Voice Mismatches in Kaqchikel (Mayan) Sluicing[*]

Rodrigo Ranero
University of Maryland, College Park

Abstract: In Kaqchikel (Mayan) sluicing, voices can mismatch between antecedent and ellipsis site. Specifically, the Agent Focus voice can mismatch with active and passive voice. We show that the existence of these voice mismatches has consequences for the proper formulation of the identification requirement on ellipsis. We propose that the identification requirement is satisfied by featural non-distinctness, as opposed to featural identity, an idea whose roots are found in Chomsky 1965. We provide a novel analysis of Agent Focus, analyzing an Agent Focus clause as lacking a VoiceP layer. Given our identification requirement and analysis of Agent Focus, a subset of voice mismatches in Kaqchikel are correctly ruled in, while the more broadly disallowed active-passive mismatches (Merchant 2013) are ruled out.

Keywords: ellipsis, sluicing, Kaqchikel, Mayan, identity, Agent Focus

1 Introduction

The formulation of an adequate identification requirement regulating the availability of ellipsis is an ongoing topic of research (van Craenenbroeck & Merchant 2013).[1] Is the condition purely syntactic (e.g. Fox and Lasnik 2003), semantic (e.g. Merchant 2001), or a hybrid (e.g. Chung 2006, Merchant 2013)? One empirical domain that has been central for determining the correct formulation of the requirement involves cases where there is a mismatch between the contents of the antecedent and ellipsis site. For example, consider the observation that *voice* cannot mismatch in sluicing. As observed below, an active antecedent cannot mismatch with a passive sluice and vice-versa.

(1) a.*Joe was murdered but we don't know who.
    b.*Someone murdered Joe, but we don't know who by.   (Merchant 2013)

If one were to adopt a purely semantic identification requirement based on mutual entailment (Merchant 2001), it is unclear how to rule out examples like those in (1), since both clauses in each example are truth-conditionally equivalent. This kind of data supports instead a requirement based on syntactic identity (Merchant 2013, Rudin 2019). For example, Merchant 2013 argues that a syntactic condition like the following explains the unavailability of voice mismatches under sluicing:

(2) *Merchant (2013)'s syntactic identity condition (see Chung 2013: 3)*

    The heads in the verbal spine of the elided constituent must be syntactically identical to the corresponding heads in the antecedent.

A condition like (2) ensures that voice mismatches are disallowed, since the $Voice^0$ heads in the antecedent and ellipsis site are not identical in examples like (1)a-b. Further, the condition accounts for why voice mismatches are licit in cases of low ellipsis such as VP-ellipsis. If the ellipsis site in VPE does not contain $Voice^0$, then the condition in (2) is satisfied (Merchant 2013).

However, the empirical claim that voice mismatches are disallowed in sluicing has been made on the basis of data from only a handful of languages. Here, we will show that voices *can* mismatch under sluicing in Kaqchikel, a Mayan language spoken in Guatemala. Based on this, we propose an analysis with two components. First, we argue for the following identification requirement, whose roots go back to Chomsky 1965 (see Lipták 2015 for discussion):

(3) *Identification requirement on ellipsis*

    Antecedent and material properly contained within the ellipsis site must be featurally non-distinct.

Second, we propose that a clause in the Agent Focus voice (henceforth AF; see Aissen 2017) has no VoiceP layer:

(4) *AF in Kaqchikel*

    An AF clause instantiates a clause with no VoiceP layer.

We will show that (3) and (4) can account for the novel Kaqchikel data and the broader unavailability of active-passive mismatches.

This paper is structured as follows. In section 2, we discuss Kaqchikel morphosyntax. In section 3, we lay out the Kaqchikel sluicing data, delving into the voice mismatches. Section 4 provides our analysis, while section 5 argues against a competing analysis. Section 6 concludes.

2   Kaqchikel morphosyntax

Kaqchikel is a head-marking, *pro*-drop, ergative-absolutive VOS language (England 1991, García Matzar & Rodríguez Guaján 1997, Patal Majzul et.al. 2000, Clemens & Coon 2018). Nominals do not show case marking, but verbal agreement reveals the alignment configuration: The subject of a transitive clause is indexed with ergative agreement on the verb, while the object of a transitive clause and the single argument of an intransitive predicate are indexed with

absolutive agreement. In the Mayanist literature, the ergative agreement paradigm is called set A, while the absolutive agreement paradigm is called set B. I follow this convention throughout. As shown in (5), the subject of a transitive is indexed by set A agreement on the verb, while the object is indexed with set B agreement. Example (6) shows that the single argument of an intransitive is indexed with set B agreement.[2]

(5) X-Ø-u-to'   jun ala'   jun achi.
     COM-B3S-A3S-help a   young.man a   man
     'A man helped a young man.'   (adapted from Patal Majzul et.al. 2000:141)

(6) X-Ø-tzaq   ri ti   a   Francisco.
     COM-B3S-fall DET DIM CLF Francisco
     'The boy Francisco fell.'   (adapted from Patal Majzul et.al. 2000:115)

Set A agreement also co-indexes possessors. Additionally, while VOS order is unmarked, SVO order is possible (see García Matzar & Rodríguez Guaján 1997, Patal Majzul et.al. 2000; for broader discussion of word order in Mayan, see England 1991, Clemens & Coon 2018). The table below provides set A and set B paradigms for the language. Phonological processes affect the exact surface form of these markers and they are also subject to dialectal variation, but we abstract from this in what follows (see Patal Majzul et.al. 2000):[3]

Table 1: Agreement morphemes in Kaqchikel

PERSON/NUMBER	SET A (ERG)		SET B (ABS)
	_C	_V	
1S	nu-	w-	in-
2S	a-	aw-	at-
3S	ru-	r-	Ø
1P	qa-	q-	oj-
2P	i-	iw-	ix-
3P	ki-	k-	e-

There are several different voices in Kaqchikel. Here, we will discuss the active, passive, absolutive antipassive and AF voices.

An active transitive clause contains two full, non-oblique arguments. The verb displays set B and A morphology co-indexing the internal and external arguments respectively. A morphological reflex of the active voice surfaces in some cases (7). In the passive voice, the thematic agent of a

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[2] Abbreviations are as follows: A = set A; ACT = active voice; AF = Agent Focus; AP = antipassive; B = set B; CAUS = causative; CLF = classifier; COM = completive; DET = determiner; DIM = diminutive; DIR = directional; EXIST = existential; FOC = focus; FP = fronting particle; IMP = imperative; INC = incompletive; INT = intensifier particle; NEG = negation, P = plural; PASS = passive; PREP = preposition; PRF = perfect; Q = question particle; RN = relational noun; S = singular; TRANS = transitive.

[3] In Patzún Kaqchikel, 3S set A agreement can be dropped if set B is also 3S (Patal Majzul et.al. 2000: 69). 3P set B agreement is optional in some configurations (Henderson 2009; see England 2011, Lyskawa & Ranero 2019).

transitive can be expressed by an oblique phrase and the thematic patient appears in subject position. The oblique phrase is headed by the relational noun *o/uma*.[4] Verbs in the passive voice display set B agreement only (controlled by the syntactic subject; i.e., the thematic patient) and a stem final passive suffix.

(7) *Active voice in Kaqchikel*

    A Lu'   x-Ø-u-q'et-e-j   ri   xta Mari'y.
    CLF Pedro COM-B3S-A3S-hug-V-ACT DET CLF Maria
    'Pedro hugged María.'   (adapted from McKenna Brown et.al. 2006: 177)

(8) *Passive voice in Kaqchikel*

    Xta Mari'y x-Ø-q'et-ë-x   r-oma a   Lu'.
    CLF Maria COM-B3S-hug-V-PASS A3S-RN CLF Pedro
    'María was hugged by Pedro.'   (adapted from McKenna Brown et.al. 2006: 177)

In the absolutive antipassive voice (henceforth antipassive), the logical object is not expressed as a direct object, but is omitted (Heaton 2017, García Matzar & Rodríguez Guaján 1997). Antipassive verbs show only set B morphology co-indexed with the thematic agent. The form of the antipassive suffix discussed here is –*Vn*, regardless of the morphological makeup of the stem.[5]

(9) *AP voice in Kaqchikel*

    a. N-Ø-ki-tïk   ixim.
        INC-B3S-A3P-plant corn
        'They are planting corn.'

    b. Y-e-tik-on.
        INC-B3P-plant-AP
        'They are planting.'

A characteristic of the antipassive voice that will become relevant is that it is incompatible with *wh*-extraction of an object, as shown below:

(10) *AP voice is incompatible with object wh-question*

    Achike ixim *y-e-tik-on   / n-Ø-ki-tïk?
    what   corn INC-B3P-plant-AP / INC-B3S-A3P-plant
    'What corn are they planting?'

The final voice we will discuss is AF (Aissen 2017), which is used exclusively when (i) the subject of transitive clause is A'-extracted or (ii) the subject of a transitive is an existential indefinite. Since A'-movement of the thematic agent of a transitive clause is typically blocked in

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[4] Relational nouns form a distinct lexical class in Kaqchikel. They carry out the same functions that adpositions do in other languages; e.g., they indicate spatial relations and introduce oblique arguments.
[5] We do not discuss the oblique antipassive here; see Heaton 2017 for discussion on this voice and Ranero 2019a for its behavior under sluicing.

Kaqchikel active transitives, Kaqchikel exhibits syntactic ergativity (Polinsky 2016, Douglas et.al. 2017, Henderson & Coon 2018; for evidence that *wh*-questions involve movement, see Erlewine 2016, Mendes & Ranero 2019).

The following example shows that *wh*-extraction of the external argument cannot occur in the active voice. Instead, AF must be used.[6] Note that the agreement configuration in AF is different than in the active voice, since only set B agreement surfaces (Preminger 2014). Notice as well that an AF suffix surfaces in the same slot as the passive and antipassive suffixes.

(11) *Active voice is incompatible with subject wh-question in a transitive; AF must be used*

    Achike *x-Ø-u-tej   / x-Ø-tj-o   nu-way?
    who   COM-B3S-A3S-eat / COM-B3S-eat-AF A1S-tortilla
    'Who ate my tortillas?'

If the external argument of a transitive clause is an existential indefinite, AF is required as well (see Erlewine 2016 for evidence that this configuration involves syntactic movement):

(12) *Active voice incompatible with existential indefinite subject of transitive; AF must be used*

    K'o   jun *x-Ø-u-löq'   / x-Ø-loq'-o   ri   kotz'i'j.
    EXIST one   COM-B3S-A3S-buy / COM-B3S-buy-AF DET flower
    'Someone bought flowers.'

A related observation, which will figure prominently in our analysis, is that A'-movement of any element other than the external argument of a transitive is incompatible with AF. In other words, A'-extraction of internal arguments or adjuncts is impossible with AF, as shown below:

(13) *AF is incompatible with object and adjunct wh-question*

    a.   Achike *x-Ø-tj-o   / x-Ø-u-tej   ma Juan.
         what   COM-B3S-eat-AF / COM-B3S-A3S-eat CLF Juan
         'What did Juan eat?'

    b.   Ankuchi *x-Ø-loq'-o   / x-Ø-u-löq'   wi ri   kotz'i'j?
         where   COM-B3S-buy-AF / COM-B3S-A3S-buy FP DET flower
         'Where did she/he buy the flowers?'

The relevant distributional properties of the voices we have discussed are summarized below:

(14) *Distributional properties of Kaqchikel voices*

    a. Antipassive voice is impossible with an object *wh*-question.
    b. Active voice is impossible with (i) A'-movement of the external argument of a transitive and (ii) an existential indefinite subject of a transitive.
    c. AF must be used with (i) A'-movement of the external argument of a transitive and (ii) an existential indefinite subject of a transitive.
    d. AF is impossible with (i) A'-movement of an object and (ii) A'-movement of an adjunct.

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[6] The oblique antipassive can also be used, though we do not discuss this voice here for reasons of space. Ranero 2019a argues that the syntax of the oblique antipassive is identical to AF.

3 Sluicing in Kaqchikel

Sluicing involves clausal ellipsis with a *wh*-remnant (Ross 1969, Merchant 2001):

(15) *Sluicing in Kaqchikel*

K'o   jun x-Ø-loq'-o=pe   k'iy knaq'… Man w-etama-n   ta   achike
EXIST one COM-B3S-buy-AF=DIR many bean   NEG A1S-know-PRF NEG who

   <x-Ø-loq'-o=pe   k'iy   knaq'>.
    COM-B3S-buy-AF many bean
'Someone bought a lot of beans… I don't know who.'

Let us define the terminology that we will use throughout:

(16) *Sluicing terminology*

   a. **Antecedent**: the first clause in (15); '*Someone bought a lot of beans.*'
   b. **Ellipsis site/sluice**: the elided part in (15), written inside angle brackets; *<bought a lot of beans>*.
   c. **Target clause**: the second clause in (15), which contains the sluice; *'I don't know who <bought a lot of beans>'.*
   d. **Remnant**: the material outside the ellipsis site; e.g., '*who*' in (15) is the *wh*-remnant

We assume a PF deletion approach to ellipsis (Ross 1969, Merchant 2001; see van Craenenbroeck and Merchant 2013 for discussion). We also assume that an [E] feature on specific heads licenses ellipsis (Merchant 2001) and that *wh*-remnants have undergone movement. We also assume that all our examples involve true ellipsis, as opposed to a reduced cleft (see Ranero 2019a for five diagnostics showing this).

We will manipulate the *wh*-remnant to determine which voice mismatches are possible in Kaqchikel sluicing. Since the language's grammar forbids the use of certain voices with A'-extraction of specific elements, we can diagnose the voice specification in the ellipsis site:

(17) *Wh-remnant determines voice in the ellipsis site*

   a. If the *wh*-remnant is an object of a transitive, there cannot be antipassive voice in the ellipsis site (see (10)).
   b. If the *wh*-remnant is the external argument of a transitive, there is AF in the ellipsis site (see (11)).
   c. If the *wh*-remnant is an object of a transitive or an adjunct, there cannot be AF in the ellipsis site (see (13)).

Let us begin with an antipassive-active mismatch. As shown below, it is impossible for the antecedent to be in the antipassive voice and the ellipsis site to be in the active voice:

(18) *Antipassive-active mismatch is impossible*

   a. Yïn x-i-loq'-on=pe   pa   k'ayib'äl. Ta-wla   achike x-Ø-in-löq'=pe!
      1S COM-B1S-buy-AP=DIR PREP market   IMP-guess what COM-B3S-A1S-buy=DIR
      'I bought (something) at the market. Guess what I bought!'

b. *Yïn x-i-loq'-on=pe   pa   k'ayib'äl. Ta-wla   achike
   1S COM-B1S-buy-AP=DIR PREP market   IMP-guess what

   <x-Ø-in-löq'=pe>!
    COM-B3S-A1S-buy=DIR
Intended: 'I bought (something) at the market. Guess what!'

We can conclude, then, that antipassive-active mismatches are disallowed in Kaqchikel sluicing. In contrast, an active antecedent can mismatch with an AF sluice:

(19) *Active-AF mismatch is possible*

  a. X-Ø-u-löq'   jun monton kotz'i'j jun winäq, po man w-etama-n   ta
     COM-B3S-A3S-buy one bunch flower one person but NEG A1S-know-PERF NEG

     achike winäq x-Ø-loq'-o   jun monton kotz'i'j.
     which person COM-B3S-buy-AF one bunch flowers
    'Some person bought a bunch of flowers, but I don't know which person bought a bunch of flowers.'

  b. X-Ø-u-löq'   jun monton kotz'i'j jun winäq, po man w-etama-n   ta
     COM-B3S-A3S-buy one bunch flower one person but NEG A1S-know-PERF NEG

     achike winäq <x-Ø-loq'-o   jun monton kotz'i'j>.
     which person COM-B3S-buy-AF one bunch flowers
    'Some person bought a bunch of flowers, but I don't know which person.'

Example (19)b shows that voices can mismatch between antecedent and ellipsis site. While the antecedent is in the active voice, the *wh*-remnant in the target clause ensures that the ellipsis site is not active, but AF. Consider now the following examples, which show that an AF antecedent can mismatch with an ellipsis site in the active voice:

(20) *AF-active mismatch is possible; object wh-remnant*

  A: Xaxe ri   ma Juan x-Ø-loq'-o   kotz'i'j.
     only DET CLF Juan COM-B3S-buy-AF flower
     'Only Juan bought flowers.'

  B: Kan qitzij? Ta-b'ij pe chwe   achike kotz'i'j x-Ø-u-löq'!
     INT truth   IMP-say DIR PREP.A1S.RN what   flower COM-B3S-A3S-buy
     'Really? Tell me which flowers he bought!'

  B′: Kan qitzij? Ta-b'ij pe chwe   achike kotz'i'j <x-Ø-u-löq'>!
     INT truth   IMP-say DIR PREP.A1S.RN what   flower   COM-B3S-A3S-buy
     'Really? Tell me which flowers!'

(21) *AF-active mismatch is possible; adjunct wh-remnant*

  a. Xaxe ri ma Pedro x-Ø-loq'-o   ri kotz'i'j. Aw-etaman   ankuchi
     only DET CLF Pedro COM-B3S-buy-AF DET flower   A2S-know-PERF where

x-Ø-u-löq'　　　　wi?
　　　COM-B3S-A3S-buy FP
　　'Only Pedro bought the flowers. Do you know where he bought them?'

　b. Xaxe ri　ma Pedro x-Ø-loq'-o　　　ri　kotz'i'j. Aw-etaman　　ankuchi
　　　only　DET CLF Pedro COM-B3S-buy-AF DET flower　A2S-know-PERF where

　　　<x-Ø-u-löq'　　　　wi>?
　　　　COM-B3S-A3S-buy FP
　　'Only Pedro bought the flowers. Do you know where?'

The examples above show, then, that an AF antecedent can mismatch with a sluice containing active voice. Consider now that that a passive antecedent can also mismatch with an AF sluice:

(22) *Passive-AF mismatch is possible*

　A: Ri　aq x-Ø-kam-isä-x　　　　r-uma　jun ixöq.
　　　DET pig COM-B3S-die-CAUS-PASS A3S-RN a　woman
　　　'The pig was killed by a woman.'

　B: Kan qitzij? Achike ixöq　　x-Ø-kam-sa-n?
　　　INT truth　which　woman COM-B3S-die-CAUS-AF
　　　'Really? Which woman killed it?'

　B′: Kan qitzij? Achike ixöq　　<x-Ø-kam-sa-n>?
　　　INT truth　which　woman　COM-B3S-die-CAUS-AF
　　　'Really? Which woman?'

We therefore observe that passive-AF mismatches are also allowed in Kaqchikel. The table below summarizes the voice mismatches we have discussed:

Table 2: Voice mismatches in Kaqchikel sluicing

ANTECEDENT	ELLIPSIS SITE	STATUS	EXAMPLE
AP	Active	*	(18)
Active	AF	✓	(19)
AF	Active	✓	(20)-(21)
Passive	AF	✓	(22)

4　Analysis

Recall the data that drove this investigation: Whereas a mismatch between active and passive has been observed to be impossible in sluicing across languages (Merchant 2013), a subset of voice mismatches is allowed in Kaqchikel. In light of this novel observation, we propose that strict syntactic identity does not regulate the availability of ellipsis (contra (2)). Rather, the identification requirement on ellipsis is calculated on the basis of featural non-distinctness:

(23) *Identification requirement on ellipsis (repeated from (3))*

Antecedent and material properly contained within the ellipsis site must be featurally non-distinct.

Let us discuss the consequences of (23). The table below shows the type of voice mismatches that are banned in sluicing. Let us assume that two heads X^0 and Y^0 are *distinct* if they bear different feature specifications. In other words, a featural clash between $Voice^0$ heads violates (23):

Table 3: Voice mismatches and sluicing

ANTECEDENT VOICE^0	ELLIPSIS SITE VOICE^0	STATUS	LANGUAGE
Voice$_{ACT}$	Voice$_{PASSIVE}$	*	English a.o.
Voice$_{PASSIVE}$	Voice$_{ACT}$	*	English a.o.
Voice$_{AP}$	Voice$_{ACT}$	*	Kaqchikel

In contrast, (23) rules in configurations where there is no feature clash. In a nutshell, the presence of a $Voice^0$ head in the antecedent will not clash with an ellipsis site lacking a VoiceP layer. Similarly, an antecedent lacking a VoiceP layer will not clash with an ellipsis site containing a $Voice^0$ head. We propose that AF instantiates a clause lacking a VoiceP layer:

(24) *AF in Kaqchikel (repeated from (4))*

An AF clause instantiates a clause with no VoiceP layer.

Given (24), we rule in the acceptable voice mismatches in Kaqchikel sluicing:

Table 4: Voice mismatches and sluicing

ANTECEDENT VOICE^0	ELLIPSIS SITE VOICE^0	STATUS	LANGUAGE
Voice$_{ACT}$	Voice$_{PASSIVE}$	*	English a.o.
Voice$_{PASSIVE}$	Voice$_{ACT}$	*	English a.o.
Voice$_{AP}$	Voice$_{ACT}$	*	Kaqchikel
Voice$_{ACT}$	Ø (AF)	✓	Kaqchikel
Ø (AF)	Voice$_{ACT}$	✓	Kaqchikel
Voice$_{PASSIVE}$	Ø (AF)	✓	Kaqchikel

Due to space restrictions, we are unable to provide a full derivation of how AF clauses come to lack a VoiceP layer (see Ranero 2019a for details). In few words, we propose that AF is the result of the application of the structure removal operation Exfoliation (Pesetsky 2019) to an active clause. Exfoliation is only triggered when a phase boundary (e.g. Voice) impedes a Probe from accessing a Goal. In Kaqchikel configurations where the external argument of a transitive is a goal for A'-extraction, the C^0 probe cannot access this goal because the internal argument has moved to SpecVoice,P, "trapping" the goal (for similar analyses, see Coon et.al. 2014, Douglas et.al. 2017; see also Aldridge 2004). It is this "trapping" which gives rise to syntactic ergativity in the language.

Exfoliation is thus triggered, removing Voice^0 and freeing the external argument. The reduced clause post-Exfoliation is an AF clause.

While there are many analyses of AF in the literature (e.g. Aissen 2011, Coon et.al. 2014, Erlewine 2016, Coon et.al. 2019), no analysis had considered the existence of voice mismatches under sluicing. Any analysis that takes AF to involve a distinct flavor of Voice^0 or v^0 (e.g. Coon et.al. 2019) cannot account for the data we have presented.[7] While we have not discussed here how our account can make sense of some of the unique aspects of AF, Ranero (2019a) discusses how the Exfoliation account can derive these properties, given certain assumptions. The relevant properties of AF in Kaqchikel that require explanation, under any analysis, are (i) its unique agreement behavior (Preminger 2014), (ii) its incompatibility with a reflexive internal argument (Henderson & Coon 2018), and (iii) its incompatibility with two local arguments (Preminger 2014).

5   Against a repair-by-ellipsis account

A putative alternative to our proposal would take all our data to involve *matching* voices between antecedent and ellipsis site. Sluicing, then, would "repair" whatever violation arises in having a specific *wh*-remnant paired with a specific voice in the ellipsis site. For example, this analysis would posit that whatever deviance arises from having an adjunct *wh*-word with AF would be repaired by sluicing.

The seminal Ross 1969 showed that sluicing repairs island violations (see Merchant 2001, Lasnik 2009). However, sluicing does not repair *all* types of deviances. Let us illustrate through the passive-AF data that a repair-by-ellipsis analysis is not a feasible alternative to our proposal.

It is a robust observation that sluicing does not repair preposition stranding (P-stranding) violations. Merchant 2001 shows that languages that allow P-stranding in general also allow P-stranding under ellipsis; conversely, languages that disallow P-stranding in general also disallow P-stranding under sluicing. This is known as the P-stranding generalization, a powerful argument that there is syntax in the silence. Kaqchikel is not a P-stranding language, as shown below:[8]

(25) *No P-stranding in Kaqchikel*

    a. [$_{PP}$ Achoj k'in] x-a-b'e   pa   Armita t_1?
            WH   RN   COM-B2S-go PREP Guatemala.City
         'Who did you go to Guatemala City with?'

    b.* Achoj x-a-b'e pa Armita [$_{PP}$ k'in t_1]?

As expected, P-stranding under sluicing is also banned:

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[7] For arguments that AF does not involve *wh*-agreement (Deal 2016) either, see Douglas et.al. 2017.

[8] To be more terminologically precise, Kaqchikel does not allow relational nouns to be stranded. As stated before, relational nouns function as adpositions in the language, so we assume that the P-stranding generalization should hold in Kaqchikel as well. Regarding example (25), note that there is no set A agreement on the relational noun. We have observed microvariation among speakers regarding the use of set A markers on relational nouns, which is noted explicitly by Patal Majzul et.al. (2000: 48-49) as a grammatical feature that is currently in flux.

(26) *No P-stranding in sluicing in Kaqchikel*

a. Rat, k'o achoj k'in x-a-b'e pa Armita. Ta-b'ij pe chwe [PP achoj
 2S EXIST WH RN COM-B2S-go PREP Guatemala.City IMP-say DIR PREP.RN.A1S WH

 k'in]$_1$ x-a-b'e pa Armita t$_1$.
 RN COM-B2S-go PREP Guatemala.City
 'You went with someone to Guatemala City. Tell me who you went to Guatemala City
 with!'

b. Rat, k'o achoj k'in xab'e pa Armita. Tab'ij pe chwe [PP achoj k'in]$_1$<xab'e pa Armita t$_1$>!
 'You went with someone to Guatemala City. Tell me who with!'

c.* Rat, k'o achoj k'in xab'e pa Armita. Tab'ij pe chwe achoj$_1$<xab'e pa Armita [PP k'in t$_1$]>!
 Intended: 'You went with someone to Guatemala City. Tell me who!'

No relational noun can be stranded in Kaqchikel (see Ranero 2019a for further examples). Let us assess, then the passive-AF mismatches once more. Recall that we are evaluating an alternative analysis where the voice specification in the ellipsis site is identical to the antecedent (i.e., antecedent and ellipsis site are both passive). Presumably, sluicing repairs whatever violation is incurred in the example. I repeat the data below, with a schematic of the structures throughout the derivation that this alternative would assume (27)b-d:[9]

(27) *Alternative analysis of (22)B′; passive-AF mismatch is actually passive-passive match*

a. Kan qitzij? Achike ixöq <x-Ø-kam-isä-x r-uma>?
 INT truth which woman COM-B3S-die-CAUS-PASS A3S-RN
 'Really? Which woman?'

b. … [CP [C[E, WH] [TP [VoiceP [Voice$_{PASS}$ … [PP ruma achike ixöq] … VP …]]]]] *pre-movement*
c. … [CP achike ixöq$_1$ [C[E, WH] [TP [VoiceP [Voice$_{PASS}$ … [PP ruma t$_1$] … VP …]]]]]
 wh-movement and P-stranding
d. …[CP achike ixöq$_1$ [C[E, WH] [TP [VoiceP [Voice$_{PASS}$ … [PP ruma t$_1$] … VP …]]]]] *ellipsis*

An analysis that took examples like (22)B′ (repeated as (27)) to involve matching passive voices requires P-stranding, followed by repair. However, P-stranding violations are *not* repaired by sluicing. We therefore set aside this alternative and maintain that the voice mismatches are real.[10]

6 Conclusion and future directions

In this paper, we have explored a novel set of Kaqchikel data showing that voices can mismatch in sluicing. Specifically, a clause in the AF voice can mismatch with active or passive clauses. We

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[9] The precise structural location of the oblique phrase is not relevant for the argument.

[10] Ranero 2019a shows at length how the AF-active mismatches could not be analyzed as AF-AF either. One argument is simple: triggering AF in the ellipsis site would be impossible, since focus movement would be required *within the sluice*. However, focused elements cannot be elided (Merchant 2001, see also Weir 2014).

argued for an analysis with two components: (i) the identification requirement on ellipsis is satisfied by featural non-distinctness, as opposed to strict identity, and (ii) AF clauses lack a VoiceP layer.

Empirically, we have shown that broadening the scope of the study of ellipsis to Kaqchikel allowed us to discover a novel generalization. It had mostly been assumed in the literature that voice mismatches are banned *in toto* under sluicing.[11] Kaqchikel shows that this is not the case. Rather, our analysis proposes that mismatches *at any level* that violate featural non-distinctness are banned, whereas mismatches at any level that satisfy featural non-distinctness are allowed (see Ranero 2019b for evidence from the TP/Mittelfeld in English and Saab 2019 for some discussion).

In the future, sluicing should be explored in other Mayan languages that display similar voice alternations as Kaqchikel. Preliminary data from K'iche', a closely related language to Kaqchikel, show that the availability of voice mismatches extends beyond Kaqchikel. Just like Kaqchikel, K'iche' (i) prohibits the extraction of the external argument of a transitive without AF (Can Pixabaj 2017) and (ii) disallows AF with adjunct extraction. As shown by the dialogue below, AF can mismatch with active voice in K'iche'.[12]

(28) *AF-active mismatch is possible in K'iche'*

    A: Ri   a   Lu'   x-Ø-kam-sa-n   le   ek'!
       DET CLF Pedro COM-B3S-die-CAUS-AF DET chicken
       'PEDRO killed the chicken!'

    B: La sitzij? Jas r-uuk' x-Ø-u-kam-sa-j   /*x-Ø-kam-sa-n   wi?
       Q truth WH A3S-RN COM-B3S-A3S-die-CAUS-TRANS / COM-B3S-die-CAUS-AF FP
       'Really? With what did he kill it?'

    B': La sitzij? Jas r-uuk' <x-Ø-u-kam-sa-j   wi>?
       Q truth WH A3S-RN   COM-B3S-A3S-die-CAUS-TRANS FP
       'Really? What with?'

Investigating sluicing and other elliptical constructions across the Mayan family has the potential, then, to further inform our understanding of the possible mismatches between antecedent and ellipsis site.[13] This, in turn, will allows us to continue searching for an identification requirement that is descriptively and explanatorily adequate.

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[11] Two exceptions are Chamorro and Malagasy. Chung (2006, 2013) shows that antipassive voice can mismatch with active in Chamorro. We cannot discuss the Chamorro data at length here, though Chung 2006:78 suggests that apparent AP-active mismatches in the language involve AP-AP match, followed by island repair. Potsdam (2007) shows that voice can mismatch in Malagasy sluicing. However, Chung 2006 argues (based on Pearson 2005) that Malagasy voices are not actual voices, but *wh*-agreement instead.

[12] These data were collected in the village of El Novillero, Sololá.

[13] To my knowledge, there are only three previous studies that delve into ellipsis in any depth in Mayan. AnderBois 2008 is an unpublished manuscript that discusses antipassive-active mismatches in Yukatek sluicing. However, the status of antipassive as a synchronically productive voice in Yukatek is unclear (Scott AnderBois p.c.). Erschler 2018 claims that sluicing exists in Poqomchi but provides no data. Finally, Dayley 1985 briefly discusses a gapping-like construction in Tz'utujil.

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