DUAL OPERATORS, AND THEIR DOUBLING, IN Q'EQCHI' (MAYA)[1]

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This article is about four aspectual adverbs in Q'eqchi' (Maya), which may be loosely glossed as *ak* 'already', *maaji'* 'not yet', *toj* 'still', and *ink'a' chik* 'no longer'. The author shows the presupposition and assertion structure of these forms in unmarked usage (as sentential operators acting on imperfective predicates) and argues that they constitute a dual group in the tradition of Loebner (1989), who worked on similar operators in German. The author shows the wide range of other functions such forms serve in more marked usage and the ways they may co-occur in the same clause (and thereby "double"). The article offers a semantics that accounts for the multiple functions of all such constructions, highlighting the ways these forms are similar to and different from their German and Spanish counterparts.

[KEYWORDS: Q'eqchi' (Maya), grade, aspect, duality, presupposition, semantics]

1. Introduction. This article is about the relation between aspect, grade, and quantity in Q'eqchi' (ISO code: kek), a Mayan language spoken in Guatemala and Belize by upward of 1 million speakers. It focuses on four temporal adverbs, or phase quantifiers (Loebner 1989), which may be provisionally glossed as *ak* 'already', *maaji'* 'not yet', *toj* 'still', and *ink'a' chik* 'no longer'. To introduce readers to the phenomena at issue, the following three examples show representative uses of each of these forms (shown in bold).[2]

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[2] Throughout this article the following notational conventions are used: A = asserted content; A = absolutive case; AF = afactive; CF = counterfactual; COMP = complementizer; CONJ = conjunction; DAT = dative case; DEIC = deictic; DIR = directional; DM = determiner; e = event; E = ergative case; FUT = future tense; HOR = hortative; IMP = imperative; INF = inferential; INTERJ = interjection; IRR = irrealis; LOC = locative; NEG = negation; NOM = nominalizer; NP = noun phrase; NS = nonspecific; *p* = proposition; P = plural number; PART = participle; PERF = perfect aspect; PLR = plural; PN = proper name; PREP = preposition; PRES = present tense; PRO = pronoun; PSV = passive; *q* = proposition; Q = questioned content; QUES = question particle; Qnt = quantity; Qr = reference quantity; RN = relational noun; S = singular number or 'non-plural'; SD = status designator; SG = speaker's gloss; t = reference time; TOP = topic; 1 = first person; 2 = second person; 3 = third

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THE OPERATORS *TOJ* AND *MAAJI'*

(1) Q: ma xkoo–Ø
QUES go.PERF–A3S

'Has it gone?'

A: **maaji'** na–Ø–xik, **toj** wan–Ø–Ø
not.yet PRES–A3S–go still exist–PRES–A3S

'It has not yet gone. It is still there.'
(SG: Todavía no se ha ido. Todavía está allí.)

In (1), the owner of a small restaurant was asking her assistant whether a dog was still waiting at the entrance (and thereby making potential customers uneasy). The assistant offered the response shown, consisting of two semantically similar clauses. The form *maaji'* occurs with a perfective predicate; the form *toj* 'still' occurs with an imperfective predicate; and the second clause is almost a restatement of the first.[3] As we can see in a bilingual speaker's subsequent gloss of this construction, *toj* is translated into Spanish as *todavía* 'still', and *maaji'* is translated as the internal negation of that form: *todavía no* 'still not' (or 'not yet'). Very loosely speaking, *toj* seems to indicate that the offset of the narrated event is later than some reference time (here the speech event). In contrast, *maaji'* seems to indicate that the onset (or entirety) of the narrated event is later than that reference time.

THE OPERATORS *AK* AND *INK'A' CHIK*

(2) mas nek–Ø–e'r–oksi pues li junxil kristyan, pero
very PRES–A3S–E3P–use well DM early People CONJ

l–aa'o
DM–A1P

person; (. . .) = optional material; / separates alternative forms that may occur in the same syntactic position; ! indicates infelicitous utterance. Vowel length (signaled by doubling letters) is phonemic in Q'eqchi'. /k/ and /q/ are velar and uvular plosives, respectively. /x/ and /j/ are palato-alveolar and velar fricatives, respectively.

[3] Kockelman (2010:92–97) works through the details of the tense-aspect system in Q'eqchi'. For present purposes, the following distinctions should be noted. Q'eqchi' has two main classes of predicates. Stative predicates are intransitive and imperfective; both their person-number and tense-aspect-mood marking are suffixed. For example, *chunchu–k–eb'* (be_seated–PRES–A3P, or 'they are/were seated'). Non-stative predicates can be transitive or intransitive, perfective or imperfective, and both their person-number and tense-aspect-mood marking are prefixed: for example, *nek–Ø–e'r–oksi* (PRES–A3S–E3P–use, or 'they use it'). Stative predicates only have two inflectional suffixes: *–k* (unmarked), *–q* (future tense/optative mood). Verbal predicates have six inflectional prefixes: *nak–* (unmarked, present tense, habitual aspect), *x–* (perfect aspect), *ki–* (perfect aspect, unexperienced evidential), *ta–* (future tense, prospective aspect), *chi–* (optative mood, polite imperative), *mi–* (negative imperative).

ink'a'	**chik**	mas	na–Ø–q–oksi
NEG	more	much	PRES–A3S–E3P–use

'The early people used it a lot, but we no longer use it a lot.'
(SG: . . . pero nosotros ya no lo usamos mucho)

(3)

ak	x–Ø–in–mich'		r–ix	l–aj	tzo',
already	PERF–A3S–E1S–pluck		E3S–RN	DM–SD	male.bird
ka'aj	**chik**	li	tux		
only	more	DM	female.bird		

'I have already plucked the rooster. Only the hen remains.'
(SG: Ya desplumé al gallo. Ya soló la gallina falta por desplumar.)

(Sam Juárez et al. 1997:208)

In (2), a man was speaking about a particular linguistic expression and how it has fallen out of use. Here the operator *ink'a' chik* 'no more' occurs with an imperfective construction (an activity predicate with habitual aspect). In the first clause of (3), which describes the plucking of chickens, the operator *ak* occurs with a relatively perfective construction (an accomplishment predicate with perfect aspect). Just as *ak* is usually translated into Spanish as *ya* 'already', *ink'a' chik* is frequently translated as the internal negation of that form: *ya no* 'already not' (or 'no longer'). Very loosely speaking, *ak* seems to indicate that the onset (or entirety) of the narrated event is before the reference time (here the speech event). In contrast, *ink'a' chik* seems to indicate that the offset of the narrated event is before the reference time.[4]

In this article I analyze the presupposition and assertion structure of these forms in unmarked usage (as sentential operators) and argue that they constitute a *dual group* in the tradition of Loebner (1989), who worked on similar particles in German. For Loebner, two operators are dual operators if the internal negation of one is the external negation of the other. (External negation involves the negation of an operator, whereas internal negation involves the negation of the operand.) As will be shown, just as *ak* 'already' and *toj* 'still' are the dual of each other, so are *maaji'* 'not yet' and *ink'a' chik* 'no longer'. I analyze the wide range of other functions of such forms and the ways they may co-occur in the same clause (and thereby "double"). I offer a semantics that accounts for the multiple

[4] As may be seen in the second clause of example (3), the form *chik* 'more' may occur without negation, and here it seems to be quantifying an entity rather than sequencing an event. When not negated, this form takes a wide range of arguments: verbal and stative predicates and wh-words and quantities, inter alia. Across all these constructions, *chik* presupposes that a proposition is true of some quantity (degree, event, entity, or time), and it asserts that the proposition is true for a larger quantity (greater degree, subsequent event, other entity, or later time). As shown in Kockelman (2019), while *chik* is similar to Spanish *más* and English 'more' (as well as to English 'else', '(no) longer', and '(not) again'), it does not serve the same comparative function as its Spanish and English counterparts, except in the relatively marked case of self-comparison.

functions of all such constructions, highlighting the ways these forms are similar to, and different from, their German and Spanish counterparts.

2 treats the first four aspectual forms as a dual group. **3** shows the extended functionality of *toj*, doing work similar to English 'anyhow', 'when/then', 'until', 'unless', and 'immediately'. **4** focuses on the operator *wi'chik* 'again/back', its negation, and the ways such forms contrast with *toj* 'still' and *ink'a' chik* 'no longer'. Finally, **5** analyzes the complicated interactions among all these operators when they co-occur in the same clause, showing that the semantics of such doubled constructions is recursively compositional.

Most of the data for this article come from ethnographic and linguistic fieldwork, undertaken from 1998 to 2008 (Kockelman 2010, 2016a), in a Q'eqchi'-speaking village of around 600 speakers, in the Department of Alta Verapaz, Guatemala. In particular, after listening to and participating in quotidian communicative practices (from weeding milpa to playing soccer) and transcribing conversations (by villagers, usually at meals) as well as ethnographic interviews (on topics ranging from subsistence practices and illness cures to ecotourism and poultry husbandry), I tabulated and analyzed all utterances involving tokens of these forms and related constructions. Having analyzed these data, I spent five recent field seasons in Guatemala doing grammatical elicitation and semantic analysis on such forms with bilingual speakers from San Juan Chamelco and Cobán (where the so-called prestige dialect of Q'eqchi' is spoken). I also use some example sentences from standard dictionaries and grammars of Q'eqchi', as well as tokens from published historical sources. These are cited where they occur.

2. The Dual Group: *Ak, Maaji', Toj, Ink'a' Chik*. This section argues that the four aspectual forms constitute a dual group. It analyzes the very frequent, and perhaps most basic, uses of these forms: when they function as sentential operators (acting on imperfective predicates). Unlike later sections, which primarily analyze examples taken from naturally occurring discourse, most of the examples in this section come from elicitation sessions with native speakers regarding the grammaticality and felicity of various linguistic constructions.

The first two sets of examples showcase the behavior of such operators under external negation in response to yes/no questions.

EXTERNAL NEGATION WITH SAME PREDICATE (WHERE QUESTION INVOLVES *AK*)

(4) Q: ma **ak** kam–enaq li tz'i'?
QUES already die–PART DM dog
'Is the dog already dead?'
A1: * ink'a', ink'a' **ak** kam–enaq li tz'i'
NEG NEG already die–PART DM dog
'No. The dog is not already dead.'

A2: ink'a', **maaji'** kam–enaq li tzi'
NEG not.yet die–PART DM dog

'No. The dog is not yet dead.'

A3: ink'a', **toj** yo'yo' li tz'i'
NEG still alive DM dog

'No. The dog is still alive.'
(Context: a neighbor's dog is old and likely to die soon)

Here are two acceptable responses (A2 and A3) and one unacceptable response (A1) to a yes/no question (Q) involving *ak* (already). The predicate is a state, and the reference time is the speech event. As may be seen from the contrast between A1 and A2, proper external negation of a sentence involving *ak* is not *ink'a' ak* 'not already' but rather *maaji'* 'not yet'. As may be seen from the acceptability of both A2 and A3, and in accordance with what was observed in (1), *maaji' kamenaq* 'not yet dead' seems to be equivalent to *toj yo'yo'* 'still alive'.

EXTERNAL NEGATION WITH SAME PREDICATE (WHERE QUESTION INVOLVES *TOJ*)

(5) Q: ma **toj** yo'yo' li tz'i'?
QUES still alive DM dog

'Is the dog still alive?'

A1: * ink'a', ink'a' **toj** yo'yo' li tz'i'
NEG NEG still alive DM dog

'No. The dog is not still alive.'

A2: ink'a', **ink'a'** **chik** yo'yo' li tz'i'
NEG NEG more alive DM dog

'No. The dog is no longer alive.'

A3: ink'a', **ak** kam–enaq li tz'i'
NEG already die–PART DM dog

'No. The dog is already dead.'
(Context: a neighbor's old dog has recently died)

Here are two acceptable responses and one unacceptable response to a yes/no question involving *toj* 'still'. Again the predicate is a state, and the reference time is the speech event. As may be seen from the contrast between A1 and A2, proper external negation of a sentence involving *toj* is not *ink'a' toj* 'not still' but rather *ink'a' chik* 'no more/longer'. As may be seen from the acceptability of both A2 and A3, *ink'a' chik yo'yo'* 'no longer alive' seems to be equivalent to *ak kamenaq* 'already dead'.

The foregoing patterns may be summarized as follows (where *p* is a proposition):

~ *ak* (p) <=> *maaji'* (p) <=> *toj* (~ p)

~ *toj* (p) <=> *ink'a' chik* (p) <=> *ak* (~ p)

This suggests that the four particles have the structure of a dual group (Loebner 1989, 1999; Doherty 1973; Abraham 1980): *maaji'* is the external negation of *ak*; *ink'a' chik* is the external negation of *toj*; and the external negation of *ak* is equivalent to the internal negation of *toj* (making *ak* and *toj*, as well as *maaji'* and *ink'a' chik*, dual operators of each other). These relations are shown in figure 1.

To account for a similar set of operators in German (*schon* 'already', *noch* 'still', *noch nicht* 'still not', *nicht mehr* 'no longer/not anymore'), Loebner (1989) proposed a particular presupposition/assertion structure, which is shown in table 1.[5]

As may be seen, if we adopt this structure as a working hypothesis (as to the core meaning of these particles as sentential operators occurring with imperfective predicates), then all four particles are similar in that they project a phase transition onto an event structure: either a transition from not state to state, in the case of *ak* and *maaji'*, or a transition from state to not state, in the case of *toj* and *ink'a' chik*. They are all two-place predicates: the first argument is a proposition (describing the state in question), and the second argument is a reference time (indicating the moment that the value of this state is salient). As will be shown, this reference time may be constituted by the speech event itself, by another narrated event (often through a closely coordinated clause), or as some contextually relevant topic time. As may be seen, the operators *ak* and *maaji'* share a presupposition (that the state does not obtain before the reference time). They contrast, however, in that *ak* asserts that the state does obtain at the reference time, whereas *maaji'* asserts that the state does not obtain at the reference time. Similarly, the operators *toj* and *ink'a' chik* share a presupposition (that the state does obtain before the reference time). They contrast, however, in that *toj* asserts that the state obtains at the reference time, whereas *ink'a' chik* asserts that the state does not obtain at the reference time. Adopting this structure allows us to make sense of the foregoing data (for example, external negation preserves presuppositions), and it predicts a wide range of other phenomena that may now be tested.

For example, if such operators project a phase transition onto events, then they should be incompatible with states that refer to one part of a necessarily one-way process and so do not allow such a projection. The following data shows this incompatibility. (Sentences involving forms separated by / all have the same acceptability judgment.)

[5] Krifka (2000) also analyzes these forms, but he does it through the framework of alternative semantics.

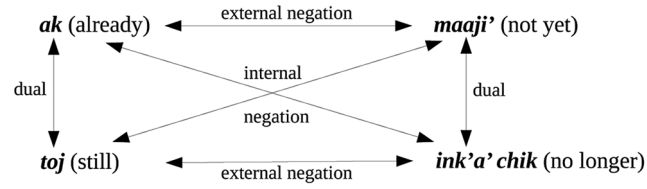

FIG. 1—Aspectual operators as a dual group

INCOMPATIBILITY WITH (RELATIVELY) ONE-WAY PREDICATES

(6) # **toj/ink'a'_chik** kam–enaq li tz'i'
still/NEG_more die–PART DM dog
'The dog is still / no longer dead.'

(7) # **ak/maaji'** yo'yo' li tz'i'
already/not.yet alive DM dog
'The dog is already / not yet alive.'

While it is perfectly acceptable, following (4) and (5), and indeed highly informative, to state that something is *toj* alive (or *ink'a' chik* alive) or *ak* dead (or *maaji'* dead), sentences involving the application of *toj* or *ink'a' chik* to *kamenaq* 'dead' are judged unacceptable or inappropriate; likewise for sentences involving the application of *ak* or *maaji'* to *yo'yo'* 'alive'. I say inappropriate because speakers suggested that you could say such sentences when referring to relatively marked (and hypothetical) events: zombie outbreaks and the like.

Similarly, such operators were judged unacceptable when occurring with sentences that stated (relatively) changeless conditions.

INCOMPATIBILITY WITH CHANGELESS CONDITIONS

(8) # **ak/maaji'/toj/ink'a'_chik** xul li kej
already/not.yet/still/NEG_more animal DM deer
'Deer are already / not yet / still / no longer animals.'

TABLE 1
KEY FUNCTION OF ASPECTUAL OPERATORS WHEN PREDICATE IS STATE OR ACTIVITY

ak (p, t) = 'already p (at t)'	**maaji'** (p, t) = 'not yet p (at t)'
Presuppose: p false before t	Presuppose: p false before t
Assert: p true at t	Assert: p false at t
toj (p, t) = 'still p (at t)'	**ink'a' chik** (p, t) = 'no longer p (at t)'
Presuppose: p true before t	Presuppose: p true before t
Assert: p true at t	Assert: p false at t

p = proposition involving imperfective predicate (state or activity)
t = reference time (established by the speech event, narrated event, or topic time)

Speakers judged sentences of this sort unacceptable. That said, several speakers also suggested that you could say similar things in mythic narratives or very marked "cosmological" circumstances (e.g., 'Pluto is still / no longer a planet').

In contrast, all such operators were acceptable when occurring with predicates that referred to processes that could be framed as transitioning in either direction.

COMPATIBILITY WITH CHANGEABLE CONDITIONS

(9)	**ak/maaji'/toj/ink'a'_chik**	terto	li	kape'
	already/not.yet/still/NEG_more	expensive	DM	coffee

'Coffee is already / not yet / still / no longer expensive.'

As may be seen, certain stative predicates like *terto* 'expensive' are acceptable with all four of the aspectual operators, so long as the argument can be framed as (potentially) transitioning from state to negative state or from negative state to state.

Crucially, because these operators project a phase transition onto a state of affairs, as opposed to simply making a true or false predication, they invite the inference—or index more generally—that the transition is unexpected, or otherwise relevant, in some way. Such expectations often show up in speakers' characterizations of the meaning and usage of these forms and are often highly plausible and salient in actual contexts of usage. Moreover, such expectations can themselves be embedded in more complicated attitudes and modalities: hopes and fears, desires and memories, necessity and obligation, and the like. For example, a particle like *toj* (p) 'still p' may invite the defeasible inference that p should have been finished by the reference time and/or that it may be expected to be finished soon after the reference time. Such implicatures will be the focus of a separate article. I will make reference to them only when their presence motivates an auxiliary function of the operators or a historical shift in their meanings.

Having examined the projection of phase transitions and noted the range of possible implicatures, we now turn to the structure of presuppositions. If such operators do indeed carry the presuppositions shown in table 1, they should be incompatible with contexts that violate them, as the next set of examples shows.

INCOMPATIBILITY IN PRESUPPOSITION-VIOLATING CONTEXTS: *TOJ* AND *INK'A' CHIK*

(10)	#	moko	yaj	ta	ewer	ut	**toj/ink'a'_chik**	yaj
		NEG	sick	IRR	yesterday	CONJ	still/NEG_more	sick
		anaqwan						
		today						

'He was not sick yesterday, and he is still / no longer sick today.'

(11a) yaj ewer ut **toj** yaj anaqwan
sick yesterday CONJ still sick today
'He was sick yesterday, and he is still sick today.'

(11b) yaj ewer ab'an **ink'a'** **chik** yaj anaqwan
sick yesterday CONJ NEG more sick today
'He was sick yesterday, but he is no longer sick today.'

As may be seen in (10), the operators *toj* and *ink'a' chik* cannot be used in a context that violates their presupposition: that the state in question obtained before the reference time (here marked with an adverbial deictic). In contrast, as shown in (11a–b), if we invert the polarity of the first clause (and, in the case of *ink'a' chik*, adjust the conjunction from *ut* 'and' to *ab'an* 'but'), the same sentences are judged perfectly acceptable (and indeed exemplary of usage).

INCOMPATIBILITY IN PRESUPPOSITION-VIOLATING CONTEXTS: *AK* AND *MAAJI'*

(12) # yaj ewer ut **ak/maaji'** yaj anaqwan
sick yesterday CONJ already/not.yet sick today
'He was sick yesterday, and he is already / not yet sick today.'

(13) moko yaj ta ewer ut **maaji'** yaj anaqwan
NEG sick IRR yesterday CONJ not.yet sick today
'He was not sick yesterday, and he is still not (or not yet) sick today.'

(14) moko yaj ta ewer ab'an **ak** yaj anaqwan
NEG sick IRR yesterday CONJ already sick today
'He was not sick yesterday, but he is already sick today.'

As may be seen in (12), the operators *ak* and *maaji'* cannot be used in a context that violates their presupposition: that the state in question did not obtain before the reference time (here marked with adverbial deictics). In contrast, as shown in (13), if we invert the polarity of the first clause, the same example with *maaji'* is judged acceptable. Similarly, as shown in (14), if we invert the polarity of the first clause (and adjust the conjunction), the same example with *ak* is judged acceptable.[6]

Such facts are also apparent in the context of metalinguistic negation, when a speaker denies the presupposition of a claim, rather than the claim itself (Horn 1985).

METALINGUISTIC NEGATION

(15) Q: ma **toj** wan–Ø–Ø aran
QUES still exist–PRES–A3S DEIC
'Is she still there?'

[6] Some speakers judged this last example slightly awkward and suggested that *eq'ela* 'early' be added: 'He was not sick yesterday, but he was already sick this morning.'

A: ink'a', maa–joq'e/**maaji'** x–Ø–k'ulun
NEG NEG–when/not.yet PERF–A3S–arrive
'No! She never / has not yet arrived.'

While the question being asked in (15) contains several presuppositions, the one being specifically countered in the response is the one due to the operator *toj*: that she was there before (and up to) the reference time.

That said, in comparison to the other three operators, the operator *ak* seems to be somewhat little less strict in regard to its presupposition.[7]

LACK OF TRUE PRESUPPOSITION IN THE CASE OF *AK*

(16) **ak** yajer/b'iom, x–b'aan naq ki–Ø–yo'lak
already sick/rich E3S–RN COMP INF–A3S–be.born
kama'an
DEIC
'He was already sick / rich, for he was born that way.'

As may be seen, the operator *ak* can be used in contexts in which, strictly speaking, its presupposition (that the state in question was false before it was true) does not hold. That is, it is not the case that the man was not sick or not rich before the reference time, for he was like that as long as he has existed. In such cases, the implicature (that the fact of its being true at the reference time is unexpected) seems to be foregrounded, while the presupposition (that it was false before) is disregarded.

Finally, as intimated above, the operator *toj* presupposes not just that the state obtained before the reference time but also that it continuously obtained until the reference time.

CONTINUITY OF PRESUPPOSED STATE IN CONTEXT OF *TOJ*

(17) ! yoo–Ø–Ø chi b'ichank ewer ut
do–PRES–A3S COMP sing yesterday CONJ
toj yoo–Ø–Ø chi b'ichank anaqwan
CONJ do–PRES–A3S COMP sing today
'She was singing yesterday, and she is still singing today.'

In (17) the reference time is explicitly established with a temporal deictic: now/today. Speakers found this sentence unacceptable unless the singer really sang from yesterday until today—which they found highly improbable, indicating that she would have to really have a strong voice, lots of stamina, and so forth. In contrast, the operator *wi'chik* 'again/back', which otherwise has a similar presupposition/assertion structure (insofar as it asserts an event occurred and presupposes that a token of the same type occurred before), can be used in such

[7] See Mittwoch (1993) for analogous remarks in regard to German *schon*.

contexts insofar as it foregrounds iteration (of an event, framed perfectively) as opposed to continuity (of a state or activity, framed imperfectively). This operator will be analyzed in **4**.

In contrast to the operators *toj* 'still' and *ak* 'already', the operators *maaji'* 'not yet' and *ink'a' chik* 'no longer' can constitute an utterance on their own. This usually occurs in responses to questions (when the elided content is maximally recoverable).

USAGE AS SECONDARY INTERJECTIONS: RELATIVELY UNMARKED USAGE

(18) Q: ma (**toj**) yo'yo' li tz'i'
QUES still alive DM dog
'Is the dog (still) alive?'

A1: ink'a'/hehe'
'No/yes.'

A2: **ink'a' chik**
'No longer.'

A3: * **toj**
'Still.'

(19) Q: ma (**ak**) kam–enaq li tz'i'?
QUES already die–PART DM dog
'Is the dog (already) dead?'

A1: ink'a'/hehe'
'No/yes.'

A2: **maaji'**
'Not yet.'

A3: * **ak**
'Already.'

As may be seen in these two examples, just like *ink'a'* 'no' and *hehe'* 'yes' can be used as stand-alone responses to questions, so can the operators *ink'a' chik* 'no longer' and *maaji'* 'not yet'. In contrast, the operators *ak* 'already' and *toj* 'still' cannot constitute stand-alone utterances—even when their content is maximally recoverable. Contrast Spanish, where *ya* 'already' and *todavía* 'still', and not just *ya no* 'no longer' and *todavía no* 'not yet', can occur alone (typically in responses to questions).[8]

[8] I also have a token of *toj ink'a'* 'still no' in a reported speech context, when the speaker was humorously describing their response to another's repeated attempts to get them to agree to something they had already declined.

It is worth pausing a moment to compare certain formal features of the Q'eqchi' system with those of the Spanish and German systems. See table 2.

As may be seen by the underlined forms, the semantic relations among the operators are much more transparent in Spanish than they are in Q'eqchi': *ya no* 'no longer' is more clearly the internal negation of *ya* 'already', and *todavía no* 'not yet' is more clearly the internal negation of *todavía* 'still'. While the Q'eqchi' forms *maa–ji'* (NEG–?) and *ink'a' chik* (NEG more) clearly have negation built into them, the forms they combine with are not otherwise part of the same system of operators. Moreover, as just mentioned, all four of the Spanish forms can constitute an utterance on their own, whereas in Q'eqchi', only the two negative forms may do so. The fourth form in the Q'eqchi' system, *ink'a' chik* 'no longer' or 'not anymore', seems to involve external negation, similar to the fourth form of the German system. In contrast, the second form of the German and Spanish systems, *noch nicht* and *todavía no* 'still not', both involve internal negation, whereas the Q'eqchi' form *maa–ji'* looks like it might have originated in external negation (< (?) *maa–ajwi'* 'not also'). As discussed in Kockelman (2016b), Q'eqchi' *chik* serves overlapping, but nonidentical, functions to English *more* and Spanish *más*. Finally, as may be seen in all four languages, while figure 1 makes the four operators seem relatively equivalent (in terms of their markedness), table 2 demonstrates that the same two forms (corresponding to English *no longer* and *not yet*) are relatively marked in all four languages, insofar as they involve explicit negation in one form or the other and insofar as they are more constrained as to their co-occurrence possibilities and functionality. Indeed, as **3** and **5** will show, the operator *toj* can occur with scope over the other three forms; it serves a much wider range of functions; and it occurs more frequently.

TABLE 2
SIMILAR DUAL GROUPS IN OTHER LANGUAGES

Q'eqchi'	1) *ak*	2) *maaji'*
	3) *toj*	4) *ink'a' chik*
Spanish	1) *ya*	2) *todavía no*
	3) *todavía*	4) *ya no*
German	1) *schon*	2) *noch nicht*
	3) *noch*	4) *nicht mehr*
English	1) *already*	2) *not yet (still not)*
	3) *still*	4) *no longer (not anymore)*

While I have so far been stressing semantic similarities between the Q'eqchi' system and the Spanish and German systems (not withstanding their formal differences), especially in regard to their function as sentential operators with stative predicates, the rest of this article will focus on the peculiarities of the Q'eqchi' system, as well as the many other functions that these four forms serve.

3. The Extended Functions of *Toj*. **2** showcased the meaning of *toj* 'still' as a sentential operator acting on imperfective predicates (typically states and activities) in foregrounded clauses. In this section I focus on the wide range of other roles this operator has: (a) when it has scope over temporal and spatial adverbs; (b) when it occurs in backgrounded clauses (that specify the reference time for foregrounded clauses); (c) when it occurs with perfective predicates; (d) when it occurs with modal operators; and (e) when it has scope over negated propositions. As will be shown, the presupposition/assertion structure argued for in **2** holds, with some slight modifications, across this wide range of functions.

The next example contrasts with the examples offered in **2** only because the reference time is constituted not by the speech event but rather by a narrated event (established through a backgrounded clause).

TOJ WITH REFERENCE TIME ESTABLISHED THROUGH BACKGROUND CLAUSE

(20) **toj** yoo–Ø–Ø chi wa'ak naq x–in–k'ulun
still exist–PRES–A3S COMP eat COMP PERF–A1S–arrive
'He was still eating when I arrived.'

This example shows *toj* with scope over an imperfective predicate in a foregrounded clause. As may be seen, the backgrounded clause (headed by the complementizer *naq*) sets the reference time that *toj* requires as an argument. The semantic structure described in **2** captures such usage: the speaker presupposes that the man was eating before his arrival and asserts that the man was eating at his arrival (and continuously so up until then). See table 3 (row 1).

The next two examples showcase the concessive use of *toj*, which can occur when *toj* has scope over a perfective predicate and the reference event is framed as an obstacle (or, with negative valence, as an inducement). These are very infrequent in my corpus and seem minimally distinguishable from the unmarked usage of *toj* already described.

CONCESSIVE USE OF *TOJ*

(21) m–at–xik, m–at–xik x–Ø–in–ye, ab'anan
NEG.IMP–A2S–go NEG.IMP–A2S–go PERF–A3S–E1S–say CONJ
toj x–Ø–'el chaq
still PERF–A3S–leave LOC
''Don't go, don't go!', I said. But he still went.' ('But he went anyway.')

(22) **toj** a'an ink'a' ki–Ø–r–aj
still PRO3S NEG INF–A3S–E3S–desire
'He still didn't want to kill them (despite his brother's wishes).'
(Kockelman 2010:225)

In (21), the reference event (the speaker's telling the addressee not to go) functions like an obstacle or negative inducement, and *toj* seems to indicate that the

TABLE 3
THE VARIOUS FUNCTIONS OF *TOJ* (AND RELATED FORMS)

Operator and Its Various Arguments	Presupposition, Assertion, and Implicature
1) *toj* (p, t) = 'still p (at t)'	P: p true before t
• p involves imperfective predicate	A: p true at t
• t as reference time (usually E^s or other E^n)	I: p not expected to be true at t (and so forth)
2) *toj* (p, e) = 'still p (despite e)'	P: p true in world where e does not occur
• p often involves perfective predicate	A: p true in world where e does occur
• reference time framed as obstacle event	I: p not expected to be true if e occurs
3) *toj* (p, adv) = 'p until adv'	P: p true before adv
• p imperfective (or negative perfective)	A: p true at adv
• adv sets reference time (or place)	I: p false after adv
4) *toj* (p, adv) = 'p at adv'	P: p false before adv
• p perfective	A: p true at adv
• adv sets reference time	
5) *toj* (p, q) = 'p until q'	P: p true before q
• p imperfective (or negative perfective)	A: p true at q
• q sets reference time	I: p false after q
6) *toj* (p, q) = 'p at q'	P: p false before q
• p perfective	A: p true at q
• q sets reference time	
7) *toj* (p, q) = 'p unless q'	P: p true 'before' q
• modalized as opposed to temporalized	A: p true 'at' q
• q sets condition or 'reference world'	I : p false 'after' q
8) *toja'* (p, t) = 'immediately p (after t)'	P: p false before t
• *toja'* < (?) *tojaq* < (?) *toj naq*	A: p true at (or immediately after) t
9) *tojaq* (p, t) = 'suddenly p (at t)'	P: p false before t
• as adverb (*de repente*)	A: p true at (or suddenly after) t
10) *toja' naq* (p, q) = '(when q), then p'	P: p false before q
• p occurs right after q occurs	A: p true at (or right after) q

narrated event occurred despite that obstacle. Such a reading typically occurs when *toj* has scope over perfective predicates and seem analogous to concessive uses of English *still* (Ippolito 2004, 2007; Michaelis 1993). Example (22) comes from a Q'eqchi' myth, recounted in 1904, which tells the story of how the Moon eloped with the Sun. In this passage, the Moon's father (the Earth God) has just asked his brother, Thunder, to kill the two fugitives. Despite his brother's wishes, Thunder does not want to. Here the reference event (constituted by the proceeding clause in the narrative) is framed as an inducement or motivation; and this sentence effectively says that, despite such an inducement, the narrated state (in particular, not wanting to achieve that goal) continues. The presupposition and assertion structure of such concessive constructions is very similar to the unmarked function of *toj* examined in **2**: such constructions presuppose a proposition is true before the reference event, and they assert that it is true at—and hence 'despite'—the reference event (itself framed as an obstacle). See table 3 (row 2).

The next two examples showcase sentences in which *toj* has adverbial scope as opposed to sentential scope.

TOJ WITH SCOPE OVER TEMPORAL ADVERB

(23) ink'a' t–in–xik **toj** ewu
NEG FUT–A1S–go until afternoon

'I won't go until the afternoon.'
(SG: no me voy hasta la tarde)

(24) chalen sa' x–kach'inal **toj** anaqwan maa–jun–wa
from PREP E3S-youth until today NEG–one–time

x–Ø–kala
PERF–A3S–become.drunk

'From his youth until today, not once has he gotten drunk.'

(Eachus and Carlson 1980:197)

In both of these examples, the operator *toj* has scope over a temporal adverb: *ewu* '(in the) afternoon' or *anaqwan* 'today'. In such contexts, this form is routinely translated into Spanish using *hasta* 'until', as may be seen by the speaker's gloss in (23). In keeping with the presupposition/assertion structure of *toj* demonstrated in **2**, such *toj* adverb constructions arguably establish reference times for the clauses they occur with. In particular, they presuppose that the clause is true before the reference time (established by the adverb), and they assert that the clause is true at the reference time. Crucially, they maintain the continuity requirement of *toj*: the clause is continuously true from (sometime) before the reference time to the reference time itself. In (23), this earlier time (before the reference time) is implicitly established as the speech event. In (24), this earlier time is explicitly established using a complementary operator: *chalen* 'from'. Crucial as well is that such constructions strongly (but defeasibly) imply that

the narrated event is false after the reference time. For example, speakers said that the second sentence would be false if at any point in time between his youth and the speech event, the man had gotten drunk. They said that he might soon get drunk (after the speech event) and that the speaker could have been implying this. Finally, they noted that this implication need not be the case: the speaker could simply have been attesting to the man's virtuous lifestyle (such that the sentence is true even if the man never gets drunk in the future). See table 3 (row 3).

Similar conditions hold for spatial uses of this operator.

TOJ WITH SCOPE OVER SPATIAL ADVERB

(25) Q: b'ar na–Ø–xik li manguera
where PRES–A3S–go DM hose

'Where does the hose go?'

A: ay ink'a' n–Ø–in–naw, mare arin **toj**
INTERJ NEG PRES–A3S–E1S–know perhaps here until

najt chi–r–ix li tzuul
far PREP–E3S–RN DM mountain

'Ay, I don't know, perhaps (from) here until far over the hill.'

This example shows *toj* occurring with scope over a spatial adverb, in an utterance describing the path of a very long hose (carrying water from a mountain spring down to the speaker's home). The presupposition and assertion structure of the temporal usage just discussed easily carries over to this usage: the adverbial argument of *toj* indicates a reference place (instead of a reference time); the hose extends (or "goes") continuously to the reference place (and perhaps even past it) from an earlier place (in particular, the location of the speech event, marked by the deictic adverb *arin* 'here').

The sentences in (23) and (24) both involve negated perfective predicates and thus arguably refer to imperfective states (de Swart 1996). The same sentences without negation are also acceptable (and frequently used). However, they are routinely translated into Spanish using *por* or *en* 'in/during' or *cuando* 'when'.

TOJ WITH SCOPE OVER TEMPORAL ADVERB ALONG WITH PERFECTIVE PREDICATE

(26) **toj** ewu t–in–xik
still afternoon FUT–A1S–go

'I'll go in the afternoon.'
(SG: iré por la tarde)

Example (26) should be compared with (23), its negative counterpart. In particular, (23) indicates that the state (specified by a negated perfective predicate)

holds continuously from before the reference time to the reference time (as specified by the argument of *toj*) and perhaps after. Example (26), in contrast, indicates that the event (specified by the perfective predicate) occurs at the reference time (specified by *toj*) and not before. Note, then, that the two utterances have very similar truth conditions, and speakers agreed that (23) would be a good paraphrase of (26). See table 3 (row 4).

Such constructions (in which *toj* has scope over a temporal adverb or adposition) frequently occur in the context of leave-taking, when no propositional content is overtly specified.

TOJ IN CONTEXT OF LEAVE-TAKING

(27) **toj** hulaj
until tomorrow

'Until tomorrow.'
(SG: hasta mañana)

As may be seen, such constructions are routinely translated using Spanish *hasta* 'until'. While this construction type is highly ritualized (and might seem to be a morphosyntactic calque from its Spanish counterpart), such usage aligns with the semantic structure discussed above. In particular, analogous to the distinction between (23) and (26), speakers agreed that (27) could be expanded either way and still fit the situation: *nos vemos mañana* ('we'll see each other tomorrow' or 'see you tomorrow') and *no nos vemos hasta mañana* ('we won't see each other until tomorrow').

Here is another example of such a construction, this time used in a question.

TOJ ADVERB IN EXTENDED USAGE WITH NEGATIVE PRESUPPOSITION FOREGROUNDED

(28) S1: maak'a' li aatinak hoon r–ik'in l–aaw–ixaqil
NEG.exist DM speak today E3S–RN DM–E2S–wife

'There is no speaking with your wife today?'

S2: ink'a'

'No.'

S1: **toj** kab'ej
until tomorrow

'(Not) until tomorrow?'

S2: eq'ela kab'ej
early tomorrow

'Early tomorrow.'

In the third line of this example, the operator *toj* (with a temporal deictic as its argument) is used as a question, asking when a negative state (the addressee's

not calling his wife) will cease to obtain (such that the addressee calls his wife). Whereas in leave-taking such a negative presupposition is usually implicit (the fact that we won't meet until the reference time specified by the argument in question), this example shows how it can be made explicit through prior discourse.

The operator *toj* functions like 'until' (as opposed to 'still') not only when it has scope over a temporal adverb but also when it has scope over a backgrounded clause that is being used to establish a reference time.

TOJ IN BACKGROUND CLAUSE BEING USED TO ESTABLISH REFERENCE TIME

(29) ink'a' nek–e'–xik sa' li tz'oleb'al **toj**
NEG PRES–A3P–go PREP DM school until

wan–Ø–Ø r–e waqib' chihab'
exist–PRES–A3S E3S–DAT six year

'They do not go to school until they are six years old.'
(SG: los niños no van a la escuela hasta que tengan seis años)

(30) nek–e'–xik sa' li tz'oleb'al **toj** wan–Ø–Ø
PRES–A3P–go PREP DM school when exist–PRES–A3S

r–e waqib' chihab'
E3S–DAT six year

'They go to school when they are six years old.'
(SG: los niños van a la escuela cuando tengan seis años)

As may be seen in (29), when occurring in a backgrounded clause (that establishes the reference time for a foregrounded clause), *toj* is routinely translated into Spanish as *hasta que* 'until that' (with a clausal argument). Such usage projects the same presupposition/assertion structure shown above. In particular, the speaker presupposes that the foregrounded clause (the children do not go to school) is true before the reference time, and the speaker asserts that the foregrounded proposition is true at the reference time (and continuously so from before the reference time). Crucial as well is that such constructions strongly (yet defeasibly) imply that the narrated event is false after the reference time. (For example, one can add utterances to the effect 'or even seven', or 'indeed, only when they are eight do they go'.) See table 3 (row 5). Finally, as may be seen in (30), which differs from (29) only in that the foregrounded clause is not negated, the same contrast discussed in the adverbial use of *toj* continues to hold. In particular, (29) and (30) have very similar truth values, and speakers agreed they would be good glosses of each other. See table 3 (row 6).

The next usage of *toj* seems analogous to the function shown in (29), except that the coordinated clauses have counterfactive or irrealis status.

TOJ AS 'UNLESS'

(31) t–in–kaamq raj (x)–b'aan ke **toj** t–in–b'at–e'q
FUT–A1S–die CF E3S–RN cold unless FUT–A1S–wrap–PSV
sa' x–noq'al inup
PREP E3S–thread ceiba
'I will die of the cold unless I am wrapped in the bark of a ceiba tree.'
(Kockelman 2010:216)

This sentence comes from the same myth discussed above (which was originally recounted in 1904). The (reported) speaker is a hummingbird explaining why it does not want to give away its feathers: (if it did give them away) it would die (unless a particular condition is met). As may be seen, there is a foregrounded clause with counterfactive status and future tense (or prospective aspect) that specifies the dire repercussions in question; and *toj* has scope over a backgrounded clause (also with future tense) that specifies the mitigating condition. The foregoing account of the semantics of *toj* seems to fit this example quite well: the sentence presupposes that the foregrounded clause is true prior to the condition being met; it asserts that the foregrounded clause is true at the meeting of the condition (and continuously so up until then). Moreover, this sentence strongly implies that the foregrounded clause is false (that is, the hummingbird will not die) after the condition is met. Note, then, that the condition is in effect establishing the reference time, perhaps best understood as a 'reference world'.[9] See table 3 (row 7).

Before continuing, two more uses of *toj* should be noted.

TOJ AS 'JUST (NOW)'

(32) **toj** anaqwan yo'o sa' aanil
still now/today go.HOR PREP fast
'While there's still time, let's go quickly!'
(SG: ahora vamos rapidamente)
(Kockelman 2010:222)

This example is like (23) and (24) insofar as *toj* has scope over a temporal adverb. It differs from those examples in that the adverb in question is a deictic form meaning 'now' or 'today'. This example is taken from the same myth discussed

[9] Loosely speaking, this sentence presupposes that p is false in all worlds (compatible with *this* one) in which the condition is not true (and continuously so, in all such worlds up to those in which the condition is met), and it implies that p is true in all worlds (compatible with *this* one) in which the condition is true.

above, when the Sun was urging the Moon to run off with him (quickly, before her father wakes up). Present-day speakers told me this utterance could no longer be said, but one glossed it as shown. It arguably functions like the adverbial use of *toj* discussed in (26), where the predicate of the accompanying proposition is relatively perfective. That is, it presupposes that the event (of running off) is false before the reference time (now), and it asserts that the event is true at the reference time. Here the predicate itself is a hortative construction (so not true or false per se), but the usage seems to fit. The Sun is implying that the Moon has lingered too long preparing for the journey, and now they really must go.

The previous construction type may relate to the next, in which a speaker describes the time frame in which a terrifying event (recounted moments earlier) occurred.

TOJ MAAK'A' AND *TOJA'*

(33) **toj** maak'a'–q qa–kok'al, **toj**–a' k–oo–sumlaak
still NEG.exist–NS E1P–children still–? INF–A1P–marry
'We still had no children. We had just married.'

The first clause of this example shows a sentential usage of *toj* with scope over a negative existence predicate. Such a usage of *toj* is perfectly compatible with the semantics set out in **2**, where the proposition in question is negated. That is, it presupposes that the proposition ('we had no kids') is true before the reference event, and it asserts that this proposition is true at the reference event. The second clause shows a form *toja'* (in some dialects, or for some speakers, *toje'*) that seems to be closely related to *toj*. It is often glossed using an *acabar de* infinitive construction in Spanish ('to have just predicated'), indicating that the proposition it has scope over is true (and hence that the event described by the proposition occurred) *immediately after* some reference time (often the speech event or, as used in this example, some topic time). In regard to its form, it could be that *toja'* comes from *toj naq* (still COMP), as there seems to be an intermediate form *tojaq*, which Sam Juarez et al. (1997) glosses as *de repente* 'suddenly'. See table 3 (rows 8 and 9).

Here is another example of this form as it is used in event sequencing.

EVENT SEQUENCING WITH *TOJA' NAQ* IN FOREGROUNDED CLAUSE

(34) naq x–e'–raq–e' chi x–b'anunk–il,
COMP PERF–A3P–finish–PSV COMP E3S–do–NOM
toj–a' naq x–e'–ok chi x–k'at–b'al
still–? COMP PERF–A3P–start COMP PERF–burn–NOM
'When they finished doing that, then (immediately) they began to burn it.'

As may be seen, *toja' naq* can be used to sequence events from two separate clauses: the event described in the second clause (headed by *toja' naq*) is

understood to come right after the event described in the first clause (headed by *naq*). I gloss such constructions using when/then sequencing in English. Note that the first event is not framed as a cause of the second event, but it is often a condition of possibility for it. It is simply that event whose occurrence sets the reference time for the second event. The presupposition and assertion structure of this operator, like that of *toja'* and *tojaq*, closely resembles that of *toj* (adverb, p), when the proposition involves a perfective predicate. In particular *toja'* (q, p) presupposes that p is false before q, and it asserts that p is true at (or right after) q. See table 3 (row 10).

As these multiple functions, summarized in table 3, show, *toj* is best translated into English using a range of constructions: 'still', 'anyhow', 'until', 'at/when', 'unless', 'just/then' and 'immediately/suddenly'. That said, across almost all these construction types, it maintains a very stable semantic core: assert that p is true at the reference time (itself established implicitly through context or else explicitly as an adverbial or clausal argument), and presuppose that p is true or false before the reference time (depending on whether the proposition involves an imperfective or perfective predicate, respectively).

4. The Extended Functions of *Ink'a' Chik* and *(Ink'a') Wi'chik*. In **2** we examined the function of *ink'a' chik* 'no longer' as the external negation of *toj* (when these forms function as sentential operators with imperfective predicates). In such constructions, the particle *chik* 'more' occurs with the wide-scope negation operator *ink'a'* 'no'. Q'eqchi' has several other negation operators, and *chik* can occur with all of them to similar effect: constituent scope negation (*moko . . . ta*); imperative inflection negation (*mi–*); and existential negation (*maak'a'*).

NEGATION *CHIK* CONSTRUCTIONS

(35) **ink'a'** **chik** n–Ø–in–kuy li rah–il
NEG more PRES–A3S–E1S–endure DM painful–NOM

'I no longer endure the pain.'
(SG: no puedo soportar más este dolor)

(36) **moko** na–Ø–r–aj **ta** **chik** hilank aj Maynor
NEG PRES–A3S–E3S–want IRR more rest SD PN

'Maynor no longer wanted to rest.'

(37) m–Ø–aa–sak' **chik**
NEG.IMP–A3S–E2S–hit more

'Don't hit him anymore (any longer)!'

(SG: ya no le pegues)
(Context: said to addressee while they are repetitively hitting someone)

Example (35) shows a negation *chik* construction with broad-scope negation, using the negation particle *ink'a'*. Example (36) shows such a construction with constituent-scope negation, using the constituent-encompassing form *moko . . . ta*. Example (37) shows such a construction with inflectional negation, using the negative-imperative form *mi–*. In each of these three examples, the presupposition/assertion structure outlined in **2** holds: such sentences project a phase transition onto their states of affairs (true | not true). They presuppose that the (non-negated) proposition was true before some reference time; and they assert, in (35) and (36), or command, in the case of (37), that the negated proposition holds at the reference time.

As may be seen, when the sentences involve relatively imperfective predicates, such as the two-place-state predicates in (35) and (36), such constructions are probably best glossed as 'no longer' or 'not anymore', reflecting the fact that the non-negated proposition is presupposed to be continuously true until it becomes false (a transition that must occur no later than the reference time). In the case of (37), the event of hitting must be framed as an iterative activity in order to satisfy this continuity requirement. Such a framing may be seen by contrasting this example with the next.

NEGATION *WI'CHIK* CONSTRUCTION

(38) m–Ø–aa–sak' **wi'chik**
NEG.IMP–A3S–E2S–hit again
'Don't hit him again!'
(SG: ya no vuelvas a pegarle)
(Context: said to addressee who has hit someone in the past)

Example (38) contrasts with (37) only in that the form *wi'chik* occurs instead of *chik*.[10] Following speakers' descriptions of the contexts in which these utterances may be used, we might differentiate their meaning as follows. The utterance with *wi'chik* presupposes that the addressee hit him before, and it asserts that the addressee (must) not hit him again. The utterance with *chik* presupposes that the addressee is hitting him now, and it asserts that the addressee (must) stop hitting him. For these reasons, the first construction might be tentatively glossed as 'do not hit him any longer/anymore', whereas the second construction might be tentatively glossed as 'do not hit him again'. In the rest of this section, I flesh out and test this hypothesis by examining the operator

[10] This form arguably involves a clitic (*wi':chik*). The clitic *wi'* occurs in several constructions that involve relativization and focus constructions, but it is not simply analyzed. After certain constituents in focus position, *wi'chik* sometimes becomes *chik*.

wi'chik in both negated and non-negated contexts, contrasting its meaning with both negation *chik* and *toj* constructions.

Focusing on non-negated contexts first, the most frequent uses of *wi'chik* involve repeated events.

WI'CHIK CONSTRUCTIONS INVOLVING REPEATED EVENTS

(39) ut na–Ø–ch'up–e' li–x kandeel
CONJ PRES–A3S–extinguish–PSV DM–E3S candle

chi–r–u
PREP–E3S–RN

'And the candle is extinguished in front of him.'

na–Ø–x–loch
PRES–A3S–E3S–light

'He lights it.'

ut na–Ø–ch'up–e' **wi'chik** chi–r–u
CONJ PRES–A3S–extinguish–PSV again PREP–E3S–RN

'And it is extinguished in front of him again.'

(Shaw 1971:408)

(40) ki–Ø–b'ay chaq oxib' xaman
INF–A3S–delay LOC three week

'He delayed (coming back from there) three weeks.'
[Several intervening utterances removed.]

ut naq ki–Ø–b'ay chaq mas **wi'chik** li winq
CONJ COMP INF–A3S–delay LOC much again DM man

a'an
PRO3S

'And when that man delayed a lot again . . .'

(Shaw 1971:395)

These examples show tokens of the operator *wi'chik* (glossed as 'again'), where the presupposed event is anaphorically present in the preceding text: a candle being extinguished or a man delaying. As may be seen, the content of the repeated clauses is nearly identical in both cases, except for the dropping of a cross-referenced NP in (39) and the replacement of a definite quantity with an indefinite quantity in (40). As may also be seen, in both of these examples *wi'chik* occurs after the (typically verbal) predicate but before arguments and adpositions.

In constructions involving wide-scope negation, *wi'chik* is typically fronted to occur after the negation operator *ink'a'*. In such utterances, *wi'chik* has scope over negation. Much less frequently in my corpus, *wi'chik* remains in its

post-predicate position, and negation has scope over *wi'chik*. Here are examples of each construction.

EXTERNAL AND INTERNAL NEGATION WITH *WI'CHIK*

(41) ink'a' x–Ø–k'ulun ewer ut **ink'a'** **wi'chik**
NEG PERF–A3S–arrive yesterday CONJ NEG again

x–Ø–k'ulun anaqwan
PERF–A3S–arrive today

'He didn't arrive yesterday, and again he did not arrive today.'
(SG: no vino ayer, tampoco vino hoy)

(42) x–Ø–k'ulun ewer pero ab'anan **ink'a'**
PERF–A3S–arrive yesterday CONJ CONJ NEG

x–Ø–k'ulun **wi'chik** anaqwan
PERF–A3S–arrive Again today

'He arrived yesterday, but he didn't arrive again today.'
(SG: vino ayer, sin embargo no vino hoy)

The second clause of (41) shows *wi'chik* with scope over clausal negation. Thus the speaker is not saying that the man didn't arrive again (presupposing he arrived a first time). Rather, as shown by the content of the first clause, he is saying that just as the man didn't arrive before (though he should have or might have), he didn't arrive again. The second clause of (42) shows *wi'chik* within the scope of clausal negation. As shown by the content of the first clause, the speaker is saying that while he arrived before, he did not arrive again. Recall our discussion of (38), as contrasted with (37).

While *wi'chik* typically occurs with perfective predicates, it may also occur with imperfective predicates when they are framed as event-like.

NEGATIVE *WI'CHIK* CONSTRUCTIONS WITH STATIVE PREDICATE

(43) ink'a' ke li kutan ewer, ut **ink'a'** **wi'chik**
NEG cold DM day yesterday CONJ NEG again

anaqwan
today

'It wasn't cold yesterday, and again it wasn't cold today.'

This example is salient in three respects. It shows that *wi'chik* can occur with imperfective predicates (here a predicate adjective construction) when the events they refer to are viewed as point-like or iterable. It shows that, with negation, almost none of the content of the repeated event need be repeated. Finally, like (41), it shows another token of *wi'chik* with scope over clausal negation.

Table 4 summarizes the foregoing patterns. As may be seen, the operators *wi'chik* (again) and *ink'a' wi'chik* (again not) complement the operators *toj*

TABLE 4
THE OPERATORS *TOJ*, *CHIK*, AND *WI'CHIK* COMPARED

Boundedness of Argument	Operator with Unmarked Valence	Operator with Internal Negation	Operator with External Negation
Imperfective Predicate	***toj* (p)** 'still p'	***toj* (~ p)** 'still not p'	**~ *chik* (p)** 'no longer p'
Perfective Predicate	***wi'chik* (p)** 'again p'	***wi'chik* (~ p)** 'again not p'	**~ *wi'chik* (p)** 'not p again'

(still) and *ink'a' chik* (no longer). In particular, while *toj* (in its unmarked usage as a sentential operator acting on imperfective predicates) frames the narrated event as relatively extended (that is, as having a duration and an offset), *wi'chik* frames the narrated event as relatively point-like. If *toj* may be best understood as presupposing that the narrated event is true before the reference time and asserting that the narrated event is true at the reference time, *wi'chik* is best understood as presupposing that (another instance of) the narrated event occurred before the reference time and asserting that (this instance of) the narrated event occurred at the reference time. Finally, while *ink'a' chik* is the external negation of *toj*, *toj* can also be used with internal negation in limited contexts, as was shown in the first clause of (33). Conversely, while *ink'a' wi'chik* is the internal negation of *wi'chik*, *wi'chik* can also be used with external negation in limited contexts (recall (42)).

We have so far been focused on repetitive uses of *wi'chik*, as they seem to be more frequent in naturally occurring discourse. The same form also occurs with restitutive (or counterdirectional) functions, as the next set of examples demonstrates.[11]

RESTITUTIVE READING OF *WI'CHIK*

(44)	li	winq	x–Ø–aqliik	ut	(x)–Ø–hilan	**wi'chik**
	DM	man	PERF–A3S–stand.up	CONJ	PERF–A3S–rest	again

'The man stood up and sat down (or 'rested') again.'
(SG: el hombre se paró y se sentó otra vez/de nuevo)

Here is a typical use of this form: while prior discourse involved no descriptions of the man resting or sitting down (so the presupposition in question is not anaphorically available), to stand up (as an action) presupposes one had been sitting down. Note that the Spanish gloss involves the verb *sentarse* 'to sit down' rather

[11] For more on these distinctions, see Beck (2006), Fabricius-Hansen (2001), and Stechow (1996).

than *descansar* 'to rest' (which is how the Q'eqchi' predicate *hilank* would usually be translated). My sense is that by modifying the predicate with *wi'chik*, the action in question is framed as restitutive of a prior state, and so *hilank* is treated as resting by sitting down (as opposed to resting by stopping, resting by lying down, resting by sleeping, and so forth).

Here is another example of such a restitutive usage, this one involving returning to a place one has been before.

RESTITUTIVE READING OF *WI'CHIK*

(45)

ut	Ø–oo–suq'iik	chaq	**wi'chik**,	Flores	**wi'chik**
CONJ	INF–A1P–return	DIR	again	PN	again

'And we returned again, (to) Flores again.'

In this example, a man was speaking about his first time visiting Tikal and Flores: first he went to Flores (for the first time in his life); from Flores he went to Tikal to visit the Mayan monuments; and then, as this sentence describes, he returned to Tikal from Flores. The verb in question, *suq'iik*, is usually translated as *regresar* 'to return' and does not require *wi'chik* for this meaning.

The next two restitutive uses require knowledge of the causes of a particular illness in order to understand the presupposition in question.

RESTITUTIVE READING OF *WI'CHIK*

(46)

t–Ø–aa–boq'	chaq	**wi'chik**
FUT–A3S–E2S–call	DIR	again

'You will call it (your soul) back.'

r–e	naq	t–Ø–chal	**wi'chik**	l–aa	yu'am
E3S–RN	COMP	FUT–A3S–come	again	DM–E2S	soul/life

'. . . so that your soul comes back.'

In this example, a man is describing a ritual procedure that takes place after one has taken ill from *xiwajenaq* or 'fright' (Spanish *susto*). According to many speakers of Q'eqchi', the precipitating cause of such an illness is the fact that one's soul or life force is lost (or taken). A key part of this procedure is calling 'back' one's lost soul (as shown in the first clause), such that one's soul comes 'back' (as shown in the second clause). Here, then, the state being restored is one in which the victim has possession of their life force.

The last three examples all involve movement of some form or another: the subsequent movement restores the state that the first movement disrupted: in particular, stand up => sit back down; go to X (from Y) => go (back) to Y; possession goes (away) from possessor => possession called/comes back to possessor. The next two examples, in contrast, involve the repetition of a predicate rather than the use of two complementary predicates, along with a swapping of the agent and object of that predicate.

REFLEXIVE RESTITUTIVE USES OF *WI'CHIK*

(47) li winq x–in–ix–ket ut x–Ø–in–ket
DM man PERF–A1S–E3S–hit CONJ PERF–A3S–E1S–hit

wi'chik
again

'The man hit me, and I hit him back.'

(48) x–Ø–in–k'e jun li maatan ut x–Ø–(x)–k'e
PERF–A3S–E1S–give one DM gift CONJ PERF–A3S–E3S–give

w–e **wi'chik**
RN–E3S again

'I gave (the man) a gift, and he gave it back to me.'
(SG: yo le di un regalo al hombre y él me lo dio otra vez, me lo devolvió)

In (47), the second clause of the conjunct involves the same verb, *ketok* 'to hit', as the first clause, with the transitive agent and direct object reversed. In (48), the second clause of the conjunct involves the same verb, *k'ehok* 'to give', as the first clause, with the transitive agent and indirect (dative) object reversed (while the direct object, a particular gift, remains the same).

In short, not only does *wi'chik* have a repetitive function, but it also has restitutive and/or reversive functions. The difference between these functions is shown in table 5.

That said, across all its seemingly different functions, *wi'chik* maintains its presupposition/assertion structure. Like *toj*, it maintains a relatively invariant semantic core across its variations.

TABLE 5
REPETITIVE, REVERSIVE, AND RESTITUTIVE USES OF *WI'CHIK*

Function of *Wi'chik*	Presupposed and Asserted Content
Repetitive	***wi'chik*** (p, e) = 'again p' P: there exists some e' (< e) and p true of e' A: p true of e
Restitutive	***wi'chik*** (p, e) = 'p back' P: there exists some e' (< e) and p' true of e' A: p true of e, where p (destination/result) = p' (origin/condition)
Reversive (probably a sub-case of restitutive function)	***wi'chik*** (p, e) = 'p back' P: there exists some e' (< e) and p' true of e' A: p true of e, where p (agent, object) = p' (object, agent)

5. Interactions among the Operators. We now turn to sentences in which two of the four aspectual forms (*ak*, *maaji'*, *toj*, *ink'a' chik*) operate on the same clause. In such contexts, the operator *toj* 'still/until' seems to have the widest scope, in that it can occur with each of the other three forms. As will be shown, the semantic structure of such doubled operators seems to be a recursive composition of the semantic structure of the individual operators acting alone.

TOJ (STILL) WITH SCOPE OVER CLAUSAL NEGATION *CHIK* (NO LONGER)

(49)	**toj**	a	lem	**ink'a'**	**chik**	na–Ø–ilok
	still	TOP	mirror	NEG	more	PRES–A3S–see

'(But) still that mirror could no longer see.'

(Kockelman 2010:223)

This example, which comes from the same myth used in earlier sections, shows *toj* with very wide scope: not just over a negation *chik* (no longer) construction, which itself scopes over a verbal predicate, but also over a topicalized NP argument of that predicate in the pre-verbal focus position. This same clause, without *toj*, was used many lines earlier in the narrative (ibid.:221), indicating the result of the Sun's effort to cover the face of the Moon's father's mirror with smoke (so as not to be spied on by him). This usage, then, seems to indicate that the state of no longer serving its function continued to hold and was still true at the time of the current narrated event (which occurs right after the Moon's father has picked up his now useless mirror in order to see where the Sun and Moon are hiding). Note, then, that the presupposition/assertion structure showcased in **2** seems to hold in this case as well. If *toj* (p, t) presupposes that p is true before t and asserts that p is true at t, then the doubled operator *toj* (*ink'a' chik* (p, t), t) presupposes that *ink'a' chik* (p, t) is true before t and asserts that *ink'a' chik* (p, t) is true at t. Recursively, each of these presupposed and asserted propositions has itself a presupposition/assertion structure based on the meaning of *ink'a' chik* (p, t), as summarized in table 6 (row 1).

That said, such a construction type is relatively marked: this is the only token I have found, and it comes from a myth recounted more than 100 years ago. Modern speakers recognize it but say they could no longer use it. In contrast, the next construction type, in which *toj* scopes over *maaji'* 'not yet', frequently occurs in modern-day speech.

TOJ WITH SCOPE OVER *MAAJI'*, ITSELF IN THE BACKGROUNDED EVENT

(50)	t–Ø–in–xok	chixjunil	naq	**toj**	**maaji'**
	FUT–A3S–A1S–collect	everything	COMP	still	not.yet

n–in–xik
PRES–A3S–go

'I will collect everything when I have still not yet gone (that is, before I go).'

(SG: lo guardaré todo antes de salir)

TOJ WITH SCOPE OVER *MAAJI'*, ITSELF IN THE FOREGROUNDED EVENT

(51) **toj maaji'** xkoo–Ø naq x–Ø–hulak li
still not.yet go.PERF–A3S COMP PERF–A3S–arrive DM

ixq r–ik'in
woman E3S–RN

'He had still not gone when the woman arrived with her.'
'Todavía no se había ido cuando la mujer llegó con ella.'

(Eachus and Carlson 1980:200)

These two examples show *toj maaji'* 'still not yet' constructions. In (50), the construction occurs in a backgrounded clause (headed by the complementizer *naq*), where it establishes the reference time of a foregrounded clause. In (51), this construction occurs in a foregrounded clause, whose reference time is established by a backgrounded clause (again, headed by *naq*). As may be seen by the Spanish gloss in (50), such constructions are often translated into Spanish using *antes* 'before'. As may be seen in my translations, I am again treating the interaction of these two operators as a simple composition of their usual meanings. Based on the meaning of *toj* (p, t), the doubled operator *toj maaji'* (p, t) presupposes that *maaji'* (p, t) is true before t, and it asserts that *maaji'* (p, t) is true at t. Recursively, each of these presupposed and asserted propositions has itself a presupposition/assertion structure based on the meaning of *maaji'* (p, t), as summarized in table 6 (row 2).

This analysis is bolstered by the following hypothetical interaction (generated from interactions I have often witnessed) that speakers found exemplary of usage.

CONSTRUCTION INVOLVING *MAAJI'* FOLLOWED BY *TOJ MAAJI'*

(52) S1: ma x–Ø–x–b'aanu
QUES PERF A3S–E3S–do

'Has he done it?'

S2: **maaji'**

'Not yet.'

[Time passes.]

S1: ma x–Ø–x–b'aanu anaqwan
QUES PERF–A3S–E3S–do now/today

'Has he done it now?'

S2: **toj maaji'**

'Still not yet.'

As may be seen, *toj maaji'* is highly acceptable following *maaji'*. That said, one frequently finds *toj maaji'* constructions without prior *maaji'* constructions. In some cases, it seems that the relevant presupposition is simply accommodated to context. Moreover, *toj maaji'* constructions are often glossed the same as *maaji'*

TABLE 6
CO-OCCURRENCE RELATIONS AMONG THE OPERATORS

***toj ink'a' chik* (p, t)** = 'still no longer p (at t)' (Concessive 'still' reading?)	P: [no longer p] true before t P: p true before t' A: p false at t' (< t) A: [no longer p] true at t P: p true before t A: p false at t
***toj maaji'* (p, t)** = 'still not yet p (at t)'	P: [not yet p] true before t P: p false before t' A: p false at t' (< t) A: [not yet p] true at t P: p false before t A: p false at t
***toj ak* (q, p)** = 'until already q, p'	P: p true before [already q] A: p true at [already q] I: p false after [already q] That is, the reference time that establishes when p transitions from true to false is itself established by when q has transitioned from false to true.
***toj maak'a' chik* (NP, p)** = 'until NP no longer exists, p' (Ever with 'still' reading?)	P: p true before [NP no longer exists] A: p true at [NP no longer exists] I: p false after [NP no longer exists] That is, the reference time that establishes when p transitions from true to false is itself established by when NP transitions from exists to not exists.
***toj wank chik* (NP, Qr, t)** = 'still exists more NP (at t)' (Ever with 'until' reading?)	P: [exists more NP] before t P: exists Qr of NP before t A: exists some quantity (> Qr) of NP before t A: [exists more NP] at t P: exists Qr of NP at t A: exists some quantity (> Qr) of NP at t
***toj Qnt chik* (t)** = 'until Qnt more (time from t)'	P: p true before [Qnt more (time from t)] A: p true at [Qnt more (time from t)] I: p false after [Qnt more (time from t)] Where t is speech event (in case of leave-taking) and p is implicit proposition whose content is something like 'we do not meet'.

TABLE 6 (*Continued)*

***maaji' chik* (p, t)**	P: [p again] false before t
= 'not yet again p (at t)'	P: there exists some e' (< t' < t) and p true of e
	A: there exists no e (> e') such that p true of e
	A: [p again] false at t
	P: there exists some e' (< t) and p true of e
	A: there exists no e (> e') such that p true of e

constructions—in particular, as *todavía no* and hence as 'still not' or 'not yet'. In such contexts, I suspect that *toj maaji'* is treated as having more or less the same presupposed and asserted contents as *maaji'* (p)—perhaps only implicating greater expectation (that the event should have occurred) or greater exasperation (that the event has not yet occurred).

The following example shows such a gloss, as well as another instance of a *toj maaji'* construction following a *maaji'* construction.

GLOSSED CONSTRUCTION INVOLVING *MAAJI'* FOLLOWED BY *TOJ MAAJI'*

(53) **maaji'** yoo–Ø–Ø chi b'ichank naq x–in–'el
not.yet do–PRES–A2S COMP sing COMP PERF–A1S–leave

ut **toj** **maaji'** chi b'ichank naq x–in–suq'iik
CONJ still not.yet COMP sing COMP PERF–A1S–return

'He was not yet singing when I left, and he was still not yet singing when I returned.'
(SG: no estaba cantando cuando me fuí, y todavía no estaba contando cuando llegué)

As may be seen from a speaker's translation of this Q'eqchi' example (which was also deemed highly acceptable), the first clause (not yet p) is translated as 'not p' (using Spanish *no*) and the second clause (still not yet p) is translated as 'not yet p' (using Spanish *todavía no*).

The next example shows an NP *chik* construction, in addition to a *toj maaji'* construction.

EXAMPLE OF *TOJ MAAJI'*

(54) kama' El_Salvador, eh dolar **chik**
like PN INTERJ dollar more

'Like in El Salvador, um, it (already) has been dollarized (or become the dollar).'
[Intervening utterances removed.]

arin quetzal, **toj** **maaji'** nek–Ø–e'x–jal
DEIC quetzal still not.yet PRES–A3S–E3P–change

'Here (in Guatemala) it is the queztal. They have still not yet changed it.'

In this example a man was speaking about changing currencies in Central America. The first line shows *chik* 'more' with scope over an NP-like argument, with a state-change reading. The second line of this example shows a parallel construction: in contrast to the currency in El Salvador (which has already converted to the US dollar), the currency in Guatemala has 'still not yet' changed.

In its interactions with the other aspectual operators, *toj* not only occurs with its 'still' reading, as shown in previous examples, but also with its 'until' reading.

TOJ WITH SCOPE OVER *AK* (ALREADY)

(55) **toj** **ak** ki–Ø–x–ch'olob'aak chi r–u i–x
still already INF–A3S–E3S–explain PREP E3S–RN DM–E3S
na'leb':eb'
character:PLR
'(He still didn't want to kill her, for she was his niece) until her father had explained their character/deeds to him.'

(Kockelman 2010:225)

This sentence comes from the same mythic text discussed above, and it occurs right after the utterance shown in (22). In particular, Thunder (the uncle of Moon) did not want to kill his niece (along with her companion, the Sun) until his brother (Moon's father) explained their bad deeds to him. I do not have any tokens of this construction from present-day speakers, but like the other *toj* as 'until' examples offered in **3**, we see that the prior clause (not wanting to kill her) is presupposed as true before, and up to, the reference time (the father's recounting of their deeds). Here the *ak* (p, t) construction presupposes that p was false before t, and it asserts that p was true at t. The *toj ak* (p, t) construction indicates that only when this transition happened did Thunder change his mind: before that moment he did not want to kill her, but after that moment he did. See table 6 (row 3). Again, then, the meaning of this double operator construction seems to be a relatively straightforward recursive composition of its parts.

Here is another example of *toj* with an 'until' reading, with scope over a different aspectual operator.

TOJ WITH SCOPE OVER *MAAK'A' CHIK* CONSTRUCTION

(56) **toj** **maak'a'**–q **chik** in–k'as t–in–k'anjelaq
still NEG.exist–NS more E1S–debt FUT–A1S–work
'Until I no longer have debt I will work.'
(SG: hasta que no tenga deuda trabajo/trabajaré)

This example shows *toj*, in its 'until' function, with scope over a negation *chik* construction (with existential negation, and a possessed NP, thereby functioning as a possessive construction). In this context, *maak'a' chik* arguably takes an aspectual reading ('to no longer have NP') as opposed to a quantity reading

('to have no more NP'). Within the scope of *toj*, this relatively backgrounded clause specifies a reference time. The foregrounded clause ('I will work') is presupposed as true before the reference time; it is asserted to be true at the reference time (and continuously so up until then); and it is implicated to be false after the reference time. This presupposition/assertion structure is shown in table 6 (row 4). For comparison, row 5 of table 6 shows the presupposition/assertion structure of a *toj wank chik* NP (still exists more NP) construction. As may be seen, such an elaborate construction may also be understood as a recursive composition of its parts (*toj* and *chik*, in the context of an existential predicate with an NP argument).

The next several constructions show *toj* with a temporal expression as its argument (as opposed to a proposition), where the expression involves a quantity *chik* or wh-word *chik* construction.

TOJ . . . CHIK CONSTRUCTIONS USED IN LEAVE-TAKING

(57a) **toj** hulaj **chik**
still tomorrow more
'Until tomorrow again.'
(SG: nos vemos otra vez mañana)

(57b) **toj** sa' jun xaman **chik**
still PREP one week more
'Until within another week more.'
(SG: hasta dentro de una semana)

(57c) **toj** joq'e tana **chik**
still when AF more
'Until sometime else.'
(SG: hasta un día)

All three of these utterances occurred in leave-taking contexts (of the kind discussed in **3**). As may be seen, *toj* has scope over temporal adverbs (57a), adpositions (57b), and wh-words (57c), and each of these temporal expressions involves the operator *chik* 'more/else'. In the case of (57c), note that a wh-word followed by the afactive clitic *tana* 'perhaps/probably' is typically used to indicate indefinite constituents: *joq'e tana* 'sometime', *b'ar tana* 'somewhere', and so forth. With *chik*, such indefinite constituents function similarly to English constructions like 'somewhere else'. In each of the three examples, the *chik* part of the construction presupposes a prior instance (here the social interaction that is just ending), and it asserts an additional instance, at some degree of remove: tomorrow (57a); within a week (57b); in the indefinite future (57c). The *toj* part of the construction, in contrast, does the work described in **3**: its argument (the *chik* phrase in question) constitutes a reference time, and the event of not seeing each other is treated as true before (and up to) the reference time and false after. See table 6 (row 6). To be sure, these are relatively ritualized formulas for parting.

Nonetheless, it is instructive to see how the semantics of such constructions is arguably still compositional and in accordance with the foregoing analyses of the components in question.

The next construction type is used relatively frequently and, unlike all the examples just offered, involves not *toj* as the wide-scope aspectual operator but rather *maaji'*.

MAAJI' CHIK (NOT YET + AGAIN)

(58) **maaji' chik** nak–oo–hulak Coban
not.yet more PRES–A1P–arrive PN
'We have not yet gone to Coban again.'
(SG: todavía no hemos vuelto a ir a Cobán)

This example shows *maaji'* 'not yet' in conjunction with *chik* 'more'. Speakers said that such a sentence could only be used if one had been to Coban before and that it suggests that one will (soon) go there again. As may be seen from the Spanish gloss, they translated it using Spanish *ya no* 'no longer', a perfect construction (*hemos ido* 'we have gone'), and *otra vez* 'again'. The meaning of such a sentence is quite straightforward given the presupposition/assertion structure of the operators in question. In particular, if we treat the speech event as the reference time, this construction presupposes that the proposition (we go back to Coban or go to Coban again) is false before the reference time; it asserts that the proposition is false at the reference time; and it implies that proposition will be true soon after the reference time (and/or that the fact of its current falseness is somehow unexpected or disappointing). Finally, the proposition within that operator presupposes a prior reference event of which the proposition (we go to Coban) was true. See table 6 (row 7).

The following examples, along with speakers' acceptability judgments, support this interpretation.

ACCEPTABILITY OF *MAAJI'* CONSTRUCTION WITH AND WITHOUT *CHIK*

(59a) S1: # **maaji' chik** n–in–hulak Coban
not.yet more PRES–A1S–arrive PN
'I have not yet gone back to Coban.'
(Context: speaker has never been to Coban)

(59b) S1: # **maaji'** n–in–hulak Coban
not.yet PRES–A1S–arrive PN
'I have not yet gone to Coban.'
(Context: speaker has been to Coban)

As (59a) shows, a *maaji' chik* construction cannot be said in a context where the speaker has never been to Coban (even though it is perfectly acceptable if they have). Conversely, a *maaji'* construction cannot be said in a context

where the speaker has been to Coban (even though it is perfectly acceptable if they have not).

Assuming the sentence in (59a) has been said felicitously (in a context where the speaker has been to Coban), the following responses (and responses to that response) were judged acceptable and highly appropriate.

CANCELLATION OF IMPLICATION OF *MAAJI' CHIK* CONSTRUCTION

(60a) S2: ma t–at–hulaq wi'chik
QUES FUT–A2S–arrive again
'Will you go again?'

(60b) S2: joq'e t–at–hulaq wi'chik
when FUT–A2S–arrive again
'When will you go again?'

S1: (mare) sa' enero, mare **maa**–jaruj **chik**
AF PREP January AF NEG–when more
'(Perhaps) in January. Perhaps never again.'

As (60a) shows, one can ask a question that presupposes a prior visit but not a subsequent visit. As (60b) shows, one can ask a question that presupposes not only a prior visit but also a subsequent visit. As may also be seen, not only is the implicature of (59)—that is, that one will go again—cancellable by the person asking the question, but the person answering the question can cancel this implicature as well. That is, while one can certainly specify an exact date, or an uncertain date, to such a question, one can also cancel the implication entirely through a construction like *maa–jaruj chik* (NEG–when more) 'never more/again'.

6. Conclusion. This article has analyzed the presupposed and asserted contents of a wide range of closely related operators in Q'eqchi'-Maya. **2** argued that the four aspectual forms, when they occur as sentential operators, constitute a dual group: *ak* 'already', *maaji'* 'not yet', *toj* 'still', and *ink'a' chik* 'no longer'. **3** showed the much wider range of functions *toj* serves when it has scope over other types of arguments, behaving somewhat like English 'until', 'unless', 'anyhow', 'at/during', and 'then/immediately'. **4** compared *toj* 'still' and *ink'a' chik* 'no longer' with *wi'chik* 'again' and *ink'a' wi'chik* 'again not' and showed that *wi'chik* has restitutive and reversive functions (qua 'back') in addition to its repetitive function (qua 'again'). Finally, **5** detailed the various ways such operators can co-occur with each other in the same clause, showing that *toj* 'still/until' has the widest scope of the four dual forms and arguing that the presupposed and asserted content of such co-occurring operators is recursively compositional.

This is the first detailed analysis of such operators in a Mayan language. While each operator deserves an article in itself, it was worthwhile showing

the large-scale semantic and morphosyntactic patterns organizing the entire system, the ways such operators combine with each other in a single clause (or complement each other across clauses), and the pragmatic functions served by such operators in naturally occurring discourse. To be sure, there is still much more work to be done.

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