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REPORTATIVES AND QUOTATIVES IN MAYAN LANGUAGES*

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In additional lexical verbs of saying, most Mayan languages have two additional resources for reporting the speech of others: reportative evidentials and quotatives. This paper presents a theoretically informed description of the differences between REP and QUOT, drawing primarily on data from Yucatec Maya *bin* REP and *k(ij)* QUOT. While REP and QUOT both not-at-issue content about another speech act, the latter does so via direct quotation whereas the former does so via an indirect speech report. We explore a variety of different specific syntactic, semantic, and pragmatic properties that reflect this basic distinction as well as highlighting a few points of variation across Mayan languages.
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1 Introduction

Like all languages, Mayan languages have lexical verbs similar to English 'say' and 'tell' which are used in different ways to give reports of speech acts made by other agents besides the discourse participants themselves. Most Mayan languages, however, also have two kinds of elements for this that English lacks: reportative evidentials and quotative verbs (henceforth REP and QUOT respectively), illustrated in (1), from Ch'orti'.[1]

(1) a. **Reportative**

Ayan *ayi* e morwa'r kone'r.
exist REP DEF meeting today

'They say that there is a meeting today.' **Ch'orti'** (Hull 2003:256)

b. **Quotative**

"Syan ayan e patna'r" ***che***.
much exist DEF work QUOT

' "There is lots of work" he said.' **Ch'orti'** (Hull 2003:267)

One aspect of REP and QUOT that makes it difficult to isolate their contributions is the fact that they very frequently co-occur with one another and/or with lexical verbs of saying, as in (2) from Yucatec Maya (YM).[2]

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[1]The following abbreviations are used for example glosses: ASSUR: assurative, CLF: numeral classifier, DAT: dative, DEF: definite article, EXIST, IPFV: imperfective aspect, IMPER: imperative, INTERR: interrogative, MIR: mirative, NECESS: necessitative, NEG: negation, NEG.CL: negative/extrafocal clitic, OBLIG: obligatative, PFV: perfective aspect, PASS: passive, PL: plural, PREP: preposition, PROG: progressive aspect, PROX: proximal deixis, REL: relational noun suffix, SUBJ: subjunctive mood, TERM: terminative aspect, TOP: topic marker, For agreement morphology, I follow the terminological tradition among Mayanists, referring to Set A (≈ Ergative/Nominative) and Set B (≈ Absolutive/Accusative) markers, e.g. A3 = 3rd person Ergative/Nominative. B3 is phonologically null and therefore left unglossed. All examples are elicited unless otherwise noted. The orthography used for Yucatec Maya examples is that codified in Briceño Chel and Can Tec (2014), with the exception that we make use of the question mark. For examples from other languages, the orthography in the original source is retained.

[2]All examples are from Yucatec Maya unless stated otherwise. Sources are given for naturalistic examples, all other examples are elicited.

(2) a. **Reportative + Quotative**

Mare, ma' táan —***ki*** *bin* — . . .
oh NEG PROG QUOT REP
"Oh no! —he responded — . . . " (Can Canul and Gutiérrez-Bravo 2016:23)

b. **Reportative + Verb of saying**

Pues, yaan in k'ax-ik t-a pu'uch —k-u y-a'al-a'al *bin*
well OBLIG A1 grab-SS PREP-A2 back IPFV-A3 EP-say-PASS REP
"Well I have to grab it in the back — he told him." (Can Canul and Gutiérrez-Bravo 2016:23)

c. **Quotative + Verb of saying**

Ka t-u y-a'al-aj=e': —P'at t-in k'ab —***ki***
and PFV-A3 EP-say-SS=TOP leave.IMPER PREP-A1 hand QUOT
"then he said: —Leave it in my hands" (Can Canul and Gutiérrez-Bravo 2016:31)

d. **Reportative + Quotative + Verb of saying**

K-u y-a'al-ik bin=e': ma' táan — ***ki*** *bin*
IPFV-A3 EP-say-SS REP=TOP NEG PROG QUOT REP
'he responded: no —he said.' (Can Canul and Gutiérrez-Bravo 2016:22)

While some previous authors do discuss some differences between the two (most notably Lucy 1993, López Jiménez 2010, Curiel 2016), much of the previous literature, in part driven by data of the sort in (2), have focused primarily on understanding what REP and QUOT have in common, for example characterizing both first and foremost as devices for distancing the speaker from the content being reported. While this is a common perlocutionary effect produced by uses of both REP and QUOT, we show here that REP and QUOT have a number of significant differences between them in their semantics, pragmatics, and distributional properties.

Before doing so, a brief terminological note is needed. Related to the aforementioned confusion about REP and QUOT and their co-occurrence, there has been a lot of terminological inconsistency in prior literature. While some authors use the terms 'reportative' and 'quotative' ('reportativo' and 'citativo' in Spanish) as we do here, one can find many works that use these terms (and others such as 'hearsay') in a variety of different ways that conflict with our usage here. One can also find many authors who use lexical glosses such as 'they say' or 'it is said' for one or both of these.

While the remainder of the paper clarifies the properties we take to associated with the two labels, we provide in Table 1 a tentative and non-exhaustive list of the morphemes we take to be instances of these two categories across Mayan languages based on prior literature.[3] Given the paucity of key data, not all properties are confirmed for each such element, but at least partial evidence for the classifications is found in all cases, and there is no known counterevidence of which I am aware. That said, in most cases, further investigation is needed to confirm how well these elements fit the characterizations given here in certain details.

[3]For Eastern Mayan, there are various authors working on different languages who mention reportative and/or quotative forms (e.g. Ayres 1991 on Ixil *tchih*, England 1983 on Cajolá Mam *-ch*, Barrett 1999 on Sipakapense *cha'*). However, there is typically not enough published data available to disguish whether how grammaticized these elements are (since they are often related to lexical verbs of saying) and whether they pattern with reportatives, quotatives, or neither (see §6 for further discussion). One exception is Kockelman 2006, who describes a reportative form *len* REP which does not trigger shifted pronouns and another form *chan* QUOT, which does.

Language/Branch	REPORTATIVE	QUOTATIVE
Wastek	*kwa'*	??
Yucatecan	*bin*	*ki(j)*
Yokot'an	*a'i'*	??
Ch'ol	*bi*	*che'*
Ch'orti'	*ayi*	*che*
Tseltalan	*la*	*xi*
Tojolab'al	*b'i*	*chi'*
Chuj	*ab'*	*chi*
Q'anjob'al	*(h)ab'*	*xi*
Akatek	*ab'*	*xhi*
Popti'	*ab'/ob'*	*xi*
Mocho'	*ab'/abi'/bi'*	*ki*

Table 1: Tentative list of reportatives and quotatives in Mayan Languages

2 Faithfulness to the original speech act

The first and arguably most central set of properties on which REP and QUOT differ is in the extent to which the rest of the sentence in which they occur needs to be faithful to the utterance of the original speaker. Put briefly, QUOT, as the name suggests, involve direct quotation, whereas REP do not. One clear indication of the quotational nature of the material with QUOT is the fact that deictic expressions such as first- and second-person pronouns are interpreted relative to the original speaker being quoted, rather than to the actual speaker uttering the sentence containing the quotative morpheme itself. For example, in (3), we see the first person pronoun *teen* 'me' (as well as the first person Set A agreement) used not to refer to the actual speaker uttering (3), but instead to the original speaker being quoted.[4] Similarly, the second person agreement marker *a* A2 in (4) refers to the addressee of the original speech act with no regard for whether or how that relates to the conversation in which (3-4) are uttered.

(3) Teen=e' chéen t-in máan —***ki*** *bin*— kux túun teech?
1SG=TOP only PROG-A1 pass QUOT REP CTQ then 2SG
'I'm just passing by —he said— and you?' (Can Canul and Gutiérrez-Bravo 2016:22)

(4) Jats'uts a wóok'ot –***kij*** teen Luis.
bueno A2 bailar QUOT DAT.1SG Luis
'You dance well —Luis told me.'

The deictic anchoring we have seen here is not only found for first and second person pronouns, but for all different kinds of deictic expressions such as the presentational deictic *je'* in (5), speaker-oriented adverbials and interjections such as *mare* 'wow' in (7), and discourse particles such as *bakáan* MIR in (6). In short, deictic and other speaker-oriented expressions the scope of QUOT are uniformly used as the original speaker would, rather than being anchored in the actual conversation in which the sentences here are uttered.

(5) **Context:** My friend told me that the bus was coming and I tell you what he said:

[4]The example in (3) in fact has both a QUOT and, outside its scope, a REP. This sort of concord use is quite frequent in many Mayan languages including Yucatec Maya. As best I can tell, such sentences are systematically identical to their counterparts without the REP present. For textual examples, we of course leave the original form unaltered, but in the cases where I have tried substituting a minimally different sentence with only the QUOT, the sentence remains felicitous, and seemingly has the same meaning/use.

Je' k-u taal le autobus=o' ***–kij*** teen
PRES IPFV-A3 come DEF bus=DIST QUOT DAT.1SG

' "Here comes the bus" –he said to me.'

(6) **Context:** María is studying and sees storm clouds on the horizon and realizes she needs to put stop studying in order to get home before the rains come. She tells me this and I report it to a third party:

K'abéet bakáan in ts'o'oksik in xook ***–kij*** teen
NECES MIR A1 finish A1 study QUOT DAT.1SG

' "I need to finish studying" – she told me.'

(7) Mare, ma' táan ***—ki*** *bin* — . . .
oh NEG PROG QUOT REP
' "Oh no! " —he responded — ". . . " ' (Can Canul and Gutiérrez-Bravo 2016:23)

In contrast, such expressions with REP are consistently interpreted relative to the actual speaker uttering the sentence. Consider a minimal pair with (6) in (8). The first person pronouns from (6) result in infelicity given the context since as in a matrix utterance with no reported speech devices, it sounds like it is referring to the work of actual speaker of (8) rather than to María's. In contrast, the use of third person pronouns with REP is felicitous and results in approximately the same interpretation as in (6). In short, deictic expressions and other speaker-oriented expressions with REP are uniformly used as the actual speaker otherwise would in sentences with no REP present.

(8) **Context:** María is studying and sees storm clouds on the horizon and realizes she needs to put stop studying in order to get home before the rains come. She tells me this and I report it to a third party:

K'abéet *bin* u ts'o'oksik u xook.
NECES REP A3 finish A3 study

'She needs to finish her studies, she says.'

Beyond deictic expressions, QUOT differ from REP in other aspects of how faithful they must be to the original speech act. For example, we can consider an original speech event in which a speaker utters (9). In referencing this original speech event subsequently with REP, coreferential expressions can be subsituted for one another (similar to other attitude reports), as illustrated in (10a). Specifically, we see the expression used to refer to the child in the original speech act is *in iijo* 'my son', while in the reported speech event, it is an entirely different lexical expression *le champaalo'* 'the little boy', but one which has the same reference in context. In contrast, with QUOT coreferring expressions cannot be felicitously substituted, as seen in (10b), either by merely changing the pronouns or with more substantial lexical changes, as here. As a direct quote, it is the words themselves must be more or less identical, rather than the reference/meaning.

(9) **Context:** A mother tells you that her son is afraid of being bit by a dog:

In iijo=e' sajak káa chi'ibik tumeen le péek'=o'
A1 son=TOP afraid for bite.PASS.SUBJ by DEF dog=DIST

'My son is afraid that the dog will bite him.'

(10) **Context:** After talking to the mother, you tell your friend about the conversation you had with the mother:

a. Le champaal=o' sajak *bin* káa chi'ibik tumeen le péek'=o'
DEF boy=DIST afraid REP for bite.PASS.SUBJ by DEF dog=DIST
'The boy is afraid that the dog will bite him (she says).'

b. # Le champaal=o' sajak káa chi'ibik tumeen le péek'=o' ***–kij***
DEF boy=DIST afraid for bite.PASS.SUBJ by DEF dog=DIST QUOT
Intended: 'The boy is afraid that the dog will bite him (she says).'

While it is clear that QUOT require a very high degree of faithfulness to the original speaker's words, the exact limits of how 'unfaithful' the scope of REP must be is at this point unclear. Minimally, the scope material should have the same truth-conditional content as the original speech act has. In the case of attitude reports with verba dicendi like English *say*, Brasoveanu and Farkas 2007 have argued that more stringent requirements are found, such as the requirement for faithfulness to the specific meaning components in the original speech act (e.g. presupposition vs. at-issue assertion). At a glance, the requirements for REP are quite similar, though we leave it to future work to investigate both sets of requirements further. To summarize, the properties discussed in this section can be summarized as follows:

(11) **Quotational propeties of QUOT and REP:**

	Property	REP	QUOT
A1	Deictic expressions interpreted relative to original speaker	✘	✔
A2	Substitution of coreferring expression possible	✔	✘

3 Illocutionary moods

Cross-linguistically, one of the kinds of data that has been crucial to understanding the semantics/pragmatics of evidentials is the interactions that they show with different sentence types, i.e. different illocutionary moods like declarative, interrogative, and imperative (e.g. Faller 2002, Matthewson et al. 2007, Murray 2010, 2014, 2017). Reportatives show theses sorts of complex interactions even more so than other evidentials. For example, reportatives are the only evidentials which are possible in imperative sentences with any regularity (Aikhenvald 2004). These interactions have been of particular interest as well since – despite some definite patterns – they represent a quite clear point of cross-linguistic variation.

This is perhaps clearest in the case of imperatives, where reportatives in imperatives are simply ungrammatical in most languages, as illustrated in (12) for Cuzco Quechua. In contrast, in other languages such as Tagalog, this combination is robustly possible, as illustrated in (13). We return to examine imperatives with reportatives and quotatives in Mayan languages in a moment.

(12) *T'anta-yki-ta-*si* mikhu-y
bread-2-ACC-REP eat-IMP
Intended: 'Eat your bread (they say)!' **Cuzco Quechua** (Faller 2002:266)

(13) Kumuha ka *daw* ng tinapay.
take.AGT.TRIG you.DIR REP INDIR bread
'Take some bread (she says/they say)!' **Tagalog** (AnderBois 2017)

For interrogatives, there are also some languages in which REP are ungrammatical on any interpretation (Aikhenvald 2004:242). In languages where they are grammatical, there are two distinct readings which are firmly attested cross-linguistically.[5] First, we find in many languages what has come to be known as the 'interrogative flip' reading in which the reportative meaning is applied to the expected answer of the addressee.

[5]Bhadra 2017 claims that Bangla *naki* has reportative uses in polar interrogatives which exhibit a third reading. They are described as being more like tag-questions, with the reportative applied to the actual speaker's evidence for the scope content (i.e. "I heard that *p*, is that true?"). We set this case aside here as it seems clear that the reportative applies to the declarative-like component of the tag question rather than the interrogative component. In any case, such uses are not attested in Mayan languages.

Second, we find cases of what we can call 'interrogative by proxy' in which the reportative meaning is applied to the question itself, in effect passing along the question from the original speaker, indicating that the desire for the question to be asked originates with the original speaker (though presumably is also shared to some extent by the current speaker since they nonetheless perform an illocutionary question). In some languages, such as Cuzco Quechua (Faller 2002:§6.3.2) and Tagalog, (14), both interpretations are found, while in other languages such as Cheyenne (Murray 2010) and St'át'imcets (Matthewson et al. 2007), only the flip reading is attested.

(14) Sino *daw* yung kumanta?
who REP DEM.LNK singer
'Who was the singer?' **Tagalog**

a. ✓**By-proxy context:** You went to a concert. My roommate wants to know about the concert and asked me to ask you about it.

b. ✓**Flip context:** Your roommate went to a concert, but I know you didn't. I ask you about the concert with the expectation that you will respond according to what you've been told by your roommate.

Returning to Mayan languages, we find that the behavior of REP differs at least somewhat across languages. In some languages, such as Q'anjob'al, we find that the REP are ungrammatical in non-declaratives on any interpretation, as illustrated in (15). Note that whereas in some languages, the impossibility of reportatives with certain sentence types can be attributed to independent syntactic restrictions (e.g. if the evidential occupies the same morphological slot as illocutionary mood), there is no such independently motivated explanation here so far as I know.

(15) a. Tzet (**hab'*) lanan y-a'-on taj ix txutx?
what REP PROG A3-give-DEP cook CLF mother
'What is mother cooking for him (*they ask)?' **Q'anjob'al**

b. Jas (**hab'*) b'ay na.
hurry REP PREP house
'Hurry home (Mom orders).' **Q'anjob'al**

Since this is a negative judgment, it is not clear how many Mayan languages share such a restriction, as opposed to simply lacking attested data of such forms. However, in several cases, we do have affirmative evidence that such combinations are possible (e.g. Haviland 2004 for Tsotsil, Curiel 2016 for Tojolab'al). Yucatec Maya patterns with this latter type, freely allowing REP to occur in both interrogatives and imperatives, (16-17).

(16) **Interrogative w/ REP**

Uts-chaj wáaj *bin* le cha'an=o'
good-PROC INTERR REP DEF spectacle=DIST

'Was the concert good?'

a. ✓ **By-proxy context:** You went to a concert. My roommate wants to know about the concert and asked me to ask you about it.

b. **# Flip context:** Your roommate went to a concert, but I know you didn't. I ask you about the concert with the expectation that you will respond according to what you've been told by your roommate.

(17) **Order Scenario:** Our mother has told me to make sure that my younger sibling eats their dinner. After talking to her, I tell my sibling:

Uk' bin a wo'och k'eyem=o'
drink.IMPER REP your meal pozole-DISTAL

'Drink your pozole (she orders)!'

As the contrast in acceptability between YM (16b) and Tagalog (14) illustrates, reportatives in interrogatives in YM allow only for by-proxy interpretations, being infelicitous in flip scenarios where the by-proxy reading is ruled out. While the issue remains mostly unexplored in other Mayan languages, we can find clear examples of by-proxy interpretations in the literature, e.g. (18) from Tsotsil, but no clear attestations of flip readings.

(18) Mi ch-a-bat *la*?
INTERR ICP-A2-go REP

"Will you go (someone asks)?" **Tsotsil** (Haviland 2004)

For imperatives, we find a similar situation: imperatives with REP in YM only have a by-proxy interpretation in which they indicate that the authority for the imperative is rooted in a third party (the mother in (17)). It is crucial to note, however, that in both sentence types, the sentences are used in discourse in the same ways as ordinary interrogatives and imperatives with no evidential. For example, AnderBois 2017 describes in detail the range of illocutionary acts imperatives with reportatives contribute in discourse, showing that various imperative speech acts are possible (e.g. orders, advice, well-wishes, permissions), while more declarative-like illocutionary acts are not. Similarly, the range of responses in both cases is the same as those found for minimal pairs with no REP present.

We can contrast the above situation with what happens with QUOT. First, whereas REP show some amount of variability across languages in the sentence types with which they may co-occur, no such variability is found for QUOT. Instead, QUOT are consistently possible with all sentence types, (19), even in cases like (19a) from Q'anjob'al, where the language disallows REP with the sentence type in question (here, imperatives). In short, QUOT exhibit no sensitivity to the internal nature of the sentence in which they are occur, whereas REP have the potential to select for particular sentence types.

(19) a. Jas b'ay na –xhi ix txutx.
hurry PREP house QUOT CLF mother
'Mom said "Hurry home".' **Q'anjob'al**

b. **Context:** I went to the doctor and am recounting for my friend how it went.
K'oja'an-ech áa ***–kij*** teen.
sick-B2SG INTERR QUOT DAT.1SG
' "Are you sick?" he asked me.'

Beyond the difference in sensitivity to sentence type, in cases where both QUOT and REP are possible, we also find key differences in how this illocutionary force impacts a discourse. In the case of REP, utterances of a sentence of illocutionary sentence type *I* are used to perform the same range of speech acts as corresponding sentences of type *I* with no QUOT, REP, or other such marker present. For example, if a speaker utters (16), the addressee is typically expected to respond by answering the question. Similarly, for imperatives, AnderBois 2017 shows in detail for YM that they have the same range of responses in discourse, as exemplified in (20a-20b).[6]

[6]As AnderBois 2017 details, the reported speaker may indirectly play a pragmatic role in strengthening or weakening the directive force of an imperative (e.g. determining whether a given utterance is felt to be a command or, say, a request). However,

(20) A: Uk' bin a wo'och k'eyem=o'
drink.IMPER REP your meal pozole-DISTAL
'Drink your pozole (she orders)!' (AnderBois 2017)

a. B: Ma'alob túun. // #Jaaj // #Uk'.
okay then true drink.IMPER
'Okay then.' // #'True.' // #'Yes.'

b. B: Ma', (min jantik). // Mix táan. // #Ma' jaaj=i'.
No NEG.1SG eat NEG PROG NEG true=NEG.CL
'No, (I won't).' // 'I won't.' // #'It's not true.'

In contrast, QUOT do not typically produce any overt response from the actual addressee regardless of their sentence type. Instead, they usually lead to responses appropriate to the sentence type in question within the context of the narrative itself by another character in that narrative. While the addressee could happen to be an interlocutor in the original conversation being quoted, even here the actual speaker of the narrative is still the one who would utter whatever sort of response was appropriate.[7] This property is clearest looking at interrogatives with QUOT, as in (21), where one and the same speaker utters the question, (21a) and its answer, (21b), consecutively rather than the actual addressee (i.e. the audience for the narrative) providing such responses.

(21) a. -Hijo,- ***k-en*** ti', -buka'aj le tikin muuk a meentmaj-e'ex=o'?
son QUOT-B1SG DAT.3SG how.many DEF dry seed A2 do-A2PL=DIST
' "Son," I say to him, "how many dry plantings did you do?" '

b. To'on=e'-, ***ki***, -casi veinte yaale'.
we=TOP QUOT.BS3G almost twenty ??
' "Us", he says, "almost 20 units of land". ' Monforte et al. (2010:275)

In this section, we have seen that REP and QUOT differ dramatically in their behavior in discourse with non-declarative sentences. On the one hand, QUOT behave uniformly in discourse in two respects: (i) showing no restrictions by sentence type, and (ii) having an illocutionary force distinct from that of the sentence with which they occur. On the other hand, REP differ from QUOT in both respects: (i) showing restrictions to certain sentence types in some languages, and (ii) "passing on" the illocutionary force of the sentence type in which they occur. Beyond highlighting the differences between QUOT and REP, these data also argue against the idea (e.g. Korotkova (2015)) that certain uses of REP should be analyzed as being quotative in nature. We summarize these two properties of QUOT and REP as follows:

(22) **Illocutionary propeties of QUOT and REP:**

	Property	REP	QUOT
B1	Selectivity for sentence type	%	✘
B2	Illocutionary potential of scope unaltered	✔	✘

4 Encoding the original reporter

Thus far, we have seen that REP and QUOT differ in ways that stem directly from the idea that the latter encode direct quotation, while the former do not. The remaining properties of the two types of morphemes

this sort of pragmatic reasoning is found in imperative sentences generally and crucially is the same sort of reasoning required for interpreting imperatives of all kinds.

[7] The actual addressee being a conversational participant in the quoted conversation may of course be pragmatically odd in some cases since after all the speaker is telling the addressee a narrative about a conversation that they themselves were present for. While this is apt to be odd in some cases, it is possible, for example, in cases where the addressee is apt to have forgotten.

in Mayan languages, however, do not seem to be related to the quotational nature of QUOT, at least not directly. In this section, we examine the syntax and semantics of the encoding of the original speaker whose words/content are passed along, while in §5 we turn to examine syntactic/prosodic factors distinguishing the two.

Looking at what seems to be the most common sort of example in most languages, it is not immediately obvious that there is in fact a difference between the two. For example, in the context given in (23), both REP and QUOT plainly convey in context that the original speaker is Alfredo since he is the one on the phone .

(23) **Context:** I am talking with you when my friend Alfredo calls on the phone. I tell you after the call:

a. Le péek'=o' t-u jantaj paastel ***–kij***
DEF dog=DIST PFV-A3 eat cake QUOT
'The dog ate birthday cake –he (Alfredo) says'

b. Le péek'=o' t-u jantaj *bin* paastel
DEF dog=DIST PFV-A3 eat REP cake
'The dog ate birthday cake, he (Alfredo says)'

Considering a broader range of examples, however, we find that QUOT in fact show set B agreement (which happens to be null for third person singular here), whereas REP do not in fact show any overt envoding of the original speaker and correspondingly allow for non-specific or generic original speakers as well. For YM, Lucy 1993 makes this observation already, pointing to the existence of an entire paradigm of quotative forms inflected with set B markers for different persons and number, (24). An example sentence with overt *-o'ob* B3PL agreement is found in (25) and similar examples are found above in (21a) Additionally, the original speaker being quoted can be realized with an overt argument, (26a), and the original addressee can be realized via a dative/prepositional phrase, (26b)

(24) **Yucatec Maya Quotative Paradigm:**

k-en	k-ech	ki(j)	k-o'on	k-e'ex	ki(j)-o'ob
QUOT-B1SG	QUOT-B2SG	QUOT-B3SG	QUOT-B1PL	QUOT-B2PL	QUOT-B3PL
'I said'	'you said'	's/he said'	'we said'	'you all said'	'they said'

(25) Bey=a' leti' le bey k'a'abéet=a', ***—kij***-o'ob.
así=PROX 3SG DEF así necesita=PROX QUOT-B3PL
' "This, this was what he needed" – they said.' Monforte et al. (2010:275)

(26) a. Jats'uts a wóok'ot ***—kij*** teen Luis.
bueno A2 bailar QUOT DAT.1SG Luis
' "You dance well" —Luis told me.'

b. **Context:** A character in a story ask the question 'Are there ghosts in Espita?'. Another character responds:
Yaan wáay t-u kaj-il espita ***—ki*** teen
EXIST ghost PREP-A3 town-REL espita QUOT.B3SG DAT.1SG
' "There's ghosts in Espita" –he tells me.'

In contrast, REP do not allow for either the original speaker or the addressee to be explicitly realized. Note that this is so despite the fact that REP in context often may be interpreted as reporting the speech of an original speaker who is salient in discourse and therefore produces a seemingly anaphoric interpretation, as above in (23b). Even in such pragmatic situations, however, the original speaker may not be realized via an overt argument (27b) or clausal topic (27c), nor as set A (27d) or set B agreement (27e). In short, though

their identity may be quite explicit in context, the original speaker may not be formally realized in any way with REP, in clear contrast with what we have seen with QUOT.

(27) **Scenario:** I was talking to my friend Luis earlier about the Xtáabay (a mythical woman who seduces and attacks drunk men in the jungle) and now tell you:

a. Chowak bin u tso'ots-el u pool le ixtáabay=o'.
long REP A3 hair-REL A3 head DEF Xtáabay=DISTAL
'I was told (by Luis) that the Xtáabay's hair is long.'

b. * Chowak bin {leti'/Luis} u tso'ots-el u pool le ixtáabay=o'.
long REP him/Luis A3 hair-REL A3 head DEF Xtáabay=DISTAL
Intended *'I was told by {him/Luis} that the Xtáabay's hair is long.'

c. * Luis=e' chowak bin u tso'ots-el u pool le ixtáabay=o'.
Luis=TOP long REP A3 hair-REL A3 head DEF Xtáabay=DISTAL
Intended *'As for Luis, I was told by him that the Xtáabay's hair is long.'

d. * Chowak u bin u tso'ots-el u pool le ixtáabay=o'.
long A3 REP A3 hair-REL A3 head DEF Xtáabay=DISTAL
Intended *'I was told by him/her that the Xtáabay's hair is long.'

e. * Chowak (u) bin-o'ob u tso'ots-el u pool le ixtáabay=o'.
long A3 REP-B3PL A3 hair-REL A3 head DEF Xtáabay=DISTAL
Intended *'I was told by them that the Xtáabay's hair is long.'

In addition to the syntactic difference between REP and QUOT, there is an additional (related) semantic distinction. As is the case generally in YM, when no overt argument is present, the set B marker can only be interpreted anaphorically. Since QUOT do not allow for the possibility of an indefinite or generic original speaker, QUOT are therefore unacceptable in out of the blue contexts where a specific original speaker is not made salient for anaphoric reference, (28a).[8] In contrast, REP are felicitous in such situations, and give rise to an indefinite or generic-like interpretation for the original speaker (i.e. the original speaker is an unspecified 'someone' or the proverbial 'they'), as seen in (28b). While we have seen that REP allow for a broader range of original speaker in one respect, their range of possible original speakers is narrower in another respect since they require the speaker to be third person, whereas we have already seen examples like (21a) in which other persons are possible for QUOT when explicitly marked.

(28) **Context:** We are talking about the town I am from, when you tell me a rumor about it:

a. # Yaan wáay t-u kaj-il Espita ***–kij***
EXIST ghost PREP-A3 town-REL Espita QUOT
Intended: 'They say there's ghosts in Espita.'

b. Yaan *bin* wáay t-u kaj-il Espita
EXIST REP ghost PREP-A3 town-REL Espita
'They say there's ghosts in Espita.'

Further support for this position comes from concord data in which overt verba dicendi co-occur with REP and QUOT.

In these cases, there is no apparent shift in interpretation, most notably in that they do not require a third-hand interpretation (e.g. "They said that he said that ..."). For both REP and QUOT, such concord

[8] One question for further research is whether overt original speakers with QUOT can be indefinite or generic. I have found no clear examples of this sort naturally occurring, but given the discourse pragmatics of QUOT we would not expect them to be frequent regardless.

uses are possible with transitive verba dicendi such as *tu ya'alaj* 'she said it' in (29a-29b). In this case, the main point conveyed is about whether there are ghosts in Espita and the original speaker of the REP/QUOT is coreferential with the subject of the verbum dicendi (indeed, the same speech event is referred to by both). In contrast, with a passive verbum dicendi such as *ku ya'ala'al* 'it is said' in (29c-29d), concord is possible with REP, but is not possible with QUOT. This is since the anaphoric requirement of null third-person singular agreement of the QUOT cannot be met by the existential/indefinite implicit agent of the passive verbum dicendi.[9]

(29) a. T-u ya'alaj=e' yaan *bin* wáay t-u kaj-il Espita
PFV-A3 say=TOP EXIST REP ghost PREP-A3 town-REL Espita
'She said there's ghosts in Espita.' **[Transitive verbum dicendi w/ REP]**

b. T-u ya'alaj=e' yaan wáay t-u kaj-il Espita ***–kij***
PFV-A3 say=TOP EXIST ghost PREP-A3 town-REL Espita QUOT
'She said there's ghosts in Espita.' **[Transitive verbum dicendi w/ QUOT]**

c. K-u ya'ala'al=e' yaan *bin* wáay t-u kaj-il Espita
IPFV-A3 say.PASS=TOP EXIST REP ghost PREP-A3 town-REL Espita
'It's said that there's ghosts in Espita.' **[Passive verbum dicendi w/ REP]**

d. #K-u ya'ala'al=e' yaan wáay t-u kaj-il Espita ***–kij***
IPFV-A3 say.PASS=TOP EXIST ghost PREP-A3 town-REL Espita QUOT
Intended: 'It's said "there's ghosts in Espita".' **[Passive verbum dicendi w/ QUOT]**

In sum, while obscured by the preponderance of third person singular uses for which the set B agreement marker is null, the original speaker and addressee with QUOT are encoded as verbal arguments in YM (and so far as I know in other Mayan languages, though further investigation is warranted). In contrast, the original speaker with REP is not overtly encoded at all; its existence is entailed by the REP but – aside from the impossibility of first and second person original speakers – is not semantically constrained. These properties are summarized as follows:

(30) **Encoding and interpretation of the original speech act participantswith QUOT and REP:**

	Property	REP	QUOT
C1	Original speaker overtly expressed	✘	✔
C2a	Existential/generic original speaker possible	✔	✘
C2b	(Apparently) anaphoric original speaker possible	✔	✔
C3	Original addressee overtly expressed	✘	✔

[9]The sentence in (29d) theoretically should have an irrelevant *non-concord* reading in which the speaker quotes the original speaker's utterance, which itself includes *ku ya'ala'al* 'it is said'. This reading is dispreferred since the use of the topic marker in the original utterance indicates that the original speaker take the facts about ghosts to be at-issue (AnderBois (2017)). However, the fact that the current speaker is quoting the original speech act indicates that the current speaker does not. Such a mismatch should not be impossible, but likely requires more extensive context to be supported. We leave exploration of such cases to future work since the consultants here have simply rejected this possibility for the simpler contexts considered here.

5 Formal properties

Thus far, we have considered aspects of QUOT and REP which are primarily semantic in nature. In this section we turn to examine the formal properties of the two categories. Whereas reportative evidentials cross-linguistically can be realized in a variety of different ways morphosyntactically, in Mayan languages they appear to always occur as discourse particles/clitics, with their position being determined – or, in some cases, merely constrained – prosodically rather than syntactically or morphologically.

The first point of differentiation formally between REP and QUOT concerns their linear position within a sentence. Across the Mayan family, QUOT most typically occur in clause/utterance-final position following the quoted material, as we have seen in (26b), among other cases. Somewhat less commonly, it seems, QUOT will occur in a phrase medial position, as seen in both sentences in the dialogue in (21). In contrast, REP show one of two different patterns across Mayan languages. In many languages, such as Ch'ol (Vázquez Álvarez 2011) and Tojolab'al (Curiel 2016), REP are second position clitics, occurring consistently at the end of the first phonological word of a clause/intonational phrase. In YM and possibly other languages, we find that REP – and, as claimed by AnderBois (2018), various other clitics such as mirative *bakáan* MIR – can occur at any prosodic word break, as illustrated in (31).

(31) Ma' (***bin***) t-u máansaj (***bin***) u examen (***bin***) Carmen (***bin***)-i'.
NEG (REP) PFV-A3 pass (REP) A3 exam (REP) Carmen (REP)-NEG.CL
'Carmen didn't pass the exam (they say).' AnderBois (2018)

The second, related, point of differentiation between REP and QUOT concerns their degree of integration into the prosodic structure of the sentence in which they occur. As seen in (32), REP typically occur in an intonational phrase-medial position with no particular pause or other prosodic break preceding or following. Indeed, REP in Mayan languages are usually, or perhaps always, enclitics which require a phonological host preceding them. In contrast, QUOT always occur with a substantial pause preceding them and in the clause-medial cases, a substantial pause after the QUOT and the original speaker and addressee arguments (if present), as seen in (33-34). One further indication of the degree of prosodic separation that QUOT exhibit is the fact that the quoted material can even contain a deictic clitic such as *=a'* PROX or *=o'* DIST, which are rigidly phrase-final in the language, as seen in (33).[10]

(32) [T-u jantaj *bin* paanucho le máak=o']$_{IntP}$
PFV-A3 eat REP panucho DEF person=DIST
'That guy ate panuchos, I heard.'

(33) [T-u jantaj paanucho le máak=o']$_{IntP}$ [***kij*** teen Margarita]$_{IntP}$
PFV-A3 eat panucho DEF person=DIST QUOT DAT.1SG Margarita
' "That guy ate panuchos" – Margarita told me.'

(34) [T-u jantaj]$_{IntP}$ [***kij*** teen Margarita]$_{IntP}$ [paanucho le máak=o']$_{IntP}$
PFV-A3 eat QUOT DAT.1SG Margarita panucho DEF person=DIST
' "That guy" – Margarita told me – "ate panuchos". '

A third point of formal variation between QUOT and REP concerns their ability to occur multiple times within a single sentence. For QUOT, this possibility is robustly ungrammatical, as exemplified in (35). In contrast, REP can in principle be repeated an unlimited number of times within a clause. In such cases, there is no clear interpretive difference, but the sense one gets is that by emphasizing the secondhand nature of

[10]Curiel (2016:123-4) reports that this is not possible with phrase-final clitics in Tojolab'al. We leave it to future work to determine whether this reflects a difference in the prosodic properties of the phrase-final clitics themselves, the QUOT, or the interaction of the two.

the information, the speaker ensures that the addressee knows that the speaker does not necessarily vouch for the content in question.

(35) **Context:** My friend Norma told me there were ghosts in Espita. I am recounting our conversation to you later:

*Yaan — ***kij*** — wáay t-u kaj-il Espita –***kij***
EXIST QUOT ghost PREP-A3 town-REL Espita QUOT

Intended: 'There's ghosts in Espita, she said.'

Given the flexibility of YM *bin* REP, this can result in cases like (36a), from a text where the speaker is berating the lazy attitude of his son. While it remains in general an open question whether REP in other Mayan languages can be repeated in a sentence, we do have one example of this sort from a language whose REP is limited to second position from Tojolab'al. Since the topic *ja'xa me Lubya* forms a separate prosodic unit from the rest of the sentence, the second position *=b'i* REP can occur both within the topic and in the main clause, as seen in (36b). In contrast to YM, the rigidly second position nature of Tojolab'al *=b'i* REP lessens the potential for sentences with multiple occurences, we nonetheless find that such a case is possible.

(36) a. **Context:** A man describing his son who doesn't work in the milpa:
Jach táaj u k'áat-e' chéen ka p'áat-ak *bin* ichnaj *bin*, jach *bin* táaj chokoj k'iin *bin*
truly really A3 want-TOP only for stay-SUBJ REP inside REP truly REP very hot sun REP
'He just wants to stay at home because (he says) the sun is very hot.' Monforte et al. (2010:202)

b. Ja'xa=*b'i* me Lubya y-e'n=*b'i* wan-∅ talna-n-el
CTOP=REP CLF Lubia A3-PRON=REP PROG-B3 cuidar-ANT-NF
'Lubia – they say – was a caregiver' **Tojolab'al** (Curiel 2016:84)

These differences in formal/prosodic properties of QUOT and REP in Mayan languages are summarized as follows:

(37) **Formal/Prosodic propeties of QUOT and REP:**

	Property	REP	QUOT
D1a	Linear position: phrase-final	✘	✔
D1b	Linear position: flexibly phrase-medial	%	✔
D1c	Linear position: second in phrase	%	✘
D2	Prosodically integrated?	✔	✘
D3	Repeatable within a sentence	✔	✘

6 Conclusions

In this paper, we have examined in detail the properties of two types of reported speech devices in Mayan languages. With some minor exceptions, we have seen that outside of Eastern Mayan languages – where the basic empirical situation remains somewhat less clear – Mayan languages robustly have quotative and reportative morphemes in oral discourse. While the two both make reference to a prior speech event and therefore may have similar perlocutionary effects in many cases, we have seen that they also have substantial differences as well. A list of the major differences is found in Table 2.

At a high level, the difference between the two can be summarized as follows: QUOT present again the *words* of the original speaker, whereas REP indicate that the semantic content of the current speaker's

	Property	REP	QUOT
A1	Deictic expressions interpreted relative to original speaker	✘	✔
A2	Substitution of coreferring expression possible	✔	✘
B1	Selectivity for sentence type	%	✘
B2	Illocutionary potential of scope unaltered	✔	✘
C1	Original speaker overtly expressed	✘	✔
C2a	Existential/generic original speaker possible	✔	✘
C2b	(Apparently) anaphoric original speaker possible	✔	✔
C3	Original addressee overtly expressed	✘	✔
D1a	Linear position: phrase-final	✘	✔
D1b	Linear position: flexibly phrase-medial	%	✔
D1c	Linear position: second in phrase	%	✘
D2	Prosodically integrated?	✔	✘
D3	Repeatable within a sentence	✔	✘

Table 2: Summary of the major properties distinguishing QUOT and REP in (non-Eastern) Mayan languages

utterance has its source a prior speech event. While the specific properties found for QUOT and REP are not all entailed by this description, there are nonetheless natural reasons why they pattern in this way and not the reverse. For the differences in A properties, this follows since the original speaker's words are what matters for QUOT while content is what matters for REP. The B properties are quite similar. Since REP make reference to the current speaker's semantic content, they can be sensitive to the illocutionary mood of this content. In contrast, the current speaker merely presents the original speaker's words with QUOT and so the effects of its illocutionary moods are not felt.

The C properties concern the level of detail that can or must be encoded regarding the original speech event. It is of course logically possible to imagine, say, that a REP might require or allow for the original speech event participants to be explicitly encoded. However, it is nonetheless natural that it is QUOT which make this possible since they are more fundamentally concerned with the details of the original speech event, while REP are much less so. Moreover, in the few other cases where quotatives cross-linguistically have been described in enough detail to distinguish them clearly from both reportatives and lexical verba dicendi (e.g. Blain and Déchaine (2007), Michael (2008)), we similarly find that quotatives require/allow for at least as detailed an encoding of the original speech event as REP do. As in the case of the C properties, although there is no logical necessity that REP have one prosodic profile while QUOT have another, the pattern of D properties we find nonetheless seems motivated. Since QUOT specifically involve presenting the linguistic form of the original speech act, it is natural that they are more prosodically separate so as not to interrupt the original linguistic form unduly, whereas no REP present no such need.

We have focused here on the differences between REP and QUOT, but they of course also have much in common. Both elements make reference to a prior speech event, just as verba dicendi do. Beyond this though, there is a deeper property REP and QUOT share – but which verba dicendi lack – the information about the original speech event is strictly not-at-issue (i.e. this property is semantically encoded). This property has perhaps been implicitly assumed in the preceding discussion, most clearly in the B properties relating to illocutionary force. For reportatives cross-linguistically, this property is well-known from previous literature (e.g. Faller 2002, Matthewson et al. 2007, Murray 2010, 2014, 2017), although there is some debate about how universal it is. For QUOT (or at least for YM *ki(j)* QUOT, however, this is also true. Space precludes showing this systematically, but one piece of support for this position, beyond the illocutionary properties already discussed, is the sensitivity of QUOT to the Question Under Discussion (QUD). Parallel to REP, QUOT are used in scenarios where the quoted material itself has 'main point' status, i.e. addresses

the QUD.[11] Just as REP alone are infelicitous when the QUD concerns who said what, so too with QUOT. In the former case, indirect speech reports with verba dicendi are used instead, while in the latter it is direct speech report with verba dicendi which play this role.

(38) Yaan wáay t-u kaj-il espita –ki teen
EXIST ghost PREP-A3 town-REL espita –QUOT.B3SG DAT.1SG
' "There's ghosts in Espita" –he tells me.'

a. ✓**Scope-at-issue QUD:** Are there ghosts in Espita?
b. ✗ **Report-at-issue QUD:** What did Luis say?

We close by noting several open questions and places of attested or potential variation between the REP and QUOT of different languages with the Mayan family. At the outset, we made clear that many of the properties detailed here are the results of detailed primary investigation of REP and QUOT in Yucatec Maya and consultation of secondary sources for other Mayan languages. There are two cases where we have presented clear evidence for variation within Mayan. First, whereas REP in most Mayan languages are strictly second-position clitics, in others, including Yucatec Maya, their linear position is quite a bit more flexible. Second, whereas REP in most Mayan languages can occur across all three major sentence types, we have seen that Q'anjob'al restricts their use to declarative sentences alone. More detailed future investigation may of course uncover other points of variation across Mayan languages.

One other large unresolved question is what the grammar of reported speech devices is like in Eastern Mayan languages. Here, there are numerous textual examples with elements whose glosses make clear reference a prior speech event in some way, but where the published evidence is insufficient to determine whether these elements pattern with QUOT or REP in the semantic properties A-C above. Moreover, in some of these cases, we find that even the brief descriptions that do exist suggest that these elements might not pattern with either QUOT or REP as discussed here, but rather represent a mix of the properties of the two. For example, Ayres (1991) notes the existence in Ixil of a particle *tchi(h)* or *chi* (depending on the dialect) which "is used in stories to indicate that one is only repeating what another person has said", seen in (39).

(39) Etchetz ib'ant naqe *tchih* u vinaq va'l u kaaxha tze'
like.that make CL.MASC ?? A3 man man A3 box wood
'That way, the man made a box of wood, it's said.' **Ixil** (Ayres 1991:175-176)

On the one hand, Ayres (1991) describes on p. 175 that *tchi(h)* occurs in particular phrase-medial positions and mentions on p. 115 that the original speaker (at least in the Chajul dialect) can be interpreted as an indefinite, which seems more in line with REP than QUOT. On the other hand, the phonetic form itself is clearly cognate with QUOT in non-Eastern Mayan languages (see Table 2) and Ayres (1991:115) notes that the original speaker can be overtly encoded by set B agreement, facts more in line with QUOT than with REP. While further evidence is needed (especially of things like first and second-person pronouns and non-declarative sentence types), the evidence we do have suggests that these elements may in fact display a mix of the properties associated with QUOT and REP here (or else may have both QUOT and REP-like uses). While this is unlike what we have seen outside of Eastern Mayan languages, it is not necessarily surprising given that many lexical verba dicendi can be used with both direct and indirect discourse and so nothing obvious precludes more grammaticized reported speech devices from being similarly flexible.

[11] While framed in quite different terms, this general intuition is to some extent prefigured by Lucy 1993's claim that the YM *ki(j)* QUOT is 'metapragmatic'.

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RELATIVAS LIBRES EN CH'OL Y MAYA YUCATECO Y LA TIPOLOGÍA DE CLÁUSULAS RELATIVAS SIN NÚCLEO*

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El presente estudio tiene como objetivo contribuir al estudio de las cláusulas relativas en dos lenguas mayas, el maya yucateco y el ch'ol, desde una perspectiva comparativa. A diferencia de las lenguas indo-europeas, estas dos lenguas tienen una gran variedad de construcciones relativas sin un núcleo nominal pronunciado que se distinguen superficialmente en cuanto a la presencia o ausencia de palabras *wh-*/*qu-* y los determinantes. Dado estas diferencias superficiales, surge la siguiente pregunta: ¿estas diferencias reflejan construcciones que requieren de análisis distintos o se trata solamente de diferencias superficiales? Aquí exploramos los distintos tipos superficiales de estas construcciones y demostramos que hay diferencias importantes entre ellos que se encuentran en contra de un análisis uniforme.
Palabras claves: lenguas Mayas, cláusulas relativas, cláusulas relativas sin núcleo

1 Introducción

El presente artículo tiene como objetivo realizar un análisis comparativo de las cláusulas relativas libres en dos lenguas que pertenecen a grupos lingüísticos diferentes, en el marco de la gran familia lingüística maya. El maya yucateco (en adelante MY) pertenece a la rama yucatecana y el ch'ol a la rama tseltalana. El primero se habla principalmente en la peninsula de Yucatán (Campeche, Yucatán y Quintana Roo), por 859,607 hablantes y el ch'ol cuenta con 251,809 hablantes en los estados de Chiapas, Tabasco y Campeche.[1]

Dentro de dicha familia lingüística, el análisis de las cláusulas relativas (CRs) se inaugura con los estudios gramaticales de Craig (1977), Dayley (1985) y England (1985); más adelante, este tema se exploró en otras lenguas con más detalle y desde un enfoque tipológico, por ejemplo en ch'ol (Martínez Cruz 2007), tojolabal (Gómez Cruz 2010), kaqchikel (Guarcax González 2016) y el chontal de Tabasco (Osorio May 2016). Los estudios previos notan que las cláusulas relativas más básicas (y posiblemente más comunes) son las CRs con un núcleo nominal dentro de l\a cláusula matríz. Al igual que en otras lenguas mayas, el MY y el ch'ol cuentan con dos estrategias de relativizacion para las CRs con núcleo:

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[1] Indicadores básicos de la agrupación maya y ch'ol, 2015 (INALI).

(i) **Estrategia de pronombre relativo**: El nominal se sustituye generalmente con un pronombre interrogativo (*wh-* / *qu-*), el cual que se usa como relativizador (1a).

(ii) **Estrategia hueco** (en inglés: *gap strategy*): CR sin relativizador, sólo con un hueco en la cláusula incrustada, (1b).[2]

(1) MY

a. T-u y-il-aj jum-p'éel soolar [**tu'ux** k-in pak'ik su'uk].
PFV-A3 EP-ver-SS uno-CLF solar DONDE IPFV-A1 sembrar-SS cesped
'Vió un solar [donde siembro cesped]'[3]

b. T-u sat-aj u máaskab [k-u bis-ik __ t-u kool].
PFV-A3 perder-SS A3 machete IPFV-A3 llevar-SS PREP-A3 milpa
'Perdió el machete [que lleva a la milpa]'

Además, en las lenguas mayas también se han registrado CRs sin núcleo, es decir, construcciones en las cuales no hay una realización explícita de la frase nominal matríz, tal como se observa en los siguientes ejemplos del MY. Nótese además que la cláusula principal puede contener un numeral con un clasificador o un artículo definido (para más información sobre este punto, véase la siguiente sección).

(2) MY

a. T-u y-il-aj (jum-p'éel) ___ [**tu'ux** k-in pak'ik su'uk].
PFV-A3 EP-ver-SS uno-CLF DONDE IPFV-A1 sembrar-SS cesped
'Vió (un) [donde siembro cesped]'

b. T-u sat-aj le ___ [k-u bis-ik __ t-u kool]=o'.
PFV-A3 perder-SS DEF IPFV-A3 llevar-SS PREP-A3 milpa=DIST
'Perdió el machete [que lleva a la milpa]'

Es evidente que las construcciones relativas en maya difieren a las del inglés superficialmente, en el sentido de que, por ejemplo, en MY y en ch'ol hay una variedad de CRs sin núcleo que dependen de la presencia o ausencia de la palabra *wh-* y de los determinantes, incluso el uso de las dos estrategias de relativización.

Ante dicha variedad, algunos estudios se han centrado en analizar la relación entre las construcciones ejemplificadas en (1) y (2), como es el caso de Gutiérrez Bravo (2015), quien hace un análisis uniforme del MY, proponiendo que todos los diferentes ejemplos en (2) son también relativas con núcleo; distinguiéndose del primer grupo de ejemplos por el hecho de que tienen un núcleo elidido o no pronunciado con una interpretación anafórica.

En este ensayo, investigamos en detalle las propiedades semánticas y sintácticas de estas construcciones, argumentando en contra de un análisis uniforme de este tipo. La imágen que surge es que las lenguas involucradas en este estudio presentan una variedad de CRs sin núcleo, con propiedades semánticas particulares. Por esta razón, en este artículo exploramos otras opciones de análisis pertinentes tanto para el MY como para el ch'ol. Concretamente, el análisis que proponemos se sustenta en las siguientes premisas:

[2] Abreviaturas: A – Juego A (ergativo, nominativo, posesivo); AFF – Afirmativo; ANA – Clítico anafórico; B – Juego B (Absolutivo, acusativo); CLF – Clasificador; DEAG – Deagentivo; DEF – Artículo definido; DEM – Demostrativo; DIST – Distal; EP – Epéntesis; EX – Existencial – INT – Interrogativo; IPFV – Imperfectivo; IRR – Irealis; LE – Libre elección; LOC – Locativo; PL – Plural; PFV – Perfectivo; PREP – Preposición; PROX – Proximal; REL – Relativizador; SR – Sustantivo relacional; SS – Sufijo de estatus; SUBJ – Estatus subjuntivo; SUF – Sufijo; TERM – Terminativo; TOP – Tópico; TR – Transitivo.

[3] Los ejemplos de ambas lenguas vienen de corpus o de los juicios del segundo autor para el caso del MY y del cuarto autor para el caso del ch'ol, específicamente de la variante de Tila.

a) No existen sustantivos nulos aparte de las CRs sin núcleo;
b) Hay restricciones en el uso de la estrategia pronominal que no encontramos en las CRs sin núcleo, como en (2a), y;
c) Hay diferencias semánticas sutiles entre las diferentes CRs sin núcleo que no podrían ser explicadas si todas compartieran una estructura uniforme.

El artículo tiene la siguiente estructura: en §2 se resume la tipología de las construcciones de relativo tanto en el MY como en el ch'ol; en §3 se presentan algunos datos que permiten cuestionar la existencia de sustantivos nulos en estas lenguas, además de las CRs bajo la estructura de hueco; en §4 presentamos argumentos para mostrar que las CRs sin núcleo con palabras *wh-* no se pueden basar en la estrategia pronominal; en §5 demostramos que la semántica de las CRs sin determinante no está predicha por el análisis uniforme; y por último se presentan las conclusiones.

2 Dos estrategias de CR con núcleo

En esta sección, damos el trasfondo general de los varios tipos de CRs sin núcleo en MY y en ch'ol y se resume el análisis uniforme, el cual fue propuesto por Gutiérrez-Bravo (2015) para MY.

2.1 Dos estrategias de relativización en CRs sin núcleo

Los ejemplos presentados en (1) y (2), arriba, nos muestran que en MY hay dos estrategias de relativización para las CRs: la estrategia de pronombre relativo y la estrategia hueco. Dichas estrategias también pueden encontrarse en ch'ol, en las relativas con núcleo (Martínez Cruz 2007 y Vázquez Álvarez 2011), pero con una diferencia importante. En esta lengua maya, la primera estrategia puede ser observada en ejemplos en donde se relativizan los argumentos no-directos, como por ejemplo los locativos. En el ejemplo que sigue, el uso de *ba'* 'dónde', es obligatorio en la cláusula subordinada.

(3) CH'OL
kolem=ba merkaduj [**ba'** tsajñ-ety=i].
grande=INT mercado donde PFV.ir-B2=SUF
'¿Es grande el mercado [donde fuiste]?'

La segunda estrategia (de hueco), se utiliza en la relativización de los argumentos directos. En estos casos la CR se marca con el clítico de segunda posición *=bä*, como en (4) y en (5).

(4) CH'OL
Añ=äch=tyo y-alo'b-il [**mu'=bä** i-käñty-añ].
EX=AFF=todavía A3-hijo-SUF IPFV=REL A3-cuidar-SS
'Tiene todavía un hijo [que lo cuida]'

(5) CH'OL
Preparadoj=ix li yerba [**ta'=bä** i-käch-oñ ila].
Preparado=ya DEF planta PFV=REL A3-amarrar-B1 aquí
'Ya estaba preparada la planta [que me amarró aquí]'

Las oraciones en estos ejemplos del ch'ol son parecidas a las CRs con núcleo del MY, excepto por la presencia del clítico *=bä*. Este clítico relativizador fue prestado de lenguas de la familia mixe-zoqueana

(Zavala Maldonado 2007; Vázquez Álvarez 2011). Dentro de las lenguas tseltalanas únicamente se ha reportado su presencia en el chontal de Tabasco (Osorio May 2016), además del ch'ol.

Otro rasgo importante que hay en común, es la restricción morfosintáctica de los argumentos que pueden ser extraidos en la estrategia pronominal. Nótese que para los argumentos directos (e.d. los que requerirían las palabras wh- *chu* 'que' o *majch* 'quien'), los pronombres relativos son agramaticales, como en (6) y (7), aún con la presencia del clítico *=bä*.

(6) * Añ=äch=tyo y-alo'b-il [**majch** mu'=bä i-käñty-añ].
EX=AFF=todavía A3-hijo-SUF quien IPFV=REL A3-conocer-SS
Interpretación buscada: 'Tiene todavía un hijo [que lo cuida]'

(7) * Preparadoj=ix li yerba [**chu ta'** i-käch-oñ ila].
Preparado=ya DEF planta que PFV A3-amarrar-B1 aquí
Interpretación buscada: 'Ya estaba preparada la planta [que me amarró aquí]'

En resumen, en ambas lenguas mayas hay dos estrategias de relativización para las construcciones tanto con como sin núcleo nominal en la cláusula matriz. Algo particular del ch'ol es la presencia obligatoria del clítico relativizador *=bä*, no compartido por el MY. En la siguiente sección se exploran todas las posibilidades en cuanto a las construcciones de CRs sin núcleo.

2.2 Cuatro tipos de CRs sin núcleo

En inglés hay una sola construcción relativa sin núcleo, la cual se llama "relativa libre" (inglés: 'Free Relative'). En contraste, en MY y en ch'ol, así como en otras lenguas mayas, existen varios tipos de CR sin núcleo. Para más detalles sobre las dos lenguas mayas que se discuten aquí, véase Vázquez Álvarez & Coon (por publicarse) sobre el ch'ol, Gutiérrez Bravo (2015) y AnderBois & Chan Dzul (por publicarse) sobre el maya yucateco.

Al tomar el uso de los pronombres interrogativos y de los determinantes como un criterio de análisis, obtenemos como resultado cuatro tipos de CRs sin núcleo. Para distinguir todas las formas posibles, manejamos los siguientes 'rasgos' descriptivos: [±Wh, ±Det].

(8) Cuatro tipos de CRs sin núcleo en MY:

a. ba'ax t-u jaan-t-aj
que PFV-A3 comer-TR-SS
'lo que comió' [+Wh, –Det] ("Relativa libre")

b. le ba'ax t-u jaan-t-aj=o'
DEF que PFV-A3 comer-TR-SS-DIST
'lo que comió' [+Wh, +Det]

c. le t-u jaan-t-aj=o'
DEF PFV-A3 comer-TR-SS=DIST
'lo que comió' [–Wh, +Det]

d. t-u jaan-t-aj
PFV=A3 comer-A3-SS
'lo que comió' [Wh, –Det]

Como puede observarse en los siguientes ejemplos, estas estructuras también están presentes en la lengua ch'ol. Cabe aclarar que el artículo definido *li* es exclusivo de la variante dialectal de Tila.

(9) Los cuatro tipos de CR sin núcleo en ch'ol

a. chu tyi i-k'ux-u
que PFV A3-comer-SS
'lo que comió' [+Wh, –Det] ("Relativa libre")

b. li chu tyi i-k'ux-u
DEF que PFV A3-comer-SS
'lo que comió' [+Wh, +Det]

c. li ta'=bä i-k'ux-u
DEF PFV=REL A3-comer-SS
'lo que comió' [–Wh, +Det]

d. ta'=bä i-k'ux-u
PFV=REL A3-comer-SS
'lo que comió' [–Wh, –Det]

A diferencia del inglés en donde las CRs libres tienen una semántica definida o maximal,[4] las lenguas mayas aquí ejemplificadas pueden ser definidas o indefinidas, de acuerdo a diferentes factores en los dos casos. Para las que son [+Det], el factor que determina la definitud de la construcción es la semántica del determinante mismo. Para las que son [–Det], la definitud se determina basada en el ambiente donde ocurre, especialmente el predicado que las selecciona. Por ejemplo, un predicado existencial asegura que la CR sin núcleo se interprete de manera indefinida.

La combinación de los rasgos de definitud y de pronombres relativos puede dar como resultado estructuras con sentidos aparentemente idénticos, como se aprecia en las traducciones al español aquí presentes. La pregunta obligatoria ante esta situación sería: ¿Cuál es la relación entre estas cuatro construcciones? y especialmente ¿Cuál es la relación entre las CRs con núcleo? Como ya ha sido mencionado, Gutiérrez Bravo (2015) tiene una propuesta uniforme para tales estructuras, indicando que todos los ejemplos en (8), y por lo tanto en (9), son estructuralmente iguales a las relativas con núcleo, pero habría un núcleo nulo o elidido, $Ø_N$ con una interpretación anafórica. Más adelante se analiza el alcance de la anaforicidad.

(10) Estructura propuesta por Gutiérrez Bravo (2015) para MY:

a. (le) $Ø_N$ ba'ax t-u jaan-t-aj
DEF que PFV-A3 comer-TR-SS
'lo que comió' [+Wh] = estrategia pronominal + $Ø_N$

b. (le) $Ø_N$ t-u jaan-t-aj
DEF PFV-A3 comer-TR-SS
'lo que comió' [–Wh] = estrategia hueco + $Ø_N$

[4] Aquí no discutimos las relativas libres de libre elección (inglés: 'Free Choice'), como las que llevan el sufijo *-ever* en inglés o *-quier*(*a*) en español. El ch'ol no cuenta claramente con tal construcción (Vázquez Álvarez & Coon, por publicarse), mientras que el maya yucateco sí tiene una construcción así con dos morfemas de libre elección (AnderBois & Chan Dzul, por publicarse).

Aunque Gutiérrez-Bravo (2015) no analiza el ch'ol, dicho análisis sería applicable al ch'ol de la siguiente manera:

(11) CH'OL (bajo el análisis de Gutiérrez-Bravo 2015)

a. (li) $Ø_N$ chu tyi i-k'ux-u
DEF que PFV A3-comer-SS
'lo que comió' [+Wh] = estrategia pronominal + $Ø_N$

b. (li) $Ø_N$ ta'=bä i-k'ux-u
DEF PFV=REL A3-comer-SS
'lo que comió' [–Wh] = estrategia hueco + $Ø_N$

Este análisis entonces depende de dos premisas centrales. Primero, la idea de que estas lenguas en general, aparte de las CRs, cuentan con sustantivos nulos que pueden funcionar como núcleos de una CR con núcleo, y son iguales en cuanto a su forma y a su semántica que cualquier sustantivo pronunciado. Segundo, la idea de que las CRs sin núcleo son estructuralmente iguales en relación a sus formas que las relativas con núcleo. En las secciones que siguen, presentamos evidencia en contra de estas dos premisas.

Puesto que en ambas lenguas mayas encontramos restricciones en las construcciones con una estrategia pronominal, las CRs sin núcleo [+Wh] no pueden ser una especie de CR con núcleo. Un análisis alternativo para las lenguas en cuestión sería de considerar que no hay sustantivos nulos, $Ø_N$. En su lugar habría un dominio nulo $Ø_{dom}$ como parte de la construcción relativa de hueco. A continuación se presentan los detalles que sustentan esta propuesta alternativa.

3 Los sustantivos nulos sólo son parte de la estrategia hueco

Según Gutiérrez Bravo (2015), el MY tiene un sustantivo nulo o elíptico con una semántica anafórica (parecido a las traducciones en español). Tal posición implica que los ejemplos que se presentan a continuación cuentan con los siguientes sustantivos nulos, como propone Gutiérrez Bravo (2015) en los ejemplos en (12):[5]

(12) MY

a. le jats'uts-o'ob $Ø_N$ =o'
DEF bonito-PL $Ø_N$ =DIST
'esas bonitas'

b. le boox $Ø_N$ =a'
DEF negro $Ø_N$ =PROX
'el / este negro'

Aunque este análisis parece factible a primera vista, notamos que sólo es posible en las CRs con una estrategia hueco, y que no existe un sustantivo nulo en MY o en ch'ol en estos casos. Aunque la evidencia

[5] Hay razones para dudar de los detalles en los ejemplos en (12), en particular de la posición de $Ø_N$ en relación al verbo. El MY no tiene concordancia de número en los adjetivos pronominales. Por esta razón la forma con un sustantivo pronunciado sería *le jats'uts ba'alo'obo'* y no **le jats'utso'ob ba'alo'obo'* o * *le jats'utso'ob ba'alo'*. Por lo tanto, sería conveniente colocar $Ø_N$ antes del morfema del plural, el cual parece ser un clítico.

clave proviene del ch'ol, vemos que no hay evidencia clara en contra del análisis alternativo motivado por los datos siguientes del ch'ol.

3.1 No hay sustantivos nulos aparte de las CRs: evidencia del ch'ol

Un análisis alternativo consiste en tratar los ejemplos en (12) simplemente como CRs sin núcleo. Bajo esta consideración lo que tendríamos sería un $Ø_{Dom}$.

(13) MY
le $Ø_{Dom}$ [boox __]=a'
DEF $Ø_{Dom}$ negro =PROX
'el / este que es negro'

Viendo los datos del MY parece un análisis poco elaborado debido a que no se cuenta con evidencias morfosintácticas adicionales. Mientras que en el MY no hay ninguna evidencia clara a favor ni en contra de la hipótesis, el ch'ol nos ofrece un diagnóstico sintáctico muy claro para distinguir entre las dos construcciones, mediante la forma del clítico *=bä* REL. Como ha sido observado arriba, el clítico *=bä* REL ocurre en relativas del tipo hueco (ya sea que tengan o no tengan núcleo). Entonces, si los ejemplos de arriba se basan en un sustantivo nulo como vemos en (12), no debería aparecer el *=bä* REL. En cambio, si tales ejemplos se basan en relativas sin núcleo como ilustramos en (13), debería aparecer el clítico *=bä* REL en ch'ol, porque siempre se requiere de un clítico en construcciones relativas de tipo hueco. Como se puede ver en (14), los ejemplos paralelos a (12)/(13) en ch'ol requieren de la presencia obligatoria de *=bä* en este tipo de construcciones, dando como resultado una construcción relativa.

(14) CH'OL
a. Tyi k-mäñ-ä li i'ik'=*(**bä**).
PFV A1-comprar-SS DEF negro=REL
'Compré la (cosa que es) negra'

b. K-om li kolem=*(**bä**).
A1-querer DEF grande=REL
'Quiero la (cosa que es) grande'

La presencia del relativizador *=bä* en los ejemplos presentados es evidencia clara de que lo que tenemos en ch'ol son cláusulas relativas. Respecto a la ausencia de un equivalente del clítico *=bä* REL en MY, no hay evidencia definitiva en MY, pero tampoco hay evidencia en contra de la hipotésis relativa para el análisis relativo o evidencia de que haya una diferencia entre estas construcciones en las dos lenguas. Como tal, asumimos aquí que el mismo análisis aplica para el MY.

3.2 No hay sustantivos nulos en CR sin núcleo [+Wh]: evidencia semántica

Ya se notó que las construcciones que aparentemente cuentan con sustantivos nulos son en realidad cláusulas relativas—por lo menos en ch'ol—y como tal, son CRs sin núcleo de la estrategia hueco, con dominios nulos. Bajo el análisis uniforme de Gutiérrez Bravo (2015), hay un sustantivo nulo no sólo en las CRs sin núcleo [–Wh] sino también en las que son [+Wh]. En cambio, hemos sostenido aquí que no hay evidencia de que existan sustantivos nulos con una semántica anafórica en estas lenguas fuera de las CRs de hueco. Debido a esto debemos postular un dominio nulo que sólo ocurre en esta construcción

relativa. Entonces, las dos versiones hacen predicciones distintas en el caso de las CRs sin núcleo [+Wh]. Con relación a este punto, Gutiérrez Bravo (2015) sostiene que los sustantivos nulos en MY tienen una semántica anafórica, similar a la que se puede encontrar en los sustantivos nulos del español.

Al recurrir nuevamente a los rasgos [±Wh] para el análisis de los ejemplos en MY y en ch'ol, descubrimos que el alcance de la anáfora no es el mismo. Vamos a ver que la semántica anafórica de la que habla el autor mencionado arriba es correcta en cuanto a las CRs sin núcleo [–Wh], tanto en ch'ol como en MY, pero no en cuanto a las CRs [+Wh]. Antes de presentar los ejemplos, hay que aclarar un poco el sentido de la "anaforicidad" que estamos asumiendo en este trabajo. En particular, hay dos tipos de anaforicidad que debemos diferenciar:

(16) **Interpretación anafórica del sustantivo/dominio:**
a. [Det [**Sust** CR]$_{FN}$]$_{FD}$
b. Anáfora de conjunto; requiere de un conjunto de individuos saliente en el discurso:{a, b, c, . . . }

(17) **Interpretación anafórica de la FD entera:**
a. **[Det [Sust CR]$_{FN}$]$_{FD}$**
b. Anáfora del individuo; require de un individuo saliente en el discurso: a

Dado el paralelismo con los sustantivos nulos o elípticos del español (p.ej. 'el negro', 'la de Juan'), queda claro que el tipo de anáfora que es relevante aquí es la anáfora de conjunto en (16). Puesto que estamos hablando de la anáfora de conjunto, es conveniente empezar con ejemplos que tengan una semántica existencial a nivel de la FD para no introducir otra fuente de anaforicidad. En el caso de las CRs sin núcleo, Gutiérrez Bravo (2015) propone que los dominios de las CRs sin núcleo siempre se interpretan de manera anafórica porque siempre son sustantivos nulos. Para ejemplificar, retomamos el contexto que ofrece Gutiérrez Bravo (2015) en MY, el cual demuestra la anaforicidad de conjunto en (18).

(18) MY (Gutiérrez Bravo 2015:130)

a. Cuarenta y cinco	máak	k-u	meyaj-Ø,	u	personal	le	
cuarenta y cinco	persona	IPFV-A3	trabajar-SS	A3	personal	DEF	
maquina=o'	tumen	k-u	jo'och-kij-o'ob.				
máquina=DIST	porque	IPFV-A3	raspar.henequén-SS-PL				

'Cuarenta y cinco personas trabajaban (ahí), eran el personal de la máquina. Porque ellos solían raspar henequén.'

b. Yaan	Ø$_{dom}$	[k-u	púut-ik-o'ob	le	fibra]=o'.
EX		IPFV-A3	cargar-SS-PL	DEF	fibra=DIST

'Había los que cargaban la fibra'

Tal como observa el autor citado, es claro que se trata de un ejemplo de una anáfora de conjunto, puesto que (18-a) introduce un conjunto de individuos (el conjunto de 45 trabajadores que conforma el personal de la máquina). En (18-b), el dominio de la CR (personas del personal), se interpreta como el dominio de la CR entre corchetes. Además, el existencial *yaan* indica que sí existen individuos en la intersección del dominio y el conjunto de la CR; en otras palabras, "hay personas del personal de la máquina que cargaban la fibra". Entonces, siguiendo Gutiérrez-Bravo (2015), tomamos este ejemplo como evidencia de que la CR sin núcleo en este ejemplo tiene un dominio con una interpretación anafórica.

Sin embargo, notamos que los ejemplos que utiliza Gutiérrez-Bravo (2015) para respaldar esta idea, son ejemplos donde la CR sin núcleo es [–Wh], es decir que emplea la estrategia hueco. En cambio, si

agregamos el rasgo [+Wh] a la CR sin núcleo, esta resulta ser imposible en el mismo contexto establecido arriba:

(19) # Yaan máax [k-u púut-ik-o'ob le fibra]=o'.
EX QUIEN IPFV-A3 cargar-SS-PL DEF fibra=DIST
Interpretación buscada: 'Había los que cargaban la fibra'

El ejemplo anterior se puede traducir como: 'Alguien cargaba la fibra', pero no parece hacer referencia al personal de la máquina ya mencionada por lo cual parece más o menos incoherente en el contexto. Por lo tanto, la interpretación del dominio en las CRs [+Wh] no es anafórico en MY. A continuación, en (20), se presenta otra pareja mínima del mismo tipo.

(20) MY
Yaan ya'ab xoknáal te' unibersidaad=o'.
EX mucho estudiante DEM.LOC universidad=DIST
'Hay muchos estudiantes en la universidad'

i. Yaan $Ø_{dom}$ k-u bin biblyoteeka=i'.
EX IPFV-A3 ir.ss biblioteca=ANA
'Hay [entre ellos] los que van a la biblioteca'

ii. # Yaan máax k-u bin biblyoteeka=i'.
EX QUIEN IPFV-A3 ir.ss biblioteca=ANA
Interpretación buscada: 'Hay estudiantes que van a la biblioteca'

En el ejemplo (i), 'los que van a la biblioteca' se refiere al conjunto de 'estudiantes de la universidad'; mientras que en el ejemplo (ii), 'los que van a la biblioteca' no se refiere precisamente al conjunto de 'los estudiantes de la universidad' y parece introducir otro grupo de personas que va a la biblioteca, aunque esta posibilidad no es muy razonable en el contexto sin más explicación sobre los diferentes grupos.

Hasta ahora, hemos visto el contraste entre el dominio anafórico y el no-anafórico para las CRs sin núcleo que son [–Det]. Al añadir el rasgo [+Det], vamos a encontrar el mismo contraste. El siguiente ejemplo proviene de un cuento tradicional ch'ol sobre una criatura sobrenatural, el *wäläk ok*. El dominio nulo hace referencia a un conjunto anafórico y el artículo *li* añade unicidad; la frase nominal entera hace referencia al individuo único del conjunto—el *wäläk ok*.

(21) CH'OL
Mu'=ba i-päs i-bäj li $Ø_{dom}$ [mu'=bä i-tyä'l-añ-oñ=la].
IPFV=INT A3-mostrar A3-REFL DEF IPFV=REL A3-molestar-SS-B1=PL
'¿El que nos molesta se muestra?'

En cambio, las relativas sin núcleo con el rasgo [+Wh] no tienen que ser interpretadas anafóricamente, aún con la presencia del determinante definido. En el ejemplo que sigue, el emisor hace referencia a los instrumentos que usa un curandero ch'ol, como las plantas medicinales, dejando claro que no sabe exactamente qué males alivia. Además, nótese que no hay ningún antecedente discursivo.

(22) CH'OL
Much=bi i-lajmel li [chu mi i-ts'äk-añ=i].
IPFV.AFF=REP A3-calmar DEF QUE IPFV A3-curar-SS=PL
'Dicen que sí se calma lo que cura.'

Del mismo modo que en los ejemplos del MY presentados arriba, si se cambian los rasgos [±Wh] en los contextos ya establecidos, el resultado es una serie de oraciones extrañas en el discurso, aunque no agramaticales.

(23) CH'OL
Mu'=ba i-päs i-bäj li [chu mi i-tyä'l-añ-oñ=la].
IPFV-INT A3-mostrar A3-REFL DEF QUE IPFV A3-molestar-SS-B1=PL
'Las cosas que nos molestan ¿se muestra?'

(24) CH'OL
# Much=bi i-lajmel li [mu'=bä i-ts'äk-añ=i].
IPFV.AFF=REP A3-calmar DEF IPFV=REL A3-curar-SS=PL
'Dicen que sí se calman estas que cura.'

El primer ejemplo puede entenderse como cualquier cosa o situación que puede afectar a la persona mientras que el otro caso, se trata de una construcción que sería apropiada para afirmar que las plantas curan males particulares previamente mencionados en el discurso. Entonces, tanto en ch'ol como en MY, vemos que hay evidencia semántica en contra de la idea de que las relativas sin núcleo más el rasgo [+Wh] contienen un dominio con una semántica anafórica. Como tal, no pueden tener un sustantivo nulo como su núcleo, porque la supuesta semántica de los sustantivos nulos/elididos es anafórica.

Para resumir, en esta sección, hemos reconsiderado el análisis uniforme de Gutiérrez Bravo (2015), el cual propone que las CRs sin núcleo en MY (y por extensión en ch'ol) son CRs con un sustantivo nulo como su núcleo. Hemos desarrollado dos argumentos en contra de la existencia de sustantivos anafóricos en estas construcciones. Primero, hemos visto que la distribución del clítico relativizador *=bä* REL en ch'ol señala que los elementos nulos con semántica anafórica solamente ocurren en CRs bajo la estrategia hueco. Segundo, hemos visto que la semántica anafórica para el dominio sólo se observa en el caso de las CRs sin núcleo [–Wh], mientras que las [+Wh] demuestran una semántica distinta. Entonces, concluimos que no hay sustantivos nulos ni en ch'ol ni en MY, y que la estrategia relativa de hueco/*=bä* cuenta con un dominio nulo.[6]

4 Las CRs sin núcleo [+Wh] no se pueden basar en la estrategia pronominal

Hasta ahora hemos visto que la propuesta de Gutiérrez Bravo (2015) tiene un alcance parcial, en cuanto a las CRs sin núcleo, cuando agregamos los rasgos [±Wh]. Específicamente, las [+Wh] no tienen el mismo alcance anafórico como las [–Wh]. En la sección que sigue, presentamos evidencia de que las CRs con el rasgo [+Wh] tampoco usan la estrategia pronominal para CRs con núcleo.

[6] Hemos discutido este hecho como un dominio nulo en la construcción relativa de hueco/*=bä* REL. Sin embargo, dicha observación también se podría hacer de otra manera: los sustantivos nulos en estas lenguas sólo son licenciados cuando son los núcleos de cláusulas relativas de la estrategia hueco, o cuando está involucrado el uso de / *=bä* en ch'ol.

4.1 Evidencia de ba'ax / chu 'qué' y máax / majch 'quién'

El análisis uniforme de las CRs sin núcleo de Gutiérrez Bravo (2015) sostiene que todas las CRs sin núcleo constan de una CR con núcleo, específicamente un sustantivo nominal nulo. Ya se presentaron ejemplos en contra de la existencia de dicho sustantivo nulo fuera de construcciones relativas de hueco. En esta sección presentamos evidencias que, cualquier tipo de sustantivo nulo que sea el núcleo/dominio del CR, las CRs sin núcleo [+Wh] demuestran diferencias significativas con las CRs *con* núcleo más cercanas (las que usan la estrategia pronominal con pronombre relativas [+Wh]). Entonces, otra vez respalda la idea de que las CRs sin núcleo [+Wh] no simplemente constan de los elementos ya mencionados y como tal no sustenta un análisis uniforme de todos los tipos de CR en MY o en ch'ol.

Con base a los siguientes ejemplos en ch'ol, podemos ver que las CRs sin núcleo, con el rasgo [–Wh], pueden explicarse mediante el análisis propuesto del MY. Esto se debe a que puede haber un sustantivo pronunciado en la cláusula matriz, en este caso, *alaxax* 'naranja' (25a), y la ausencia de este sustantivo no hace agramatical la construcción (25b).

(25) Relativas sin/con núcleo [–Wh]

a. Tyi k-mäñ-ä li alaxax [mu'=bä i-choñ li x'ixik].
PFV A1-comprar-SS DEF naranja IPFV=REL A3-vender DEF mujer
'Compré las naranjas que está vendiendo la mujer'

b. Tyi k-mäñ-ä li $Ø_{dom}$ [mu'=bä i-choñ li x'ixik].
PFV A1-comprar-SS DEF IPFV=REL A3-vender DEF mujer
'Compré lo que la mujer está vendiendo'

A diferencia de estas construcciones con el rasgo [–Wh], ya hemos visto en (6) y en (7) arriba que los argumentos directos no cuentan con esta posibilidad.[7] Resulta agramatical tener un sustantivo en la cláusula matriz con la estrategia pronominal de *ba'ax* / *chu* 'qué' y *máax* / *majch* 'quién' en estos casos. No podemos considerar la existencia de un sustantivo nulo en (26b) (indicado por el "?"), ya que la referencia podría ser cualquier otro sustantivo. En (27), vemos que las mismas observaciones se aplican a los datos del MY también.

(26) Relativas sin/con núcleo [+Wh] en ch'ol

a. *Tyi k-mäñ-ä li alaxax [chu mi i-choñ li x'ixik].
PFV A1-comprar-SS DEF naranja QUE IPFV A3-vender DEF mujer
Interpretación buscada: 'Compré las naranjas que la mujer está vendiendo.'

b. Tyi k-mäñ-ä li ? [chu mi i-choñ li x'ixik].
PFV A1-comprar-SS DEF QUE IPFV A3-vender DEF mujer
'Compré lo que la mujer está vendiendo.'

[7] Por lo menos en el MY, estas palabras sí tienen usos como palabras relativas, sólo que no funcionan con argumentos directos. Se pueden encontrar ejemplos con preposiciones, por ejemplo, con estas palabras:

(i) Leti' le x-ch'úupal [máax yéetel taak in tsikbal]=o'.
3SG DEF F-muchacha QUIEN con DESID A1SG platicar=DIST
'Esa es la muchacha con quien quiero platicar'

(27) Relativas sin/con núcleo [+Wh] en MY

a. * T-in man-aj le xchiina [ba'ax k-u kon-ik le ko'olel]=o'
PFV-A1 comprar-SS DEF naranja QUE IPFV-A3 vender-SS DEF mujer=DIST
Interpretación buscada: 'Compré las naranjas que la mujer está vendiendo.'

b. T-in man-aj le ? [ba'ax k-u kon-ik le ko'olel]=o'.
PFV-A1 comprar-SS DEF QUE IPFV-A3 vender-SS DEF mujer=DIST
'Compré lo que la mujer está vendiendo'

4.2 Otras diferencias en las palabras Wh- que se usan sin / con núcleo

Las palabras wh- *ba'ax*/*chu* 'qué' y *máax*/*majch* 'quién', sí son posibles en algunas construcciones relativas, como por ejemplo con una preposición. Como puede notarse en los ejemplos que se presentan a continuación, en MY también hay otro grupo de palabras wh- que son agramaticales con un núcleo: palabras que tienen que ver con cantidad: *buka'aj* 'cuánto', *bajux* 'cuál precio' y *jay*+CLF 'cuánto(s)' (véase AnderBois y Chan Dzul, por publicarse, para una discusión sobre estos casos y más específicamente, sobre si realmente son CRs sin núcleo).

(28) Relativas sin/con núcleo [+Wh] con palabras de cantidad en MY:

a. Jach ya'ab chowak ts'óon-o'ob yéetel [**jay**-p'éel nuukul-il ts'óon].
muy mucho largo escopeta-PL con CUÁNTO-CLF herramienta-SR escopeta
'Había muchas escopetas largas con [una cantidad de accesorios].' (ejemplo textual[8])

b. *Ts'o'ok u k'uch-ul-o'ob le jo'ol póopil-o'ob jay-túul.
TERM A3 llegar-SS-A3.PL DEF autoridad-PL CUÁNTO-CLF
t-in t'aan-aj=o'.
PFV-A1 llamar-SS=DIST
'Ya llegaron la cantidad de autoridades que llamé.'

Aunque no hay datos parecidos en ch'ol, estas asimetrías entre las CRs con núcleo [+Wh] y las CRs sin núcleo [+Wh] demuestran que las dos construcciones son distintas aunque tengan formas muy parecidas en la superficie.

Hasta ahora, hemos visto algunas discrepancias en los conjuntos de palabras wh- que son posibles en las CRs sin/con núcleo [+Wh]. Estas diferencias también se pueden observar en las CRs que son [+Wh, –Det] y en las que son [+Wh, +Det]. En MY, también hemos observado datos que sugieren que hay una diferencia entre las CRs sin núcleo [+Wh, –Det] y todas las demás construcciones relativas en la lengua: las CRs de libre elección (inglés: 'free choice'). Como ha sido descrito en detalle por AnderBois y Chan Dzul (por publicarse), esta construcción está compuesta de una CR sin núcleo [+Wh, –Det] más un morfema de libre elección: *je'el* 'cualquier' o *wa* 'algún'. Como se puede ver en (29), esta construcción de libre elección solamente es gramatical con relativas sin núcleo [+Wh], (29a), y no con los demás tipos de CRs sin núcleo.

[8] De la novela *T'ambilák men tunk'ulilo'ob*, p. 150

(29) CRs sin núcleo de libre elección:

a.	Yaan	in	bin-Ø	t-a	paach	je’el	tu’ux	ka	xi’ik-ech=e’.
	CPSV	A1	IR-SS	PREP-A2	espalda	LE	DÓNDE	IRR	ir-SUBJ-B2SG=TOP
	‘Te seguiré a dondequiera que vayas.’					[+Wh, –Det]			
b.	*. . . le je’el tu’ux ka xi’ikeche’.					*[+Wh, +Det]			
c.	*. . . le je’el ka xi’ikeche’.					*[–Wh, +Det]			
d.	*. . . je’el ka xi’ikeche’.					*[–Wh, –Det]			

Si las cuatro versiones fueran iguales estructuralmente (como propone el análisis uniforme), deberían de comportarse de la misma manera debido a la ausencia de cualquier otra razón que las diferencie en este respecto. Teóricamente, podemos imaginar que la semántica de la libre elección sería incompatible con los demás determinantes y como tal, la agramaticalidad de (29b–c) se puede explicar de esta manera. Sin embargo, la agramaticalidad de (29d) no se puede explicar de ninguna otra manera y, por lo tanto, sugiere que las dos construcciones, la [+Wh] y la que es [–Wh], son diferentes.

5 Determinantes y definitud de las CRs sin núcleo

Un aspecto muy importante de las CRs sin núcleo que ha llamado la atención translingüísticamente es su interpretación semántica; en particular preguntas como las siguientes: ¿son definidos?, ¿indefinidos? ¿universales? Para las CRs sin núcleo [+Det], ya ha quedado claro que este aspecto viene de la semántica del determinante que se puede ver en los demás usos del determinante. Recuérdese que los determinantes en estas construcciones—en contraste con las CRs con núcleos ‘ligeros’ (ingl. ‘light-headed’) en lenguas como el polaco—siempre tienen usos afuera de las CRs, por ejemplo con un sustantivo.

Para las [–Det], en cambio, puede que no haya una expectativa clara con respecto a su semántica. Dado que pueden combinarse con los mismos determinantes que los sustantivos escuetos, una posible hipótesis sería que tengan la misma semántica que tienen los sustantivos escuetos. Como nos falta una exploración detallada de los sustantivos escuetos en las dos lenguas, no pretendemos investigar esta hipótesis de manera exhaustiva aquí. Sin embargo, en el MY hay datos que parecen argumentos claros en contra de esta hipótesis nula.

En el MY los sustantivos escuetos sólo tienen usos indefinidos y genéricos (Vázquez-Rojas Maldonado et al. 2018). Mientras que hay muchas lenguas que permiten sustantivos escuetos con una interpretación definida (al menos definida en el sentido de unicidad), el MY no parece permitir esta opción. Entonces, podemos preguntarnos si las dos construcciones relativas [–Det] tienen el mismo rango de posibilidades semánticas. En cuanto al MY, AnderBois y Chan Dzul (por publicarse) notan que en el caso de ambas construcciones (es decir [+Wh, –Det] y [–Wh, –Det]) no existe el mismo rango de posibilidades semánticas. Primero, para las CRs sin núcleo [+Wh], se pueden encontrar usos indefinidos. Sin embargo, también se pueden encontrar usos definidos, como las relativas libres en lenguas más estudiadas como el inglés.

Aparte de los varios ejemplos ya discutidos, una muestra muy clara de este punto es el contraste entre las dos formas en (30). Con palabras wh-, tenemos una CR sin núcleo, la cual recibe una interpretación definida. En cambio, un sustantivo escueto como *máak* ‘persona’ con una CR restrictiva, no puede tener esta interpretación definida. Como vemos en (31), este contraste no existe en las formas [+Det] correspondientes, entonces tiene que ser por la diferencia interpretiva entre los sustantivos escuetos y las CRs sin núcleo [+Wh, –Det].

(30) T-in wáant-aj {máax/#máak} taal jo'oljeak.
PFV-A1 ayudar-SS QUIEN / persona venir.PFV ayer
'Ayudé a quien vino ayer.'

(31) T-in wáant-aj le {máax/máak} taal jo'oljeak=o'.
PFV-A1 ayudar-SS DEF QUIEN / persona venir.PFV ayer=DIST
'Ayudé a quien vino ayer.'

En el caso de las CRs sin núcleo [–Wh, –Det] observamos la situación opuesta: tienen usos indefinidos, pero carecen de usos genéricos del tipo de los sustantivos escuetos en casos correspondientes.

(32)

a. Yaan [xíimbal-t-Ø te'el]=o'.
EX visita-TR-SS.SUBJ.B3 DEM=DIST
'Hay alguien allá a quien visitó.' **Indefinido**

b. * Sakpile'en [xíimbal-t-Ø te'el]=o'.
pálido visita-TR-SS.SUBJ.B3 DEM=DIST
Interpretación buscada: 'Los que visitaron allá están pálidos.' ***Definido**

c. *Wáa sakpile'en [xíimbal-t-Ø te'el]=o', kax-t-Ø ts'aak.
if pale visit-TR-SS.SUBJ.B3 DEM=DIST find-TR-SS.IMP medicine
Interpretación buscada: 'Si los que visitan allá están pálidos, busca medicina.' ***Genérico**

Entonces, en MY vemos que ambas construcciones de CRs sin núcleo—[+Wh, –Det] y [–Wh, –Det]—no se comportan de la misma manera que los sustantivos escuetos en la misma lengua.

Para el ch'ol, es menos claro que la semántica de las CRs sin núcleo pueda derivarse directamente de la semántica de sustantivos escuetos. Parte de la dificultad aquí es que parece haber variación dialectal para el comportamiento y distribución de sustantivos escuetos. Para algunos hablantes, los sustantivos escuetos se resisten a interpretaciones definidas, como en el MY, mientras que para otros, los sustantivos escuetos puede recibir una interpretación definida incluso en la ausencia de un determinante; ver Little & Vázquez Martínez (2018) para mayor discusión. Dejamos para un tema futuro la pregunta de si la variación en la distribución e interpretación de sustantivos escuetos se correlaciona con las posibles interpretaciones de CRs sin núcleo.

6 Conclusiones

Hemos demostrado que las CRs sin núcleo en MY y en ch'ol no siempre consisten en CRs con un sustantivo nulo como su núcleo, como propone Gutiérrez Bravo (2015). Para las CRs [–Wh], en gran parte, hemos visto que sí funciona el análisis (veáse Aissen y Polian (por publicarse) para un análisis parecido sobre los idiomas mayas tseltal y tsotsil).

En cambio, respecto a las CRs [+Wh], hemos visto varias pruebas de que son bastante diferentes. Por un lado, en ch'ol el morfema *=bä* siempre aparece en CRs [–Wh] con argumentos directos, pero nunca aparece en las CRs [+Wh]. Otras pruebas son las siguientes:

1. Semánticamente no tienen dominios anafóricos como las [–Wh].
2. Funcionan con *ba'ax*/*chu* 'qué' y *máax*/*majch* 'quien' con argumentos directos.
3. En MY funcionan con palabras wh- para cantidades.
4. Tienen una semántica definida / maximal (y a veces de libre elección en MY).

Entonces las dos lenguas ejemplificadas en este artículo presentan una variedad de CRs sin núcleo con diferentes propiedades particulares y sólo algunas provienen de propiedades independientes. Queda para trabajos futuros el entender mejor su distribución y su semantica, particularmente en el ch'ol, donde hay variación en el comportamiento y en la interpretación del uso de determinantes y las interpretaciones definindas.

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THE PERCEPTION OF ABSOLUTE INTERROGATIVES IN K'ICHEE'

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Although K'ichee' employs an absolute interrogative-marking particle, previous studies have claimed that it also marks absolute interrogatives prosodically via a rising boundary tone. This paper presents a categorical perception task of K'ichee' in which the boundary tone was manipulated in utterances with and without the absolute interrogative-marking particle and with utterances that contained a wh- word question.

Results indicate that although utterances with wh- word questions were perceived as interrogatives regardless of the boundary tone manipulation, the intonation was a factor in the perception of absolute interrogatives. The participants in this study perceived utterances with rising boundary tones as questions and utterances with flat or falling boundary tones as statements, regardless of the presence of the absolute interrogative-marking particle. Thus, the absolute interrogative-marking particle in K'ichee' appears to be losing its meaning as speakers are relying solely on intonation. Although intense contact with Spanish could be a variable in the loss of meaning of the question-marking particle, it is proposed that this is could also be a natural diachronic process.

Keywords: absolute interrogatives, boundary tones, categorical perception, K'ichee'

1 Introduction

It is common in many spoken languages for absolute interrogatives (i.e., polar, yes/no questions) to be differentiated from syntactically identical declaratives via prosodic means: a rising boundary tone (H%) at the end of a question or a falling boundary tone (L%) at the end a statement, though there are some exceptions (Gussenhoven 2004). Conversely, when an interrogative is marked in some morphosyntactic way, it is generally not necessary to mark the interrogative with a rising boundary tone as well. Such is the case with wh- word questions in various languages and even with absolute interrogatives in others.

For example, in Russian, the particle *li* is used to mark an absolute interrogative and no rising boundary tone is needed to express it as such, as in (1). However, when the particle *li* is not present, the example in (2) can be understood as an interrogative if it ends with a rising boundary tone (Meyer & Mleinek 2006:1616).

(1)	Kupila	li	Maša	knigu? (L%)
	bought	Q	Masha.NOM	book.ACC
	'Did Masha buy the book?'			
(2)	Maša	kupila	knigu? (H%)	
	Masha.NOM	bought	book.ACC	
	'Did Masha buy the book?'			

In Central and Majorcan Catalan, absolute interrogatives can be optionally headed by the unstressed particle *que*, making both (3) and (4) possible. However, Prieto & Rigau (2007:29-30) state that without *que*, (3) needs to end with a rising boundary tone in order to be perceived as an interrogative, whereas (4), with *que*, does not.

(3) Plou? (H%)
rains
'Is it raining?'

(4) Que plou? (L%)
Q rains
'Is it raining?'

1.1 Absolute interrogatives in K'ichee'

The present study analyzes the interaction of boundary tones and the morphosyntactic absolute interrogative-marker in the perception of K'ichee' interrogatives. Similar to Russian and Catalan, K'ichee' employs the particle *la*, which is placed at the beginning of an utterance, in order to change a declarative to an absolute interrogative (López Ixcoy 1997; Mondloch 1978) as in (5) and (6); *la* is reduced to *a* in the Cantel dialect of K'ichee', the dialect under analysis in this paper (Nielsen 2005).

(5) Nim le ala.
big DET boy
'The boy is big.'

(6) (L)a nim le ala?
Q big DET boy
'Is the boy big?'

Nonetheless, Nielsen (2005) states that interrogatives that are headed with *a* also end with a rising boundary tone in Cantel K'ichee'. Thus, in contrast to Russian and Catalan, Nielsen claims that both the morphosyntactic marker and a rising boundary tone are used to mark absolute interrogatives in K'ichee'. Figure 1 presents the spectrogram and intonational contour of (5) and Figure 2 presents those of (6), as produced by a female native speaker of Cantel K'ichee'. These spectrograms are labeled following the ToBI system proposed for Cantel K'ichee' in Nielsen (2005).

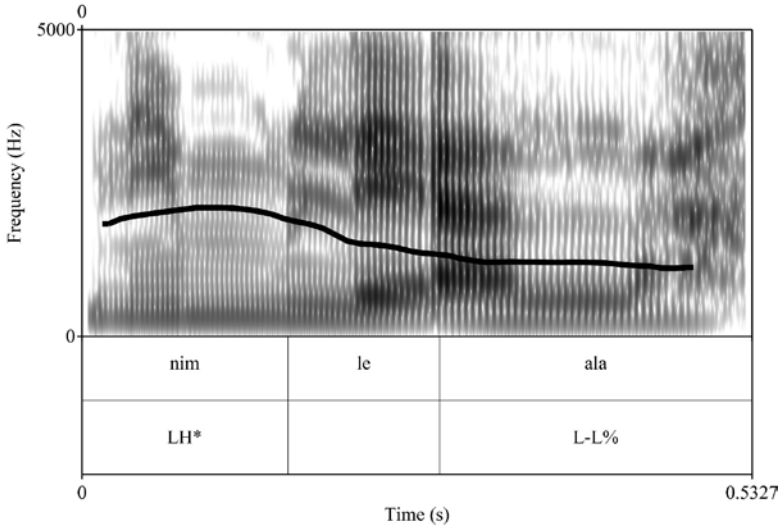

Figure 1: Spectrogram and intonational contour of the phrase *nim le ala* 'the boy is big'.

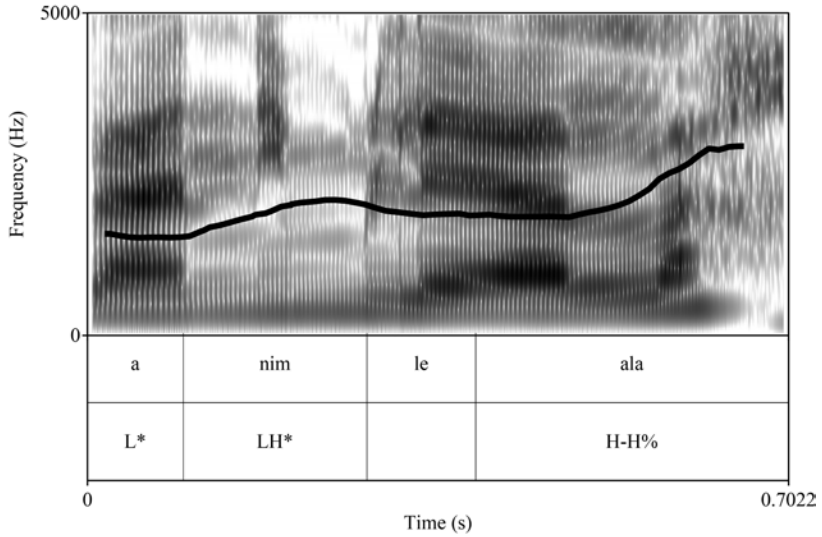

Figure 2: Spectrogram and intonational contour of the phrase a *nim le ala* 'is the boy is big?'.

The goal of the present study is to investigate the following research questions: (i) are both the question-marking particle *a* and a rising boundary tone needed in order for an utterance to be perceived as an absolute interrogative in K'ichee'?; (ii) Will an utterance be perceived as an interrogative with *a* present but without a rising boundary tone and will an utterance be perceived as an interrogative without *a* but with a rising boundary tone?; (iii) Does the boundary tone play any role in the perception of other types of interrogatives in K'ichee', i.e., wh- word questions?

2 Methodology

In order to answer the research questions, a categorical perception study was designed. This method, modeled after Liberman, et al. (1957), has been extended to the perception (identification) of the various meanings associated with different intonational contours of syntactically identical phrases in languages such as, but not limited to, English and Swedish (Hadding-Koch & Studdert-Kennedy 1964), Russian and Japanese (Makarova 2001), European Portuguese (Falé & Faria 2006), Majorcan Catalan (Vanrell Bosch 2006), French (Vion & Colas 2006) and Italian (Savino & Grice 2007).

2.1 Stimuli

The same female native speaker of Cantel K'ichee' that produced the examples in Figures 1 and 2 was recruited to produce the stimuli for this study. The speaker was recorded via a Shure SM10A dynamic head-mounted microphone with a Marantz PMD661 solid-state digital recorder digitized at 16 bits (44.1 kHz) in a quiet room in Cantel, Guatemala. The stimuli included the phrase *nim le ala* 'the boy is big' with and without the question-marking particle *a* at the beginning and the phrase *jachin le ala* 'who is the boy?' as the wh- word stimulus.

The stimuli were manipulated in Praat (Boersma & Weenink, 1999-2016). As stress is fixed in word-final position in K'ichee' and the boundary tone is associated with the last stressed syllable of an utterance (Baird 2014; López Ixcoy 1997), the boundary tone manipulation was performed at the beginning of /l/ and throughout the end of the word in /ala/ for each utterance. An analysis of the utterances produced by the speaker revealed no differences in F_0 height at the beginning of the stressed syllable, [$F_{(2,\ 7)} = 1.19$, $p = .761$], therefore, a continuum was created using the utterances shown in

Figures 1 and 2 as reference points. In Figure 1, the intonational contour remains relatively level from the beginning of /l/ to the end of the phrase and in Figure 2 the contour begins to rise at /l/ and continues to rise to the end of the phrase, reaching a height 12 semitones (st) higher than the end of the contour in Figure 1. Consequently, the continuum was designed to have a 6 st difference between each step.

The steps of the continuum were analyzed in a pilot study in which 6 native speakers of Cantel K'ichee' listened to each step and judged it according to how natural it sounded. From this, a six-step continuum was created for each utterance and a schematic of this continuum is presented in Figure 3.[1]

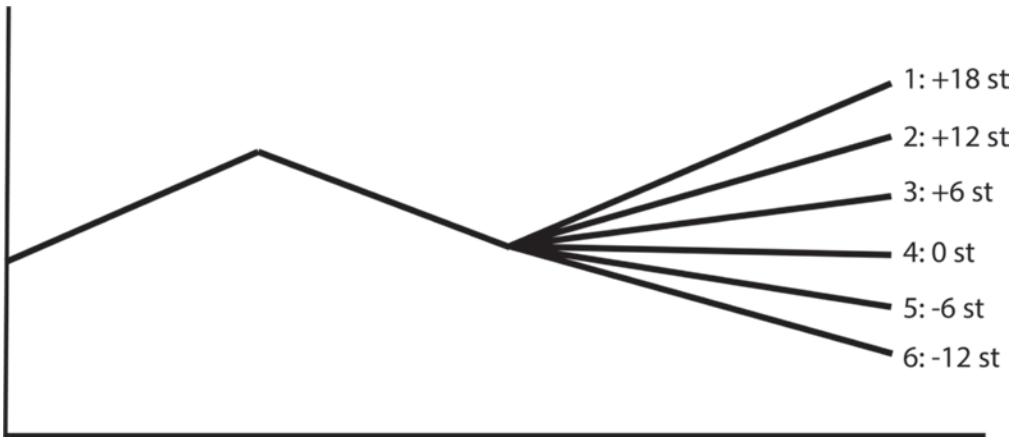

Figure 3: Schematic of the six-step categorical perception continuum of the boundary tone.

2.2 Procedure and analysis

17 native speakers of Cantel K'ichee' participated in this study (9 female, 8 male, ages 22-38): all were bilingual in Spanish.[2] The participants reported to have lived in Cantel their entire lives and none reported any auditory problems. The stimuli were randomized and, along with distractor stimuli, burned onto 5 different CDs in order to be presented to the participants via a Memorex MD6451BLK CD player with headphones. Each participant was given an answer sheet and asked the question "Is this a question?" They were instructed to circle either 'yes' or 'no' for each stimulus they heard and could only listen to each one once.[3] In sum, each participant heard each step 4 times, resulting in a total of 1,224 identifications (3 utterances x 6 steps x 4 repetitions x 17 participants).

The results were analyzed via mixed design ANOVAs. For each utterance, with *a* at the beginning of the utterance, without *a*, and with a wh- word question, the step (1-6 on Figure 3) was the between-subjects factor, the answer (identification of a stimulus as either a question or a statement) was the within-subjects factor, and speaker and token were random terms. The differences between individual steps were further analyzed via Bonferroni Post Hoc tests. Differences in identification between the 'with *a*' and the 'without *a*' utterances were also analyzed at each individual step on the continuum in order to determine if the presence, or lack thereof, of the question-marking particle *a* had any influence on the perception at a specific step of the continuum. The CD used for each participant was also included in these analyses, but it never revealed a significant effect and is not reported here.

[1] A seventh step was created in which the boundary tone ended at 18 st below step 4. However, this step was judged to be unnatural, likely because of how low it ended.

[2] All participants were assessed as Spanish-dominant via the Bilingual Language Profile (Birdsong et al. 2012). Language dominance was included in the statistical analysis but was never significant and is not reported here.

[3] Due to very low literacy rates in K'ichee' (Baird 2018), the answer sheet was written in Spanish. Nonetheless, the only words present on the answer sheet were *¿Es pregunta?*, *sí*, and *no*.

3 Results

The results of the task demonstrate that every token of the wh- word question *jachin le ala* 'who is the boy?' stimuli was perceived as a question, regardless of the manipulation of the boundary tone. Thus, the results of these stimuli were not analyzed statistically. The results of the utterances with and without *a* are presented in Figure 4, where a significant crossover in perception is noted between steps 3 and 4 for both utterances.

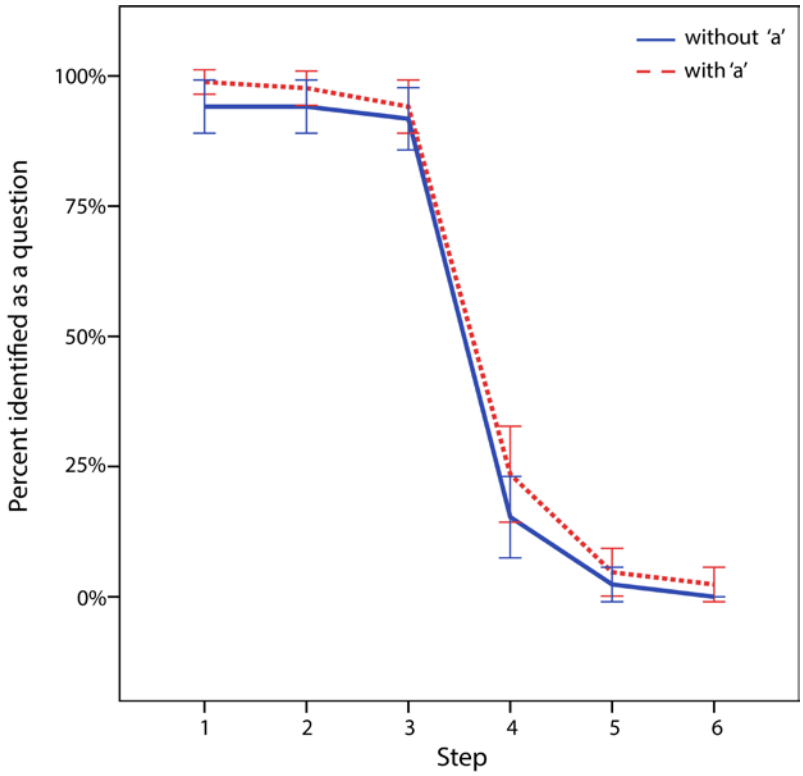

Figure 4: Results of the perception task for absolute interrogatives.

The results of the ANOVA for the stimuli without the question-marking *a* reveal a significant main effect, [$F(5, 19.738) = 345.423$, $p < .001$]. The results of the Bonferroni Post Hoc tests, shown in Table 1, demonstrate that there were no significant differences between the perception of the stimuli in steps 1-3, nor between the perception of steps 5 and 6. In other words, steps 1-3, all which ended in a rising boundary tone to various degrees, were all perceived as questions whereas steps 5 and 6, which ended in a falling boundary tone, were perceived as statements. Step 4, which ended in a flat boundary tone, was also primarily perceived as a statement, though significantly less so than steps 5 and 6. These results indicate that an utterance in Cantel K'ichee' need not have the question-marking particle *a* at the beginning in order to be perceived as an absolute interrogative, as long as the utterance ends in a rising boundary tone.

Step	1	2	3	4	5
2	1.000				
3	0.988	0.942			
4	<.001	<.001	<.001		
5	<.001	<.001	<.001	0.006	
6	<.001	<.001	<.001	0.001	0.964

Table 1: *p* values for Bonferroni Post Hoc comparisons of stimuli without *a*

The analysis of the stimuli with the question-marking particle *a* demonstrate parallel findings to the previous analysis of the of the stimuli without *a*. The ANOVA demonstrated a significant main effect, [$F_{(5, 19.632)} = 344.682$, $p < .001$], and the Post Hoc tests reveal no significant differences between steps 1-3 nor between steps 5 and 6 (see Table 2). Again, step 4 was generally perceived as a statement, but less so than steps 5 and 6. The results for steps 4-6 are of particular note, as they indicate that these participants are perceiving the stimuli that do not end in a rising boundary tone as statements, even those these utterances begin with the absolute interrogative-marking particle *a*.

Step	1	2	3	4	5
2	1.000				
3	0.793	0.929			
4	<.001	<.001	<.001		
5	<.001	<.001	<.001	<.001	
6	<.001	<.001	<.001	<.001	0.926

Table 2: *p* values for Bonferroni Post Hoc comparisons of stimuli with *a*

Finally, the results for the ANOVA comparisons of steps across the two types of absolute interrogative utterances are presented in Table 3. These results reveal that there were no significant differences in how each step was perceived, regardless of the presence of *a*, although the comparison of step 4 across utterance types did approach significance. Thus, the stimuli in this study were perceived as questions or statements according to the boundary tone, and the absolute interrogative-marking particle *a* had no effect.

Step comparison	ANOVA results
1	$F_{(1, .288)} = 1.841$, $p = .177$
2	$F_{(1, .053)} = 1.336$, $p = .249$
3	$F_{(1, .024)} = 0.355$, $p = .552$
4	$F_{(1, .094)} = 2.777$, $p = .097$
5	$F_{(1, .024)} = 0.686$, $p = .409$
6	$F_{(1, .024)} = 2.024$, $p = .157$

Table 3: ANOVA results for the step comparisons across stimuli with and without *a*.

4 Discussion

The objective of this study was to examine the roles of prosody and morphosyntax in the perception of interrogatives in the K'ichee' spoken in Cantel. Specifically, the research questions posed in Section 1 asked whether or not both a rising boundary tone and the absolute interrogative-marking particle *a* in K'ichee' are necessary in order for an utterance to be understood as a question. Furthermore, it also asked if a rising boundary tone was necessary for an utterance with a wh- word to be perceived as a question. In order to answer these questions, a categorical perception task with a six-step continuum of rising and falling boundary tones was designed.

The results of this task demonstrate that the boundary tone played no role in the perception of the stimuli with a wh- word question. These results are not surprising, and they mirror the prosody-morphosyntax interaction for wh- word questions cross-linguistically (Gussenhoven 2004). Simply put, if an interrogative is marked in some morphosyntactic manner there is generally no need to mark it prosodically as well. The results of the stimuli without the absolute interrogative-marking particle *a* also follow this notion. As there is no morphosyntactic marker in the utterance, a rising boundary tone is needed in order for it to be perceived as an interrogative. Additionally, the finding that steps 1-3 for the stimuli with the question-marking particle *a* were generally perceived as questions demonstrates that having both the morphosyntactic marker and a rising boundary tone present does not hinder the stimuli's perception as interrogatives. However, the results for steps 4-6 for the stimuli with the particle *a* at the beginning of the utterance demonstrate contrasting findings in that the morphosyntactic marker was largely ignored by the participants in this study. Given that these syntactically marked utterances that do not end in a rising boundary tone were perceived as statements, the data suggest that the absolute interrogative-marking particle *a* may be losing its meaning in Cantel K'ichee'. The results of step 4 with the flat boundary tone indicate that it may still have some effect, as the stimuli with *a* were perceived as a question more than the stimuli without *a* at a rate that approached significance.[4]

The question then turns to why *a* is being lost in this variety of K'ichee'. It has been proposed by some scholars that such changes in Mayan languages are due to contact with Spanish: see England (2003) for a discussion. Indeed, several studies have demonstrated the influence of Spanish on Mayan languages both in terms of morphosyntax and prosody (Baird 2017, 2018; Montgomery-Anderson 2010). Colantoni (2011) argues that in contact situations and among bilinguals, speakers may associate existing intonational patterns in each language with new pragmatic meanings or they may converge or transfer features between the languages. As Spanish absolute interrogatives can be marked solely through a rising boundary tone (Hualde 2005), it is conceivable that the particle *a* is being lost as K'ichee' absolute interrogatives become similar to absolute interrogatives in Spanish, the national and majority language of Guatemala.

Nonetheless, a rising boundary tone on absolute interrogatives is so common cross-linguistically that several have proposed it to be a 'natural' or 'universal' feature of human languages associated with the frequency code (Bolinger 1972; Cruttenden 1997; Gussenhoven 2004).[5] As nothing is known about K'ichee' intonation before it came into contact with Spanish in the 16th century, it is plausible that K'ichee' has always marked absolute interrogatives with a rising boundary tone. Furthermore, various languages demonstrate diachronic changes in which prosody alone is now used for semantic and or pragmatic meanings where specific morphosyntactic structures were once generally employed (Baird 2018; Camacho 2006). Thus, it is difficult, if not impossible, to demonstrate that the loss of meaning of the absolute interrogative-marking particle *a* in Cantel K'ichee' is due to contact with Spanish alone as this development could very well be a natural diachronic process cross-linguistically. However, it should be noted that such a process could be accelerated by language contact (Bullock & Toribio 2004).

[4] The flat boundary tone in step 4 would be classified as L-L% in the ToBI system of Cantel K'ichee' proposed by Nielsen (2005).

[5] A few languages that been reported to have rising intonation on statements and falling intonation on questions, such as Chickasaw (Gussenhoven, 2004).

5 Conclusions

Although one must consider other factors in the perception of interrogatives, such as pragmatic context, the results of the perception task presented in this study show that these participants are using intonation as a key factor in their identification of absolute interrogatives and are disregarding the morphosyntactic marker. Thus, it is suggested that the absolute interrogative-marking particle *a* is in the process of losing its meaning in the K'ichee' of Cantel, though the same cannot be said of the wh- word question *jachin* 'who'. As K'ichee' presents profuse dialectal variation (Par Sapón & Can Pixabaj 2000), this may not be the case in other varieties, which tend to not reduce the marker *la* to *a*.

Although intense contact with Spanish could be a principle factor in the loss of meaning of *a*, it is difficult to determine if such is the case. It has been proposed that K'ichee' may have always marked absolute interrogatives with a rising boundary tone and that the changes in the perception of the absolute interrogative marker *a* may be a normal diachronic process cross-linguistically, even if contact with Spanish has been a factor in said process.

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THE LOWLAND MAYAN FIRST PERSON SHIFT IN TYPOLOGICAL CONTEXT*

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For some languages of the Lowland Mayan area, the Proto-Mayan 1PL markers shifted from general plural reference to some other number or clusivity: 1SG, 1DUAL, 1PL.INCL, or 1PL.EXCL. In this paper, the Lowland Mayan first person shift is compared to other instances of person marker referent reanalysis found in a recent comprehensive survey of these processes in Bantu, Dravidian, Mayan, Mongolic, Semitic, and Totonacan. Shifts from 1PL sources are found to be very common in these language families, putting the Mayan shifts in good company. Further, evidence is presented that the common 1PL > 1SG shift is actually a multi-stage change cycle, involving at least two steps: 1. plural form shifts to general number reference destroying paradigmatic number contrast, and 2. the general is forced into singular reference upon the morphological innovation of a new plural for contrast renewal. The two clusive outcomes of the first person shift (1PL > 1PL.INCL and 1PL > 1PL.EXCL) share a common pathway with the loss and gain of clusivity in Mongolic and Dravidian, in which the innovation of a new clusive forces the 1PL into the opposite clusivity. Finally, although the shift from 1PL > 1DUAL is not present in any of the other families studied, it answers the question of what happens to a plural marker when both a new inclusive and new exclusive are innovated. These last three shifts appear to be fundamentally different than the 1PL > 1 shift, corresponding to a general division in the referent reanalyses surveyed between dependent shifts (e.g. 1PL > 1DUAL), occurring as responses to other changes in the person marking paradigm, and independent ones (1PL > 1SG), which are not dependent on any other changes. This division is predicted by models of pronoun structure where some ϕ-features are structurally encoded while others are pragmatically implicated due to paradigm contrast.
Keywords: person-marking, diachronic, features, typology

1 Introduction: The Lowland Mayan First Person Shift

> "Perhaps the most dramatic developments in the system of person marking in Lowland languages happened in the first person." (Law 2014:84)

Person marking in Mayan languages involves two sets of person markers: Set A, which is used to reference ergative arguments and possessors and Set B, which is used for absolutive argument reference. A reconstruction of the Proto-Mayan system (based on Kaufman & Norman 1984 and Robertson 1992) can be seen in Table 1 below.

Table 1. *Proto-Mayan person marking*

		1SG	2SG	3SG	1PL	2PL	3PL
Set A	__C	nu-	aː-	u-	qa-	eː-	ki-
	__V	w-	aːw-	r-	q-	eːr-	k-
Set B		=iːn	=at	ø	=oʔŋ	=iʃ/-eʃ	=eb'

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Shifts in the referent features of the Mayan '1PL' marker have been noted in several languages over the years and can easily be seen by comparing the systems in the current languages against the reconstruction above. Proto-Mayan had singular **nu/w-* 'A1SG' and **=iːn* 'B1SG' and plural **qa/q-* 'A1PL' and **=oˀŋ* 'B1PL'. Some languages like Kaqchikel preserved the Proto-Mayan paradigm, as seen in Example (1), while the cognates in other languages like Ch'ol (Example (2)) did not.

(1) KAQCHIKEL
nu-*tz'i'* ***qa-****tz'i'*
'my dog' 'our dog'
(McKenna Brown et al. 2006:155)

(2) CH'OL
k-*ts'i'* ***la=k-****ña'*
'my dog' 'our mom'
(Vasquez Alvarez 2011:118, 258)

1.1 Outcomes of the First Person Shift

The Mayan First Person Shift resulted in three different outcomes from the source plural: singular, dual, and inclusive or exclusive. The plural-to-singular shift impacted five languages in the Ch'olan-Tzeltalan branch. As discussed in Law (2009:236-237), this does not appear to be a development in Proto-Ch'olan-Tzeltalan since the Ch'olan languages Ch'olti' and Ch'orti' did not participate. Instead it is probable that the shift was innovated in the common ancestor of the Western Ch'olan languages, Ch'ol and Chontal, and was diffused through contact with the Tzeltalan languages and Tojolabal.

(3) TZELTAL
k-*ixim* ***k-****ixim-****tik***
'my corn' 'our corn'
(Polian 2013:130)

The four languages participating plural-to-dual shift are also genealogically disparate. Three of them, Q'anjob'al, Chuj, and Akatek, come from the Q'anjob'alan branch while the fourth, Lakantun, is Yukatekan. The languages are geographically distant, which stands as evidence against this change being spread. Additionally, with Mocho' and Popti' reflecting the Proto-Mayan first person number contrast and Q'anjob'al only participating in the PL > DUAL shift dialectally, it does not appear to have been a Proto-Q'anjob'alan innovation. What they all have in common that sets them apart from the other Mayan languages is an innovation of both a marked exclusive and inclusive. Why this should result in a shift from plural to dual will be discussed below.

(4) AKATEK
miman ***ko-****teːl*
big A1-long
'We **two** (you and I) are tall'
(Zavala, 1992:84-85)

For the last five languages, the result was not a change in number but clusivity. In the Mamean languages Mam and Teko, the Proto-Mayan plural was relegated to an inclusive reading with the innovation of a marked exclusive as seen in the Mam contrast in (5).

(5) MAM

q*-jaa*	***q****-jaa-ya*
'our house'	'our (excl) house'

(England 2013:3)

Conversely, in the Yukatekan languages Yukatek, Itza', and Mopan the reflex of the 1PL was shifted to exclusive reference upon the innovation of a new inclusive, resulting in a Set A paradigm like that in (6).

(6) YUKATEK

k*=*	***k****= …-o'ne'x*
'1pl(excl)'	'1pl(incl)'

(Bohnemeyer et al. 2015:53)

2 Comparing against Typology of Person Marking Change

> "Unlike most other grammatical domains, that of personal pronouns is clearly under-researched in works on grammaticalization."
>
> (Heine & Song 2011:587)

How does the Mayan first person shift compare to diachronic changes in person marking reference seen in other language families? Is change from a 1PL source a common phenomenon cross-linguistically or are these Mayan languages unique? What about the results: 1SG, 1DUAL, 1PL.EXCL and 1PL.INCL? In order to answer some of these questions, we will compare them with the results of a large-scale survey of *person marking referent reanalysis* or **PMRR** from Bates (2018). PMRR can be defined as a change in which one phonological form *f* in a language's person marking system is remapped from expressing one set of ϕ-features to expressing another.

In order to uncover evidence of PMRR, the person marking systems of 302 language varieties across six diverse language families were compared to the system of their respective reconstructed proto-language. Deviations are noted and categorized as PMRR or non-PMRR changes and within PMRR to the categories: Person Shift, Number Shift, and Clusivity Shift. These language families were: Bantu, Dravidian, Mayan, Mongolic, Semitic, and Totonacan.

2.1 Comparing Number Shifts

In the survey, number shifts were found to be the most common changes, outnumbering clusivity shifts and the almost non-existent person shifts but a wide margin. The results of the number shifts can be seen in Table 2 below. The first letter(s) of the family of each language is given in parentheses after the language name: (B)antu, (D)ravidian, (Ma)yan, (Mo)ngolic, (S)emitic, and (T)otonacan.

Table 2. *Number Shift Results (from Bates 2018)*

SOURCE NUMBER	Shifted Features		Languages Impacted	
SINGULAR	1S > 1PL		3	Brahui (D), Koti (B), Makhuwa (B)
	2S > 2 > (2PL)		3	[2pl]: Doko (B), [2s]: Leke (B), [2s]: Uru-wundu (B)
PLURAL	1PL	> 1 > 1 > 1S	19	Pove (B), Gondi (D), Ch'ol (Ma), Chontal (Ma), Tseltal (Ma), Tzotzil (Ma), Tojol-ab'al (Ma), Mongghuer [dialectal] (Mo); Arabic (S): Algerian, Dhofari, Egyptian [dialectal], Libyan, Moroccan, NW Egyptian Bedouin, Tunisian; Tlachichilco Tepehua (T), Pisaflores Tepehua (T), Huehuetlá Tepehua (T)
		> 1DUAL	4	Q'anjob'al (Ma), Chuj (Ma), Akatek (Ma), Lakantun (Ma)
	2PL > 2 > 2s		7	Yao (B), Gondi (D), Written Mongol (Mo), Shira Yughur (Mo), Tlachichilco (T), Pisaflores (T), Huehuetlá (T)
GENERAL	1 > 1S		2	Northern Totonac (T), Sierra Totonac (T)

These breadth of these results from a variety of genetically distinct language families strongly suggest that Number Shifts from a 1PL source, like the Lowland Mayan first person shift, are quite common typologically. In fact, every language family that was investigated showed at least one instance of 1PL shifting to another number. Only nine out of twenty-three instances are Mayan so their presence did not skew the results.

2.2 Comparing Clusivity Shifts

Table 3. *Clusivity Shift Results (from Bates, 2018)*

Shifted Features		Languages Impacted	
1PL.INCL > 1PL (>INCL) (>EXCL)		21	Tamil (D), Malayalam (D), Kannaḍa (D), Koḍagu (D), Telugu (D), Gondi [dialectal] (D), Konḍa (D), Kui (D), Kuvi (D), Buryat (Mo), Bonan (Mo), Khamnigan Mongol (Mo), Mangghuer (Mo), Moghol (Mo), Mongghul (Mo), Ordus (Mo), Oirat (Mo), Santa (Mo), Shira Yughur (Mo)
1PL.EXCL > 1PL (>EXCL)		10	Tamil (D), Malayalam (D), Kannaḍa (D), Koḍagu (D), Telugu (D), Gondi [dialectal] (D), Konḍa (D), Kui (D), Kuvi (D)
1PL	> INCL	2	Mam (Ma), Teko (Ma)
	> EXCL	3	Yukatek (Ma), Itza' (Ma), Mopan (Ma)

Like the 1PL > 1SG shift, a close look at clusivity changes in the Dravidian and Mongolic languages (as in Table 3) reveals evidence that aligns with what we observe in Mayan. To start with, Janhunen (2003:19) proposes that the Pre-Proto-Mongolic system had no clusivity contrast, with **ba* serving as a general 1PL. Then a morphologically transparent inclusive was formed from the combination of **bi* '1SG' + **ta* '2SG' → Proto-Mongolic **bida* '1PL.INCL'. Similar to what happened in the development of Yukatek, Itza', and Mopan, Janhunen provides evidence that the introduction of **bida* '1PL.INCL' to the Proto-Mongolic system "restricted [**ba* '1PL'] to the exclusive function". This proposed 'forced' shift, of 1PL > 1PL.EXCL due to the innovation of a contrasting inclusive, is exactly what is described for the three Yukatekan languages Yukatek, Itza', and Mopan (Law, 2014:84-91).

Clusivity changes continued in the later Mongolic languages. Proto-Mongolic had a contrast between 1PL.EXCL **ba* and 1PL.INCL **bida* in the nominative case. In the ancestor of all modern Mongolic languages but Dagur, the reflex of **bida* shifted to general plural reference, ousting **ba*. In some Mongolic languages, the story did not end there. Since the clusivity contrast had been annihilated in the nominative (and spreading to all other cases for many languages), a new 1PL.EXCL.NOM was innovated, re-establishing

the contrast and forcing reflexes of **bida* back into solely inclusive reference. This change parallels that seen in Mam and Teko: 1PL > 1PL.INCL.

However, this progression was not a given and in fact proceeded in the opposite direction in some Mongolic languages. In Shira Yughur, for instance, the Post-Proto-Mongolic shift of **bida* from 1PL.INCL > 1PL spurred the innovation of all new 1PL forms across the oblique cases as well and eventually the system expressed no clusivity, having only reflexes of **bida* [*buda*] with general plural meaning. Then the language reinvented the clusivity contrast with the innovation of a new 1PL.INCL by affixing a plural morpheme *-s* to *buda*. This invention in turn forced *buda* not back to an inclusive reference as in the other languages mentioned but into a new exclusive reading.

The Dravidic languages listed in the table also underwent similar changes. In the ten languages impacted, the Proto-Dravidian **na.m* '1PL.INCL' shifted to 1PL. The lack of clusive contrast made it so that the exclusive **ya.m* also lost clusivity, resulting in two competing 1PL forms. The results of this competition were diverse. Kannaḍa lost reflexes of **ya.m* altogether while in others this occurred in only some cases (like NOM) but not others. Finally in some languages like Tamil, a new exclusive was formed based on the affixation of a plural morpheme *-kaḷ*. In those languages, the reflex of **na.m* returned to being inclusive.

The Mongolic and Dravidian examples together mean that the Mayan shifts from a 1PL to an inclusive or exclusive meanings are well attested both in the pattern of the shift and the apparent reasons for the shift taking place. Specifically, it appears that some clusive readings may be based on paradigmatic contrasts, appearing when a contrasting element is innovated and disappearing when the contrast is eliminated.

2.3 The rarity of the 1PL to 1DUAL shift

Finally, the Mayan languages Q'anjob'al, Chuj, Akatek, and Lakantun were the only languages in the survey in which 1PL shifted to 1DUAL. This change then can be taken to be much rarer. The rarity can be understood in context though. As mentioned previously, the one part of the person marking innovations that took place in common between all four of these languages, which did not happen in any of the other Mayan languages, was the innovation of both a morphologically salient inclusive *and* a morphologically salient exclusive through the addition of morphemes to the original plural. This 'forced' the original plural into the dual meaning. Since this particular set of circumstances was not found in any of the other surveyed languages, it is not necessarily surprising that no others showed a 1PL > 1DUAL shift.

3 Analysis and Classification of the Shifts

3.1 Dividing PL > SG Number Shift into a PL > GENERAL & GENERAL > SG Cycle

When the shifts from 1PL (and 2PL) to singular reference are examined more closely, an interesting cross-linguistic cyclical pattern emerges. Compare the selected Semitic, Dravidian, and Mayan examples below.

1. Semitic
   - PS prefix conjugation: **ʔa-* '1SG' **ni-* '1PL'
   - Tunisian Arabic IMPV: *ni-* '1SG' ◄ *ni-….-u* '1PL'
     New first plural innovated based on *–u* suffix of Semitic 2PL and 3PL

2. Dravidian
   - Pre-Gondi: **ya:n* '1SG' **ñam* '1PL(INCL)'
   - Gondi: *ñam* '1SG' ◄ *ñam-oṭ* '1PL(INCL)'
     New first plural innovated based on plural *–oṭ* suffix

3. Mayan
   - Proto Mayan Set A: **nu-* '1SG' **q(a)-* '1PL'
   - Tzeltal: *k-* '1SG' ← *k-…-tik* '1PL'
     New first plural innovated based on plural *–tik* suffix

At first glance, the cycle appears to begin with the reanalysis of 1PL as singular followed by the innovation of a new plural form using available pluralizing morphology. However, this cycle remained incomplete in some languages like Yao (Bantu), resulting not in singular number reference but general (i.e. number neutral)[1]. This suggests that the cycle is in fact two distinct steps:

1. PL > GENERAL
2. (With innovation of new plural) GENERAL > SG

What is most interesting about this model of the PL > SG change is that it breaks the cycle into a first stage that occurs independently and a second stage that is responsive to, or dependent on, a separate change in the paradigm.

3.2 Independent vs. Dependent Shifts

This pattern of independent and dependent shifts is consistent across the data from the survey. In other words, all of the shifts that were noted can be relegated to either one or the other group. ***Independent shifts*** were those that were able to be found as the only change to the person marking system, although they may induce other shifts. ***Dependent shifts*** were those that were always concomitant with other changes or innovations in the system and for which independent evidence exists that the shift was "caused by" other changes/innovations.

An example of an independent change can be found in the descent of the second person plural of Proto-Bantu to a general second person marker in Yao (P21). This change does not appear to have impacted any other part of the Yao person marking paradigm.

(7) PB **mʊ-* '2PL' > Yao (P21) *mu-* '2'
(Babaev 2008:170,178)

An example of a dependent change can be found in the descent of Proto-Dravidian first plural exclusive to Tamil general plural in (8).

(8) PD **ya:m* '1pl(excl)' > Tamil '1pl'
(Krishnamurti 2003:246-247)

Specifically, evidence exists that this change occurred as a result of a shift from PD **ña:m* '1PL(INCL)' to Tamil '1PL'. Once the clusivity contrast had been eliminated, the reflex of the proto-exclusive was also used for both functions. The following three sources are evidence for a shift being caused by (dependent on) another innovation/shift in the paradigm:

1. Contemporary written evidence
2. Primary author claims
3. Heterogeneous outcomes

[1] This is similar to the change from Old English *ye* '2PL' to Modern English *you* '2', which can reference both singular and plural entities. Furthermore, in dialects that have innovated a new '2PL', such as *y'all*, the form *you* is now heavily pragmatically restricted in its plural reference and has a default singular reading. One questions whether a system could possibly have only a singular marker for some person (1st or 2nd) or a singular/general contrast.

Contemporary written evidence is used when a change occurred while the language was either written or being written about and the order of the change in relation to the innovation/shift in question was either directly or indirectly attested in the record. Primary authors of the language grammars or works on the proto-languages for the families in the study also gave evidence for the dependency of the changes. Where they do, we defer to their expertise. The last type of evidence is invoked when a set of changes involve one that is shared between all the languages of a (sub)family but the other changes differ between the individual languages. This outcome is evidence that the shared change was independent and the others were dependent.

Table 4. *Independent vs. Dependent PMRR shifts*

Independent	**Dependent**
PL > GENERAL 2SG > 2GENERAL 1PL.INCL > 1PL	GENERAL > SG 1SG/GENERAL > 1PL 1PL.EXCL > 1PL 1PL > 1PL.INCL 1PL > 1PL.EXCL 1PL > 1DUAL

3.3 Independent vs. Dependent Shifts in Mayan First Person Shifts

Based on the discussion in Law (2014:84-91), it is possible to independently assign dependent or independent status to the three outcomes of the Mayan First Person Shift. We will treat these as testable claims.

- Dependent
  - 1PL > 1PL.INCL: DEPENDENT on innovation of explicit 1PL.EXCL
  - 1PL > 1PL.EXCL: Dependent on innovation of explicit 1PL.INCL
  - 1PL > 1DUAL: Dependent on innovation of explicit 1PL.EXCL & 1PL.INCL
  - 1 > 1SG: Dependent on innovation of marked 1PL

- Independent
  - 1PL > 1: No necessary concomitant changes but followed by innovation of new 1PL

Since we are dealing with changes that occurred without a written record so care must be taken to provide evidence that the changes happened in the cause-and-effect sequence that we propose. When performing historical analysis where the final result of a change is Marked vs. Unmarked form, there are two options for the cause and effect relationship.

1. First, meaning change occurs in the unmarked
   Secondly, marked form is innovated based on the new meaning of the unmarked
2. First, marked form is innovated based on original meaning of unmarked
   Secondly, this pushes meaning change in unmarked to differentiate.

Evidence in each case consists of testing if the marked form is best morphologically broken down into some new element plus the original meaning of the unmarked form or some new element plus the new meaning. This analysis depends on the assumption that morphology is compositional so that if each morpheme in a new composite morpheme is transparent, as is the case with the morphemes used in these Mayan languages, the resulting meaning should be a combination of the root reference and the meaning of the affix. If the meaning shift occurred with the bare unmarked form before the new morpheme was added to create the marked form, then the marked form should be able to be broken down into the unmarked forms meaning

plus the additional meaning of the affix. If the meaning shift happened after the innovation of the marked form, then the marked form should be based on the original meaning of the root, not its new meaning. This would be the case if the meaning shift in the unmarked form happened due to paradigmatic pressure from the innovation of the marked form, as has been claimed for the Mayan clusivity shifts.

Table 5. *Independent vs. Dependent MFPS*

Unmarked		**New Marked**	**Marked Morpheme breakdown**	**Source + affix?**	**Goal + affix?**
Source	**Goal**				
1PL	1SG/GEN	1PL	Unmarked+PL	*	✓
1PL	1PL.INCL	1PL.EXCL	Unmarked+PL	?	*
1PL	1PL.EXCL	1PL.INCL	Unmarked+2PL	✓	*
1PL	1DUAL	1PL.EXCL & 1PL.INCL	Unmarked+?? Unmarked+2PL	✓	*

The only outcome of the Mayan First Person Shift where it makes sense to build the marked form morphologically from the new meaning of the unmarked form is the shift from 1PL to 1SG/GEN. Adding a plural morpheme to the source plural before the shift makes less sense for the innovation of a new plural than adding it after the shift to a general first-person marker. Only this shift will be considered independent. Why should this shift be different than the others?

4 Independent and Dependent Reference

4.1 Independent and Dependent Reference

One interesting consequence of a division between independent and dependent shifts in person marking reference is the possibility of a division between independent, or structurally encoded, meanings and dependent ones. That is to say, changes to the paradigm in which a person marker occurs can cause a shift in its reference precisely due to the fact that some meanings can exist solely due to contrast with others. For instance, evidence has been shown that the shift from 1 to 1SG in Ch'ol, Chontal, Tzeltal, Tzotzil, and Tojol-ab'al happened as a reaction to the innovation of a new plural in those languages. Is it possible that the singular feature was never encoded in the narrow syntax but was always empty and only interpreted as singular in contrast to a new plural?

Intriguingly, there are models of DP structure where some features are explicitly marked while others exist only at the interfaces with other modules.[2] For instance, in terms of NUMBER, a significant semantics literature exists claiming that "competition between singular and plural forms drives their interpretation in a process that intertwines semantics and pragmatics" (Farkas & de Swart 2010:66). Some authors claim that singular is semantically denoted while plural is semantically null (see Sauerland 2003, 2008; Sauerland, Anderssen & Yatsushiro 2005). In other words, a singular DP has a projection that marks it as such but a plural does not (instead being "general") and receives it plural reading pragmatically due only to the fact that the speech act participants assume that if a singular entity was meant, the singular form would have been used. The opposite claim, that plural is semantically denoted while singular can be semantically null, has been more recently proposed and defended (see Borer 2005; Farkas and de Swart 2010; Mathieu 2014).

[2] This study takes for granted that the interpretation of a pronoun relies solely on the index and that ϕ-features exist as pieces of the internal DP structure serving to trigger presuppositions about the possible denotation. (Cooper 1983) (Heim & Kratzer 1998)

According to this last model, some features (e.g. singular number) may instead arise from the fact that a pronoun lacks the opposite privative feature (e.g. [PL]). This ability for contrast-dependent meanings is driven by Maximize Presupposition from Heim (1991) and Sauerland (2003, 2008), which says "[p]resuppose as much as possible in your contribution to the conversation" (Sauerland 2008:11). For our purposes, this maxim means that speakers should use the person marking form that denotes the most presuppositions (ϕ-features) that is compatible with context. For example, take two forms, A & B, and two sets of presuppositional features, [1] and [1,2], where [1,2] is a subset of [1]. If A = [1,2] and B = [1], then the form B is more general and could be used when [1] *or* [1,2] is meant. However Maximize Presupposition demands that when either can be used, A (the more specific) should be, since it maximizes the number of presuppositions that fit the context. This in turn means that the use of B implies for hearers that A could not be used and B is implicationally "forced" into meaning not just the feature [1] but also '¬[1,2]'.

4.2 Plural-Singular Contrast

If we assume such a model for the singular/plural contrast where there is no singular feature for pronouns, underlyingly number-general pronouns may gain singular meaning implicationally when the speaker uses them instead of a plural form. However, this interpretation process only happens when there is a plural form in the paradigm to contrast with.

This predicts the difference between the dependent 1 > 1SG stage and the independent 1PL > 1 stage of the cross-linguistic 1PL > 1SG cycle. The 1 > 1SG shift is dependent on the innovation of a plural form because the singular meaning is only implicational. The 1PL > 1 shift is independent in that neither the original meaning or the final meaning are dependent upon a contrast in the paradigm. That stage involves an actual change to the structure of the underlying pronoun itself; the loss of the [PL] feature. Further research is needed to extend this analysis satisfactorily to the other dependent changes seen in the Mayan First Person Shift.

4.3 The 1PL shift to 1 as Cease Presupposition Accommodation

The last question to answer is why a first plural would ever shift to a general meaning if it requires an actual reanalysis of the underlying structure? Remember that in our structure, there is no way to pragmatically 'force' a pronoun with a plural feature to have a singular reading. Because of this, it appears that the only option available to get a singular reading for such a pronoun is to simply drop the plural presupposition from the structure.

Interestingly, this kind of semantic reanalysis is exactly the kind of structural reanalysis that Eckardt (2011, 2012) predicts for most shifts where a phonological form remaps from one reading to another. That author states the following for why such changes occur.

> "Assume that *u* [the utterance] in the old sense ϕ_{old} requires unbacked presuppositions. The speaker makes his utterance under the assumption that the interpreter will accommodate them. The interpreter may see this possibility but finds the required accommodations implausible. As an interpretive alternative, H [the hearer] hypothesizes a new message ϕ_{new}, leading to reanalysis." (Eckardt 2012:2688)

In other words, hearers cease accommodating unbacked presuppositions (Schwenter & Waltereit 2010). Under what circumstances then would the plural presupposition accompanying the use of a plural person marker become so unbacked that speakers would reanalyze their interpretation and drop it from the structure? To begin with, there are many cases when a speaker may felicitously use plural first person reference when the hearers are unable to verify the plurality of the reference. For example, if the topic time of the utterance is in the past, the other event participants making up the group that includes the speaker

may not be present at the utterance time. This would require the hearers to accommodate the presupposition of plurality in order to arrive at a truth value for the utterance. This is just one possible circumstance of many where this accommodation is necessary.

What has been found in the typological literature is that speakers, aware of the fact that hearers will most likely accommodate a plural presupposition, at times use this fact strategically for social reasons. For example, some languages use the plural to denote social positioning dynamic of higher versus lower vertical social distance, a process referred to as Plurification (Song & Heine 2016).

However, the sociolinguistic uses of plurification can be very different. Plural person marking can be used to either put the speaker in a separate group from the hearer (1st plural exclusive) or in the same group (1st plural inclusive), as an honorific or a pejorative (see further discussion in Siewierska 2004:214-245). The exclusive use is often associated with self-identification as an elite, as with the English 'Royal We'. Crucially, each one of these still involves the strategic manipulation of the plural presupposition, which could lead to hearers ceasing presupposition accomodation. But with such diverse sociolinguistic uses, is it possible to tell the social context for the Mayan change? Does it suggest the presence of a Post-Classic prestige language in the Lowland area? More evidence, perhaps in regional variation in the Mayan written record, could help answer this question.

5 Conclusion

This study began by comparing the details of the Lowland Mayan First Person Shift to other person marker referent reanalyses cross-linguistically. It was found that changes involving the plural of the first person shifting in number and clusivity are in fact common. Shifts from plural to singular number are likely to involve two stages, an independent shift to a general meaning and then a shift from general to singular meaning dependent on the renewal of number contrast by the innovation of a new plural. The other shift results (inclusive, exclusive and dual) were found to come from dependent shifts that occur in response to the innovation of markers of opposing contrast. The plural to dual shift was the only one that was not found in other languages of the survey but made sense in context as a pragmatic constraining of the original plural meaning when both an explicit inclusive and an exclusive are innovated, forcing the plural out of the normal plural space to the lowest possible plural reading (i.e. dual). It was then claimed that the dependent nature of these shifts may arise from a dependent nature of the meanings themselves, rooted in an account of featural meaning that is an interplay between what is structurally real and what is pragmatically inferred due to maxims of conversation. The differences between the stages of the first plural to first singular shift were claimed to be based in this interplay. In this model, the 1PL to 1 stage involves an actual structurally reanalysis (and thus can occur independently) while the 1 to 1SG stage involves no reanalysis but is just a pragmatic interpretation of the structural general as singular in contrast with a newly innovated plural. Finally, the possible sociological causes behind the presupposition dropping involved in the 1PL to 1 general reanalysis were examined. This remains an exciting avenue for future exploration.

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CONTRASTING CODE-SWITCHING THEORIES: INSIGHTS FROM KAQCHIKEL-SPANISH CODE-SWITCHED NOMINAL CONSTRUCTIONS*

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The aim of this study is to improve our understanding of code-switching (CS) at conflict sites (where the grammars of two languages have conflicting rules). We examine Determiner-Noun-Adjective switches produced by Kaqchikel-Spanish bilinguals. Both languages differ in gender and word order: (i) Spanish has gender, Kaqchikel does not, and (ii) the adjective in Spanish is normally postnominal while in Kaqchikel it is prenominal (Bosque & Picallo 1996; Brown, Maxwell & Little 2006).

Predictions on mixed nominal constructions (NCs), based on two theoretical approaches, the Matrix Language Frame model (MLF) (Myers-Scotton 2002) and the Minimalist Program (MP) (Chomsky 1995, 2000) are examined. Both approaches provide contrasting predictions regarding the language of the determiner and adjective position. The MP predicts that (i) the determiner language is provided by the language with the 'richest array of grammatical features' (Liceras Spradlin & Fernández Fuertes 2005; Moro Quintanilla 2014) and (ii) the adjective language dictates the relative order of the adjective with respect to the noun (Cantone & MacSwan 2009). The MLF model predicts that (i) the determiner language is provided by the Matrix Language (ML) of the clause, and (ii) the ML dictates the relative order of the adjective with respect to the noun. Previous studies, both based on naturalistic and experimental data, report different outcomes when examining the prediction accuracy of the two approaches for language of the determiner and adjective position in different language pairs (e.g. Herring, Deuchar, Parafita Couto & Moro Quintanilla 2010; Parafita Couto & Gullberg 2017; Blokzijl, Deuchar, Parafita Couto 2017; Fairchild & Van Hell 2015; Parafita Couto, Deuchar & Fusser 2015; Stadthagen-González, Parafita Couto, Parraga & Damian 2017; Balam & Parafita Couto in press; Pablos, Parafita Couto, Boutonnet, De Jong, Perquin, De Haan & Schiller 2018).

In the present study, a total of 277 mixed NCs were elicited from 20 Kaqchikel-Spanish bilinguals through a Director-Matcher task (Gullberg, Indefrey & Muysken 2009). Results show that (i) the determiner always appeared in Kaqchikel, supporting the predictions of the MLF (because the ML was always Kaqchikel) but not the MP, (ii) the adjective always occurred in postnominal position. In 164 out of 174 cases, the adjective language was Kaqchikel. This postnominal position was not predicted by any of the theoretical approaches. In monolingual Kaqchikel nominal constructions in this task, the adjective also occurred predominantly in postnominal position. Possible explanations for this can be drawn upon recent studies that report a task-effect (Bellamy, Parafita Couto & Stadthagen-González 2018).

Keywords: code-switching, Kaqchikel, Spanish, nominal constructions

1 Introduction

Code-switching (CS) is a back-and-forth switching between languages in the speech of bilinguals, it follows predictable patterns and is governed by linguistic structural constraints (e.g. Bullock & Toribio 2009). The focus of this paper is on the way Kaqchikel (Mayan) - Spanish bilinguals produce mixed nominal

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constructions (NCs). More specifically, we center on switches between determiner-noun and noun-adjective sequences. Kaqchikel is spoken in the Western Highlands of Guatemala by approximately 400,000 speakers. Most of these speakers are bilingual, since Spanish is the official language of Guatemala (i.e. of all governmental institutions). Kaqchikel is recognized as a national language by the Guatemalan government, as well as the other twenty languages of the Mayan language family. However, education is mostly offered in Spanish (Heinze-Balcazar 2015). When focusing on the nominal domain, we find that the grammars of both languages differ in gender-agreement on the determiner and the position of the adjective, both with reference to the noun. The Spanish determiner has gender: ***una, la*** for feminine (e.g. **una/la** casa, 'a/the house') and **un, el** for masculine (e.g. **un/el** perro, 'a/the dog').[1] It also reflects number, ***las*** (feminine) and **los** (masculine). The Kaqchikel determiner has no gender nor number: ***jun*** and ***ri*** for all nouns (e.g. ***jun/ri*** *jay*, 'a/the house' and ***jun/ri*** *tz'i'*, 'a/the dog) and the plural form usually needs a plural particle (e.g. ***ri*** *taq tz'i'* 'the PL dog'). In addition, the Spanish adjective normally takes the postnominal position (Bosque & Picallo 1996), while the Kaqchikel adjective takes the prenominal position (see *examples (1) and (2*)) (Rodriguez Guaján 1994:147).

(1) Kaqchikel: ***ri*** *käq jay*
DEF.ART red house
'The red house'

(2) Spanish: **la** casa roja
DEF.ART.F house red.F
'the red house'

(3) *K'o* ***jun*** ***ru-****koton* *pim.*
'3.be INDF.ART 3SG.POSS-sweater thick
'he has a thick sweater'

According to Maxwell & Little (2006), in some cases, the adjective occurs postnominally. They mention it is argued that this word order is influenced by Spanish, though this construction is found in old texts as well. However, this construction only occurs when the meaning is attributive and mostly when the noun is possessed (see *example (3)*, Maxwell & Little 2006:82). In the majority of - if not in all - the Kaqchikel grammars, adjective position is explained to be prenominal (Rodríguez Guaján 1994; García Matzar, Toj Cotzajay & Coc Tuiz 1999; Patal Majzul, García Matzar & Espantzay Serech 2000; Barrett 2005; Maxwell & Little 2006; Brown, Maxwell & Little 2006; Patal Majzul 2013; Son Chonay 2015; Maxwell, Son Chonay, Son Chonay & Carmela Rodríguez 2015).

The differences in the nominal domain in these languages makes it interesting to evaluate how bilinguals deal with this grammatical contrast. For example, in a mixed NC, will the bilinguals produce the Spanish word order (e.g. casa *käq,* 'house red'), or the Kaqchikel word order (e.g. *käq* casa 'red house')? Similar questions can be asked for the determiner language: will they produce the Kaqchikel determiner with a Spanish noun (e.g. ***ri*** casa, 'the house') or the gendered Spanish determiner with a Kaqchikel noun (e.g. **la**/ **el** *jay*, 'the (feminine/masculine) house')? Overall, is there a preference to use one combination over another, not only at the individual level, but also within the community? And if so, what are the reasons behind this?

We set out to answer these questions, building on previous work (Herring, Deuchar, Parafita Couto & Moro Quintanilla 2010; Fairchild & Van Hell 2015; Parafita Couto, Deuchar & Fusser 2015; Eppler, Luescher, & Deuchar 2016; Vanden Wyngaerd 2016; Blokzijl, Deuchar, Parafita Couto 2017; Parafita Couto, Boutonnet, Hoshino, Davies, Deuchar & Thierry 2017; Parafita Couto & Gullberg 2017; Parafita Couto & Stadthagen-González 2017; Stadthagen-González, Parafita Couto, Parraga & Damian 2017; Pablos, Parafita Couto, Boutonnet, De Jong, Perquin, De Haan & Schiller 2018; Balam & Parafita Couto 2018) that approached the evaluation of two theoretical accounts (i.e., the Matrix Language Framework

[1] Henceforth, in examples in this paper, italics marks Kaqchikel, normal font marks Spanish, bold font marks the determiner. Abbreviations follow The Leipzig Glossing Rules (2015).

(MLF, Myers-Scotton 1997, 2002) and a Minimalist Program approach (MP, Chomsky 1995, 2000; Liceras, Spradlin, Fernández Fuertes 2005; Liceras, Fernández Fuertes, Perales, Peréz-Tattam & Spadlin, 2008; Moro Quintanilla 2014; Liceras Fernandez Fuertes & Klassen 2016)) by examining patterns of determiner-noun and adjective-noun switching. In the following section, we elaborate on the predictions of these two theoretical approaches.

2 Background

The MP and MLF approaches make predictions about what is possible in code-switched structures, i.a. in the nominal domain. Liceras, Spradlin & Fernández Fuertes (2005, 2008), Moro Quintanilla (2014) and Cantone & MacSwan (2009) evaluate their data, based on the MP (Chomsky 1995, 2000). Liceras et al. (2005, 2008) propose that within bilingual speech, the lexical items from the language with the largest array of 'uninterpretable features' will surface (cf. Chomsky 1995). For instance, when looking at mixed nominal constructions (NCs) in the Spanish-Kaqchikel language pair, the Spanish determiner carries two of such features (gender and number) and the Kaqchikel determiner does not (e.g. 'el perro' (masculine, 'the dog') and 'la casa' (feminine, 'the house') versus *ri tz'i'* and *ri jay* ('the house' and 'the dog' respectively). This means that, in mixed Spanish-Kaqchikel NCs, the Spanish determiner will be preferred over Kaqchikel. When evaluating adjective word order, Cantone & MacSwan (2009) propose that no CS-specific constraints are required for the formation of bilingual patterns, since the properties of the lexical items of the individual grammars are sufficient (cf. Chomsky 1995; MacSwan 1999). This means that the position of the adjective is dependent on the monolingual structure of the language involved. For instance, following Kaqchikel and Spanish grammars, it is then expected to find '*käq* casa' ('red house') and not 'casa *käq*' ('house red'). In this case, the adjective language is Kaqchikel, meaning that the adjective is expected to appear in Kaqchikel word order (prenominal).

The MLF (Myers-Scotton 1997, 2002) assumes an asymmetry between the languages involved in code-switching. It proposes that, in bilingual utterances, the Matrix language (ML) provides the morphosyntactic frame of the code-switched utterance, where the Embedded Language (EL) is inserted. The ML provides the grammatical elements (such as determiners, pronouns and inflectional morphemes) and the EL consists mainly of content morphemes (nouns, verbs and adjectives). For instance, it is likely to encounter Kaqchikel-Spanish code-switched utterances as in *example (4)*. It consists of the Kaqchikel ML, indicated by the pronoun *nu-* (3s) and by the inflected (finite) verb *-sik'ij* ('read') (both system morphemes), in which the Spanish EL is inserted (by the content morpheme 'libro' (book)).

(4) Kaqchikel ML: *Nu-sik'ij* ***jun*** *jeb'ël* libro.
3SG-read a beautiful book
'he reads a beautiful book'

(5) Kaqchikel ML: *Nu-sik'ij* ***jun*** libro hermoso.
3SG-read a book beautiful.M
'he reads a beautiful book'

As long as the morphosyntactic rules of the ML are not violated, there is room for Embedded Islands. These are isolated 'chunks' of the EL, following the EL structure. *Example (5)* contains the Spanish Embedded Island 'libro hermoso', in which the Spanish syntactic structure is applied in the entire 'chunk'. This means then that *'*Nu-sik'ij* ***jun*** libro *jeb'ël*' is not acceptable, since *jeb'ël* does not match the ML, nor the EL structure in an Embedded Island. *Table 1* summarizes the predictions regarding determiner language and adjective-noun order derived from each approach.

Scholars have examined and compared the accuracy of the predictions of these approaches with different language pairs, using both naturalistic and experimental data, and report different outcomes. These studies will be set out in the following subsections. We will provide separate reviews on each switch type.

Table 1.
Overview of MP and MLF predictions on determiner language and adjective word order.

Theoretical approach	Predictions
MP	**Determiner**: the determiner language is provided by the language with the 'richest array of grammatical features' (i.e. Spanish). **Word order**: the adjective language dictates the word order (if Kaqchikel, then prenominal, if Spanish, then postnominal).
MLF	**Determiner**: the ML of the clause provides the determiner (if Kaqchikel ML, then Kaqchikel; if Spanish ML, then Spanish). **Word order**: the ML dictates the word order (if Kaqchikel ML, then prenominal; if Spanish ML, then postnominal).

2.1 Previous studies on Det N mixes

Liceras et al. (2005, 2008) and Moro Quintanilla (2014) do not provide information about the morphosyntactic frame in which the mixed NCs appeared, nor do they consider the proportion of mixed versus non-mixed NCs (Blokzijl et al. 2017). The MLF approach takes these (morpho-)syntactic structures into account and several studies provide evidence in favor of these predictions on the determiner language (e.g. Herring et al. 2010; Blokzijl et al. 2017; Parafita Couto & Gullberg 2017). They compared the MP and MLF predictions in different data types and report different outcomes. An overview of these studies is presented in *table 2*.

Table 2.
An overview of studies comparing MP and MLF predictions on the determiner language.

Reference	Data type(s)	Language pair(s)	Findings on MP	Findings on MLF
Herring et al. (2010)	two naturalistic corpora	- Spanish-English (Miami, U.S.A.) - Welsh-English (Wales, UK)	highly supported in both language pairs	highly supported in both language pairs (no statistical difference with MP)
Fairchild & Van Hell (2015)	Picture Naming Tasks (one online, one offline processing)	- Spanish-English (Pennsylvania State University, U.S.A.)	dataset does not match predictions	dataset does not match predictions
Eppler et al.(2016)	naturalistic corpus	German-English (London, UK)	highly supported	highly supported (no statistical difference with MP)

Blokzijl et al. (2017)	two naturalistic corpora	- Spanish-English (Miami, U.S.A) - Nicaraguan Creole English(NCE)-Spanish (S.A.A.R.N., Nicaragua)	solely supported in Spanish-English, not in NCE-Spanish	highly supported in both language pairs
Parafita Couto & Gullberg (2017)	three naturalistic corpora	- Spanish-English (Miami, U.S.A) - Welsh-English (Wales, UK) - Papiamento-Dutch (The Netherlands)	highly supported in Spanish-English & Welsh-English, not in Papiamento-Dutch	highly supported in all language pairs
Parafita Couto & Stadthagen-González (2017)	Acceptability Judgement Tasks (two types)	- Spanish-English (Mexicans in the U.S.A.)	partly supported	supported (more than MP, as found in previous corpus data)

Table 2 illustrates that, on one hand, naturalistic data overall support the MLF model predictions, independently of the language pair. On the other hand, MP predictions are only supported by naturalistic data in particular language pairs (e.g. not in NCE-English (Blokzijl et al. 2017), nor in Papiamento-Dutch (Parafita Couto & Gullberg 2017)). In their experimental data, Parafita & Stadthagen-González (2017) found that participants accepted both Spanish and English determiners, as long as the determiner was in the same language as the ML of the clause.

2.2 Previous studies on N Adj mixes

When comparing the two theoretical approaches on adjective word order, previous studies also report different outcomes (Parafita Couto et al. 2015; Parafita Couto et al. 2017; Vanden Wyngaerd 2016; Parafita Couto & Gullberg 2017; Stadthagen-González et al. 2017; Pablos et al. 2018; Balam & Parafita Couto in press). An overview is provided in *table 3*.

Table 3.
An overview of studies comparing MP and MLF predictions on adjective word order.

Reference	Type(s) of data	Language pair(s)	Findings on MP	Findings on MLF
Parafita Couto et al. (2015)	-Naturalistic corpora -elicitation tasks -auditory judgement task	Welsh-English	corpus & elicitation task: no convincing evidence for support. judgement task: inconclusive	corpus & elicitation tasks support MLF (more than MP), but need more evidence to draw conclusions on judgement
Vanden Wyngaerd (2016)	Grammaticality Judgement Task	French-(Brabant)Dutch (Brussels, Belgium)	highly supported (more than MLF)	Supported, less than MP

Parafita Couto et al. (2017)	ERP (online comprehension)	Welsh-English	no convincing support	supported (more than MP), but complementary evidence needed
Stadthagen-González et al. (2017)	two types of Judgement Tasks	Spanish-English (Mexicans in the U.S.A.)	no particular support, but combined explanation with MLF	no particular support, but explanation combined with MP
Parafita Couto & Gullberg (2017)	three naturalistic corpora	- Spanish-English (Miami, U.S.A) - Welsh-English (Wales, UK) - Papiamento-Dutch (The Netherlands)	partly supported in all language pairs (less than MLF)	supported in all language pairs, Embedded Islands most common pattern
Pablos et al. (2018)	ERP (online comprehension)	- Papiamento-Dutch (The Netherlands)	no particular support	no particular support, no preference between noun-adjective switches
Balam & Parafita Couto (in press)	naturalistic data (sociolinguistic interviews)	Spanish- English (Northern Belize)	evidence for support, relatively less than MLF	highly supported, Embedded Islands most common pattern

Studies with naturalistic data found support for MLF predictions (with a slight superiority over MP) on adjective word order (Parafita Couto et al. 2015; Parafita & Gullberg 2017; Balam & Parafita Couto in press). However, experimental studies point into different directions. Either one approach is supported over the other (Vanden Wyngaerd 2016; Parafita Couto et al. 2017) or neither theoretical predictions are convincingly supported (Parafita Couto et al. 2015; Parafita Couto et al. 2017; Stadthagen-González et al. 2017; Pablos et al. 2018). While Parafita Couto & Gullberg (2017) and Balam & Parafita Couto (in press) specifically confirm Pfaff's (1979) observation that switches between noun and adjective are less common than between determiner and noun-adjective clusters, Pablos et al. (2018) provide evidence against these patterns.

In sum, *tables 2* and *3* illustrated no convincing evidence for either theoretical approach. This leads to the research question of the current study on Kaqchikel-Spanish bilinguals: *Which code-switching patterns of the language of the determiner and adjective position will occur within mixed NCs in Kaqchikel-Spanish bilinguals' speech and to what extent will they support or reject MP and MLF predictions?* To answer this question, we present our current study in the following section.

3 The present study

We examined Kaqchikel – Spanish nominal constructions produced by bilingual speakers from Patzún (Guatemala). As mentioned in the *Introduction*, the Spanish determiner reflects gender of the noun (e.g. **la** casa 'the house' for feminine, and **el** perro 'the dog' for masculine), Kaqchikel determiner does not (e.g. ***ri*** *jay* and ***ri*** *tz'i'*, respectively). The adjectives in Kaqchikel are usually prenominal (***ri*** *käq jay*, 'the red

house'), in contrast to the Spanish postnominal position (**la** casa roja, lit. 'the house red') (see *example (1)* and (*2)*). *Table 4* presents an overview of the different determiners with examples in both languages (Kaqchikel: Brown et al., 2006:158-159).

Table 4.
An overview of the Spanish and Kaqchikel determiners.

Type of determiner (Det)	Spanish Det (masculine)		Spanish Det (feminine)		Kaqchikel Det	
	Det	*Example*	Det	*Example*	Det	*Example*
Indefinite article (/plural)	**un** / **unos**	**un** perro 'a dog' **unos** perros 'some dogs'	**una** / **unas**	**una** casa 'a house' **unas** casas 'some houses'	***jun*** -	***jun*** *tz'i' / **jun** jay* 'a dog'/ 'a house'
Definite article (/plural)	**el** / **los**	**el** perro 'the dog' **los** perros 'the dogs'	**la** / **las**	**la** casa 'the house' **las** casas 'the houses'	***ri*** / ***ri*** (optional) or ***ri/ø*** + plural particle or ***ri/ø*** + obligatory suffix	***ri*** *tz'i' / **ri** jay* 'the dog'/ 'the house' ***(ri)*** *tz'i'* 'the dogs' ***(ri)*** *taq tz'i'* 'the dogs' ***(ri)*** *ixöq / **(ri)** ixoq-i* 'the woman' / 'the women'
Proximal demonstrative (/plural)	**este** / **estos**	**este** perro 'this dog' **estos** perros 'these dogs'	**esta** / **estas**	**esta** casa 'this house' **estas** casas 'these houses'	***re … re'*** / ***re*** + plural particle/ suffix + ***re'***	***re*** *tz'i **re'** / **re** jay **re'*** *'this dog'/ 'this house'* ***re*** *taq tz'i' **re'/ re** ixoq-i **re'*** *'these dogs'/ 'these women'*
Distal demonstrative (/plural)	**ese** / **esos**	**ese** perro 'that dog' **esos** perros 'those dogs'	**esa** / **esas**	**esa** casa 'that house' **esas** casas 'those houses'	***la … la'*** / ***la*** + **plural particle/ suffix** + ***la'***	***la*** *tz'i **la'** / **la** jay **la'*** *'this dog'/ 'this house'* ***la*** *taq tz'i' **la'/ la** ixoq-i **la'*** *'these dogs'/ 'these women'*

Table 4 solely shows determiners that are relevant for this study (no quantifiers, etc.). The Kaqchikel indefinite article *jun* is ambiguous to the numeral *one* and Kaqchikel definite articles are optional in some plural contexts. The Kaqchikel proximal *re … re'* and distal *la … la'* demonstratives normally enclose the noun phrase, meaning that, i.a. adjectives and plural particles are framed (e.g. ***re*** *nïm taq tz'i'* ***re'***, '**this** big PL dog **this**', 'these big dogs') (Brown et al. 2006:158).

4 Method

We used a Director-Matcher Task (henceforth DMT) to elicit noun phrases. A great advantage of the DMT is the rapidity in which it is set up and carried out by the participants. It has been successfully used in other studies on code-switching (Gullberg, Indefrey & Muysken 2009). In the DMT, two participants sit in front of each other, with a board in between them. One participant, the Director, has pictures in front of him/her in a vast order. The other, the Matcher, has the same pictures in front of him/her, but in a random order. The Director instructs the Matcher, so the order of the pictures matches both sides. During this task, the speech production is recorded and later transcribed for analysis. The instructor of this task was an insider of the Kaqchikel-Spanish bilingual community, so the participants felt confident while speaking both languages. To limit the consequences of the observer's paradox (Labov 1972), the researcher was not present during the task. Afterwards, all participants filled out a sociolinguistic background questionnaire, including their educational background, profession, self-rated proficiency, frequency of use and age of onset of both languages. It also questioned language attitude towards both languages and attitudes on CS. Participants answered on a 1-5 Likert Scale (Likert 1932), for self-rating questions. For the language attitude, the Semantic Differential Technique was used, in which participants choose between opposites (e.g. if the language is ugly or beautiful, see also Baker 2006:214).

4.1 Participants

All 20 participants (16 female, 4 male) were born and raised in Patzún (Guatemala). Age ranged between 16-70 years old ($\bar{x}$=39). 4 out of 20 (20%) acquired both Kaqchikel from birth and Spanish at school, 14 out of 20 (70%) acquired Kaqchikel from birth and Spanish later at school (± age 5) and 2 out of 20 (10%) acquired Spanish from birth and Kaqchikel later at school (± age 5). Most participants rated to be equally comfortable in both languages (13 out of 20, 65%), the rest felt more comfortable speaking in Kaqchikel (7 out of 20, 35%) (none in Spanish). When they were asked what they speak most, 8 out of 20 (40%) rated both languages, 7 out of 20 (35%) rated Kaqchikel and 5 out of 20 (25%) rated Spanish.

4.2 Procedure

The participants performed the DMT in three rounds. After each round, the participants switched places, so the Matcher became the Director and vice versa (see *table 5*). The order of the pictures was round-specific, so this was similar for each set of participants. Instructions of the task were given by a third person, each round in a different language mode.[2] *Table 5* shows this was in Kaqchikel, Spanish and code-switching mode, respectively. In the Kaqchikel and Spanish mode, the instructor gave the instructions in Kaqchikel and Spanish (respectively), so participants were primed to perform in those languages. In the code-switching mode, the instructor gave instructions in mixed Kaqchikel-Spanish constructions. A small text was prepared by the instructor, so all participants received similar instructions. Since participants were not forced to stay in these language modes, they sometimes produced bilingual NCs in round 1 and 2 as well. Each language mode was recorded and later transcribed. Only the speech production of the code-switching

[2] In two cases, the instructor had to perform the task with a participant. In the first case, she started (and ended) as the Director. In the second case she started (and ended) as the Matcher. Her speech production was not taken into analysis.

mode was analysed. The Kaqchikel and Spanish mode data was used to see which monolingual patterns were produced. This might give insights on the patterns that will arise in code-switching.

Table 5.
Procedure of the DMT in three different rounds.

ROUND	DIRECTOR	MATCHER
1. Kaqchikel mode	*Participant 1*	Participant 2
2. Spanish mode	Participant 2	*Participant 1*
3. Code-switching mode	*Participant 1*	Participant 2

4.2.1 Items

The pictures used in the DMT, contained 24 different nouns. These were equally divided masculine and feminine gendered in Spanish (12 masculine and 12 feminine) and were also selected on canonicity and non-canonicity. Spanish grammatical gender-agreement of the noun can be reflected on determiners and adjectives. When the noun ends in feminine *-a* (e.g. casa, 'house'), the determiner is feminine **la** and adjectives usually take the feminine suffix *-a* (e.g. **la** casa roj-a, 'the red house'). With the Spanish noun ending in masculine *-o*, the determiner is masculine **el** and adjectives usually take the masculine suffix *-o* (e.g. **el** pelo roj-o 'the red hair'). When Spanish nouns end in *-a* or *-o*, the gender-agreement is 'canonical'. The noun is 'non-canonical' when the gender is not predictable by the noun's ending (e.g. **el** sol 'the sun' and **la** nube, 'the cloud'). We balanced the canonicity versus non-canonicity to see if it has an effect on the choice of the determiner language. To elicit adjectives, each different noun appeared in two of the four colors: red, black, white, yellow, all selected for the Spanish canonical endings ('rojo, negro, blanco, amarillo,' respectively). This gives the total amount of 24x2= 48 tokens. *Figure 1* illustrates some examples.

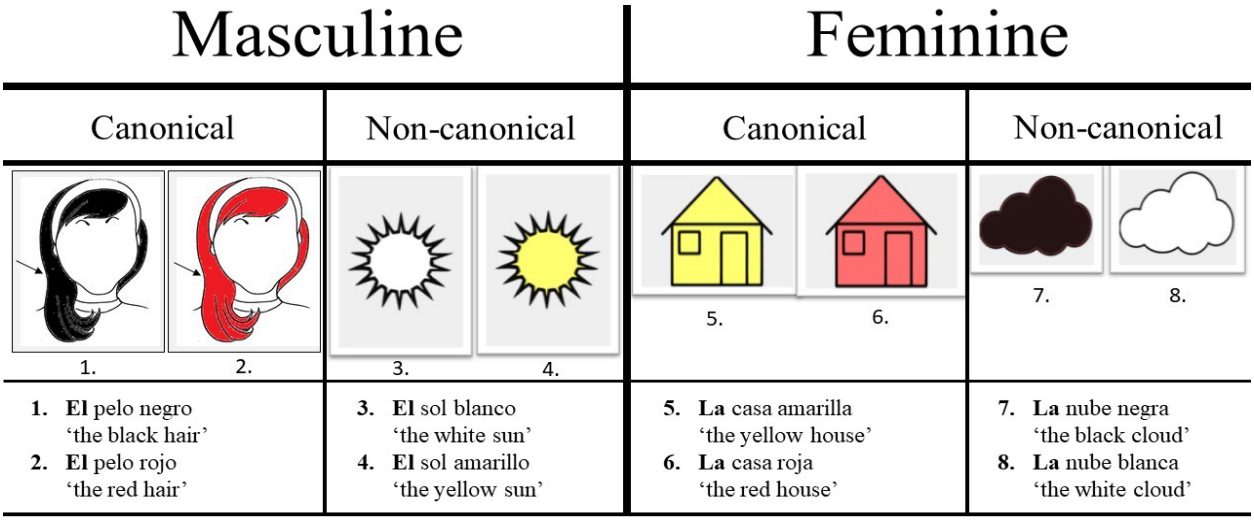

Figure 1. *Four out of twenty-four different nouns, each appearing in two different colors.*

5 Coding and analysis

For the analysis, only the code-switching mode recordings were used (round 3). *Table 6* shows the overall distribution of the total produced NCs of this mode.

Table 6.
Total distribution of NCs found in the 'code-switching mode' of the DMT data.

	Total NCs with Determiner	*Total NCs with Adjective*	*Total NCs*
Monolingual Kaqchikel NC	372 *(65,3%)*	404 *(61,7%)*	523 *(59,6%)*
Monolingual Spanish NC	13 *(2,3%)*	77 *(11,8%)*	78 *(8,9%)*
Bilingual NC	184 *(32,3%)*	174 *(26,6%)*	277 *(31,5%)*
Total NC	**569 (100%)**	**655 (100%)**	**878 (100%)**

Of the total 878 produced NCs, the majority were monolingual Kaqchikel (523, *59,6%*), followed by 277 (*31,5%*) bilingual NCs. Monolingual Spanish NCs only counted 78 (*8,9%*) cases. Roughly two-third of all bilingual NCs included a determiner (184/277, *66,4%*) and 174 out of 277 (*62,8%*) included an adjective.

Each phrase was coded for its language (bilingual, monolingual Spanish or monolingual Kaqchikel), structure type (verb+NC, NC with determiner, NC with adjective or other), NC type (determiner-noun-adjective, determiner-noun, noun-adjective), adjective placement (prenominal. postnominal) and if bilingual, the language pattern was coded (e.g. Kaqchikel-Spanish). Determiners included possessive prefixes (Kaqchikel), (in)definite articles and demonstratives.

To test the MLF predictions, at first, the ML identification was based on the finite verb (following Herring et al. 2010; Parafita Couto & Gullberg 2017). However, in the majority of the cases, the ML could not be determined by this criterium (roughly 80% for NCs with determiner and 90% for NCs with adjective). Myers-Scotton's (2002:59) *Morpheme Order* and *System Morpheme Principles* for ML identification state that the ML provides (i) the (morpho-)syntactic frame with corresponding word order, and (ii) all system morphemes unrelated to their head constituent within the full utterance. In our data, we found constructions with multiple determiners in Kaqchikel occurring before the Spanish noun. These system morphemes follow a systematic order, restricted to Kaqchikel grammar and not possible in Spanish grammar. Since these determiners depend on each other, we would argue that this structure is an indicator for the ML. Following the second principle, we argue that the two bound morphemes in our dataset (two Kaqchikel possessive prefix *ru-* on Spanish noun) also belong to the ML.

5.1 Analysis of the determiner language

In all mixed NCs of our code-switching mode dataset (184 out of 569 NCs), *all* determiners appeared in Kaqchikel. In some cases, bilingual determiner-noun constructions appeared with two or three determiners (n=29, see *example (6)*).[3] Sometimes, one or two determiners were combined with the Kaqchikel diminutive *ti*, prior to the noun and a free morpheme.[4]

Example (7) shows the Kaqchikel distal demonstrative *la* (usually *la...la'*, see *table 4*, now reduced to *la*). The DMT pictures were within reach of each participant, so a distal demonstrative was not expected in the dataset. To prevent incorrect interpretation of the data, all NCs with *la* were excluded from data analysis (n=32). In continuation, noun compounds were counted as one noun (*example (8)* and *(9)*).

[3] *Ri ri* was only produced once (*example (11)*). The reduplication of definite article *ri* implies the sense of a pronoun 'this' (Brown et al., 2006:159).

[4] For the analysis *ti* was included. It appeared 38 times in the dataset, of which 26 times in the position as second or third determiner. It remains unclear to the authors if this free morpheme is restricted to the sense of diminutive, or if it should be treated as the adjective 'small' (both options in Brown et al. 2006). In some cases, *ti* appeared prior to an adjective (*ti käq,* 'TI red'), where the exact sense remains unclear. It could also be an argument to exclude all cases with *ti*. However, in this section, switches between determiner and noun are counted as a bilingual NC and language of the determiner itself is examined. In addition, in 29 cases, *ti* comes after one or two determiners. Since there are no switches between those determiners (nor *ti*), there is no strong argument to leave these cases out. Only the 12 cases with *ti* in first determiner position are arguable to be excluded, since no determiner follows *ti* in each of these cases.

(6) ***Ri ri'*** ***jun*** ***ti*** círculo *säq*
this INDF.ART TI circle white
'this white circle' (DMT-10, P1)

(7) ***Jun*** ***la*** nube *säq*
INDF.ART DEF.ART.F/DEM cloud white
'The/that white cloud' (DMT- 08, P1)

(8) juego de niño-s *käq*
game of child-PL red
'red children's game'
(referring to a swing) (DMT-04, P1)

(9) ***jun*** cepillo de dientes *q'än*
INDF.ART toothbrush yellow
'a yellow toothbrush' (DMT-13, P1)

5.2 Analysis of the adjective position

Mixed NCs with adjective appeared 174 times out of a total of 655 NCs. In *all* cases adjective came in postnominal position. Only 10 out of 174 adjectives were in Spanish, the other 164 in Kaqchikel. Some constructions with adjective contained a modified noun with an adjectival phrase (see *example (10)*). In this example, the switch occurs between the Kaqchikel noun *che'* and the modifying Spanish noun *color*. These constructions with adjectival phrases were all excluded from analysis (n=18), unless the switch occurred between determiner and noun (*example (11)*).

(10) ***jun*** *che'* color *säq*
INDF.ART tree color white
'a tree, colored white' (DMT-06, P2)

(11) ***Jun*** círculo ***ru-****b'onil* *säq*
INDF circle 3SG.POSS-color white
'a circle, colored white' (DMT-19, P1)

6 Results bilingual data

6.1. Results on the determiner language

A total of 184 bilingual NCs with determiner were found in the code-switching mode dataset of the DMT. These constructions either contained one, two or three determiners. The distribution of different types of determiners (plus *ti*), are represented in *table 7*.

Table 7.
Types of determiner in mixed NCs with Determiner (Det).

	Det 1	*Det 2*	*Det 3*	**TOTAL per Det type**
INDF ART (*Jun*, 'a')	144	3	0	**147**
DEF ART (*Ri* / *ri ri*, 'this'/ 'the')	20	1	0	**21**
POSS prefix (*ru-*, 'its')	0	2	0	**2**
Q pronoun (*achike*, 'which')	8	0	0	**8**
DIM (*ti*, 'TI')	12	23	3	**38**
TOTAL per Det	**184**	**29**	**3**	**216**

This table shows that the most common (first) determiner is the Kaqchikel indefinite article *jun*. Most importantly, it also shows that *all* determiners were produced in Kaqchikel. This particular Kaqchikel construction with multiple consecutive determiners occurred 29 times.

6.1.1 Identification of the ML

In order to examine MLF predictions, the determination of the ML in this dataset is based on (i) finite verb inflection, (ii) multiple determiner and (iii) bound morphemes, illustrated by *table 8*. When following Myers-Scotton's (2002) two principles for identification of the ML, at most in 61 out of a total of 184 mixed NCs the ML could be determined. In the other (at least) 123 cases, MLF predictions are not applicable for this dataset. *Table 9* shows that in all cases the ML is always Kaqchikel and always combined with (a) Kaqchikel determiner(s). This is self-evident, since it is previously mentioned that all determiners are in Kaqchikel.

Table 8.
Identification of the Matrix Language (ML) in mixed NC with Determiner (Det).

DETERMINATION ML	*TOTAL*
Verb (inflection)	36
Multiple Dets	23
Bound morphemes (POSS)	2
TOTAL	**61**

Table 9.
Combinations with ML and Det (1,2,3).

	Det (1,2,3) Kaqchikel	Det (1,2,3) Spanish
ML Kaqchikel	61	0
ML Spanish	0	0

6.2 Results on adjective word order

In *table 6* it was shown that a total of 174 bilingual NCs with adjective were found. Only three different patterns were found that included an adjective in mixed NCs. In *table 10* it is shown how these types were distributed throughout the dataset. The most common pattern is with Determiner (Det) + Noun (N) + Adjective (Adj) (n=89), closely followed by N + Adj (n=72). The less produced pattern includes multiple determiners (n=13). In all 174 cases, the Kaqchikel determiner(s) were followed by a Spanish noun. The adjective was in most constructions in Kaqchikel, except for a few cases (*example (12)* and *table 11*). Remarkably, all adjectives (both in Kaqchikel as Spanish) came in postnominal position.

(12) *ti'ij* asado
meat grilled.M
'grilled meat' (DMT-05, P1)

Table 10.
Different types of mixed NCs with adjective (Det=determiner, N=noun, Adj=adjective).

Mixed NCs	TOTAL
N + Adj	72 (41,4%)
Det + N + Adj	89 (51,1%)
Multiple Det + N + Adj	13 (7,5%)
TOTAL NCs with Adj	**174 (100%)**

Table 11.
Distribution of Kaqchikel and Spanish adjectives in the code-switching mode dataset of the DMT.

	Only Adj	N + Adj	**TOTAL per language**
Kaqchikel	164	0	**164** ***(94,3%)***
Spanish	4	6	**10** ***(5,7%)***
TOTAL NCs	**168**	**6**	**174** ***(100%)***

Table 11 illustrates the division of Kaqchikel and Spanish adjectives. Of all 174 mixed NCs with adjective, only 10 were in Spanish *(5,7%)* (see *example (13)*). From these 10 NCs, in 6 cases, the noun was also in Spanish (see *example (14)*). In all other 164 cases, the adjective was Kaqchikel combined with a Spanish noun. When identifying the ML, we find in all 19 out of 174 mixed NCs (11,0%) the Kaqchikel ML (see *table 12*).

(13) *jun* *jay* melón
INDF.ART house melon
'a red house' (DMT-15, P1)

(14) *jun* columpio rojo
INDF.ART swing red.M
'a red swing' (DMT-14, P1)

Table 12.
Determination of the Matrix Language (ML) in mixed NC with adjective.

DETERMINATION ML	*TOTAL*
Verb (inflection)	7
Multiple Dets	10
Bound morphemes (POSS)	2
TOTAL	**19**

6.3. Outcomes MP and MLF predictions

The predictions on MP and MLF accounts for the determiner language and adjective position are represented in *table 13* and *table 14* respectively.

Table 13.
MP and MLF prediction outcomes regarding language of the determiner.

Match	Theoretical approaches	
	MP	MLF
YES	0	61
NO	184	0

Table 14.
MP and MLF prediction outcomes regarding adjective word order.

Match	Theoretical approaches	
	MP	MLF
YES	10	0
NO	163	19

From *table 13* it can be concluded that, in all 184 cases of mixed NCs with determiner, the present dataset does not lend evidence for the predictions of MP accounts, since all determiners appeared in Kaqchikel. For the 61 out of 184 cases (33,1%) that the ML could be identified (all Kaqchikel), this dataset provides support for the MLF. As illustrated by *table 14*, predictions on adjective word order of the MP account were only accurate in 10 cases (*5,7%*), since all adjectives were in postnominal position. Only 10 of those were in Spanish, the rest in Kaqchikel. In all 19 cases where the ML was identified (all Kaqchikel), the adjective appeared in postnominal position. For this reason, the present dataset does not lend evidence for MLF predictions on this matter.

7 Conclusion

In this study, we aimed to improve our understanding of CS patterns within the nominal domain in the Kaqchikel-Spanish language pair. The contrasting predictions of the MP and the MLF model were examined. Data was collected within the bilingual Kaqchikel-Spanish community in the Guatemalan Highlands of Patzún through the Director-Matcher Task. Results showed that (i) the determiner always came from Kaqchikel, supporting the predictions of the MLF (since the ML was always Kaqchikel) but not

the MP, and (ii) the adjective always occurred in postnominal position, contra the predictions of both models. As for the language of the determiner, the data of the present study lend relatively more evidence for the predictions MLF over the MP. This confirms the findings of several previous studies which compared the MP and MLF predictions on naturalistic data (i.a. Blokzijl et al. 2017; Parafita Couto & Gullberg 2017). As for adjective position, in 164 out of 174 cases, the adjective language was Kaqchikel. In these cases, the postnominal position was not predicted by any of the theoretical approaches.

The participants performed the DMT in three rounds, with Kaqchikel and Spanish mode serving as a baseline for comparison with the patterns that arise in the code-switching mode. When looking at data from the Kaqchikel mode, the adjective also occurred predominantly in postnominal position. Only a few cases were found were the adjective was postnominal. Also, the majority of switches emerged due to noun insertion (e.g. '***jun*** casa *käq*', 'a house red'). Only a few instances were found where switches between noun-adjective did not occur, all with Spanish clusters (e.g. ***jun*** columpio rojo, 'a red swing', in 6 out of 174 mixed NCs). When we draw upon the Kaqchikel mode data of the DMT, and in some cases in the Spanish mode data, many relative clauses were produced (e.g. Kaqchikel mode: ***jun*** *jay* ***ru-****bonil käq*, 'a house its-color red' (the house that is red)). Within the code-switching mode NCs, there was a variety in how this modifying phrase was produced; mostly with 'color' in Spanish, or '***ru-***color', including the Kaqchikel possessive prefix ***ru-***. In Kaqchikel mode data this structure was highly productive, not only with the Kaqchikel equivalent (***ru-****b'onil*), but also with the Spanish 'color' and '***ru-***color'. Taking Maxwell & Little's (2006) remark into account that Kaqchikel adjectives solely occur postnominally with attributive meaning, a possible and most plausible explanation for the postnominal occurrence of the adjective in the entire dataset, is that these constructions should be treated as reduced relative clauses. In the sense that '*käq*' (red) in '***jun*** *jay käq*' (a house red) is not an attributive adjective, but rather the remnant of a relative clause 'a house that is red'.

Given that this structure was found in all language modes of the task (Kaqchikel, Spanish and code-switching mode), it is likely that participants used this construction as a strategy to solve the DMT. Task effects in CS research are also found by Bellamy, Parafita Couto & Stadthagen-González (2018) in their study on gender-assignment strategies of Purepecha-Spanish bilinguals. The participants participated in two types of elicitation tasks, one production (DMT) and one comprehension task. For each task, participants adopted different gender-assignment strategies. These findings show that performance strategies can depend on task type and therefore the authors suggest that future research needs to explore naturalistic data to identify the natural direction and points of switches for their data.

With this being a pilot study in this language pair, some methodological considerations have to be highlighted. First, the participants performed the DMT in pairs. While Directors had to give instructions to the Matcher, this means that the Matchers never produced much output in each round. In this study, we started with a total of 39 participants. Most of them had to be excluded for data analysis (n=17), since those who acted as Matchers did not produce (i) bilingual NCs, or (ii) no data at all. Second, we used a wide age range to get first impressions of overall patterns in this community. However, we recognize that these patterns may vary in between generations and that further research is highly needed to establish these variations. Finally, in the design of our study, we included a balanced amount of canonical versus non-canonical Spanish nouns. All determiners were in Kaqchikel and only 6 instances of Spanish noun-adjective clusters occurred. If we want to explore gender-assignment in further research, it would be interesting to examine the use of canonicity and evaluate the types of strategies that arise.

In sum, insights of this study reveal that in this CS community there is a clear asymmetry in usage between Kaqchikel and Spanish in mixed NCs. We found that all determiners and the majority of the adjectives were in Kaqchikel, while all nouns were in Spanish. The ML was in Kaqchikel in all evaluated cases. This asymmetry could partly be explained by Myers-Scotton (2002) MLF model, and to a lesser degree by the MP approach. We argue that due to a task-effect, NCs with reduced relative clauses arise. Future research using naturalistic and other types of elicited data is needed to see if similar results are obtained. We should also extend our empirical base to other Mayan languages and see if similar patterns emerge in mixed NCs.

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TOPOLOGICAL RELATIONS AND FRAMES OF REFERENCE IN MAYAN LANGUAGES: KAQCHIKEL, K'ICHE', TZ'UTUJIL AND Q'ANJOBAL *

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This paper deals with the perception and linguistic expression of topological relationships between spatial objects, and frames of reference that speakers of some Mayan languages of highland Guatemala, Kaqchikel, Tz'utujil, and Q'anjob'al employ. Kaqchikel and Tz'utujil both belong to the K'iche'an branch, Q'anjob'al is a member of the Q'anjob'alan branch.
Spatial reference in Mayan and other Mesoamerican languages is characterized by the widespread absence or paucity of use of relative frames and and the highly productive use of 'meronymic' terminologies for object parts and spatial regions based primarily on object geometry. Terms for parts of the human body are perhaps universally the prototypical meronyms. In many Mayan languages meronymies represent perhaps the most important resource for the expression of place functions (Jackendoff 1983).
It has been hypothesized that the pervasive use of geometric meronyms in the expression of spatial relations is a linguistic factor that biases the speakers of a language against the use of relative frames.
This paper will fill a gap and contribute to the discussion by adding three more.The paper will present data on topological relation markers in Kaqchikel, Tz'utujil, and Q'anjobal. The data is based on data collected during fieldwork.
Keywords: Mayan, FAMLi5, topological relations, frames or reference

1 Spatial orientation:topological relations and frames of reference

SPACE is a non-linguistic category and spatial cognition is at the heart of our thinking. It is indubitably hard-wired in our species. How else would we find our way around? Moreover, spatial cognition is likely necessary for the conceptualization of other domains such as TIME (Levinson 2003:1).

Spatial relations involve many aspects. They describe how objects are located in space in relation to a reference object or concept.

There are three significant terms typically used in the analysis of spatial relationships: the Figure, the Ground, and the Anchor. The Figure is the movable entity whose topological location or relationship is being described. The Ground is the primary object or concept that defines the reference point for the topological relationship. In addition to the topological relation which is perspective-neutral there is the perspective from which a spatial scene is viewed. Each spatial scene has an Anchor. The Anchor adds a point of view from which the scene is conceived.

The notion of frame of reference takes into account that a speaker can take several possible perspectives on the phenomenon that s/he is considering. These changes of perspective are particularly visible in the language of spatial reference. Three frames of reference are commonly distinguished: relative, intrinsic, and absolute. To illustrate the differences, consider three possible answers to the question, "Where is the frog" in the following reference pictures (Figure 1-3).

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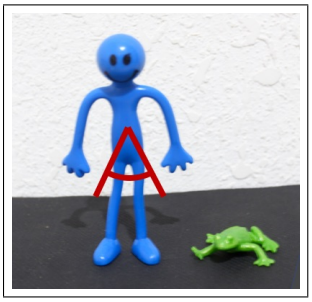
The relative frame of reference is a viewer-centered system, describing the location of a Figure in relation to a Ground with the Anchor being the perspective of the viewer/speaker.

(1) *The frog is to the right of the man.*

Figure 1: Relative frame of reference



The intrinsic frame of reference is an object-based system with the Anchor residing in the Ground. The spatial relationship of the Figure is described from the perspective of an inherent feature of the Anchor/Ground.

(2) *The frog is to the man's left.*

Figure 2: Intrinsic frame of reference

The absolute frame of reference is an abstract object-based system wherein the Anchor is some fixed landmark or direction in the scene. The spatial relationship between the Figure and Ground is described referring to the Anchor.

(3) *The frog is to the east of the man.*

Figure 3: Relative frame of reference

2 Coding spatial scenes

SPACE is a non-linguistic category and any language has its means to code it. Spatial information is not restricted to one part of speech, but is typically distributed throughout the clause. It resides in verbs, nouns and different kind of morphemes.

All languages studied so far seem to have special morpho-syntactic ways to express spatial relations of objects. Yet the morpho-syntactic structures differ to a great extent. Prepositions and postpositions or case affixes are common strategies.

Mayan languages are typologically unusual in that they are generally sparse of prepositions, often they have only one or two prepositions. To provide specific topological information expressions of various lexical categories can come into service. Mayan languages use positionals to express topological information. Only a small number of the thirty Mayan have been investigated in sufficient detail regarding both the linguistic coding of spatial relationships and frames of reference. Topological relations have been studied in Mam (England 1978), Tseltal (Brown 1974, Bohnemeyer & Brown 2007), Tsotsil (de Leon 1992), Yokot'an (or Chont'al (Delgado Galván 2013), Yucatec (Goldap 1992, Lehmann 1992, Bohnemeyer & Brown 2007)

Frames of reference have been investigated in Mopán Maya (Danziger 1996, 1998, 2001, 2011), Tseltal (Brown & Levinson 1993, 2000, 2009; Levinson & Brown 1994; Polian & Bohnemeyer 2011), Tsotsil (de León 1991, 1994), Yucatec (Bohnemeyer & Stolz 2006; Bohnemeyer 2011, Le Guen 2011).

3 Topological relations in Kaqchikel, Tz'utujil and Q'anjob'al

To provide specific topological information expressions of various lexical categories can come into service. In basic locative constructions (BLC) prepositions and relational nouns play a major role in specifying a spatial relation between objects.

3.1 Prepositions

All three languages have two prepositions

Kaqchikel	Tz'utujil	Q'anjob'al
pa, chi	pa, chi	b'ay, tet

Table 1: Prepositions in Kaqchikel, Tz'utujil and Q'anjob'al

These prepositions have the general function of indicating a locative relationship between objects.

The preposition *pa* in Kaqchikel and Tz'utujil (*b'ay* in Q'anjob'al) has a broad range of meanings, all of which imply some sort of surroundedness as the following examples show:

(4) Kaqchikel

a. pa rachoch
pa rachoch
PREP POSS.3SG-house.POSS
'in the house'

b. pa ch'akät
pa ch'akät
PREP chair
'on the chair'

c. pa ulew
pa ulew
PREP ground
'on the ground' or 'in the ground'

d. pa chakäch
pa chakäch
PREP basket
'in the basket'

e. pa taq che'
pa taq che'
PREP PL tree
'among trees'

(5) Q'anjob'al

a. b'ay txomb'al
b'ay txomb'al
PREP market
'in/at the market'

b. b'ay yachinb'al
b'ay y-achinb'al
Prep Poss.3Sg-bathroom
'in his/her bathroom'

c. b'ay watut
b'ay wa-tut
PREP POSS.1SG-house
'in my house'

d. b'ay tu'
b'ay tu'
PREP there
'there'

e. b'ay junxa pak'an
b'ay junxa pak'an
PREP other side
'on the other side'

Thus, expressions like *pa jay* 'in the house', *pa chakäch* 'in the basket' the meaning refers to the most likely interpretation.

(6) Kaqchikel

K'o jun xajonik pa jay.
k'o jun xajonik pa jay
is one dance PREP house

'There will be some dancing in the house.'

(7) Q'anjob'al (Barreno & Mateo & Mejía 2005:132)

Ch'ach xew b'ay hana.
ch-ach xew b'ay ha-na
ICPL-2SG.ABS relax PREP POSS.2SG-house

'Relax in your house.'

The prepositions *chi* in Kaqchikel and Tz'utujil are all semantically restricted. *Chi* in Kaqchikel and Tz'utujil exclusively precede relational nouns (see §3.2) whereas *pa* occurs with other nouns.

In Kaqchikel and Tz'utujil, the two general prepositions can be assumed to derive from the body part terms *pam* 'belly' and *chi'* 'mouth'.

In Q'anjob'al the preposition *b'ay* seems to be the more general one, more or less corresponding to the use of *pa* in Kaqchikel and Tz'utujil. Differently from *pa* in these languages *b'ay* in Q'anjob'al may precede a relational noun.

(8) Q'anjob'al

a. b'ay yich te' te'
b'ay y-ich te' te'
PREP POSS.3SG-under CLF tree
'under the tree'

b. b'ay sti ha
b'ay s-ti ha
PREP POSS.3SG-mouth river
'at the headwater of the river'

The preposition *tet* occurs less frequently and can be assumed to be the more restricted one. However, the two prepositions in Q'anjob'al also seem to be subject to regional varieties.

3.2 Relational nouns

Nouns in Mayan languages are classified by the way they react to possession. Body part terms belong to the group of nouns that, apart from their unpossessed form, have a possessed form. These possessed forms are relational nouns seen in relation to their possessor and obligatorily carry a possessive prefix.

ROOT	MEANING	UNPOSSESSED NOUN	POSSESSED NOUN, 3RD PERSON
-wi'	hair	wi'aj	ruwi'
-chi'	mouth	chi'aj	ruchi'
-ij	back	ijaj	rij
-pam	stomach	pamaj	rupam
-xikin	ear	xikinaj	ruxikin
-tz'am	nose	tz'amaj	rutz'am
-awäch	face	wachaj	ruwách
-q'a'	arm	q'abaj	ruq'a'
-aqän	leg	aqanaj	raqän
-jolom	head	jolomaj	rujolom

Table 2: Kaqchikel body part terms

ROOT	MEANING	UNPOSSESSED NOUN	POSSESSED NOUN, 3RD PERSON
-wii'	hair	wi'aj	rwii'
-chii'	mouth	chi'aj	rchii'
-ij	back	ijaj	rij
-pam	stomach	pamaj	rpam
-xkin	ear	xkinaj	rxkin
-tz'am	nose	tz'amaj	rtz'am
-awäch	face	wachaj	rwách
-q'a'	arm	q'abaj	rq'a'
-aqän	leg	aqanaj	rqän
-jolom	head	jalomaj	rjolom

Table 3: Tz'utujil body part terms

ROOT	MEANING	UNPOSSESSED NOUN	POSSESSED NOUN, 3RD PERSON
-xil	hair	xilej	sxil
-ti'	mouth	ti'ej	sti'
-ichin	back	ichinej	yichin
-yulk'ul	stomach	yulk'ulej	syulk'ul
-txikin	ear	txikinej	stxikin
-txam	nose	txamej	stxam
-sat	face	satej	ssataq
-q'ab	arm	q'ab'ej	sq'ab
-xub'	leg	xub'ej	sxub'
-xolom	head	jolomej	sxolom

Table 4: Q'anjob'al body part terms

Body part nouns in Kaqchikel, Tz'utujil and to some extent in Q'anjobal can refer, quite productively, not only to partitions of the body, human or animal, but also to spatial locations. Mayan langauges are well-know for the extensive use of body part terminology when it comes to the expression of spatial relations. It has been debated whether the productive meaning extension of body-part terms is due to metaphorical extension of the human body as a source domain or part labelling based on the visually segmented outline of the subject entity. The following examples from Kaqchikel illustrate how body part terms are used as locative expressions.

(9) Kaqchikel *rupam* 'belly' → 'inside'

a. rupam ri ruq'a
ru-pam ri ruq'a
POSS.3SG-inside DET POSS.3SG-hand
'inside of hand' ('palm')

b. rupam ri b'ojoy
ru-pam ri b'ojo'y
POSS.3SG-inside DET pot
'the inside of the pot'

(10) Kaqchikel *ruwi'* 'hair' → 'top'

a. ruwi' ri juyu'
ru-wi' ri juyu'
POSS.3SG-top DET mountain
'top of the mountain'

b. ruwi' ri kotz'i'i
ru-wi' ri kotz'i'i
POSS.3SG-top DET flower
'the head of the flower'

c. ruwi' ri saq'ul
ru-wi' ri saq'ul
POSS.3SG-top DET banana
'the top of the banana'

(11) Kaqchikel *raqän* 'leg/foot' → 'bottom/foot'

a. raqän ri juyu'
r-aqän ri juyu'
POSS.3SG-foot DET mountain
'foot of the mountain'

b. raqän ri oköx
raqän ri oköx
leg DET mushroom
'bottom part of the mushroom'

(12) *ruchi'* 'mouth' → 'edge'

a. ruchi' ri wäy
ru-chi' ri wäy
POSS.3SG-edge DET torlilla
'the edge of the tortilla'

b. ruchi' ri ulew
ru-chi' ri ulew
POSS.3SG-edge DET ulew
'the border of one's territory'

c. kichi' ri taq b'ey
ki-chi' ri taq b'ey
POSS.3PL-edge DET road
'edges of the road'

(13) *ruxikin'* 'ear' → 'side'

a. ruxikin ri q'aq'
ru-xikin ri q'aq'
POSS.3SG-side DET fire
'next to the fire.'

b. ruxikin ri b'ojoy
ru-xikin ri b'ojo'y
POSS.3SG DET pot
'next to the pot'/at the side of the pot'

(14) *-tz'am* 'nose' → 'protuberance'

a. rutz'am ri juyu'
ru-tz'am ri juyu'
POSS.3SG-inside DET POSS.3SG-hand
'nose of the mountain' ('protuberent part')

b. rutz'am ri saq'ul
ru-tz'am ri saq'ul
POSS.3SG-nose DET banana
'the nose of the banana'

In Q'anjob'al the relational nouns are commonly used for spatial relations: *-tii* 'mouth' → *stii* 'at the side', *-sat* 'eye' → *ssataq* 'in front of'. Q'anjob'al *yul* derives from *yul k'ul* 'belly' and is used in the meaning of 'in'.

(15) Q'anjobal

a. yul ha'
yul ha'
inside river
'in(side) the river'

b. yul xij
yul xij
inside pot
'in(side) the pot'

c. yul sna
yul s-na
inside POSS.3SG-house
'in(side) his house'

d. yul xuk
yul xuk
inside box
'in(side) the box'

The assignment of meronyms has been viewed in the light of the speakers' analyses of an object with respect to its geometry. Although the geometry and shape of an object determine the assignment of body part terms to its inherent parts, cultural specifics are also crucial but mostly neglected in the discussion.

For instance, the inherent parts of the traditional grinding stone (*k'a'* in all three languages) are all body part terms. Interestingly, in Kaqchikel, the lower part of the stone is referred to as *ruwi'* 'top'. To someone not familiar with the culture this denotions appears to be almost counter-intuitive. For Kaqchikel speakers, this term makes perfect sense as this is the top part once the grinding job is finished and the stone leaned upright against a wall (Duerr 1988). Studying the reference to space

Figure 4: Grinding stone and metate

in Colonial Quiché (K'iche') demonstrates convincingly how "[t]he concept of 'intrinsic' (....) helps lead us to a better understanding of cosmological beliefs in Quiché culture." (Duerr 1988: 1) illustrates his point by investigating the 'face' or 'front side' of objects with vertical or horizontal orientation (Duerr 1988: 14). He also mentions that the front of the house was usually the side facing the courtyard and not the one facing the street. Apart from body parts terms there are a number of other relational nouns specifically denoting spatial relations

Locational noun root (relational noun)	**3rd person possessive**	**Meaning**
-nik'ajal	runik'ajal	middle
-naqaj	runaqaj	proxomity
-wa	ruwa	outside
-xe	ruxe	under (root)
-xokon	ruxokon	left
-iqiq'a'	riq'iq'qa'	right
-kojol	kikojol	between
-ikin	rikin	with

Table 5: Locational relational nouns in Kaqchikel

In Kaqchikel and Tz'utujil relational nouns are preceded by one of the two prepositions in a locative clause. In Q'anjobal they often occur without.

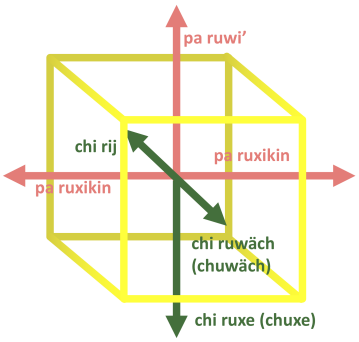


Figure 5: Kaqchikel

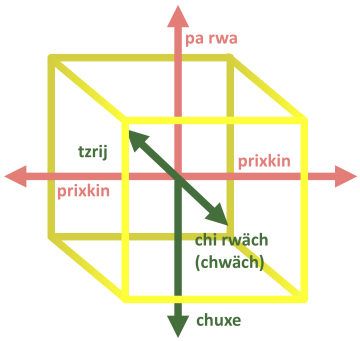


Figure 6: Tz'utujil

The use of the two prepositions *pa* and *chi* is a modern development. In Colonial Quiché (cf. Duerr 1988 and personal communication, Duerr and Sachse 2017) relational nouns exclusively combined with the preoposition *chi*: *chuvi* 'on top', *chi rupam* 'in', *chi rih* 'behind', *chi qaxukut* 'to our sides'.

Body part term (relational noun)	**Meaning**	**Prepositional phrase**	**Meaning**
-wi'	hair	pa ruwi' ri ch'tal	on top of the table
-ij	back	chi rij ri ch'atal	behind the table
-wäch	face	chi ruwäch ri ch'atal	in front of the table
-xikin	ear	chi ruxikin ri ch'atal	to the side of the table
-pam	stomach	chi rupam ri b'ojo'y	inside the pot
-k'ux	heart	chi ruk'ux ri tinamit	in the centre of the town
-tzam	nose	chi rutzam ri juyu'	at the nose of the mountain
-xe	root	chi ruxe/chuxe ri chat'al	under the table
-nikajal	middle	pa runikajal ri b'ey	in the middle of the road
-kojol	middle (among)	chi kikojol che'	among trees

Table 6: Kaqchikel relational nouns and prepositional phrases

Relational noun	**Meaning**	**Locative phrase**	**Meaning**
-tii'	mouth	sti' b'e	at the side of the road
-txikin	ear	stxikin te' mexha	at the edge/corner of the table
-sat	face	ssataq sna	in front of his/her house
-yul k'ul	belly	yul jun te kaxha	in the box
-ich	bottom	yich te' taj	at the bottom of the pine tree
-ib'an	on	yib'an te' mexha	on the table
-alan	under	yalan te' q'aja'	under the bridge
-intaq	behind	yintaq no txitx	behind the rabbit
-nan	middle	snan kawan anima	in the middle of two people
-xol	between	sxol	

Table 7: Q'anjob'al relational nouns and locative phrases

It should be noted that he relational noun *-kojol* 'between' is prefixed by the third person plural prefix *ki-* 'Poss.3Pl' as the location of an object has two reference points.

(16) Ri ixok tz'uyül chi ki-kojol ka'i' achi'a'.
ri ixok tz'uyül chi ki-kojol ka'i' achi'a
DET woman sit.3SG PCL POSS.3PL-between two men
'The woman sat between two men.'

The relational noun *-ikin* 'with' may also be used to express a local relationship. The noun differs from all other relational nouns in that it is not preceded by a preposition.

(17) Rija' x-tz'uye' junan r-ikin ri xten.
rija' x-tz'uye' junan r-ikin ri xten
3SG CPL-sit.3SG one POSS.3SG-with DET girl
'He sat down next to a girl.
(Lit.: 'He sat with the girl.')

3.3 Locative clauses

Locative clauses may specify the location of an object by means of simple prepositions, noun phrases commonly involving relational nouns, positionals. All these means may interact.

3.3.1 Basic locative constructions

A basic locative construction is the construction that occurs in response to a question of the kind 'where is the X'? In basic locative constructions prepositions and relational nouns code the position of an entity. In Tzutujil and Kaqchikel a basic locative construction usually contains the verb *k'o*, an existential and locative 'be'. The constituent order differs depending on whether X is definite or indefinite. In Q'anjobal the verb 'be (located)' is often not expressed.

(18) Kaqchikel

a. K'o jun wuj pa ruwi' ri ch'atal.
k'o jun wuj pa ru-wi' ri ch'atal
is one book PREP POSS.3SG-top DET table
'There is a book on the table.'

b. La wuj k'o pa ruwi' la ch'atal.
la wuj k'o pa ru-wi' la ch'atal
DET book is PREP POSS.3SG-top DET table.'
'The book is on the table.'

(19) Tz'utujil

a. K'o jun siaf chuxe ch'k'at
k'o jun siaf chi-ru-xe ch'k'at
is one cat PREP-POSS.3SG-under chair
'There is a cat under the chair.'

b. Jun sq'u'ul k'o chpam jun kjon
Jun sq'u'ul k'o chi-r-pam jun kjon
DET banana is PREP-POSS.3SG-inside DET box
'The banana is in the box.'

(20) Q'anjob'al

a. Aiyatoj jun b'akal yib'an te' mexha
aiyatoj jun b'akal y-ib'an te' mexha
is one olote POSS.3SG-top CLF table
'There is a corn trunk on the table.'

b. No pejei ayekno yik'ul ch'en ka'.
no pejei ayekno y-ik'ul ch'en ka'
CLF frog is POSS.3SG-in CLF grinder.'
'The frog is on the grinder.'

3.3.2 Positionals

Positionals are CVC roots that never occur uninflected. They are a major inflectional class in all Mayan languages that may form adjectives, nouns, stative predicates, and verbs. Positionals indicate among other

things (like quality) locative postion or posture. In many cases the specification regards the shape and position of the Figure as well as the Ground.

A positional by itself may be sufficient to provide information on the location of an object.

(21) Kaqchikel

a. Ximïl la ti aq'
ximïl la ti aq'
tied.3SG DET DIM pig
'The pig is tied.'

b. E ximïl la taq aq'
E ximïl la taq aq'
be.tied.3PL DET PL pig
'The pigs are tied.'

In many cases the positional verb provides the context and specifies the meaning. In the following example from Kaqchikel *tilik* 'be planted' implies that the sweet potato is in ground rather than on the ground as is implied by basic verb *k'o*.

(22) Kaqchikel

a. La camote k'o pa ulew.
La camote k'o pa ulew
DET sweet potato is PREP ground
'The sweet potato is on the ground.'

b. La camote tilik pa ulew.
La camote tilik pa ulew
DET sweet potato planted PREP ground
'The sweet potato is planted in the ground.'

4 Frames of reference in Kaqchikel, Tzutujil, and Q'anjob'al

All three languages make use of the intrinsic frame of reference whenever possible, provided the object (Ground) that a Figure relates to does have intrinsic parts. The human body not only has intrinsic body parts but also an intrinsic left and right side. For the speakers of Kaqchikel, Tz'utujil and Q'anjob'al the location of the frog is to the boy's left or right. Even though all three languages have terms for left and right, these are often not favored and other suitable terms like 'to the side' are chosen. In Kaqchikel *rijqiq'a'* the term 'right' is probably related to *q'ij*'sun'.

Figure 7: Frog to the man's left

Figure 8: Frog to the man's right

(23) Kaqchikel

La xpeq k'o pa
la xpeq k'o pa
DET frog is PREP
ruxokon la ti ala'.
ru-xokon la ti ala'
POSS.3SG-left DET DIM boy

'The frog is to the boy's left.'

(24) Tz'utujil

K'o xpaq prixkon
k'o xpaq p-r-ixkon
is frog PREP-POSS.3SG-left
jun acha'
jun acha'
one boy

'The frog is to the boy's left.'

(25) Q'anjob'al

Ayek' no peqtza' b'ay
ayek' no peqtza' b'ay
is CLF frog PREP
sk'exan naq winaq.
sk'exan naq winaq
POSS.3SG-left CLF man

'The frog is to the boy's left.'

(26) Kaqchikel

La xpeq k'o pa
la xpeq k'o pa
DET frog is PREP
rijqiq'a' la ti ala'.
r-ijqiq'a' la ti ala'
POSS.3SG-right DET DIM boy

'The frog is to the boy's right.'

(27) Tz'utujil

K'o xpaq pa rejkinq'a
k'o xpaq pa r-ejkinq'a
is frog PREP POSS.3SG-right
jun acha'.
jun acha'.
one boy

'The frog is to the boy's right.'

(28) Q'anjob'al

Ayek' no peqtza' b'ay
ayek' no peqtza' b'ay
is CLF frog PREP
swatx' naq winaq
s-watx' naq winaq
POSS.3SG-right CLF man

'The frog is to the boy's right.'

Cars have intrinsic parts for which body part terms are used. The word denoting the front is most commonly the term for 'face' in the languages under discussion. For cars with a very protuberant front the term for nose may be used. The back of the car is invariably referred to as 'back'.

Figure 9: Pig at the back of the car

Figure 10: Pig at the front of the car

(29) Kaqchikel

La ti aq k'o chi
la ti aq k'o chi
DET DIM pig is PREP
rij la ch'i'ch.
rij la ch'i'ch
POSS.3SG-back Det car

'The pig is at the back of the car.'

(30) Tz'utujil

K'o jun a'aq
k'o jun a'aq
is one pig
tzrij ch'e'ch.
tz-r-ij ch'e'ch.
PREP-POSS.3SG-back car

'The pig is at the back of the car.'

(31) Q'anjob'al

Ayek' no txitam
ayek' no txitam
is CLF pig
yintaq ch'en carro
y-intaq ch'en carro
PREP-POSS.3SG-back CLF car

'The pig is at the back of the car.'

(32) Kaqchikel

La ti aq k'o
la ti aq k'o
DET DIM pig is
chuwäch la
chi ru-wäch la
PREP POSS.3SG-front DET
ch'i'ch.
ch'i'ch
car

'The pig is at the front of the car.'

(33) Tz'utujil

K'o jun a'aq
k'o jun a'aq
is one pig
chwäch ch'e'ch.
chi-ru-wäch ch'e'ch
PREP-POSS.3SG-front car

'The pig is at the front of the car.'

(34) Q'anjob'al

Ayek' no txitam ssataq
ayek' no txitam s-satag
is CLF pig POSS.3SG-front
ch'en carro
ch'en carro
Clf car

'The pig is at the front of the car.'

Figure 11: Pig in front of the agave

Figure 12: Pig behind the agave

(35) Kaqchikel

La ti aq k'o
la ti aq k'o
DET DIM pig is
chuwäch la
chi ru-wäch la
PREP-POSS.3SG-front DET
ch'ut.
ch'i'ch
maguey

'The pig is in front of the agave.'

(36) Tz'utujil

K'o jun a'aq
k'o jun a'aq
is one pig
chwäch sajkiy.
chi-r-wäch ch'e'ch.
PREP-POSS.3SG-front maguey

'The pig is in front of the agave.'

(37) Q'anjob'al

No txitam k'atan an sawil.
no txitam k'atan an sawil
CLF pig near CLF maguey

'The pig is near the agave.'

(38) Kaqchikel

La ti aq k'o chi
la ti aq k'o chi
DET DIM pig is PREP
rij la ch'ut.
r-ij la ch'i'ch
POSS.3SG-back DET maguey

'The pig is behind of the agave.'

(39) Tz'utujil

K'o jun a'aq
k'o jun a'aq
is one pig
tzrij sajkiy.
tz-r-ij sajkiy.
PREP-POSS.3SG-back agave

'The pig is behind the agave.'

(40) Q'anjob'al

No txitam k'atan an sawil.
no txitam k'atan an sawil
CLF pig near CLF maguey

'The pig is near the agave.'

5 Conclusions

Mayan languages are well known and somewhat celebrated for their being having few prepositions and employing other strategies (in particular relational nouns and positionals) to express spatial relationships.

Two attempts to explain the asssignment of meronymics have been made. The assignment may be governed by a metaphorical mapping process (MacLaury), or by an algorithm that takes as input the visually segmented outline of the whole and labels parts on the basis of their shape and the axis of the entity they occur on (Levinson 1994).

It has been hypothesized that the pervasive use of geometric meronyms in the expression of spatial relations is a linguistic factor that biases the speakers of a language against the use of relative frames.

The investigation of Kaqchikel, Tz'utujil (both languages of K'ich'ean branch) and Q'anjob'al (of the Q'anjobalan branch) confirms that prepositions are scarce and that positionals and relational nouns play a crucial role in the expression of spatial relationships. In Kaqchikel and Tz'utujil many relational nouns denoting body parts come into service. In Q'anjob'al fewer body part nouns but other relational nouns are used. All three languages have relational nouns not related to a body part with the meaning 'middle' and 'between'

It has been hypothesized that the meronymic use of body part terms correlate with a "Mayan intrinsic world view". It is correct to say that speakers of the three languages under discussion describe a spatial scene from an object-centered view whenever possible. If the shape of the reference object (Ground) has intrinsic parts the speaker will refer to those in order to describe the location of an object. While it is common to specify the vertical Up-Down axis and the horizontal Front-Back axis, it is less common to specify the Left-right axis with the terms of 'left' and 'right'. Rather, speakers tend to say 'to the side'.

However, if the referential object cannot claim to have intrinsic parts, i.e., entities like trees for instance, speakers of Kaqchikel and Tz'utujil often take the speaker-centered (relative) perspective and assign the horizontal axis terms 'left' and 'right' or 'front' and 'back' (even though the object does not have an intrinsic front and back or left and right side). Alternatively they may just say an object is near another. Q'anjobal seems to differ from the K'ichean languages in that it does not allow the speaker to change perspective (from intrinsic to relative).

Abbreviations

1	1st person	DIM	diminuative
2	2nd person	ERG	ergative
3	3rd person	ICPL	incompletive aspect
ABS	absolutive case	PL	plural
CLF	classifier	POSS	possessive case
CPL	completive aspect	PREP	preposition
DET	determiner	SG	singular

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ADQUISICIÓN DE LA PALATALIZACIÓN EN K'ICHE' Y AWAKATEKO*

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El presente estudio evalúa el uso de los sonidos palatales en adultos y la adquisición de sonidos palatales en niños. Para ello, se analizaron datos de adultos y niños monolingües y bilingües en K'iche' y Awakateko de Aguacatán, Huehuetenango. Los adultos y los niños fueron visitados en su casa por una hora de grabación de video y audio.

Los resultados muestran que, por un lado, los adultos monolingües en K'iche' no palatalizan, pero sí los adultos monolingües en Awakateko. Sin embargo, los niños monolingües en K'iche' muestran un patrón diferente: palatalizan aunque menos que los niños monolingües en Awakateko. Por otro lado, los adultos bilingües en K'iche' como lengua materna y en Awakateko como segunda lengua usan palatales en Awakateko, mas no en K'iche'. Los adultos bilingües en Awakateko como lengua materna y K'iche' como segunda lengua no palatizan en K'iche'. Los niños bilingües K'iche' como lengua materna y Awakateko como segunda lengua siguen el mismo patrón de los adultos bilingües K'iche' como lengua materna y Awakateko como segunda lengua. El estudio también muestra que los niños monolingües en Awakateko y los niños bilingües en K'iche' como lengua materna y Awakateko como segunda lengua pasan por un proceso de palatalización: despalatización.

Palabras clave: K'iche', Awakateko, contacto, adquisición

1 Introducción

En este trabajo evaluamos la adquisición de la palatalización en K'iche' y Awakateko, dos idiomas mayas en contacto de Aguacatán, Huehuetenango, Guatemala. Seguimos la idea de que hay contacto toda vez que exista interacción lingüística entre dos idiomas diferentes (Bowerman 2008). Estudios sobre idiomas en contacto discuten los efectos lingüísticos entre idiomas en contacto, mas no su definición. En estudios en los idiomas mayas, se considera que dos idiomas están en contacto toda vez que comparten alguna frontera lingüística, como el contacto que existe entre el Mam de Todos Santos, el Ixil de Chajul y Neb'aj y el Q'anjob'al (England 1994).

Este trabajo tiene como propósito evaluar el uso de los sonidos palatales en adultos y la adquisición de los mismos sonidos en niños en los idiomas K'iche' y Awakateko en un contexto monolingüe y bilingüe. En los idiomas mayas de la rama K'iche' y Mam, en especial en K'iche' y Awakateko, se ha descrito la palatalización en la gramática adulta, pero no así su adquisición. Nuestros resultados muestran que los niños monolingües y bilingües pasan por un mismo proceso de palatalización.

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Hay más palatalización en monolingües (AwakatekoL1) que en bilingües (K'iche'L1-AwakatekoL2), pero aparece casi a la misma edad.

En el municipio de Aguacatán, se hablan 3 idiomas mayas Awakateko, K'iche' y Mam, los cuales están en contacto. En las familias bilingües, estos dos idiomas se hablan en los hogares, lo cual se refleja en el lenguaje de los niños. Es un contacto reciente que empezó con la llegada de hablantes del K'iche' procedentes de Totonicapán (hace 150 ó 175 años). Los primeros pobladores fueron de las familias Pérez, Pastor, Ajanel, Sicá, Ramos, Us, entre otros, provenientes de Momostenango (Clemente Pérez Ixcoy, comunicación personal). Un resumen de los datos de los hablantes bilingües in K'iche'-Awakateko aparece en el Cuadro 1.

Cuadro 1. Inventario de hablantes bilingües en K'iche' y Awakateko

K'iche'L1-AwakatekoL2	AwakatekoL1-K'iche'L2
10 hablantes	7 hablantes

2 Palatalización en K'iche' y Awakateko

El K'iche' y el Awakateko son idiomas de la familia maya que pertenecen a diferentes ramas lingüísticas: el K'iche' de la rama K'iche' mientras el Awakateko de la rama Mam. La palatalización, según Bateman (2007), consiste en cualquier instancia en la cual una consonante cambia sus características fonéticas de lugar a consonante palatal. La palatalización puede describirse como: primaria, secundaria, alofónica y fonémica.

La palatalización primaria consiste en una palatalización completa (Bateman 2007), como la palatización de */k(')/ a [tʃ(')] entre el Mam común y el Awakateko, como en (1) (Kaufman 1969).

		Mam Común	Awakateko	
1.	a.	*keej	cheej	*caballo*
	b.	*ki'	chi'	*dulce*
	c.	*ik	ich	*chile*

En la palatalización secundaria, la consonante mantiene su punto de articulación principal (labial, alveolar, velar), como se observa en el contraste entre el Proto-K'iche' y el Kaqchikel de Santa María de Jesús, Tecpán y Patzún (2) (Kampbell 1977).

		Proto-K'iche'	Kaqchikel	
2.	a.	*kaq	kyaq	*rojo*
	b.	*ixk'aq	ixky'aq	*uña*

En los idiomas mayas la palatización ocurre como alofónica o fonémica. Por un lado, la palatalización de las consonantes velares /k, k'/ ocurre como una variación alofónica en los idiomas de la rama K'iche': Tz'utujil (Dayley 1985), K'iche' (Sapón y Can Pixabaj 2000), Kaqchikel (García Matzar y Rodríguez Guaján 1997). Por otro lado, la palatalización de las consonantes velares /k, k'/es fonémica en Mam, Tektiteko y Awakateko de la rama Mam (England 2001), como muestran los pares mínimos en (3) (Delgado Rojas Mateo Toledo 2006:32). England (2001) sugiere que en otros idiomas de la rama K'iche' se están desarrollando la distinción fonémica de los palatales, como en el Poqomam de Palín y algunas variantes del Kaqchikel.

3.	a.	kya'l	nadie	b.	k'ach	*red*
		ka'l	casa		ky'ach	*glúteos*

Los idiomas de la rama K'iche' y de la rama Mam siguen la regla de palatalización: palatalización por disimilación y palatalización por asimilación que aparece en (4) (Grimes 1969).

4. a. Palatalización por disimilación en K'iche': $/k^{(')}/ > ky^{(')} / — V\{q^{(')}, j\}$
   b. Palatalización por asimilación en K'iche': $/k^{(')}/ > [ky^{(')}] / — \{i, e\}$

Los idiomas de la rama K'iche', en especial el K'iche', siguen esta regla y con menos variación (Campbell 1977). La palatalización antes de uvulares puede verse como un fenómeno no natural; sin embargo, es una regla de disimilación que hace que las consonantes velares sean menos parecidas a las uvulares y que reduce las dificultades de percepción y articulación (Campbell 1977). Este proceso de palatización por disimilación se evidencia en el Poqomam de San Carlos Alzatate (5) (Kaufman 1969), aunque es una regla que no aplica en algunos dialectos del Kaqchikel (Campbell 1977).

5. a. *k'aq > q'aq *pulga*
   b. *ixk'aq > ixq'aq *uña*

A excepción del Ixil, en los idiomas de la rama Mam, que incluye el Awakateko, la palatalización sigue la regla en (4) (Kaufman 1969). La palatalización en los idiomas de la rama Mam es un proceso fonológico reciente dado que no aparece en textos coloniales; y que se originó en los idiomas de esta rama y se expandió hacia los idiomas de la rama K'iche' (Kaufman 1969, Campbell 1977). La palatalización es muy conocida en los idiomas del mundo; sin embargo, existen pocos estudios sobre su realización articularia (Bennett, Ní Chiosáin, Padgett y McGuire, en prensa), en especial su adquisición.

3 Palatalización en adultos bilingües K'iche'-Awakateko

Con el objetivo de comprender la adquisición de la palatalización, exploramos el uso de la palatalización en los adultos bilingües K'iche'-Awakateko. Se visitó a cada adulto por una hora, quienes fueron grabados. En el Cuadro 2 aparece la información de los adultos bilingües en K'iche' y Awakateko.

Cuadro 2. Adultos bilingües en K'iche' y Awakateko

Idiomas	hablantes	código	Duración
K'iche'-L1/Awakateko-L2	Lu'p	AG110817	00.36:32
	Say	AI090817	00.25:40
	Mel	KI260817	00.30:01
Awakateko-L1/K'iche'-L2	Ton	CA082317	00.54:48
	Xhep	CJ170817	01.02:45
	Xtin	AA020917	00.43:08

El Cuadro 3 muestra el uso de palatalización de adultos con el K'iche' como lengua materna y el Awakateko como segunda lengua.

Cuadro 3. Palatalización en Awakateko como L2

Sonido	Cambios	Lu'p	Say
/ky/	ky	150	129
despalatalización	ky > k	43	7
	ky > q	0	1
	ky > q'	0	1
	Total	193	138
/ky'/	ky'	2	1
	ky' > ky	2	1
despalatalización	ky' > k'	34	0
	ky' > k	0	1
Palatalización	k' > ky'	1	0
	k > ky	1	0
	Total	40	3

Según este cuadro, los adultos bilingües (K'iche'L1-AwakatekoL2) muestran una variación en la palatalización. Un hablante del Awakateko como L2 usa palatales en otros contextos, pero no palataliza las consonantes velares ante las vocales /i, e/, como se ilustra en (6). Note que no hay palatalización en los hablantes del K'iche' como segunda lengua y el Awakateko como lengua materna. Tanto en los ejemplos de los niños y de los adultos se emplean cuatro líneas: la primera línea representa la producción de cada hablante, la segunda línea representa la equivalencia de la gramática del idioma en cuestión, la tercera línea es la glosa y la cuarta línea la traducción al español.

6. …oqtu'tz qo tal **xiik**...[1] Lu'p (K'iche' L1-Awakateko L2)
   = …o-q-tu'-tz qo tal **xiky**...
   entrar-PART-PART si DIM niño
   '…supongamos que si es niño…'

Un hablante adulto del Awakateko como segunda lengua, usa la palatalización por disimilación como se ilustra en (7) y como se ha reportado en el Poqomam de San Carlos Alzatate.

7. qaxqeq pero o'tanintz. Say (K'iche' L1-Awakateko L2)
   = qa-xkye-q pero o'-t-an-in-tz
   A1p-terminar-POT pero PRON-SUF-SUF-SUF-PART
   'Si podemos si podemos pero nosotros mismos.'

Los hablantes del Awakateko como L2 también palatalizan velares antes de las vocales /i, e/ en préstamos del español, como en (8).

8. es kyee... jatetz yeqoo... Lu'p (K'L1-AL2)
   es que ja-t-etz ye-qo...
   es que ADV-PART-SR SUB-PART
   'Es que alguien vendrá a informarme.'

[1] Abreviaturas y símbolos: A=Juego A, ADV=adverbio, COMR=completivo cercano, DIM=diminutivo, ENC=enclítico, NEG=negación, PART=partícula, POT=potencial, PRON=pronombre, SR=sustantivo relacional, SUB=subjuntivo, SUF=sufijo.

4 Adquisición de la palatalización en K'iche' y Awakateko

En esta sección interesa mostrar la adquisición de la palatalización en K'iche' y Awakateko en un contexto monolingüe y bilingüe. Los datos que presentamos fueron extraídos de niños monolingües en K'iche' y Awakateko y bilingües en ambos idiomas mayas. Se realizaron grabados de audio y video en su casa; la historia de la rana (frog story) se usó como material de estímulo. Los adultos fueron visitados por una sola vez, mientras los niños fueron visitados a cada dos semanas durante un período de 6 meses con la finalidad de observar su desarrollo del lenguaje.

Analizamos la adquisición de los sonidos palatales en niños monolingües y bilingües en K'iche' y Awakateko en niños monolingües. Estos datos provienen de 2 niños monolingües en K'iche' y Awakateko (Cuadro 4) y 2 niños bilingües: K'iche'-L1 y Awakateko-L2 (Cuadro 5).

Cuadro 4. Niños monolingües en K'iche' y Awakateko

idiomas	hablantes	edad	Código	duración
Awakateko	Ax	2;00:00	CA110118	00.32:40
	Yal	2;5:5	AA100817	00.24:01
		2;8.10	CA151117	00.7:13
		2;8:10	AA151117	00.35:12
		2;10:14	AA190118	00.32:14
	Law	4;0:0	AD210817	01.10:00
K'iche'	Tay	3;00:16	KS100718	00.49:28

Cuadro 5. Niños bilingües en K'iche' y Awakateko

idiomas	hablante	código	edad	Duración
A-L1/K'-L2	Xhwan	CKN300718	2;10:20	00.06:10
K'-L1/A-L2	Jay	KCJ110118	2;10.20	00.20:00
		KCJ080218	2;11.17	01.00:52
		KCJ080318	3;00.14	00.52:18
		KCJ050418	3;1:14	00.49:50

4.1 Palatalización en niños monolingües en K'iche' y Awakateko

El Cuadro 6 muestra que existe palatalización en niños monolingües K'iche' y Awakateko, aunque hay más palatalización en Awakateko que en K'iche'.

Cuadro 6. Palatalización en niños monolingües K'iche' y Awakateko

Idioma	niño	edad	ky	ky'	ky > k	k > ky	k' > ky
Awakateko	Yal	2;5:5	12				
		2;8.10	1		2	1	
		2;10:14				4	
	Law	4;0:0	6	6	1	1	1
	Ax		4			2	
K'iche'	Tay	3;00:16				5	

Existen contextos en donde los niños monolingües en Awakateko no muestran palatalización ante las vocales /i, e/ (9), antes de los 3 años de edad. Sin embargo, después de esta edad, los niños monolingües en Awakateko palatalizan, como en (10).

9. a. ke. Yal (2;5)
   kye'.
   'no'
   b. umi tik tik time. Yal (2;5)
   mm kyi'k kyi'k Jime
   mm ADV.NEG ADV.NEG Jime
   'No está, no está Jime.'
10. a. Nante'tz chi kyitz'ee' Law (4;0)
   =B'a'n-t-e'tz ø-chij ky-etz e'
   bueno-SUF-PART A3s-decir A3p-SR ENCL
   'Es bueno –dicen ellos.'
   b. …po'okye ook woo' te'j
   = porque ja-ø-'ok wo' t-e'j
   porque COMR-A3s-entrar sapo A3s-SR
   '…porque ahí entró el sapo.'

Una evidencia de la adquisición de la palatalización en niños monolingües en Awakateko es la palatalización de préstamos del español (11).

11. a. juun lookye. Yal (2;10:14)
   Jun bloque
   'Un bloque.'
b. …po'okye ook woo' te'j Law (4;0:0)
   = porque ja-ø-'ok wo' t-e'j
   porque COMR-A3s-entrar sapo A3s-SR
   '…porque ahí entró el sapo.'

Una niña monolingüe K'iche' produce un ejemplo de palatalización en (12), lo que en la gramática adulta K'iche' de Aguacatán no ocurre. Esto es un caso de palatalización por disimilación. La niña palataliza aunque su interlocutor no lo hace.

12. a. kyeq. Tay (3;00:16)
   = kaq
   'rojo.'
   b. kyejip^{h}
   kajib'
   'cuatro'

4.2 Palatalización en niños bilingües: K'iche'-L1 y Awakateko-L2

Los datos de palatalización de un niño bilingüe (K'iche'L1 y Awakateko L2) aparecen en el Cuadro 7, aunque en pocos contextos.

Cuadro 7. Palatalización de niño bilingüe: Awakateko-L2

niño	edad	ky = ky	ky > k	ky > t	ch > ky
Jay	2;10.20		1		
	2;11.17		1		
	3;00.14				
	3;01.14	4		3	1
	3;04.14				

Los niños bilingües (K'iche'-L1 y Awakateko-L2) no palatalizan antes de los 3 años de edad, como se ilustra en (13). Sin embargo, después de esa edad estos niños inician con la palatalización siguiendo la regla de asimilación, como en (13b). El niño bilingüe K'iche'-L1 y Awakateko-L2 produce también palatalización en K'iche' antes de la vocal /a/ (13c), aunque en el K'iche' de Aguacatán la palatalización no ocurre en este contexto.

13. a. timaq (Jay 2;11.17)
kyimaq
'Se morirá.'
b. kyik woo'. Jay (3;01.14)
= kyi'k wo'
ADV.NEG sapo
'No está el sapo.'
c. kyab'. Jay (2;10.20)
= keb'
dos

5 Conclusión

En este trabajo hemos tratado de mostrar que existe contacto lingüístico entre el K'iche' y el Awakateko de Aguacatán, Huehuetenango. Este contacto se refleja en el uso de sonidos palatales en adultos y la adquisición de palatales en niños, ambos grupos de hablantes monolingües y bilingües en K'iche' y Awakateko. Nuestros resultados de la adquisición de los sonidos palatales muestran que los monolingües (AwakatekoL1) usan más sonidos palatales que en los niños bilingües (K'iche'L1-AwakatekoL2), como se ilustró en los cuadros 6 y 7. Sin embargo, a pesar de esta asimetría de frecuencia, los niños adquieren los sonidos palatales casi a la misma edad dado que pasan por un mismo proceso de palatalización.

La palatalización ocurre más con la regla de asimilación que con la regla de disimilación, tanto en monolingües y bilingües. El proceso de la no palatalización previo a la palatización que aquí discutimos, puede obedecer a un proceso general. Es decir, los niños adquieren primero consonantes simples que consonantes complejas. En los idiomas mayas, como en el K'iche' mismo (Pye, Ingram y List 1987) y Chuj (Mateo Pedro 2014) se ha reportado que en la adquisición de las consonantes glotalizadas los niños ya sea producen la consonante simple o el cierre glotal. Entonces, esto quiere decir que los niños mayas simplifican consonantes complejas.

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//-b'-// 'instrumentales' en el kaqchikel, k'iche' y tz'utujiil*

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Los idiomas Kaqchikel, K'ichee', y Tz'utujiil utilizan el sufijo //-b'// para formar "instrumentales" basados en bases verbales. Cuando se combina con el sufijo //-äl ~ -al// crea un sustantivo que indica una herramienta para facilitar la acción o el lugar en que se realiza. Cuando se combina con el sufijo //-ej//, construye un verbo transitivo. Dayley (1985, 354-357) lo describe como la voz instrumental. Esta voz en Tz'utujiil agrega un argumento en relación directa con el verbo. Así que un verbo admite un agente, un paciente y un instrumento como argumentos directos. En el Tz'utujiil el verbo concuerda con el agente y el paciente. En el K'ichee', el verbo concuerda con el agente y el instrumento y el paciente pasa a ser oblicua (Norman 1978). En estos idiomas otra manera de señalar el uso de un instrumento es con un verbo transitivo, con solamente dos argumentos directos, agente y paciente. El instrumento aparece en una frase oblicua introducida por un sustantivo relacional o en una cláusula subordinada. En el Kaqchikel de los jóvenes hoy en día el uso del //-b'ej// ya no agrega un argumento directo al verbo. Aún con el sufijo, la frase instrumental carece de relación directa con el verbo. No aparece en la flexión verbal. Instrumental sigue siendo una voz en el Tz'utujiil, se está perdiendo en el K'ichee' y el Kaqchikel, pero se nota la posibilidad del uso de frases oblicuas instrumentales en los tres idiomas.
Palabras claves: instrumentales, voz, concordancia, Kaqchikel, K'ichee', Tz'utujiil

1 Introducción

El sufijo //-b'// nos deviene desde Proto-Maya[1]. Marca instrumentos. En los tres idiomas k'iche'anos examinado aquí se combina con una vocal más /l/ para formar sustantivos que refieren o a instrumentos o a locativos.

Tabla 1: Sustantivos

idioma	ejemplo	glosa
Kaqchikel	tz'ib'ab'äl tijob'äl k'ojlib'äl	lápiz, lapicero escuela lugar
Tz'utujiil	tz'ib'ab'aal tijob'aal k'ojlib'aal	lápiz, lapicero escuela lugar
K'iche'	tz'ib'ab'al tijob'al k'ojlib'al	lápiz, lapicero escuela lugar

También se forman verbos transitivos agregando el sufijo //-ej// a la //-b-// instrumental.

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[1] Campbell (1973), Mora-Marin (2003)

Tabla 2: Verbos transitivos

idioma	ejemplo	glosa
Kaqchikel	Xinchilab'ej Xqaloq'b'ej Xkik'isb'ej	Lo encargué Lo compramos (con algo) Lo terminaron (con algo)
Tz'utujiil	Xinchilab'eej Xqaloq'b'eej Xkik'isb'eej	Lo encargué Lo compramos (con algo) Lo terminaron (con algo)
K'iche'	Xinchilab'ej Xqaloq'b'ej Xkik'isb'ej	Lo encargué Lo compramos (con algo) Lo terminaron (con algo)

Estos verbos se pueden derivar de verbos intransitivos, de verbos transitivos o de bases posicionales.

Tabla 3: Derivados de verbos intransitivos

idioma	ejemplo	glosa	forma con -b'ej	glosa
Kaqchikel	-ok -ik'o -etz'an -tikïr	entrar pasar jugar comenzar	-ok(i)b'ej -ik'owib'ej -etz'anib'ej -tikir(i)b'ej	usar algo para entrar pasar para hacer algo jugar con algo, juguetear comenzar con algo
Tz'utujiil	-ok(i) -ik'ow(i) -etz'an(i)		-okib'ej -ik'owib'ej -etz'anib'ej	usar algo para entrar pasar para hacer algo jugar con algo, juguetear
K'iche'	-ok(ik) -ok'ow(ik) -etz'an(ik)		-okib'ej -ok'owib'ej -etz'anib'ej	usar algo para entrar pasar para hacer algo jugar con algo, juguetear

Sattler (n.d.) observa que no se puede usar un verbo pasivo como la base para formar "instrumentales" con //-b'ej//.

Tabla 4: Derivados de verbos transitivos

idioma	ejemplo	glosa	forma con -b'ej	glosa
Kaqchikel	-k'ïs- -peyoj	terminar invitar	-k'isb'ej -peyob'ej	terminar con algo invitar con algo
Tz'utujiil	-k'is -peyoj	terminar invitar	-k'isb'ej -peyob'ej	terminar con algo invitar con algo
K'iche'	-kís(o) -majij	terminar comenzar	-k'isb'ejl -mayib'ej	-terminar con algo comenzar con algo

Tabla 5: Derivados de bases posicionales

idioma	ejemplo	glosa	forma con -b'ej	glosa
Kaqchikel	k'o(j)-	estar, haber	k'ojlib'ej	estar en un lugar, pasar tiempo
	tzeq-	colgar	tzeqelb'ej	seguir
	chok-	montar (a horcajadas)	chokolb'ej	montar sobre algo
Tz'utujiil	k'oj-	estar, haber	k'ojlib'ej	estar en un lugar, pasar tiempo
	tzeq-	colgar	tzeqelb'ej	seguir
	chok-	montar (a horcajadas)	chokolb'ej	montar sobre algo
K'iche'	k'oj-	estar, haber	k'ojlib'ej	estar en un lugar, pasar tiempo
	paq-	estar arriba, en alto	paqalb'ej	adelantar
	kej-	montar (a horcajadas)	kejelb'ej	montar algo a horcajadas

Cuando se utiliza en una oración que menciona el instrumento, muchas veces éste aparece en una frase oblicua, introducido por un sustantivo relacional: *-uk'in* en kaqchikel y tz'utujiil, *-uk'* en el k'iche'.

Tabla 6: Frases oblicuas instrumentales

idioma	ejemplo	glosa
Kaqchikel	Xinsokb'ej nuwi' ruk'in jun qupib'äl.	Me corté el cabello con un cuchillo.
Tz'utujiil	Xinb'aaq nuwi' ruk'in kaxlaan.	Me lavé el cabello con jabón.
K'iche'	Xinb'an kochooch wawaj ruk' k'im.	Hice su cobertizo para mis animales domésticos con paja.

Estas frases oblicuas pueden ser adelantadas, al ser enfocadas. Henderson (2007) nota que en tal caso dejan una huella //wi// en el lugar de extracción.

Tabla 7: Frase oblicua extraida

idioma	ejemplo	glosa
Kaqchikel	Rik'in ri tz'ib'ab'äl xintz'ib'ab'ej wi ri wuj.[2]	Con el lapicero escribí la ponencia.
Tz'utujil	Ruk'in ri tz'ib'ab'aal xintz'ib'ab'ej wi ri wuuj.	Con el lapicero escribí la ponencia.
K'iche'	Ruk' le tz'ib'ab'al xintz'ib'ab'ej wi le wuj.	Con el lapicero escribí la ponencia.

Jon Dayley (1983, 1985) y Will Norman (1978) entre otros han observado que cuando el instrumento se extrae de su posición pos-verbal, puede asumir una relación más directa con el verbo. Cuando se toma una relación directa con el verbo, asume el papel de otro argumento del verbo. Así que se habla de la voz instrumental.

[2] ejemplo basado en Henderson (2007: 5,ex. 9)

//-b'-// 'instrumentales' en el kaqchikel, k'ichee', and tz'utujiil

El verbo, siendo transitivo, solamente abarca flexión para dos argumentos. En el tz'utujiil y el kaqchikel se marcan los argumentos más animados, usualmente el agente y el paciente. En el k'iche', el instrumental al asumir una relación directa con el verbo, demueve el paciente, el cual ya aparece en una frase oblicua introducida por el sustantivo relacional //-ech//.

Tabla 8: Instrumental argumento directo

idioma	ejemplo	glosa
Kaqchikel	Su't xinsu'b'ej wi'.	Me limpié con un paño.
Tz'utujiil	Machat ch'oybeen chee'.	El machete ha cortado el palo.
K'iche'	Jun asaron kinjosq'ib'ej rech le nub'e.	Limpio el camino con un azadón.

Dayley (1985) nota que la extracción del instrumento en la formación de preguntas o de cláusulas relativas favorece la flexión con //-b'ej// en tz'utujiil.

Tabla 9: Ejemplos de Dayley (1985: 506-507)

Naq xab'anb'eej?	¿Qué hiciste con ello?
Naq xinachch'eyb'eej?	¿Con qué me pegaste?
Nwaajo' jun palangaana nya'ab 'ej nisb 'o'y .	Quiero una palagana para regar mis cebollas.
Ja nuutee7 xuuloq' kokop nb'anb 'ej chaqijya'.	Mi mamá compró cacao para hacer chocolate.

Norman (1978), Craig (1978), Mora-Marín (2003) y Imanishi (2017) entre otros han notado que las construcciones con //-b'ej// tienen una semántica más amplia que solamente instrumental. Ellos sugieren la denominación "aplicativa" o "instrumental/aplicativa".

Para el K'iche' Sattler (n.d.) sugiere el apelativo, "circunstancial". Nota que //-b'ej// a veces agrega un instrumento como argumento directo del verbo, reemplazando al paciente, pero otras veces el nuevo argumento más bien especifica tiempo, circunstancia especial u objeto indirecto. Saqijix López Ixcoy lo llama voz referential cuando convierte el dativo en argumento flexional del verbo (López Ixcoy: 79).

Tabla 10: Ejemplos de tiempo (Sattler n.d.)

Jampa umajib'em le tijonik …	Desde cuando empezó la clase…
Oxib' oras kimb'imb'ej kinopan Antigua	Me lleva tres horas llegar a la Antigua

Tabla 11: Ejemplos de circunstancia (Sattler n.d.)

Kaqok'ob'ej b'i le kaxlan wa	Pasamos (a traer) el pastel.
Rilik le etz'anem kaqiyeb'ej re le kulik.	Mirando al partido, esperamos a que lleguen.
La utz kaqatij le qamiq'in kaqiyeb'ej re le etz'anem?	¿Tomamos nuestro café mientras esperamos el partido?
La utz kaqiyeb'ej kech kaqilb'ej re le etz'anem?	¿Está bien que miremos el partido mientras les esperamos?
Kaqatij le qamiq'in kuk'isb'ej re le etz'anem.	Tomamos nuestro café mientras el partido termine.
We ne utz kaqapaqalb'ej?	¿Está bien si subamos?
Xaq kimb'imb'ej	Yo me adelantaré.

Tabla 12: Ejemplos de incorporación del dativo (basados en Sattler n.d.)

Chatinch'ab'ej chwa'q.	Te hablaré mañana.
Ma xutatab'ej taj	No le escuchó.
Matyox che nutatab'exik.	Gracias por haberme escuchado.

El kaqchikel y el tz'utujiil también retienen la posibilidad de ascender al dativo con unos cuantos verbos:

Tabla 13: Dativos

idioma	verbos con –b'ej	glosa
Kaqchikel	Xkatnich'ab'ej chwa'q, Man xerukulub'ej ta ri ajyuq'. Xirutaqob'ej chanin.	Te hablaré mañana. No les casó el cura. Me lo mandó rápido.
Tz'utujiil	Xkatinch'ab'ej chwa'q. Man xerukulub'ej ta ri ajyuq'. Xirutaqob'ej chi anin.	Te hablaré mañana. No les casó el cura. Me lo mandó rápido.

2 Cambios actuales en el uso de verbos flexionados con //-b'ej//

En los tres idiomas todavía existe la posibilidad ascender un instrumento (entendido ampliamente para incluir circunstancias) o un dativo a una relación directa con el verbo. Pero también siempre es posible mantener al argumento en su frase oblicua, aun cuando se ha adelantado.

Tabla 14: Frase adelantado

idioma	ejemplo	glose
Kaqchikel	Rik'in leme't nuqumub'ej wi ri kape. Rik'in tz'ib'ab'äl xintz'ib'ab'ej wi nub'i'.	Con un vaso se tomó el café. Con lápiz escribí mi nombre.
Tz'utujiil	Rik'in leme't nuqumub'ej ri kape. Rik'in tz'ib'ab'äl xintz'ib'ab'ej wi nub'i'.	Con un vaso se tomó el café. Con lápiz escribí mi nombre.
K'iche'	Rik'in leme't nuqumub'ej wi ri kape. Rik'in tz'ib'ab'äl xintz'ib'ab'ej wi nub'i'.	Con un vaso se tomó el café. Con lápiz escribí mi nombre.

Pero también se puede formar oraciones con el argumento adelantado en su frase oblicua sin aumentar el verbo con el sufijo //-b'ej//, con poco o nada de cambio de sentido. Sin el afijo, //-b'ej//, la huella //wi// ya no es necesario.

Tabla 15: Frase adelantado

idioma	ejemplo	glosa
Kaqchikel	Rik'in leme't nuqüm ri kape. Rik'in tz'ib'ab'äl xintz'ib'aj wi nub'i'.	Con un vaso se tomó el café. Con lápiz escribí mi nombre.
Tz'utujiil	Rik'in leme't nuqum ri kape. Rik'in tz'ib'ab'äl xintz'ib'aj wi nub'i'.	Con un vaso se tomó el café. Con lápiz escribí mi nombre.
K'iche'	Rik'in leme't nuqum ri kape. Rik'in tz'ib'ab'äl xintz'ib'aj wi	Con un vaso se tomó el café.

	nub'i'.	Con lápiz escribí mi nombre.

Para el enfoque del "instrumento", no es necesario agregar //-b'ej// al verbo. En el k'iche' esto ha resultado en la ampliación de los significados atribuidos, lo que Sattler (n.d.) denomina "circunstancias". He aquí otros usos de verbos flexionados con //-b'ej//.

Tabla 16: Ejemplos adicionales de usos circunstanciales en el k'iche' Sattler (n.d.)

Jas kawokib'ej pa le ja?	¿Cómo entrarás en la casa?
Jachike b'e kawokib'ej pa le tinamit	¿Cuál camino tomarás para entrar en el pueblo
Jas utzjiob'exik le jastaq?	¿Cómo hablar de ello?
La kakowimb'ex ub'anik?	¿Esto se puede hacer?
Rajawaxik kaloq'oj le awajil atz'aqat jacha kaloq'ob'ej awib' at.	¡Ame al prójimo como ama a si mismo!
Kakib'amb'ej le wa, kojok na pa tyox.	Mientras cocinamos la comida, pasamos a la iglesia.
Tak'al le achi chuwa ja, xrokib'ej le tz'i' pa ja.	Mientras el hombre estaba parada fuera de la casa, el perro entró.
Kimb'imb'ej apanoq	Me voy a adelantar.

3 Lexicalización

Muchos verbos en el kaqchikel y el tz'utujiil ya no se usan tanto para subir instrumentos o dativos a argumentos directos, pero se han lexicalizado con el sufijo //-b'ej//.

Tabla 17: Verbos lexicalizados con b'ej

Kaqchikel	-chilab'ej -oyob'ej -tojtob'ej -ka'ib'ej	encargar esperar probar, intentar duplicar
Tz'utujiil	-chilab'ej -oyob'ej -tojtob'ej -ka'ib'ej	encargar esperar probar, intentar duplicar

Tomemos un ejemplo de estos. El verbo //-chilab'ej// no tiene un verbo activo par sin el //-b'ej//. Al decir "Xinchilab'ej jun nupo't" *Encargué un huipil*. Se entiende que hice el trato con alguien, pero esa persona no está mencionada. Si queremos mencionarla, tiene que aparecer en una frase oblicua, introducido por la preposición // ch(i)// y el sustantivo relacional //-e//.
"Xinchilab'ej jun nupo't chre ri ajkem" *Le encargué un huipil a la tejedora*. O se podría utilizar el sustantivo relacional //-uk'in ~ -ik'in//. "Xinchilab'ej jun nupo't ruk'in ri ajkem" *Encargué un huipil con la tejedora*.

De igual manera //-oyob'ej// "esperar" no implica ningún instrumento, ni tiene una relación semántica directa con la base transitiva //-oyoj// "llamar". //-tojtob'ej// también no se deriva en una manera transparente de otra forma verbal[3]. No suele aparecer con frases oblicuas. //ka'ib'ej// viene de la base númerica //ka'i'//. La //b'// aquí podría ser un fósil, resto del sufijo cardinal //-ib'// retenido en el K'iche'. Pero se nota la diferencia entre //-ka'ib'ej// "duplicar" y //kamuluj// "repetir".

[3] La raíz transitiva //-töj// quiere decir "pagar".

4 Conclusión

El sufijo //-b'ej// sigue siendo productivo. Se puede combinar con muchos verbos (intransitivos y transitivos) y con algunas bases posicionales. Pero se ve dos corrientes de cambio. Una que vimos en el k'iche' es la expansión de la semántica para abarcar varios significados más allá de instrumental. La otra es la restricción léxica en el kaqchikel, y en menor grado en el tz'utujiil.

Compare los siguientes ejemplos del kaqchikel. El * indica que los hablantes entienden la forma, pero no les suena bien.

Tabla 18: //-b'ej// que funciona //-b'ej// que no funciona

Rik'in kolo' xuximb'ej ri kej ri achin. *Con un laso el hombre ató el caballo.*	*Rik'in najtz'etb'äl Ixmuluk xutz'etb'ej ri ajxik' chiköp. *Con binoculares Ixmuluk vió el pájaro.*
Pak'a'ch xintijb'ej ri xaq q'utu'n. *Con cuchara comí el pepián.*	*Ri muru' numuqb'ej ri tz'i' roma xkäm.[4] *Con un machete enterró al perro porque se murió.*
Ri ch'ich' nink'wayb'ej ri si'. *Con el carro traje la leña.*	*Let'et' xinokib'ej pa wochoch. *Con la bicicleta lo entré en la casa.*

Las palabras en //-b'ej// de uso diario no están en peligro de desaparecer, pero más y más se usan sin una frase oblicua, y sin avanzar un argumento a una relación directa con el verbo.

Tabla 19: Palabras cotidianas con //-b'ej//

Kaqchikel	-k'isb'ej -yakab'ej -tijob'ej -loq'b'ej -t'isb'ej -tzijb'ej -josb'ej -pisb'ej	terminar guardar aprender, enseñar comprar coser encender limpiar envolver
Tz'utujiil	-k'isb'ej -yakab'ej -tijob'ej -loq'b'ej -t'isb'ej -tzijb'ej -josb'ej -pisb'ej	terminar guardar aprender, enseñar comprar coser encender limpiar envolver
K'iche'	k'isb'ej -yakab'ej -tijob'ej -loq'b'ej -t'isb'ej -tzijb'ej -josb'ej -pisb'ej	terminar guardar aprender, enseñar comprar coser encender limpiar envolver

[4] Con otro "instrumento", por ejemplo "ulew" esta frase se vuelve más aceptable.

En la mayoría de los usos diarios, los verbos con //-b'ej// no sacan a un argumento de una frase oblicua, no agrega un argumento al verbo. Ya no constituye una voz. Norman (1978), Ayers (1983), Aissen (2017) han comentado sobre la inestabilidad de estas formas. Sin embargo, en los tres idiomas unos lexemas retienen la habilidad de utilizar la derivación en //-b'ej// para poner el "instrumento" en relación directa con el verbo. En los tres idiomas hay una construcción en la cual la inflexión verbal no cambia, representa el agente y el paciente pero el "instrumento" aparece sin un sustantivo relacional que lo introduzca.

Tabla 20: Tz'utujiil

voz instrumental	glosa aproximada
Jar aachi machat xchoyb'eej ja chee'.	Era con el machete que el hombre cortó el palo.
Tz'uum xch'eyb'eej jun ixoq jar aachi.	Era con un látigo que el hombre le pegó a la mujer.
Tz'uum xiruch'eyb'eej jar aachi.	Era con el látigo que me pegó el hombre.
Kaxlaan xinb'aqb'eej nuwi'.	Era con jabón que me lavé el cabello.
Kuchi'l xinsokb'eej wii'.	Era con un cuchillo que me corté

Tabla 21: K'iche'

voz instrumental	glosa aproximada
Rajil ri nab'e ik' nuchak xinloq'b'ej jun nuch'iich'.	Con el pago de mi primer mes de trabajo me compré un carro.
K'im xinb'anb'ej kochooch wawaj.	Con paja les hice un cobertizo para mis animales domésticos
Ojer wuj xintijob'ej wib'.	Con los libros antiguos estudié.
Nukik'el xintz'ib'ab'ej nub'ii'.	Con mi sangre escribí mi nombre.

Tabla 22: Kaqchikel

Ri pwäq ri xuch'äk chrij rukem, xuloq'b'ej chïk b'ätz'.	Con el dinero que ganó de su tejido, se compró hilo de nuevo.
Jun ka'ib'anik wuj xintijob'ej ri'.	Con una fotocopia, estudié.
Aq'a'l xutz'ib'ab'ej rub'i' rumetz' chi ruwäch ri xan.	Con carbón escribió el nombre de su novia en la pared.

En el k'iche' existe la posibilidad de flexionar el verbo para el argumento "alzado". En tal caso el paciente se expresa en una frase oblicua. Asciende el dativo o el instrumento, y se baja el paciente.

Tabla 23: K'iche' con democión de paciente

Are la' le ch'ich' xinramib'ej (re(ch)) le che'.[5]	Corté el palo con el machete.
Ch'ich' kinramib'ej re(ch) le che'[6]	Corté el palo con el machete.
Jun jukub' kutzuqub'ej rech le aq	Con una canoa alimenté al cerdo
Ch'ich' kinsokb'ej awech[7]	Con el machete te corté.

La voz instrumental en estos tres idiomas lejos de desaparecer, se ha transmorgrificado. Sigue siendo una voz en unos contextos restringidos. Unos lexemas se prestan más que otros al uso de esta voz. Pero se ha adquerido otros usos. Mora-Morín (2003) denomina el *//-b'e// del Proto-Maya un aplicativo. Se ha aplicado en nuevas maneras en los tres idiomas para agregar nociones, a veces solamente implícitas, de manera, tiempo, calidad y el instrumento de siempre.

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[5] Kaufman (1990)
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[7] op. cit. , ibid

DEMOGRAPHIC EFFECTS ON WORD ORDER IN CH'OL*

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The present study reexamines data collected by Clemens et al. (2017), who collected the semi-spontaneous responses of 30 native Ch'ol speakers through the use of visual prompts for five different focus types: broad, subject, object, contrastive subject, and contrastive object. I examine how the word order of Ch'ol speakers in a given focus context varies according to four demographic factors: language profile, sex, age, and municipality (Tila vs. Tumbalá). All factors are self-reported. I conclude that age and language profile are the best predictors of the word order of a response in a given focus condition. I posit that older monolingual Ch'ol speakers do not obligatorily encode focus through fronting, and that bilingual speakers may be influenced by Spanish word order.
Keywords: Ch'ol, sociolinguistic variables, word order, focus

1 Introduction

Ch'ol, also known as Chol or Lakty'añ, is a language of the Ch'olan branch of the Mayan language family. Although the basic word order of Ch'ol is verb-initial, fronting can occur to focus or topicalize constituents (England 1991; Aissen 1992; Vázquez Álvarez 2011). The factors that determine post-verbal word order, i.e. the difference between VSO and VOS, have also been discussed in the literature (England 1991, Coon 2010, Clemens & Coon 2018, and others). The purpose of this paper is to examine the effects of several demographic factors on word order choice of native speakers in various contexts of focus: language profile, sex, age and municipality. I find that these factors do indeed have an impact on word order, and that language profile and age are the best predictors for word order in a given focus type. Furthermore, I find that some groups do not unambiguously encode focus through the fronting of focused constituents.

The use of metadata can be an important factor in fully understanding linguistic patterns (Good 2002; Burnard 2004), as language patterns vary between groups of individuals with shared characteristics. A look at word order preferences in the context of a given focus type of individual speakers in the data of this paper indicates a high range of variability, while looking at responses of all speakers as a single entity gives the illusion of little to no variability. When demographics are utilized as a grouping method, distinct patterns become more easily visible.

Furthermore, crucial information about the influence of a dominant language on a minority language can be observed, including structural influences on the syntax like that of Spanish on Ch'ol. Although past literature (Kistler 2005; Clynes 2012) states that the majority of dominant influence of colonizing languages can be seen in the phonological system and lexicon, it is clear through this study that syntactic impacts should be considered as well.

2 Background

In this section I introduce a background of the Ch'ol language as well as the speakers who provided the data for the present research.

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2.1 Ch'ol language

Ch'ol is a language of the Ch'olan branch of the Mayan language family; alongside Chontal, Ch'orti', and Ch'olti', which is now dormant with no living speakers. Ch'ol, like nearly all Mayan languages, is verb-initial. While VSO and VOS occur, VOS is relatively more common[1]. Post-verbal word order is dependent on the structure of the object (Coon 2010; Vázquez Álvarez 2011). While VOS requires a bare NP object, VSO requires a full DP object, as shown in (1) and (2).

(1) Tyi i-k'uch-u si' aj-Maria.
PFV A3-carry-SS wood NC-Maria
'Maria carried wood.'

(2) Tyi i-k'uch-u aj-Maria jiñi si'.
PFV A3-carry-SS NC-Maria DET wood
'Maria carried the wood.'

(Coon 2010: 355)

Ostensibly, both VSO and VOS word orders should be associated with broad focus, meaning that there are no particular constituents being focused or emphasized in verb-initial order. The data analyzed in this paper considers broad focus as well as the other types of focus investigated in Clemens et al. (2017): broad focus, subject focus, object focus, contrastive subject focus, and contrastive object focus.

Büring (2012) distinguishes between regular, or constituent, focus and contrastive focus. In constituent focus, one constituent is emphasized, e.g. when it is the answer to part of a wh-question. In comparison, contrastive focus marks the constituent that distinguishes a sentence from a previous sentence and is typically corrective in nature. If the response to the question *Who bought the beans* is *The girl bought the beans*, then the response features subject focus because it is offering new information as a constituent to a wh-question. If the question is *Did the boy buy the beans* and the response is *The girl bought the beans*, then the response features contrastive subject focus because it is correcting the information of the previous utterance.

Some Mayan languages have a focus marker to indicate a focus constituent along with fronting, like Ki'chee', which has a focus marker that is optional in certain contexts, such as when the focused constituent is a bare NP (Velleman 2014).

(3) (Aree) leej ka-tij-ow chla'.
(FOC) tortilla INC-eat-UNACC DEM
'They eat *tortillas* there.'

(Velleman 2014: 101)

Sometimes this focus marker is required, as in (4), where the focused constituent is a full DP.

(4) *(Aree) ri a Xwaan x-riq-ow-ik.
(FOC) D youth Juan CPL-find-AF-SS
'It was *Juan* who found it'.

(Velleman 2014: 102)

[1]Neither VOS nor VSO are very frequently occuring, because Ch'ol is a pro-drop language and because nominals are frequently fronted (Coon 2010).

Ch'ol is unlike Ki'chee' in this respect and does not have a focus marker, and instead has been reported to utilize fronting as the only method to encode focus information (Coon 2010; Vázquez Álvarez 2011). Following this notion, SVO is generally indicative of subject focus, as in (5) while OVS word order is associated with object focus, as in (6). Focus is indicated in the example sentences below with italics.

(5) Jiñ lukum tyi i-k'ux-u x'ixik.
DET snake PFV A3-bite-SS woman
'*The snake* bit the woman.'

(6) Jiñ xixik tyi i-k'ux-u ili lukum.
DET woman PFV A3-bite-SS DEM snake
The snake bit *the woman*.'

(Clemens et al. 2017: 10)

As discussed in Section 4, there is evidence in the present data that subject focus can occur in orders other than SVO and object focus can occur in orders other than OVS, as shown below, where (7) is an example of subject focus with VOS order and (8) is an example of object focus with SVO order. Both responses are from the same speaker and visual prompt.

(7) a. Maxki ta' imäñä bu'ul sajmä?
who PFV buy bean today
'Who bought beans today?'

b. sajmäl [tyi mäñä]$_V$ [bu'ul]$_O$ [xch'ok]$_S$.
today PFV buy bean girl
'*The girl* bought beans today.'

Subject focus, sfc_1_1_2

(8) a. Chuki ta' imäñä xch'ok sajmä?
what PFV buy girl today
'What did the girl buy today?'

b. [jiñi xch'ok]$_S$ [tyi mäñä]$_V$ [bu'ul]$_O$ sajmäl.
DET girl PFV buy bean today
'The girl bought *beans* today.'

Object focus, sfc_1_1_3

This is not surprising, given that other Mayan languages permit focus without fronting. Yucatec Maya allows for in-situ object focus (Verhoeven and Skopeteas 2015), as in (9).

(9) túun tul-ik hun-p'éel kamyòon
PROG:A.3 push-INCMPL(B.3.SG) one-CL.INAN pick.up
'He is pushing a *pickup*'.

2.2 Ch'ol speakers

Table 1 shows the distribution of each of the sociolinguistic variables among the native Ch'ol speakers from which the data of this paper was collected. All demographic factors were self-reported. 21 female speakers

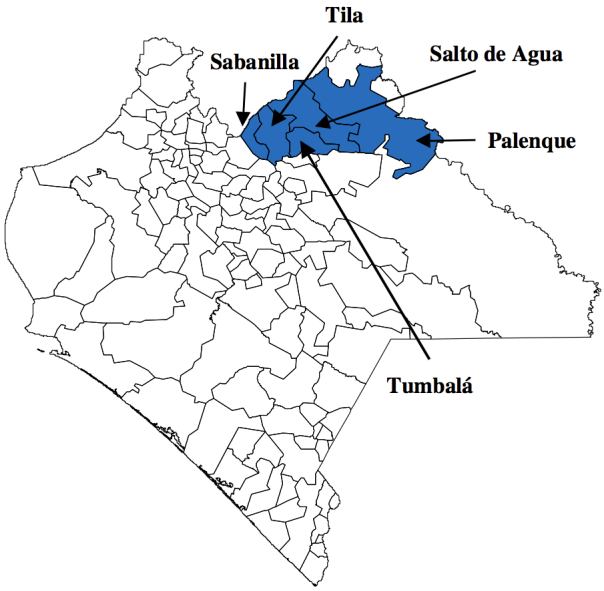
and 10 male speakers were represented in the sample. While 21 speakers identified as bilingual speakers of both Ch'ol and Spanish, 10 identified as monolingual Ch'ol speakers. The average age of speakers was approximately 35 years, with a range of approximately 20 years. 13 speakers resided in the Tila region, while 17 resided in Tumbalá at the time of data collection. Table 1 shows the distribution of these characteristics among the 31 speakers.

Table 1: Distribution of demographic factors among 31 speakers

		Frequency	Percentage (%)
Sex			
	Female	21	68
	Male	10	32
Language profile			
	Monolingual	10	32
	Bilingual	21	68
Age			
	<35 years	19	61
	>35 years	12	39
Municipality			
	Tila	13	42
	Tumbalá	18	58

The data discussed in this paper come from speakers residing in Tila and Tumbalá municipalities, and there are generally thought to be two main varieties of Ch'ol: Tila Chol, and Tumbalá Ch'ol. All varieties of Ch'ol are mutually intelligible (Attinasi 1973; Schumann Galvez 1973; Vázquez Álvarez 2002). Figure 1 below shows a map of the state of Chiapas, with regions with large numbers of Ch'ol speakers highlighted in blue.

Figure 1: Map of the Ch'ol-speaking regions of Chiapas (Vázquez Álvarez 2002: XVI)



Children born in Ch'ol-speaking regions often grow up speaking Ch'ol as their first language and may speak Ch'ol in primary school, but Spanish is the dominant language of education beyond the early years. Furthermore, Spanish is typically required of individuals who travel outside of the region for work or further education (Coon 2004).

This heavy and growing influence of Spanish, especially among younger speakers, is possibly affecting the syntax of their first language, as we will see in Section 4. Bilingual speakers are using SVO order more evenly across focus contexts, including broad focus.

3 Data collection

The data in this paper was collected by Clemens et al. (2017), whose study elicited semi-spontaneous responses to pre-recorded questions. Speakers were asked questions via audio recordings designed to elicit responses of specific focus types, with illustrated visual prompts as aids. This method of elicitation was meant to avoid influencing participants through the use of a lingua franca or requiring literacy in Ch'ol for participation. Below is an example of a visual prompt with the questions utilized to elicit responses for each focus type.

Figure 2: An illustrated visual prompt for recorded elicitations (Illustrations by Blare Coughlin)

(10) a. Chuki ta' ujtyi sajmä?
'What is happening today?' Broad focus

b. Maxki ta' imäñä bu'ul sajmä?
'Who bought beans today?' Subject focus

c. Chuki ta' imäñä xch'ok sajmä?
'What did the girl buy today?' Object focus

d. Jiñi alob ta' imäñä bu'ul sajmä?
'Did the boy buy beans today?' Contrastive subject focus

e. Ta' imäñä ch'um xch'ok sajmä?
'Did the girl buy chayote today?' Contrastive object focus

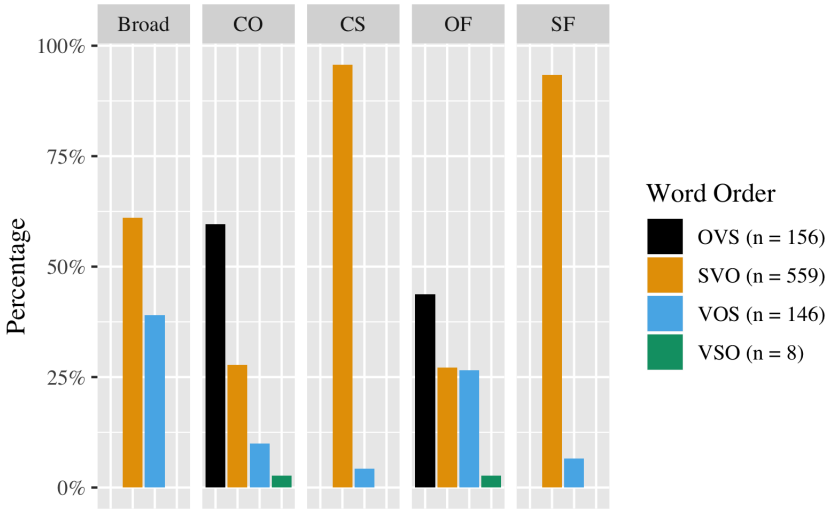
Participants were given time to practice during a training stage, and those who were uncomfortable using the computer were assisted with pressing the recording button. They were also introduced to the characters in the illustrations beforehand and given names to refer to them by.

A total of 1,549 responses were collected. Each recording was annotated by a native speaker of Ch'ol for fluidity, or confidence and completeness, on a scale of 1 to 3, with one being least fluid and 3 being most fluid. Fluid responses were those with no hesitation markers or pauses. Files with a fluidity of 1 (n = 325) or a fluidity of 2 (n = 310) were omitted from analysis. Infelicitous responses (n = 289), files with clipped audio (n = 30), responses with a discontinuous hesitation marker (n = 2), and responses with pro-drop, such as OV or SV (n = 145), were omitted as well. Many items exhibited more than one of these characteristics. The remaining files totaled to 869 responses.

4 Results

Figure 3 below illustrates the distribution of the four observed word orders in the five focus conditions before sociolinguistic variables are considered.

Figure 3: Frequency of word orders across focus conditions



Both VOS and SVO are found in all focus conditions, while OVS and VSO are only found in object focus and contrastive object focus.

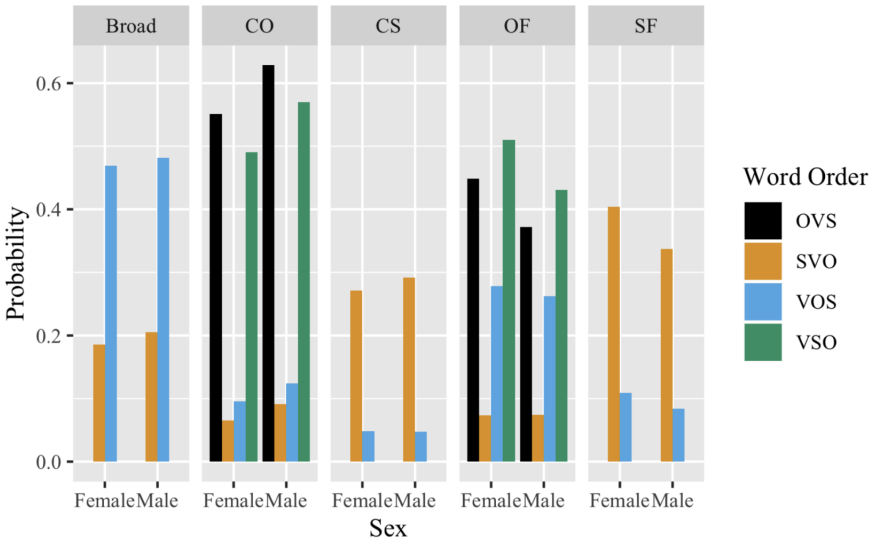
In broad focus, SVO and VOS word orders are possible, with VOS being the most likely outcome. Subject focus and contrastive subject focus are similar in that they are both more likely to have an SVO order, although VOS is also permitted. Object focus and contrastive object focus have more possible word orders than the other focus types because OVS and VSO orders are exclusive to these contexts. OVS and VSO are both preferred in regular object and contrastive object focuses, with OVS being the more probable outcome of the two.

A multinomial logistic regression was run on the data using R (R Core Team 2014). An ANOVA was then utilized to compare models differing in one variable. It was concluded that sex and municipality are not significant predictors of the output, as women and men exhibit neatly identical patterns, and speakers from Tila and Tumbalá pattern nearly identically as well. Language profile was found to contribute significantly to the model ($p < 0.01$). Although age by itself is not a significant contributor, the interaction of age and language profile is ($p = 0$). In conclusion, age and language profile are the best predictors of output word order within a focus condition.

4.1 Sex

Figure 4 below shows the probability of word orders in the five focus types grouped by sex. Female and male speakers pattern almost identically in the word order of their responses across focus conditions.

Figure 4: Probability of word orders across focus conditions by sex



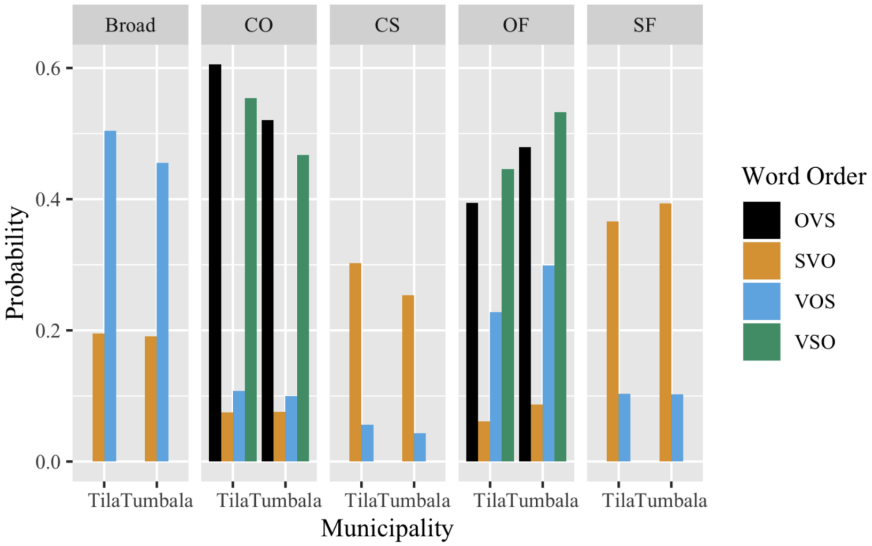
VOS order is primarily used for broad focus, but SVO is also utilized. OVS and VSO word orders are reserved for object focuses, both regular and contrastive. SVO is used primarily for regular and contrastive subject focuses, although it is observed in all focus contexts, as is VOS.

These facts are true regardless of sex, so this demographic factor can not be considered a significant predictor of word order for a given focus.

4.2 Municipality

The next factor considered was municipality, with responses analyzed from Ch'ol speakers in the Tila and Tumbalá municipalities.

Figure 5: Probability of word orders across focus conditions by municipality

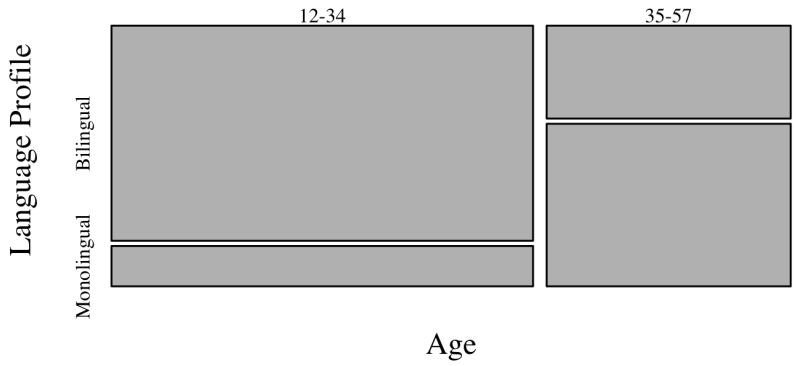


Similarly to sex, the municipality of speakers does not significantly contribute to output word order.

4.3 Age and language profile

A Fisher's exact test was calculated comparing the proportion of bilingualism and monolingualism in younger speakers compared to older speakers. A significant interaction was found ($p < .004$). Younger speakers are more likely to be bilingual than older speakers, as shown in Figure 6. There were no significant interactions between these and other factors, including sex and municipality. Because there was a significant interaction between age and language profile, these two demographic factors were analyzed simultaneously.

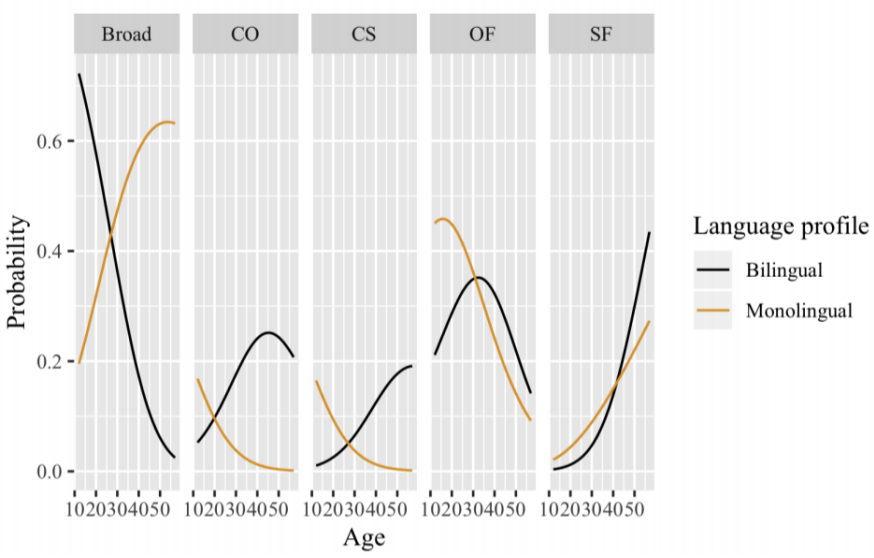
Figure 6: Proportion of Ch'ol speakers by age and language profile



In comparison to sex and municipality, the output word order of a response in regards to age and language profile is much more variable. The probability of a certain word order in focus context is more dependent on these demographic factors than seen previously with sex and municipality.

The probability of VOS order responses across focus conditions in respect to age and language profile are shown in Figure 7.

Figure 7: Probability of VOS order across focus contexts (n = 146)

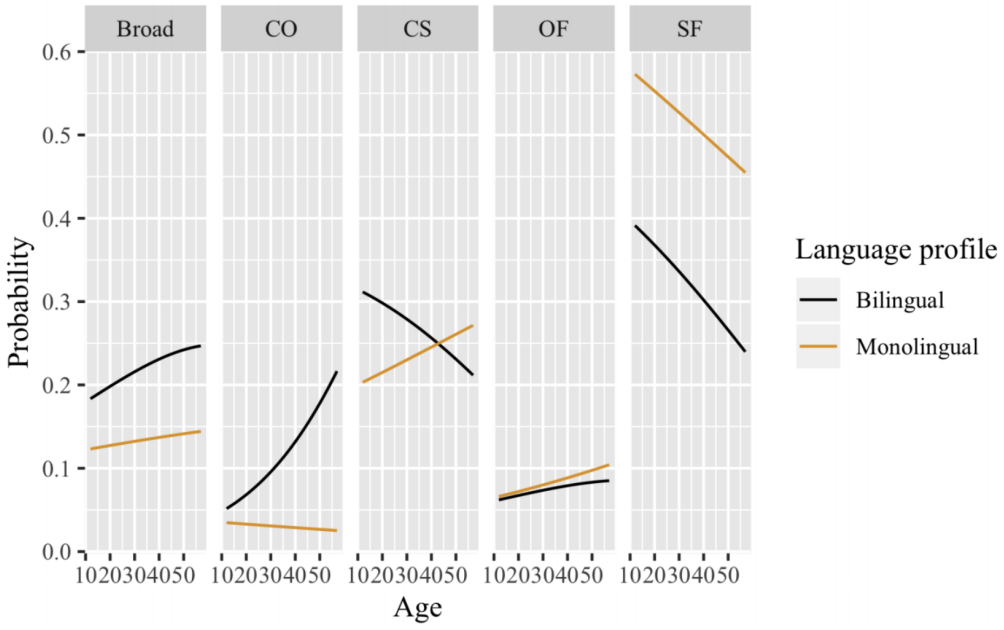


Surprisingly, VOS is most probable in broad focus responses of young bilingual Ch'ol-Spanish speakers, and older monolingual Ch'ol speakers. Younger monolingual speakers use VOS in object focus conditions, while older bilingual speakers use VOS in subject focus.

One possible explanation of this distribution is that younger bilingual speakers and older monolingual speakers are staying home and communicating with each other, creating a similarity in the way they encode broad focus. Older bilingual speakers are most likely to travel to larger economic centers where Spanish is the lingua franca. It should also be noted that this sample size of younger monolingual speakers was only 3 of the 31 speakers; smaller than the other demographic groups. As a result, the probabilities of younger monolingual speakers may be less reliable and should be investigated with a larger sample size.

Figure 8 shows the probability of SVO in responses. Although SVO is not considered to be a basic order of Ch'ol, it appears in all focus conditions, as was shown in Figure 3 above. Of all conditions, SVO order is most probable in subject focus, especially among younger monolingual speakers.

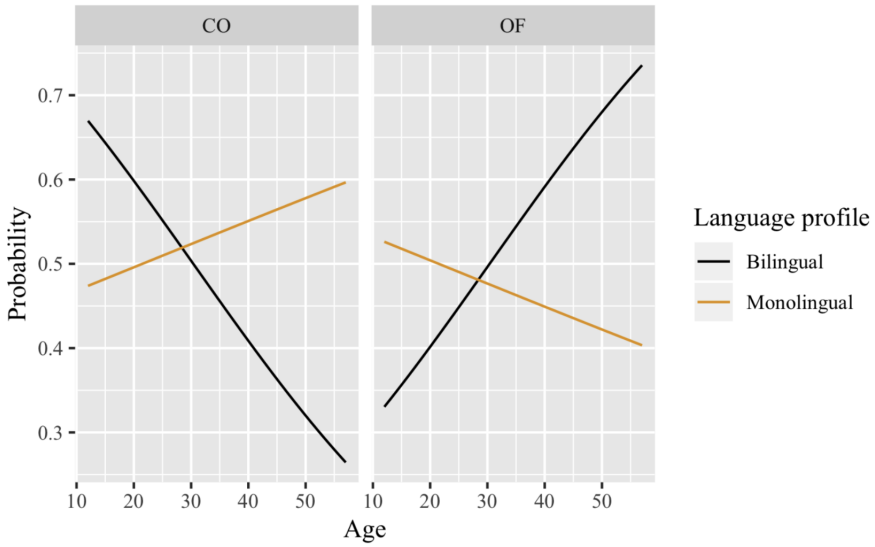
Figure 8: Probability of SVO order across focus contexts (n = 559)



SVO is seen in all conditions, but is prevalent in broad focus, subject focus, and contrastive subject focus. When it is utilized for contrastive object focus, it is used by older bilingual speakers. A possible influence of Spanish can be seen in the more even distribution of bilingual speakers across broad, subject, and contrastive subject focuses. We see relatively equal rates of SVO, the basic word order of Spanish, in broad focus by bilingual speakers where we would expect the basic word order of Ch'ol: V1.

The probability of OVS across focus conditions is shown in Figure 9 below. OVS order is only utilized for contrastive object and object focus, and is not seen in other contexts of focus.

Figure 9: Probability of OVS order across focus contexts



In terms of demographic groups, contrastive object and object focus use OVS order differently. While OVS is only ever used as a way to encode focus through fronting, it is not the only order that signals

object or contrastive object focus. Younger bilingual speakers use OVS as fronting to indicate contrastive object focus, while older bilingual speakers use OVS for object focus. Monolingual speakers, regardless of their age use OVS evenly for object and contrastive object focus.

We can conclude that OVS appears for the two object focus conditions exclusively. The four demographic groups created by language profile and age can use OVS more frequently for one than the other, but can also all use OVS for both conditions.

VSO is very rarely utilized as a word order in these responses. In this data, only 8 of the 869 responses were VSO, and as a result they were not analyzed in depth. Clemens and Coon (2018) offers a discussion of right-side topic and focus position in Ch'ol. It should be noted, however, that VSO responses only occurred in object focus and contrastive object focus. VOS has been stated to only appear with definite objects, while VSO only appears with objects that are bare nouns (Coon 2010). This fact accounts for the appearance of VOS solely in object focuses since the objects are being focused as full DPs. The data for this paper does not show a similar pattern for definite and bare subject nominal phrases. Both bare and definite subjects appeared in all word orders.

5 Conclusion

Evidence that word order is not a solitary cue for word order in a given focus condition, along with the fact that different demographic groups seem to encode focus information differently, leads me to believe that focus may be encoded through prosody. Acoustic measurements including pitch, duration, and intensity; of the responses of Ch'ol speakers were collected from the data and analyzed among the four demographic factors.

Analysis into these acoustic measurements and how they encode focus is ongoing. It is unlikely that the differences in intensity are meaningful because the change across focus types only amounts to around 5 dB, a change that is imperceptible to the human ear.

Because initial responses were edited for a prosodic analysis, it may also be useful to include removed responses for a more complete demographic account as well.

Although the present research reveals that there are patterns and differences in the ways that speakers of varying sociolinguistic variables use word order across focus conditions, this information could benefit from in-depth research into the sociolinguistic motivations behind these differences. Because Spanish is becoming increasingly influential in regions with Ch'ol speakers, an investigation into the benefits of utilizing characteristics from a dominant language could reveal deeper nuances.

In conclusion, there aree differences within the data in the way that Ch'ol speakers encode focus with respect to language profile and age. Monolingual speakers use SVO for subject focus, and OVS for object and contrastive object focuses. While younger monolingual speakers use VOS for object focus, older monolingual speakers use VOS for broad focus, following the basic order of Ch'ol.

Bilingual Ch'ol-Spanish speakers use SVO more evenly across broad, subject, and contrastive subject focus contexts. Bilingual speakers of different ages differ in the way they utilize VOS and OVS. Younger bilingual speakers use VOS in broad focus and OVS in contrastive object contexts, but older bilingual speakers use VOS in subject focus and OVS in object focus.

The analysis of demographic factors alongside word orders in various focus contexts leads to the understanding that word order alone can not predict the focus condition of an utterance, regardless of demographic group. We can use information, such as metadata about speaker demographics, to further support our predictions on a word order outcome. Furthermore, it is evident that the influence of Spanish can be seen within the syntax of Ch'ol, and that colonizing languages influence language outside the lexicon and phonology.

Language profile and age are key predictors of word order and focus type. Sex and municipality were not sufficient predictors for word orde, except in object focuses. In contrast, word order of speakers with respect to their age and language profile across focus contexts was much more variable, but predictable across demographic groups. In conclusion, fronting is a good indication of focus, but it is not the solitary way that focus information is encoded, especially among older Ch'ol speakers.

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RANDOM CHOICE MODALITY IN CHUJ:

The case of 'komon'[*]

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Study on modality has focused mainly on verb auxiliaries, but modal expressions outside the verbal domain, like modal indefinites, have started to receive considerable attention (Arregui et al. 2017). With the study of modal expressions outside the verbal domain, questions about the correlation between categories emerge. For instance, what modal flavours can DPs express? Do they parallel the modal flavours attested in the verbal domain? Also, in the verbal domain, there seem to be correlations between syntactic position and modal flavour. Do we find similar correlations outside the verbal domain? The main goal of this short paper is descriptive. The paper describes the interpretation and distribution of the morpheme *komon*, from Chuj, an underdocumented Mayan language. It shows that *komon* can be either internal to the DP ('DP-*komon*') or to the VP ('VP-*komon*'). In both cases *komon* seems to contribute random choice modality, like some modal indefinites in other typologically unrelated languages do. While indefinite DPs containing *komon* parallel other modal indefinites expressing the same type of modality, VP-*komon* doesn't. Despite *prima facie* similarities, DP-*komon* and VP-*komon* differ in interpretation, showing that there are correlations between syntactic position and interpretation, and setting the stage for further investigation.
Keywords: Chuj, Modality, Indefinites, Random-choice, Typology

1 Introduction

Work on modality has traditionally focused on verb auxiliaries, but modal expressions outside the verbal domain have started to receive considerable attention (Arregui et al. 2017). Modal indefinites are a case at hand. These are indefinite DPs that convey modality in the absence of an overt modal (see Alonso-Ovalle and Menéndez-Benito 2013; 2015 and references therein). Amongst them, random choice modal indefinites convey, roughly, that an agent acted indiscriminately, as illustrated in the sentence in (1a) with Spanish *un NP cualquiera*. The sentence in (1a) conveys (i) that Juan grabbed a book (just like its counterpart (1b) with a non-modal indefinite does), but also (ii) that he could have grabbed any other book (unlike (1b)).

(1) SPANISH

a. Juan compró [$_{DP}$ un libro cualquiera].
Juan bought a book CUALQUIERA
≈ 'Juan bought a random book.'[1]

b. Juan compró [$_{DP}$ un libro].
Juan bought a book
'Juan bought a book.'

With the study of modal expressions outside the verbal domain, questions about the correlation between categories emerge. What modal flavours can DPs express? Do they parallel the modal flavours attested in

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[1]All Chuj data, unless otherwise attributed, come from original fieldwork conducted with speakers of the San Mateo Ixtatán variant of Chuj. Data were collected in communities in Huehuetenango, Guatemala and Chiapas, Mexico, and with a consultant in Montreal, Canada. Abbreviations in glosses are as follows: A: ergative/possessive; AG: agentive suffix; B: absolutive; ALGÚN: Spanish *algún*; CLF: noun classifier; CUALQUIERA: Spanish *cualquiera*; DEM: demonstrative; DIV: derived intransitive suffix; DTV: derived transitive suffix; INDF: indefinite; IRGEND: German *irgend-*; KOMON: Chuj *komon*; IV: intransitive status suffix; PASS: passive; PFV: perfective; PROG: progressive; TOP: topic.

the verbal domain? Also, in the verbal domain, there are correlations between syntactic position and modal flavour, which recent work aims to motivate (Hacquard 2009). Do we find similar correlations outside the verbal domain?

The goal of this short paper is descriptive. The paper contributes new data from Chuj, an under-documented Mayan language spoken in Guatemala and Mexico by 45,000 to 70,000 speakers (Piedrasanta 2009). We describe the interpretation and distribution of the morpheme *komon.* We show that *komon* can be either internal to the DP ('DP-*komon*') or to the VP ('VP-*komon*') and that in both cases *komon* seems to contribute random choice modality. We also show that while DP-*komon* parallels Spanish *un NP cualquiera* in interpretation, VP-*komon* doesn't entirely, and that, therefore, changes in syntactic position correlate with changes in interpretation.

The paper is organized as follows. In section 2, we briefly introduce background work pertaining to modal indefinites and random choice modal indefinites. In section 3, we describe the syntactic and semantic distribution of *komon* showing that it can appear both internal to the DP and internal to the VP. Finally, in section 4, we discuss issues that arise from the interpretation of *komon* for existing theories on random choice modality, aiming to set the stage for further work on the topic.

2 Background

As discussed above, among those lexical items that express modality outside the verbal domain, modal indefinites have received considerable attention. Modal indefinites are indefinite DPs that convey modality without overt modals (Alonso-Ovalle and Menéndez-Benito 2010). Consider the Spanish example in (2):

(2) Juan compró [algún libro]
Juan bought ALGÚN book
'Juan bought some book.'

The indefinite *algún* makes a double contribution: (i) it makes an existential claim—namely that there exists a book that Juan bought—and (ii) it conveys a modal component—it expresses that the speaker does not know which book Juan bought.

While epistemic modal indefinites, like *algún*, express speaker ignorance, random choice modal indefinites, like Spanish *un NP cualquiera*, German *irgendein*, and Korean *amwu-NP-na* express that an agent acted indiscriminately, as already seen (1a) above. Further examples from German and Korean are provided below:

(3) a. GERMAN
Hans hat irgend-ein Buch gekauft.
Hans has IRGEND-INDF book bought
≈ 'Hans bought a random book.' (Buccola and Haidas 2017)

b. KOREAN
John-un amwu-khadu-na cip-ess-e.
John-TOP AMWU-card-OR take-PAST-DEC
≈ 'John picked a random card.' (Choi 2007)

Random choice indefinites, like epistemic indefinites, also make a double contribution. On the one hand, like non-modal indefinites, they make an existential claim—in the case of the sentences above, that there is a book that Hans bought or a card that John picked. On the other hand, they make a modal claim, one that we can paraphrase with the help of a modal auxiliary: that Hans/John *could* have bought/picked any other book/card.

One main question that arises is the exact nature of the modal component of random choice indefinites. There is no consensus in the literature about that. What is exactly conveyed by the claim that the agent could have bought any other book? Modal auxiliaries are notorious in being able to express different types of modal flavours. What is the modal flavour of the modal auxiliary in these paraphrases? There is also no consensus about where the modal component is coming from: Is the modal component part of the meaning of the indefinite itself or does it arise from a source external to the indefinite?

The literature has offered different answers to the first question ('what is the exact nature of the modal component?'). Chierchia (2013) offers (mostly in passing) a bouletic account, under which indefinites like Italian *uno qualsiasi* and German *irgendein* are interpreted under the scope of a bouletic modal (a modal that makes reference to the desires of the agent). Under this approach, what *irgendein* conveys in (3a) is that in view of his desires, Hans could have taken any other book, i.e. that Hans' desires did not favour one book over another.

Alonso-Ovalle and Menéndez-Benito (2018) offer a decision-based account, according to which *un NP cualquiera* is interpreted relative to the decision that the agent of the event described made. In the case of (1a), according to their account, *un NP cualquiera* would convey that Juan decided to buy a book and that, according to the decision that he made and that led to his buying a book, he could have bought any book. This account predicts *un NP cualquiera* to be appropriate in more scenarios than the bouletic account. It could be the case that the agent did not decide to buy a particular book because he didn't want to buy a particular book, but it could also be the case that he wanted to buy a particular book but he could not decide to do so because, for example, he would not know what to do to buy the particular book that he wanted (imagine, for instance, that Juan has to pick a book in front of him in order to buy it and that he was blindfolded).

Choi (2007) and Choi and Romero (2008) offer a counterfactual approach, where random choice modal indefinites in utterances like (1) are taken to convey, roughly, that Juan bought a book from a set of actual books, and that he would have also bought a book if the set of books had been different. This covers the random choice interpretation that we have been talking about, since in cases where the counterfactual component is true, the identity of the books did not matter. But the interpretation allows for other scenarios, as well (see Alonso-Ovalle and Menéndez-Benito 2018 for discussion).

Finally, Buccola and Haidas (2017) trace back the modality of *irgendein* to a comparison between potential alternative actions. They focus on the interpretation of *irgendein* in sentences with the adverb *einfach* ('simply'), which they take to be covert in cases like (3a). For them, *einfach* is interpreted with respect to a simplicity order that determines what is simple for the agent of the event described. *Irgendein* provides a set of alternative propositions that *einfach* compares. Some of these alternative propositions are determined by restricting the domain of quantification of *irgendein*: for instance, in (3a) *irgendein* contributes the proposition that Hans bought a book in a given domain of books D and the alternative propositions that Hans bought a book in a domain D' that is a subset of D. What *einfach* conveys is, roughly, that buying a book in any of these subset domains would not have been simpler for Hans. This claim is meant to exclude situations where Hans had preferences as to which book to take. If that were the case, picking a book from a larger set of books would not have been simpler for Hans than picking a book from a subset of those books, because picking a book from a given set involves discarding the books that Hans was not interested in, and the larger the set, the more books that require discarding, hence the more complex for Hans the action would be.

With respect to the second question discussed above ('Is the modal component part of the meaning of the indefinite itself or does it arise from a source external to the indefinite?'), no consensus has been reached, either. On the one hand, some have argued that random choice modal indefinites are themselves modal expressions (Choi and Romero 2008; Alonso-Ovalle and Menéndez-Benito 2018). On the other hand, others assume that random choice modal indefinites are not themselves modal expressions, but are

interpreted relative to a possibly covert external modal expression within the verbal domain (Chierchia 2013; Buccola and Haidas 2017).

With this background, we turn in the next section to the behaviour of Chuj's *komon*. Section 4 will then briefly discuss the significance of our findings to the background questions discussed in section 2.

3 Chuj *komon*

In this section, we describe the syntactic and semantic distribution of the Chuj morpheme *komon*, which, according to Hopkins (2012), is a borrowing of Spanish *común* ('common').[2] As anticipated above, we show that *komon* can be either internal to the DP or to the VP. In both cases, it seems to convey a random choice modal component. Upon closer examination, it turns out that the interpretation of DP-*komon* and VP-*komon* is significantly different. While DP-*komon* patterns with other instances of random choice indefinites, like Spanish *un NP cualquiera*, VP-*komon* does not. We discuss DP-*komon* in section 3.1 and VP-*komon* in section 3.2.

3.1 DP-*komon*

When internal to a DP, *komon* occupies a pre-nominal position between the determiner and the noun, a position typically occupied by adjectival modifiers (Maxwell 1976; Coon 2018). An example of DP-*komon* is provided in (4), and, for comparison, an example with the adjective *saksak* ('white') is provided in (5):

(4) DP-*komon*
Ix-s-yam [$_{DP}$ jun **komon** regalo] ix Malin.
PFV-A1S-grab INDF KOMON gift CLF Malin
≈ 'Malin grabbed a random gift.'

(5) Ix-s-man [$_{DP}$ jun **saksak** libro] ix Malin.
PFV-A1S-buy INDF white book CLF Malin
'Malin bought a white book.'

The sentence in (4), with *komon* within an indefinite DP, can appropriately describe the scenario in (6), where the agent made a random choice.

(6) Scenario A RANDOM CHOICE: *Malin is at a gift exchange. Everyone knows there's a jackpot of $1,000 and that the other gifts are very cheap gifts from the dollar store. There are four gifts left to choose from, the jackpot hasn't been picked yet and it's Malin's turn to choose. All of the gifts are wrapped the same, so Malin just picks one at random, and it's the jackpot!*

Consider now the scenario in (7), where the agent did not make a random choice.

(7) Scenario B 'UNREMARKABLE *x*': ... *Malin's turn to choose, when she notices that one of the gifts has blue wrapping, while the other three have red wrapping. She assumes the jackpot must be in the gift with blue wrapping. She grabs this gift, but to her disappointment, it's just a cheap gift.*

The sentence in (4) can be read in such a way as to make a false claim in the scenario in (7), based on the observation that the agent did *not* make a random choice in that scenario. There is however another possible interpretation of (4) under which the sentence can truthfully describe the scenario in (7). Under

[2]Note that Spanish *común* does not exhibit the same behaviour as Chuj *komon*. As far as we know, it does not have a random-choice modal indefinite reading.

that interpretation, the sentence conveys that the agent bought an 'unremarkable' book, which is true in the given scenario.

Finally, the sentence in (4) cannot describe the scenario in (8) where the agent did not make a random choice and the witness of the existential claim (the book that Malin chose) is remarkable.

(8) Scenario C 'UNEXPECTED *e*': *... There are four gifts left to choose from, the jackpot hasn't been picked yet, and it's* ***not*** *Malin's turn to choose, when she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's* ***not*** *her turn, she runs to the blue gift and unwraps it. It's the jackpot!*

The behaviour of DP-*komon* with respect to these three scenarios is completely parallel to that of *un NP cualquiera*. The counterpart of (4) with *un NP cualquiera* can also either convey that a random choice was made or that the object that satisfies the existential claim was 'unremarkable', and, therefore, it is predicted to be true in Scenario A and false in Scenario C. In Scenario B, the sentence can be read as making a false claim, or a true claim. And the parallel extends beyond this. For instance, with non-volitional predicates, DP-*komon* can only convey that the individual satisfying the existential claim is 'unremarkable'. The same is true for *un NP cualquiera* (Alonso-Ovalle and Menéndez-Benito 2018). Consider, for instance, the sentence in (9), which conveys (i) that a tree fell on a house, and (ii) that the house that the tree fell on was 'unremarkable' (for instance, it could be an old rotten house or a house that no one cares about). The random choice interpretation is not possible since the event described has no agent.[3]

(9) Ix-telw-i jun te' y-ib'an [$_{DP}$ jun **komon** pat].
PFV-fall-IV INDF tree A3-over INDF KOMON house
≈ 'A tree fell on a random house.'

Like *un NP cualquiera*, when DP-*komon* is in subject position (even when it is the subject of a volitional predicate), only the 'unremarkable' interpretation is perceived. To provide an illustration, the sentence in (10) conveys that the man that is sleeping is unremarkable (and not that, for example, the man randomly decided to sleep).

(10) Lan s-way [jun **komon** winak].
PROG A3-sleep INDF KOMON man
≈ 'An unremarkable man is sleeping'

DP-*komon* (again, like *un NP cualquiera*) cannot give rise to a random choice interpretation when it is used to modify a noun in a predicative construction. That is, the only possible interpretation of *komon* in (11) is one in which Xun is considered unremarkable or ordinary:

(11) **Komon** winak waj Xun.
KOMON man CLF John
≈ 'Xun is an unremarkable man.'

Up until this point, we have only seen examples where DP-*komon* co-occurrs with an indefinite determiner. Unlike what happens with *un NP cualquiera*, that doesn't have to be the case. Consider the following

[3]Note that though random choice interpretations require the presence of a salient AGENT, random choice interpretations may still arise with DP-*komon* in passive constructions even though the agent is implicit:

(1) Ix-man-chaj jun **komon** libro.
PFV-buy-PASS INDF KOMON book
≈ 'A random book was bought.' (can mean that the book was unremarkable or that it was chosen at random)

example, in which *komon* co-occurs with a noun classifier, used as a definite determiner in the language (see Buenrostro et al. 1989; García Pablo and Domingo Pascual 2007; and Royer 2018), and with the proximal demonstrative *tik*.

(12) Ix-s-yam [ch'anh **komon** regalo tik] waj Xun.
PFV-A3-grab CLF KOMON book DEM CLF Xun
≈ 'Xun grabbed this 'unremarkable' gift.'

As the translation shows, in cases like this, only the 'unremarkable' interpretation arises.

We conclude here the overview of DP-*komon*. To sum up: the behaviour of DP-*komon* parallels the behaviour of *un NP cualquiera*. In the following section, we turn to the semantic and syntactic distribution of *komon* when it appears internal to a VP.

3.2 VP-*komon*

In addition to appearing in a DP position, *komon* can also appear within the VP, in a position typically occupied by adverbial material in Chuj. Adverbs that appear in this position get incorporated within the verb stem, between person marking and the root. When *komon* is incorporated within a transitive stem, it triggers the presence of the so-called derived transitive status suffix, a stem-forming suffix typically used to derive non-transitive roots into transitive stems (Hopkins 1967).[4] An example of VP-*komon* is provided in (13), and, for comparison, an example with the adverb *mol* 'together' is provided in (14):

(13) VP-*komon*
Ix-s-**komon**-man-ej jun regalo ix Malin.
PFV-A1S-KOMON-buy-DTV INDF gift CLF Malin
≈ 'Malin randomly grabbed a gift.'

(14) Ix-ko-**mol**-man-ej jun libro.
PFV-A1P-together-buy-DTV INDF book
'We bought a book together.'

It is worth comparing the interpretation of the sentence in (4), with DP-*komon*, described in the previous section, with the interpretation of the sentence in (13). Just like its counterpart with DP-*komon* (or with *un NP cualquiera*), the sentence in (13) is true in Scenario A (6) above, where Malin grabbed a gift at random. Unlike its counterpart with DP-*komon*, (13) cannot describe Scenario B in (7) above, but can describe Scenario C in (8), repeated in (15) below.

(15) Scenario C (UNEXPECTED *e*): *Malin is at a gift exchange. Everyone knows there's a jackpot of $1,000 and that the other gifts are very cheap gifts from the dollar store. There are four gifts left to choose from, the jackpot hasn't been picked yet, and it's* ***not*** *Malin's turn to choose, when she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's* ***not*** *her turn, she runs to the blue gift and unwraps it. It's the jackpot!*

As discussed before, the random choice interpretation is false in this scenario (since Malin specifically chose the book with red packaging) and the 'unremarkable' interpretation is also false (since the gift was remarkable, it was the jackpot). According to our consultants, what makes this scenario one where (13) is true is that the event described was unmotivated, unexpected, or happened for no apparent reason. This

[4] We have only been able to identify three other adverbs that appear in this position: *mol* 'together', *wach* 'good/more', and *te'*, an intensifier. Other Mayan languages also allow adverbs in this position (e.g. see Vázquez Álvarez 2011, section 5.6 on Ch'ol).

'unexpected event' interpretation reveals itself in cases where the event described is not volitional, like in (16), as its approximate translation indicates. In (16), the only possible interpretation is one in which a tree was not expected to fall, but still did.

(16) Ix-**komon**-telw-i jun te' yib'an jun pat.
PFV-KOMON-fall-IV INDF tree over INDF house
≈ 'A tree randomly fell on a house.' (compare with (9) above)

The random choice interpretation of VP-*komon* is not available with basic intransitives, as the translations below suggest. According to our consultants, the sentences in (17a) and (17b) only have one interpretation, namely one which describes an event that was unexpected. In (17a), it was unexpected that Xun would arrive. In (17b), it was either unexpected that Xun would start dancing or that he would dance the way he did.

(17) a. UNACCUSATIVE
Ix-**komon**-kot waj Xun.
PFV-KOMON-arrive CLF Xun
≈ 'Xun randomly arrived.'

b. UNERGATIVE
Ix-**komon**-chanhal waj Xun.
PFV-KOMON-dance CLF Xun
≈ 'Xun randomly danced (or he randomly started dancing).'

Random choice interpretations are possible with implicit objects. There is an interesting contrast between underived intransitive verbs like *ixinwa'i* 'eat$_{iv}$', an intransitive verb similar to the one in (17b), and derived transitive verbs like *ixinwa'ej* 'eat$_{tv}$'. First consider examples of sentences with these verbs without *komon*:

(18) a. INTRANSITIVE
Ix-in-wa'-i (*jun tek).
PFV-B1S-eat-IV (INDF soup)
'I ate.'

b. DERIVED TRANSITIVE
Ix-in-wa'-ej jun tek.
PFV-A1S-eat-DTV INDF soup
'I ate a soup.'

When the intransitive root *wa'* appears in a basic intransitive stem, as shown in (18a), it cannot appear with an overt object and appears with the intransitive status suffix *-i*. When it appears within a transitive stem, marked with the derived transitive status suffix *-ej*, as in (18b), it typically surfaces with an overt object, though this is not always obligatory (see (19b) below). When there is no overt object, the interpretation is equivalent to that resulting from having a covert indefinite object, as the translation below suggests.

(19) a. Ix-in-**komon**-wa'-i.
PFV-B1S-KOMON-eat-IV.
'I ate.'

b. Ix-in-**komon**-wa'-ej.
PFV-A1S-KOMON-eat-DTV
'I ate (something).'

Now consider the sentences in (19) in the scenarios in (20):

(20) a. Scenario A (felicitous with both (19a) and (19b)): *Though I carefully selected the food I ate today (since I'm following a new diet), I had a very busy day and ate at very unexpected hours.*

b. Scenario B (felicitous with (19b) only): *For lunch today, there was a buffet. Everything looked good, so I picked and chose things to eat indiscriminately.*

The sentence in (19a) is only felicitous with a scenario that forces an 'unexpected event' reading, as expected from an intransitive verb. Example (19b), on the contrary, is compatible with both the scenario that forces a random choice interpretation and the scenario that forces an 'unexpected event' interpretation, as shown by the felicity of (19b) in both scenarios in (20). We hypothesize that this is due to the fact that (19b) has an implicit object.

Random choice interpretations can also arise with passives (with *-chaj*) and absolutive antipassives, which Coon (2019) argues feature implicit external and internal arguments. Consider the following sentences:

(21) a. PASSIVE

Ix-**komon**-man-ch-aj jun libro.
PFV-KOMON-buy-PASS-DIV INDF book

≈ 'A book was randomly bought.'

b. ABSOLUTIVE ANTIPASSIVE

Ix-in-**komon**-man-w-aj-i.
PFV-B1S-KOMON-buy-AG-DIV-IV

≈ 'I did some random buying.'

Both examples above can receive a random choice interpretation. For example, (21a) is felicitous in a scenario in which the person who bought the book did so indiscriminately, and (21b) is felicitous in a scenario in which the speaker went to the grocery store and bought items at random. In recent work, Coon (2019) argues that the morpheme *-aj* is the overt realization of existential closure and that it correlates with the presence of implicit arguments (be it AGENT or THEME). The availability of random choice interpretations in the utterances in (21) is thus expected.

Finally, recall that random choice interpretations of DP-*komon* were only possible if the object is indefinite. Interestingly, this is not the case for VP-*komon*, which can receive a random choice interpretation despite the object being clearly definite:

(22) Ix-s-**komon**-yam-ej ch'anh libro tik ix Malin.
PFV-A3-KOMON-grab-DTV CLF gift DEM CLF Malin
≈ 'Malin randomly grabbed this gift.'

The utterance in (22) is felicitous in the scenario in (6) above, where the random choice interpretation is forced, thereby demonstrating that random choice interpretations can arise with VP-*komon* even if the object is definite.

4 Conclusions

We have shown that the morpheme *komon* can give rise to different interpretations depending on the position it occupies. The findings are summarized in Table 1. We have seen that in cases where *komon* is part of an indefinite DP, it can convey that the agent of the event described made a random choice, or that the

individual that satisfies the existential claim was 'unremarkable'. VP-*komon* can also convey that the agent of the event described made a random choice. On top of that, it appropriately describes situations where the event described was unexpected. Unlike DP-*komon*, it cannot describe situations where the agent did not make a random choice, but the theme of the event described was 'unremarkable.'

Table 1: Possible interpretations of *komon*

DP-komon			*VP-komon*		
RC	UNREM x	UNEX e	RC	UNREM x	UNEX e
✓	✓	*	✓	*	✓

These facts pose some questions in light of the background discussed in Section 2.

Let's start first with DP-*komon*. With respect to the question of what type of modality random choice indefinites convey, we have informally described DP-*komon* as lumping together two interpretations: what we called the random choice and the 'unremarkable' interpretations. This raises a question: is DP-*komon* literally ambiguous between two interpretations or does it have a meaning that is weak enough to be true in the type of situations illustrating the random choice interpretation and also the type of situations illustrating the unremarkable interpretation?

We have noted before that, according to Alonso-Ovalle and Menéndez-Benito (2018), Spanish *un NP cualquiera* can also convey either random choice or the fact that the theme of the event described is unremarkable. Alonso-Ovalle and Menéndez-Benito (2018) argue that this a true ambiguity: that there are two homophonous items with different interpretations. The behaviour of DP-*komon* casts doubts about this hypothesis, as we will be forced to assume the same ambiguity for an (allegedly) unrelated form in an unrelated language.

If the ambiguity hypothesis is on the right track, the interpretation of random choice indefinites and, in particular, their modal flavour, need to be reconsidered: an interpretation weak enough to cover both the random choice and the 'unremarkable' cases needs to be postulated.

Our findings about VP-*komon* also pose theoretically significant questions. Consider its modal flavour. We have seen that VP-*komon* lumps together a random choice interpretation with what we called an 'unexpected event' interpretation. Again, the question of whether this is due to an ambiguity arises, but, in the absence of evidence for that possibility, we should consider the null hypothesis that VP-*komon* is not ambiguous, but that it rather conveys an interpretation that can be satisfied both in the random choice scenarios and in the 'unexpected event' scenarios.

This is a significant conclusion, because none of the possible interpretations of random choice modality that are discussed in the literature on random choice indefinites make the right predictions for VP-*komon*. First, notice that VP-*komon* does not require agentive events. That means that the bouletic, and decision based approaches discussed in Section 2 are ruled out, since they presuppose an agent. Second, notice that in the unexpected event cases, the counterfactual approach would yield an unattested interpretation. To see that, consider, for instance, the example in (16), repeated in (23) below.

(23) Ix-**komon**-telw-i jun te' yib'an jun pat.
PFV-KOMON-fall-IV INDF tree over INDF house
≈ 'A tree randomly fell on a house.'

Under the counterfactual approach, the sentence in (23) would be predicted to convey (i) that a tree fell on an actual house, and (ii) that if the set of actual houses would have been different, a tree would a fell on a house, too. This interpretation would be satisfied in a situation where the falling of the tree on a house was completely expected, contrary to fact.

In conclusion: both DP-*komon* and VP-*komon* challenge our current understanding of what random choice modality is. They also pose the following question: can we reduce both types of *komon* to one basic core and predict the different interpretations attested based on their different syntactic distributions? We pose these questions here in the hope that they will fuel future research and plan to address them in future work.

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