to syntax*, vol. II, 558–588. Oxford: Blackwell.
- Bitner, Maria & Ken Hale. 1996. The structural determination of Case and agreement. *Linguistic Inquiry* 27.1, 1–68.
- Borer, Hagit. 1998. Deriving passive without theta roles. In Stephen Lapointe, Diane Brentari & Patrick Farrell (eds.), *Morphology and its relation to phonology and syntax*, 60–110. Stanford, CA: CSLI.
- Bruening, Benjamin. 2013. By phrases in passives and nominals. *Syntax* 16, 1–41.
- Buenrostro, Cristina. 2013. *La voz en Chuj de San Mateo Ixtatán*. Ph.D. dissertation, El Colegio de México.
- Burukina, Irina. 2019. Reflexive functional head, verbal and nominal predicates. In Richard Stockwell, Maura O'Leary, Zhongshi Xu & Z.L. Zhou (eds.), *Proceedings of the 36th West Coast Conference of Formal Linguistics*, 91–98. Waltham: Cascadilla Proceedings Project.
- Burukina, Irina. 2021. On the nature of arguments in event nominals. *Proceedings from LSA 2021 meeting* 6.1, 996–1008.
- Burukina, Irina & Maria Polinsky. 2024. On the inventory of v and Voice. In Shaunak Phadnis, Carla Spellerberg & Brynne Wilkinson (eds.), *NELS 54: Proceedings of the fifty-fourth annual meeting of the North East Linguistic Society*, 117–126. Amherst, MA: GLSA.
- Carrier, Julien. 2017. The ergative-antipassive alternation in Inuktitut: Analyzed in a case of new-dialect formation. *The Canadian Journal of Linguistics/La revue canadienne de linguistique* 62.4, 661–684.
- Chung, Sandra. 1998. *The design of agreement*. Chicago: University of Chicago Press.
- Chung, Sandra. 2025. Antipassive in a Minimalist universal grammar. In Lauren Clemens, Vera Gribanova & Gregory Scontras (eds.), *Syntax in uncharted territories*, 61–78. Berlin: Language Science Press.
- Clemens, Lauren. 2013. Kaqchikel SVO: V2 in a V1 language. In Michael Kenstowicz (ed.), *Studies in Kaqchikel grammar*, 1–24. Cambridge, MA: MIT.
- Clemens, Lauren & Jessica Coon. 2018. Deriving verb-initial word order in Mayan. *Language* 94.2, 237–280.
- Clemens, Lauren & Maria Polinsky. 2017. Verbinitial word orders, primarily in Austronesian and Mayan languages. In Martin Everaert & Henk van Riemsdijk (eds.), *The Wiley Blackwell Companion to Syntax*, 2nd edition, 4747–4796. Wiley-Blackwell.
- Coon, Jessica. 2013. *Aspects of split ergativity*. Oxford: Oxford University Press.

- Coon, Jessica. 2017. Little-*v*⁰ agreement and templatic morphology in Ch'ol. *Syntax* 20, 101–137.
- Coon, Jessica. 2019. Building verbs in Chuj: Consequences for the nature of roots. *Journal of Linguistics* 55, 35–81.
- Coon, Jessica, Nico Baier & Theodore Levin. 2021. Mayan Agent Focus and the ergative extraction constraint: Facts and fictions revisited. *Language* 97.2, 269–332.
- Coon, Jessica, Pedro Mateo Pedro & Omer Preminger. 2014. The role of case in A-bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation* 14.2, 179–242.
- Cyrino, Sonia & Ruth Lopes. 2016. Null objects and ellipsis in Brazilian Portuguese. *The Linguistic Review* 33, 483–502.
- Davies, William D. & Luis Enrique Sam-Colop. 1990. K'iche' and the structure of antipassive. *Language* 66.3, 522–549.
- Déchaïne, Rose-Marie & Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33.3, 409–442.
- Dékány, Éva. 2018. The position of case markers relative to possessive agreement. *Natural Language & Linguistic Theory* 36, 365–400.
- Eberhard, David M., Gary F. Simons & Charles D. Fennig (eds.). 2022. *Ethnologue: Languages of the world*, 25th edn. Dallas: SIL International.
- É. Kiss, Katalin. 2002. *The syntax of Hungarian*. Cambridge: Cambridge University Press.
- Epstein, Samuel. 1984. Quantifier-pro and the LF representation of PROarb. *Linguistic Inquiry* 15.3, 499–505.
- Erlewine, Michael Yoshitaka. 2013. Dissociating the syntax and morphological realization of Kaqchikel Agent Focus. In Michael Kenstowicz (ed.), *Studies in Kaqchikel grammar*, 25–50. Cambridge, MA: MIT.
- Erlewine, Michael Yoshitaka. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language & Linguistic Theory* 34.2, 429–479.
- Etxeberria, Urtzi, Ricardo Etxepare & Myriam Uribe-Etxebarria (eds.). 2012. *Noun phrases and nominalizations in Basque*. Philadelphia: John Benjamins.
- Galloway, Brent D. 1993. *A grammar of Upriver Halkomelem*. Berkeley: University of California Press.
- García Matzar, Lolmay Pedro & José Domingo Rodríguez Guaján. 1997. *Rukemik ri Kaqchikel Chi'*: Gramática Kaqchikel. Guatemala: Cholsamaj.
- Hale, Kenneth & Samuel J. Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In Kenneth Hale & Samuel J. Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, 53–109. Cambridge, MA: MIT Press.
- Harley, Heidi. 2013. External arguments and the Mirror Principle: On the distinctness of Voice and *v*. *Lingua* 125, 34–57.
- Harley, Heidi. 2017. The “bundling” hypothesis and the disparate functions of little *v*. In Roberta D'Alessandro, Irene Franco & Angél J. Gallego (eds.), *The verbal domain*, 3–28. Oxford: Oxford University Press.
- Heaton, Raina, Kamil Deen & William O'Grady. 2016. An investigation of relativization in Kaqchikel Maya. *Lingua* 170, 35–46.
- Heaton, Raina. 2017. *A typology of antipassives, with special reference to Mayan*. Ph.D. dissertation, University of Hawaii at Manoa.
- Heaton, Raina. 2018. Variation and change in the distribution of *-Vn and *-(v)w in Kaqchikel. Paper presented at the meeting of the Society for the Study of the Indigenous Languages of the Americas, 4–7 January 2018, Salt Lake City, UT.
- Heaton, Raina. 2020. Antipassives in cross-linguistic perspective. *Annual Review of Linguistics* 6, 131–153.
- Henderson, Robert. 2012. *Ways of pluralizing events*. Ph.D. dissertation, University of California, Santa Cruz.
- Henderson, Robert & Jessica Coon. 2018. Adverbs and variability in Kaqchikel Agent Focus: A reply to Erlewine (2016). *Natural Language & Linguistic Theory* 36.1, 149–173.
- Imanishi, Yusuke. 2014. *Default ergative*. Ph.D. dissertation, MIT.
- Imanishi, Yusuke. 2020. Parameterizing split ergativity in Mayan. *Natural Language & Linguistic Theory* 38, 151–200.
- Jerro, Kyle. 2017. The causative–instrumental syncretism. *Journal of Linguistics* 53.4, 751–788.
- Johns, Alana. 2001. Ergative to accusative: Comparing evidence from Inuktitut. In Jan Terje Faarlund (ed.), *Grammatical relations in change*, 205–221. Amsterdam & Philadelphia: John Benjamins.
- Kittilä, Seppo. 2009. Causative morphemes as non-valency increasing devices. *Folia Linguistica* 43.1, 67–94.
- Krishnan, Gayathri G. & Vijayanthi M. Sarma. 2023. Unlocking the verbal spine in Malayalam: Past tense is key. *Glossa* 8.1, 1–44.
- Laka, Itziar. 2006. Deriving split ergativity in the progressive: The case of Basque. In Alana Johns, Diane Massam & Juvenal Ndayiragije (eds.), *Ergativity: Emerging issues*, 173–195. Dordrecht: Springer.
- Landau, Idan. 2010. The explicit syntax of implicit arguments. *Linguistic Inquiry* 41, 357–388.

- Landau, Idan. 2018. Missing objects in Hebrew: Argument ellipsis, not VP ellipsis. *Glossa* 3.1, 76.
- Legate, Julie Anne. 2002. *Warlpiri: Theoretical implications*. Ph.D. dissertation, MIT.
- Legate, Julie Anne. 2008. Morphological and abstract case. *Linguistic Inquiry* 39, 55–101.
- Levin, Beth. 1999. Objecthood: An event structure perspective. *Papers from the 35th regional meeting of the Chicago Linguistic Society: The main session*, 223–247. Chicago: Chicago Linguistic Society.
- Levin, Theodore. 2015. *Licensing without Case*. Ph.D. dissertation, MIT.
- Levin, Theodore, Paulina Lyskawa & Rodrigo Ranero. 2020. Optional agreement in Santiago Tz'utujil (Mayan) is syntactic. *Zeitschrift für Sprachwissenschaft* 39.3, 329–355.
- Lohndal, Terje. 2014. *Phrase structure and argument structure: A case study of the syntax-semantics interface*. Oxford: Oxford University Press.
- Lyskawa, Paulina & Rodrigo Ranero. 2022. Optional agreement as successful/failed AGREE: Evidence from Santiago Tz'utujil (Mayan). *Linguistic Variation* 22.2, 209–267.
- Massam, Diane. 2009. The structure of (un)ergatives. In Sandra Chung, Daniel Finer, Ileana Paul & Eric Potsdam (eds.), *Proceedings of the sixteenth meeting of the Austronesian Formal Linguistics Association*, 125–135.
- Maxwell, Judith M. 1976. Chuj intransitives: Or when can an intransitive verb take an object? *Journal of Mayan Linguistics* 1, 128–140.
- McGinnis, Martha. 2022. Configurationally defined Voice and v: Evidence from Georgian causatives. In Isabelle Roy, Nora Boneh, Daniel Harbour & Ora Matushansky (eds.), *Building on Babel's rubble*, 317–334. Paris: Presses Universitaires de Vincennes.
- McGinnis, Martha. 2023. Unergative subjects merge below VoiceP. *Paper presented at the South Caucasian Chalk Circle-3*, 3 October 2023, Tbilisi.
- McKenna Brown, R., Judith M. Maxwell & Walter E. Little. 2006. *¿La Ütz Awäch? Introduction to the Kaqchikel Maya language*. Austin: University of Texas Press.
- Moseley, Christopher (ed.). 2010. *Atlas of the world's languages in danger*, 3rd edn. Paris: UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf0000187026> (accessed 15 January 2025).
- Myler, Neil. 2016. *Building and interpreting possession sentences*. Cambridge, MA: MIT Press.
- Nash, Léa. 2020. Causes are not agents. In Elitzur A. Bar-Asher Siegal & Nora Boneh (eds.), *Perspectives on causation*, 349–394. Dordrecht: Springer.
- Patal Majtzul, Filiberto. 2007. *Rusoltzil ri Kaqchikel: Diccionario bilingüe estándar Kaqchikel ilustrado*. Guatemala: OKMA.
- Patal Majtzul, Filiberto, Lolmay Pedro García Matzar & Carmelina Ixchel Espantzay Serech. 2000. *Rujunamaxik Ri Kaqchikel Chi': Variación dialectal en kaqchikel*. Guatemala: Cholsamaj.
- Pietroski, Paul M. 2018. *Conjoining meanings: Semantics without truth values*. Oxford: Oxford University Press.
- Polinsky, Maria. 2013. Antipassive constructions. In Matthew S. Dryer & Martin Haspelmath (eds.), *The world atlas of language structures online*, version 2020.3. <http://wals.info/chapter/108>. (accessed 15 January 2025).
- Polinsky, Maria. 2016. *Deconstructing ergativity: Two types of ergative languages and their features*. Oxford: Oxford University Press.
- Polinsky, Maria. 2017. Antipassive. In Jessica Coon, Diane Massam & Lisa Travis (eds.), *The Oxford handbook of ergativity*, 308–331. Oxford: Oxford University Press.
- Polinsky, Maria. 2024. Understanding applicatives. In Fernando Zuniga & Denis Creissels (eds.), *Applicative constructions in the world's languages*, 1007–1032. Berlin & Boston: De Gruyter Mouton.
- Preminger, Omer. 2014. *Agreement and its failures*. Cambridge, MA: MIT Press.
- Pye, Clifton. 2011. Mayan stative predication. In Kirill Shklovsky, Pedro Mateo Pedro & Jessica Coon (eds.), *Proceedings of FAMILI*, 191–207. Cambridge, MA: MIT.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.
- Ranero, Rodrigo. 2021. *Identity conditions on ellipsis*. Ph.D. dissertation, University of Maryland.
- Reinhart, Tanya & Tal Siloni. 2005. The lexicon-syntax parameter: Reflexivization and other arity operations. *Linguistic Inquiry* 36.2, 389–436.
- Rizzi, Luigi. 1986. Null objects in Italian and the theory of *pro*. *Linguistic Inquiry* 17.3, 501–558.
- Sakamoto, Yuta. 2016. Phases and argument ellipsis in Japanese. *Journal of East Asian Linguistics* 25, 243–274.
- Schmidt, Bodil Kappel. 2003. West Greenlandic antipassive. *Nordlynd* 31.2, 385–399.
- Šereikaite, Milena. 2022. Impersonals, passives and impersonal pronouns: lessons from Lithuanian. *Syntax* 25(2), 188–241.
- Silverstein, Michael. 1972. Chinook jargon: Language contact and the problem of multi-level generative systems. *I. Language* 48, 378–406.

- Smith-Stark, Thom. 1978. The Mayan antipassive: Some facts and fictions. In Nora England (ed.), *Papers in Mayan linguistics*, 169–187. Columbia, MO: The Curators of the University of Missouri.
- Stiebels, Barbara. 2003. Transparent, restricted and opaque affix orders. In Uwe Junghanns & Luka Szucsich (eds.), *Syntactic structures and morphological information*, 283–316. Berlin & Boston: De Gruyter Mouton.
- Stiebels, Barbara. 2006. Agent Focus in Mayan languages. *Natural Language & Linguistic Theory* 24, 501–570.
- Sybesma, Rint. 2021. Voice and little v and VO–OV word-order variation in Chinese languages. *Syntax* 24, 44–77.
- Tada, Hiroaki. 1993. *A/A-bar partition in derivation*. Ph.D. dissertation, MIT.
- Tollan, Rebecca. 2018. Unergatives are different: Two types of transitivity in Samoan. *Glossa* 3.1, 35.
- Tollan, Rebecca & Diane Massam. 2022. Licensing unergative objects in ergative languages: The view from Polynesian. *Syntax* 25.2, 242–275.
- Tollan, Rebecca & Will Oxford. 2018. Voice-less unergatives: Evidence from Algonquian. In Wm. G. Bennett, Lindsay Hrats & Dennis Ryan Storoshenko (eds.), *Proceedings of the 35th West Coast Conference on Formal Linguistics*, 399–408. Somerville, MA: Cascadilla Proceedings Project.
- Van Gysel, Jens E. L. 2024. A cognitive-typological perspective on the origins of causative-applicative polysemy. In Bethwyn Evans, Maria Kristina Gallego & Lisa Miceli (eds.), *Historical Linguistics 2019: Selected papers from the 24th International Conference on Historical Linguistics*, 330–366. Amsterdam: John Benjamins.
- Watanabe, Akira. 2017. The division of labor between syntax and morphology in the Kichean agent-focus construction. *Morphology* 27, 685–720.
- Williams, Alexander. 2015. *Arguments in syntax and semantics*. Cambridge: Cambridge University Press.
- Williams, Edwin. 1985. PRO and the subject of NP. *Natural Language & Linguistic Theory* 3.3, 297–315.
- Wood, Jim & Matthew Tyler. 2025. Voice. In Sjef Barbiers, Norbert Corver & Maria Polinsky (eds.), *The Cambridge handbook of comparative syntax*, 500–536. Cambridge: Cambridge University Press.
- Woolford, Ellen. 1997. Four-way case systems: Ergative, nominative, objective and accusative. *Natural Language & Linguistic Theory* 15, 181–227.
- Yuan, Michelle. 2018. *Dimensions of ergativity in Inuit: Theory and microvariation*. Ph.D. dissertation, MIT.
- Zúñiga, Fernando & Denis Creissels. 2024. Applicative constructions: An introductory overview. In Fernando Zúñiga & Denis Creissels (eds.), *Applicative constructions in the world's languages*, 1–56. Berlin & Boston: De Gruyter Mouton.