

First and Second Person Pronouns in Q'anjob'al (Maya)

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Q'anjob'al Orthography

Obstruents ¹						
bilabial	alveolar	post-alveolar	retroflex	velar	uvular	glottal
p /p/	t /t/			k /k/	q [q]~[χ]	' /ʔ/
b' /b'/	t' /t'/			k' /k'/	q' /q'/	
	tz /ts/	ch /tʃ/	tx /tʂ/			
	tz' /ts'/	ch' /tʃ'/	tx' /tʂ'/			
	s /s/	xh /ʃ/	x /ʂ/	j /x/		

Sonorants: i /i/, e /ε/, a /a/, o /o/, u /u/, m /m/, n /n/, l /l/, w /w/, y /j/, r /r/

Word-initial glottal stops are not marked. *h* appears word initially to indicate the lack of a glottal stop.

Abbreviations

1	first person	IND	indefinite
2	second person	INF	infinitive
3	third person	INT	question (interrogative)
A	“Set A” person marker	IRR	irrealis
ABSTR	abstract noun	IV	intransitive verb
AF	agent focus	NCL	numeral classifier
AP	antipassive	NEG	negation
B	“Set B” person marker	NEG.PHR	phrasal negation
CA	“crazy-antipassive”	P	plural person
CAUSE	causative	PART	particle
CL	noun classifier	POT	potential marker (irrealis)
CMPL	complementizer	PREP	preposition
CNTR	contrastive conjunction	PRO	independent “pronoun”
COM	completive aspect	PROG	progressive
DEM	demonstrative (default)	RN	relational noun
DEM.PROX	proximal demonstrative	S	singular person
DEM.DIST	distal demonstrative	TNS	intensifier
DIM	diminutive	TRUNC	truncated form of second person singular
DIR	directional marker	TV	transitive verb
DM	dependent marker	WHO	animate interrogative
EXCL	exclusive	WHAT	inanimate interrogative
EXS	existential		prosodic pause
FOC	focus marker	*	ungrammatical (example)
INC	incompletive aspect	?	marginal (not ungrammatical)
		???	extremely marginal
		#	pragmatically infelicitous

¹The format above is adapted from Fowlie (2011)

1 Introduction

Linguists have long noted that word order is variable in Mayan languages. For example, the Mayan language Tojolabal has been shown to display every possible linear order of subject, verb, and object (Brody 1984). However, these variable orderings reveal themselves to be somewhat regular when pragmatic factors are taken into account: certain configurations invariably appear when particular discourse conditions are met (Aissen 1992). Indeed, as early as 1977, there emerged an analysis (Norman) of the relationship between discourse and structure in Mayan that persists to the present day: Mayan languages are by-and-large predicate-initial, with two pre-predicate sentence positions for the pragmatic “topic” and “focus”, respectively dubbed TOPIC and FOCUS. TOPIC exists on the left-periphery of a sentence and hosts (roughly) the entity that the sentence is “about”.² FOCUS is a pre-predicate position that hosts (roughly) an entity that is contrasted with other entities in the discourse context (often this will be the answer to a *wh*-question). These pragmatic notions³ manifest in English in the “as for...” construction for topic and the A-accent for focus.

- (1) As for John, he lost his shoes. *topic = John*
(2) A: Who lost their shoes?
B: [John]_F lost his shoes.⁴ (not me) *focus = John*

There is a long-standing debate regarding the extent to which these positions in Mayan really cohere to a single pragmatic function or to a number of them (AnderBois 2012). Still, it is generally accepted that constituents only appear pre-verbally for pragmatic reasons. Post-verbal nouns, on the other hand, are ordered based on syntactic/semantic factors such as argument status and animacy (Aissen 1992).⁵

First and second person “independent pronouns” in Mayan languages have been largely left out of these analyses. Syntactic variability, even “word order” itself, has been analyzed as a property of sentences with lexical third-person nominals only. This omission is troubling if one wants to arrive at a general syntactic analysis covering all *persons*; however, the omission makes sense when one considers how person is marked in Mayan languages. First of all, independent pronouns are not used in every sentence with first/second person arguments. Across the language family, person-markers called “Set A” and “Set B” attach to the verb: for first and second person, these units always disambiguate which argument is which, so pronouns may not need to show up in any kind of “position” separate from the verb. Second, “independent pronouns” in certain Mayan languages seem to have different syntax/semantics than third-person nominals. In languages like Mam and K’iche’, for example, independent pronouns may even be

²These vague definitions will be clarified (to the extent that they can be) later in this paper.

³Or similar ones, at least.

⁴The constituent bearing the A-accent is marked with [...]_F.

⁵This paper will highlight a use of an independent pronoun that is pragmatically driven and post-verbal – (3) below.

predicates themselves (England 1991, Velleman 2014). These units bring with them an extra layer of complexity.

Nevertheless, independent pronouns can tell us a lot about the relationship between syntax and pragmatics in these languages *precisely because* they are not needed in sentences to mark argument status. In other words, whatever language-internal pressures drive these pronouns to appear may be the same pressures that drive these “non-basic” word orders. This is the case in Q’anjob’al, the language that this thesis focuses on. Independent pronouns in Q’anjob’al appear in preverbal positions, but *cannot* appear post-verbally in the normal subject-object linear order. Indeed, the language’s basic word order is strictly *verb subject object* for third-person (Mateo-Toledo 2008).⁶ However, when first and second person pronouns appear post-verbally, they violate this order:

- (3) a. V S O
 x=∅-∅-txon=toq ix unin te pajich
 COM=B3-A3-sell=DIR CL child CL tomato
 ‘The girl sold the tomato.’ {Mateo-Toledo 2008, pg. 50}
- b. Context: Someone asks: What did you all sell? (The speaker sold her toy “monster”.)
- V O S
 x=∅-in-txon=toq cham qoqo ayin ti’
 COM=B3-A1S-sell=DIR CL monster PRO.1S DEM
 ‘I sold the monster.’

Sentence (3a) shows the basic VSO word order in Q’anjob’al. In (3b), however, the subject of the verb *txon* ‘to sell’ appears at the end of a sentence, violating Q’anjob’al’s ostensibly “strict” post-verbal syntax. This sentence is an example of the kind of data I want to draw attention to in this paper. Q’anjob’al is the perfect language to investigate parallels between syntax and pragmatics because of violations like (3b) above. One can uncover the exact discourse conditions that necessitate non-basic word orders by looking at the conditions under which sentences with independent pronouns are elicited.

Before using these pronouns to uncover these facts about Q’anjob’al, one must answer the question: what exactly are these independent pronouns? This thesis aims to answer this preliminary question. I investigate the syntactic/pragmatic parallels (chapters 4 and 5) primarily in service of this answer, but my insights can hopefully provide a start into this kind of investigation.

The pronouns come in two forms, what I call the “basic series” and the “*ti*’ series”:

⁶England 1991 calls this rigidity an “innovation” in the family.

Independent Pronouns: the *basic* series

	<u>singular</u>	<u>plural</u>
1st	ayin	ayon
2nd	ayach/hach	ayex

Independent Pronouns: the *ti'* series

	<u>singular</u>	<u>plural</u>
1st	ayin ti'	ayon ti'
2nd	ayach/hach ti'	ayex ti'

I will argue that even calling these linguistic units “pronouns” presents an analysis that deserves to be examined in serious detail. After looking at a number of sentences in the language, it becomes clear that postulating that words like *ayin*, *ayach*, *ayex*, and *ayon* are pronouns like *I*, *you*, *y'all* and *we* is not necessarily accurate. I will discuss many ways in which these first and second person words are treated differently than third person “unmarked” ones. Particularly, they only occur before the verb or after the grammatical subject and object – i.e. never by themselves in the basic nominal argument positions. Moreover, they behave differently in these positions than third-person nominals do. Consider the following answers to the pair of questions: “*Who saw the tree?*” and “*Who saw the bird?*”:

- (4) a. a naq Maltixh x= \emptyset - \emptyset -il-on te'
 FOC CL Maltixh COM=B3-A3-see-AF tree
 ‘[Maltixh]_F saw it (the tree).’
- b. ayin x= \emptyset -w-il-a'
 PRO.1S COM=B3-A1S-see-TV
 ‘[I]_F saw it (the bird).’

In (a), the “emphatic particle” *a* precedes the focused constituent Maltixh; in (b), it does not precede *ayin*, and in fact cannot precede *ayin*. This contrast suggests that this item may consist of the Set B marker =*in* cliticized onto the emphatic particle *a*. That is, *a* + =*in* → *ayin*. Simply calling these “pronouns” obscures the fact that they have particular pragmatic restrictions that relate to their form, *a* in this case.

Previous authors have tried to draw unified sketches of these pronouns in service of a full grammatical description of the language (Martin 1977, OKMA 1999). This thesis will show that a unified analysis of these pronouns is unattainable. What I call the “basic series” stem from *three* different lexical items (that are generally homophonous): one derived from the existential marker *ay*, one historically related to the preposition *b'ay*, and one derived from the emphatic particle *a* as in (4). The *ti'* series are historically related to the emphatic particle, but have a different distribution than it synchronically. In other words, these pronouns have a number of different uses,

reflecting the variety of syntactic positions where first and second person should be able to be marked. This syntax prevents them from appearing in the normal subject and object positions.

I will focus on the emphatic uses of the pronouns because they are the most difficult to pin down. These uses are pragmatically-driven, so their distribution is controlled by discourse factors that are notoriously difficult to handle.⁷ Moreover, to analyze these uses one needs to engage the debate over what exactly it means for constituents to appear in the pre-verbal positions. That is, engage the debate about the relationship of discourse to syntax in Mayan.

This thesis will take the position that the emphatic uses of the basic series contain the emphatic particle *a*. This particle and the basic series pronouns appear in both focus and topic. In focus, this marker is by-and-large always felicitous. In topic, this marker is only permitted in particular kind of contexts: phrases headed by this marker are interpreted as the “contrastive topic” (c.f. Büring 2003). I will thus argue that like the A-accent in English, *a* merely “F-marks” the following phrase (Rooth 1992). Here I will draw from Constant (2014), which integrates contrastive topic with focus and focus-marking cross-linguistically.

On the other hand, the *ti'* series cannot be decomposed into *a*, but seem to have the same syntax as phrases headed by *a*. These pronouns can only occur pre-verbally in topic, but can also occur post-verbally as in (3), upsetting the standard syntax of post-verbal nominals in Q'anjo'bal. Both pre- and post-verbally, these pronouns set the speaker or addressee as the “topic under discussion” (TUD); in TOPIC, they further contrast with other entities in the discourse context. My analyses of these pronouns work within a dynamic semantic framework to capture the concept of “updating the topic under discussion”.

Chapter 2 provides a background on Q'anjob'al person marking as well as the basic distribution of the pronouns. It will also give a brief overview of my account, comparing it to previous accounts that derive these words from the existential marker *ay*. **Chapter 3** is an analysis a particular widespread function of the independent pronouns, namely the prepositional uses, that differs from both the topic and focus (emphatic) usages of the words. I will use both formal and semantic evidence to distinguish these two different uses, arguing that they developed via two different historical processes. **Chapter 4** is a detailed analysis of the emphatic uses of the basic series, which occur frequently in focus position and under a narrow set of conditions in the topic position. Here I provide a formal semantic analysis of these pronouns in focus and topic, arguing specifically why they cannot precede *wh*-questions. **Chapter 5** examines the distribution and function of the *ti'* series. Here I will provide an analysis of the demonstrative. **Chapter 6** briefly concludes.

⁷The prepositional *b'ay* use of the basic series is governed by syntactic factors like the argument structure of the verb. The existential *ay* use is easy to spot: it seems to always co-occur with the directional *ek'*. Compared to these syntactic/semantic factors, discourse factors are difficult to elicit and are subject to a lot of variation based on how the linguist prompts their consultant.

2 Person Marking in Q'anjob'al

2.1 Background

Q'anjob'al is a Mayan language with approximately eighty thousand speakers in Guatemala and the diaspora – particularly communities in Mexico and the United States.⁸ It is closely related to Akatek and Jakalteq (Popti'): together, these three languages make up the *Proper Q'anjob'alan* branch of the Mayan language family. Indeed, many of the same patterns that this thesis investigates are present in Akatek and Popti'⁹ independent pronouns in these sister languages can provide clues into the nature of the pronouns that are the focus of this paper. I will discuss some of these parallels further along in the paper.

The phylogenetic tree below shows Q'anjob'al's relationship to its larger family:

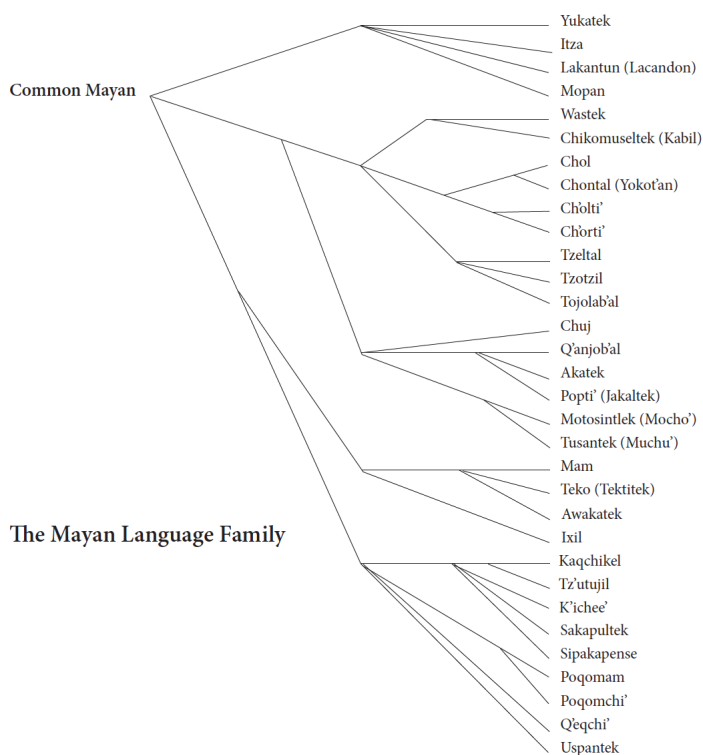


Figure 1: Law 2009

The native-speaker consultant who worked on this project lives in Providence, Rhode Island. She emigrated to Providence from the *Jolom Konob'* (Spanish: *Santa Eulalia*) province of Guatemala, and speaks the dialect of Q'anjob'al endemic to that area. The map below locates this dialect within dialectical and language boundaries in Guatemala:

⁸ *Ethnologue*.

⁹ The particular pattern in independent pronouns this paper investigates is not general to the Mayan language family. In Yucatec, for example, independent pronouns can appear after the verb complex:

Map 2.1. Q'anjob'al

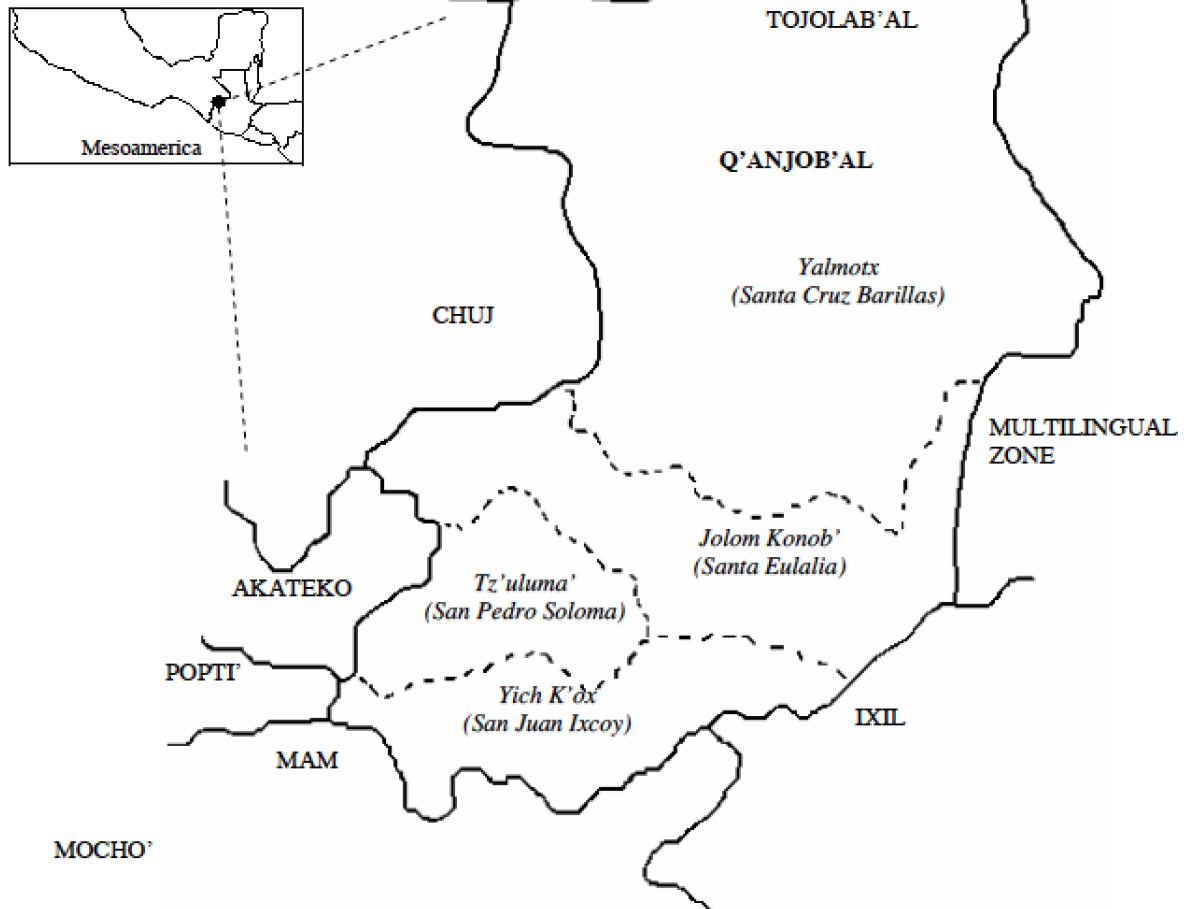


Figure 2: Mateo Pedro (2015)

Most of the data for this paper comes from elicitations with this consultant at Brown University in Providence: in particular, from sessions in March-April 2015, October 2015, and February 2016. Data will also stem from monolingual texts in Q'anjob'al and primary literature written by linguists.

Q'anjob'al is a head-marking, head-initial language: grammatical person is marked on the verb and the heads of all phrases that take nominal complements. This chapter will give an overview of person marking in Q'anjob'al, covering the markers' basic function as agreement or argument markers on verbs (2.2), their wider distribution in non-verbal sentences and beyond (2.3), and lastly their "independent pronoun" uses (2.4). 2.5 will give an overview of my account of the independent pronouns. Lastly, 2.6 will give an overview of competing accounts in previous literature, arguing against accounts that derive the pronouns from the existential morpheme *ay*.

2.2 Person Marking on the Verb

Person/Number	Set A	Set B
1s	<i>hin-/w-</i>	<i>-in/hin</i>
2s	<i>ha-/h-</i>	<i>-ach/hach</i>
3s/p	\emptyset <i>s-/y-</i>	$-\emptyset$
1p(unmarked)	<i>ko-/j-</i>	<i>-on/hon</i>
2p	<i>he-/hey-</i>	<i>-ex/hex</i>

Figure 3: Person-markers - Set A/B ¹⁰

Few notions are as basic to the grammar of Q’anjob’al, let alone all Mayan languages, than the two person-marker “sets” shown in the paradigm above. Variations on these sets occur in every member of the language family. Broadly, they mark for person and number, and are therefore present in all verbal sentences. In Q’anjob’al, linguists have distinguished the two sets by their ergative-absolutive alignment pattern in the syntax of the language (Figure 4 below). Set A, the ‘ergative’ set, marks the agent of a transitive verb. Set B, the ‘absolutive’ set, marks the patient of a transitive verb, subject of an intransitive verb, and subject of a nonverbal predicate, or “NVP”.

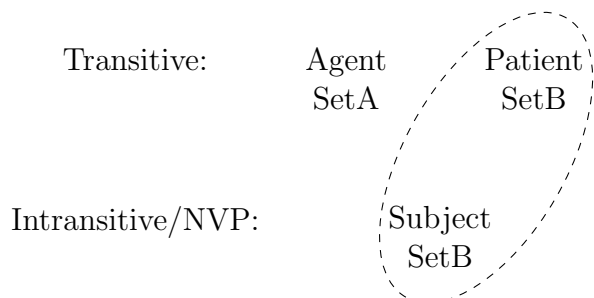


Figure 4: Ergative-Absolutive Paradigm

The markers manifest as bound morphemes: in a transitive sentence, Set B morphemes attach to the aspect marker, and Set A morphemes prefix to the verbal stem:

- (1) x=ach in-teq’-a’
 COM-B2S A1S-stab-TV
 ‘I stabbed you.’
- (2) x=in ha-teq’-a’
 COM-B1S A2S-stab-TV
 ‘You stabbed me.’

In transitive sentences like (1) and (2) above, these markers always occur between the aspect marker and the verbit will be useful to call this area of a sentence the “verb complex”:

¹⁰Set A morphemes have different allomorphs for consonant initial and vowel-initial verbs. In the table above, the consonant initial allomorphs go first, followed by the vowel initial allomorphs.

Although there is consensus among linguists that the Set A markers are prefixes in Q'anjob'al, the status of the Set B markers is not as clear. This paper will claim that they are clitics¹¹, since they have variable hosts, attaching to both bound and free morphemes. This property is shared by other clitics in the language (Pascual 2007, Mateo Toledo 2008, Mateo Pedro 2010). Moreover, they have fuller forms than affixes in Q'anjob'al, and aren't subject to certain phonological processes that affect affixes. For example, the Set A markers - prefixes - have different allomorphs for consonant initial and vowel initial stems (Figure 3). Status suffixes to verbs only appear if the verb ends a prosodic phrase. Moreover, the [+transitive] status suffix participates in some form of vowel harmony with the verb stem it attaches to: its default form is *-a'*, but appears as *o'* on verbs like /*kol*/ and /*txon*/ and *u'* on verbs like /*t'un*/. These kinds of processes do not affect Set B markers; in fact, they remain stable units wherever they appear. Moreover, clausal particles (also clitics) may surface closer to the aspect marker than the Set B markers, indicating that the clitics are not tightly bound to the aspect marker (Mateo-Toledo 2008 pp. 65):

- (3) max=k'al=**hach** lo-w-i
 COM=only=A2S eat-AP-IV
 'You unexpectedly ate.' {Mateo-Toledo 2008}

This data will become important for determining the status of the marker when it appears on independent pronouns.

The third-person is almost always marked by a null morpheme: that is, the lack of morphology in the verb complex signals a third-person argument. This treatment accounts for sentences like (4), which lacks an overt argument but is still interpreted as a sentence with a third-person subject:

- (4) q=∅-kam-oq
 POT=B3-die-IRR
 'She/he/it will die.'

Indeed, third-person arguments tend to occur outside of the verb complex, and rarely have any overt agreement within it except for the Set A vowel-initial morpheme *y*-before vowel initial verbs. The consultant rarely used the Set A consonant initial suffix, except to resolve interesting ambiguities¹².

¹¹Clitics are bound morphemes that are at some intermediate stage between being a prosodic word and full grammaticization as an affix. They cannot bear stress, and need some sort of "host" in order to be expressed in a sentence. Clitics and Constituents in Phrase Structure Grammar (Miller 1992).

¹²This data will be important for showing what I call the "anti-topic" use of the pronouns, which occurs at the right boundary of a sentence.

While many Mayan languages have variable ordering of post-verbal arguments, Q'anjob'al exhibits strictly verb subject object (VSO) word order in transitive sentences, and verb subject (VS) order for intransitive sentences:

Transitive sentence: VERB-COMPLEX SUBJECT OBJECT

Intransitive sentence: VERB-COMPLEX SUBJECT

These structures will be called the nucleus of a their respective sentence type (transitive, intransitive). Third-person arguments can be full nominal classifier phrases in (5) and (6) or pronouns as in (7) and (8).

- (5) x=∅-y-uktej naq Maltixh no' tx'i'
 COM-B3-A3-hunt CL Maltixh CL dog
 'Maltixh hunted the dog.'
- (6) x=∅-∅-chi' no' tx'i' kab'-wan anima
 COM-B3-A3-bite CL dog 2-NCL person
 'The dog bit two people.'
- (7) lan y-uk'-on heb'
 PROG A3-drink-CA 3P
 'They are drinking.'¹³
- (8) x=∅-∅-chi' naq heb'
 COM=B3-A3-bite CL 3P
 'He bit them.'

Indeed, classifiers of the noun antecedent are the regular pronominal forms in Q'anjob'al: in (8) *naq* fills in for *naq Maltixh*. These pronouns aren't included in the Sets because they occur in "normal" noun argument positions: i.e. following the verb complex in a subject-object ordering.

The plural pronoun for animate arguments – *heb'* – is, syntactically at least, a classifier like *naq*. In many previous studies this pronoun is analyzed as the third person plural Set B marker. However, since the pronoun occurs in a different distribution than the Set markers - in the subject/object slot rather than the verb complex (compare (7) and (8)) - it is generally accepted that it is the same syntactic type as classifier phrases, not person markers.

¹³Sentences with the progressive positional root *lan* display nominative-accusative patterning within the verb complex. Previous studies have argued that Q'anjob'al's "split-ergativity" arises from a nominalization process discussed in papers like Mateo-Toledo 2008, Pascual 2007, Mateo-Pedro 2012. The majority of the data in this paper will consist of ergative-absolutive environments.

2.2.1 Excursus: agreement or arguments?

Since full nominals don't have to occur in a sentence of Q'anjob'al, do the verbs access their arguments via the Set markers? The observations above lead to two separate conclusions: (A) these morphemes are meaningless *agreement markers* necessitated by the syntax or (B) they are the actual *arguments* of the verb the vein of Eloise Jelinek's influential analysis of Walpiri (Jelinek 1984). If one subscribes to the former account, then Q'anjob'al would be a strongly *pro-drop* language typologically, where subjects and objects can be omitted in cases where the referent is unambiguous. For example, sentence (4) is felicitous when it is clear who will die. This characterization is appealing since third person subjects and objects have an unambiguous linear order, which indicates that word order in Q'anjob'al marks argument status – a characteristic property of languages with agreement systems. Furthermore, third person nominals are only rarely dropped in subject position: it is the norm to express certain arguments outside of the verb complex.

However, the pro-drop parameter is usually an optional one, not a necessary one. It is strange, then, that purported first and second person pronouns cannot appear in subject or object position:

- (1') *x=ach-in-teq' ayin ayach
VERB-COMPLEX SUBJECT OBJECT
Intended: 'I stabbed you.'

Although I will argue that *ayin* and *ayach* are not really pronouns, it remains a fact about Q'anjob'al that no expression referring to the speaker can occur in these positions. The clitics by themselves surely cannot:

- (1'') *x=ach-in-teq' hin hach
VERB-COMPLEX SUBJECT OBJECT
Intended: 'I stabbed you.'

This fact leads one towards the latter analysis of these set markers: as arguments of the verb. In Jelinek's theory, verbs in Warlpiri access their arguments via pronominal affixes. Full nominals in the language serve separate discourse functions. This theory helps explain why full nominals need not be expressed, but when they do, can show up in various linear orderings. For this kind of language to work, argues Jelinek, the pronominal elements on the verb must *unambiguously* mark for person. This way, nominals do not have to surface for the arguments of the verb to be understood. In Q'anjob'al too, the Set markers unambiguously mark for person: there is no conflation of first, second, or third person that needs to be resolved outside of the verb complex. Moreover, Q'anjob'al exhibits many possible word orders with full nominals, expressing different "discourse configurations".

However, it would be unclear why the agent and patient of a transitive sentence

are so rigidly ordered if they do not mark the argument structure of the verb. The SUBJECT and OBJECT slots seem to serve no other discourse function than marking the third person arguments of the verb¹⁴. I will not pursue a Jelinek-style analysis in this paper for this particular reason.

These two options represent the two radical positions one can take; there are other logical options that are variations on these two. One appealing one is that the Set B clitic markers are arguments of the verb but the Set A affixes represent grammatical agreement. This option relies on our earlier intuition that the Set B markers are clitics, more “word-like”, than the Set A markers. In addition, this hypothesis aligns with a diachronic analysis that has been proposed, where the Set B markers were independent pronouns that became incorporated into the verb complex (Schüle 2000).

The goal of this thesis is not to analyze the argument structure of Q’anjob’al, so it isn’t fully necessary to commit to one of these options. As this section has argued, crafting an elegant generative syntax poses many problems. Indeed, I think these syntactic issues may be better explained using constraint-based frameworks like Optimality Theory, since the functional reasons for these observations are intuitive: rigid word order for third person resolves potential ambiguities; expressing the first person subject/object only once in a sentence reduces potential redundancies. Nevertheless, these analyses are important insofar as they propose to explain one of the main observations that motivated this study: that first and second person “pronouns” cannot occur where third person ones can (compare (1’) with (8)). Ultimately, I choose to investigate the syntax/semantics of the pronouns themselves rather than the morphosyntax of the language to explain why these pronouns don’t occur in subject/object position. I argue that the first and second person pronouns contain additional information and have different syntax than third person pronouns (and units that are normally called “pronouns” cross-linguistically). There are no prosodic words in Q’anjob’al that *solely* mark for first or second person; thus, no lexical items that could appear in a slot for classifier phrases.

Indeed, there is no functional need for first and second person “regular pronouns”. Set markers for first and second person always show up on the verb in an order that marks which argument is which; in contrast, third person set A and B markers are often null, producing ambiguities. Furthermore, first and second person referents are always set in the exact same way: they are the *speaker*, the *addressee*, or some combination of the two; they do not need to be identified in more roundabout ways like third person nominals (with names, relative clauses, prepositional phrases). For third person, speakers presumably need separate slots that can identify referents from an unlimited set of entities. Regardless of the exact constraints at play here, it seems reasonable to claim that first or second person classifier phrases are somewhat superfluous in Q’anjob’al. Of course, these thoughts are speculative at this point. An in-depth study of the morphosyntax of Q’anjob’al is needed to give substance to my conjectures.

¹⁴The immediately post-verbal positions could conceivably serve some other discourse function; I leave this as subject to further investigation.

In this paper I will pursue the first account: pro-drop. For first and second person, there are always null “pro” variables in subject and object position that agree with the Set markers on the verb. This account is taken in order to utilize the current semantic machinery for languages like Q’anjob’al. The choice of account will not affect the conclusions I draw about the independent pronouns.

2.3 Beyond the Verb-Complex

Person is marked on all phrases that take nominal complements. Sentences with non-verbal predicates take a Set B morpheme as their subject:

Non-Verbal Predicate:

- (9) xiwil=hex
 many=B2P
 ‘You (all) are many.’ {Mateo-Toledo 2008}

The structure of a sentence with a non-verbal predicate is the following:

Non-Verbal Predicate: PREDICATE=SETB

This structure will be called the nucleus of a non-verbal sentence. Accordingly, there is no copula in Q’anjob’al. However, there is an existential morpheme *ay* that is claimed to appear in the PREDICATE position above. Certain linguists claim that the independent pronouns derive from this morpheme and map onto the structure above: that is, *ayin* = *ay* (predicate) + *in* (Set B marker) (OKMA 1999, Martin 1977). Although this claim may be true for certain instances of these pronouns, I will refute this hypothesis later in this chapter for the canonical emphatic uses.

Set A and B markers show up in various uses besides marking the core arguments. Set A markers prefix relational nouns and possessive constructions:

Relational Noun:

- (10) max=∅-j-aw an k’um **y-alan** te k’isis.
 COM-B3-A1P-plant CL squash A3-under CL cypress
 ‘We planted the squash under the cypress.’

Possessive:

- (11) ay jun no’ **s-kaxhlan** naq Pel.
 EXS IND CL A3-chicken CL Pel
 ‘Pel has a chicken.’ *Lit:* ‘There is a chicken of Pel.’

As Mateo-Toledo notes, relational nouns and possessive constructions have the same basic structure:

Relational Noun	Possessive Construction
y-alan te k'isis SETA-RELNOUN CLP	s-kaxhlan naq Pel SETA-NOUN CLP

Nevertheless, he notes that classifiers and numerals can precede possessive constructions (*jun no'* in (11)), but not relational nouns.

Again, first and second person complements do not occur where third person can: in the CLP slot above. For first and second person, only the Set A morphemes show up:

- (12) in-kaxhlan
A1S-chicken
'my chicken'
- (13) ha-na
A1S-house
'your house'

Our proposal outlined before for verbal arguments extends to cases like these as well. That is, since there are no first and second person classifier phrases in Q'anjob'al, the "possessor" slot does not contain an overt argument.

Set B markers have a variety of interesting uses. Doubling of the 1st person plural marker *hon* marks exclusivity:

First-person Exclusive:

- (14) Max-on y-il=**hon** heb'. /*Maxon yil heb' hon.
COM-B1P A3-see=EXCL they
'They saw us (not you).' {Mateo-Toledo 2008}

In (14) above, *hon* occurs before the nominal subject, violating the VSO order of Q'anjo'bal. This data suggests that *hon* is cliticized onto the end of the verb complex.

The Set B clitics are also incorporated into markers of phrasal negation and interrogation.¹⁵

¹⁵In certain literature, Set B markers have appeared outside interrogative elements (Martin 1977). For the consultant, however, this was not grammatical.

(15) **Phrasal Negation**

- a. may=ex=naq x=ex lo-w-i
NEG.PHR-B2P COM=B2P eat-AP-IT
'It wasn't you (all) who ate.'
- b. ma=∅=naq naq Maltixh x=∅-lo-w-i
NEG.PHR.B3 CL Maltixh COM=B3 eat-AP-IT
'It wasn't Maltixh who ate.'

(16) **Interrogation**

- a. mak=ex=txel?
WHO=B2P=INT
'Who are you?'
- b. mak=∅=txel naq Maltixh?
WHO=B3=INT CL Maltixh
'Who is Maltixh?'

Again, it is unclear if the Set B markers are *arguments* or participating in some form of *agreement*. The data above suggests that these clitics like to be in the second highest position in a phrase. The same “movement” process that is easy to see here could also be happening to absolutive markers in verbal sentences, lending support for the “clitics as arguments” hypothesis. Nevertheless, an objector could easily say that they mark for agreement, and don't show up for third person because, simply, the third person marker is a null morpheme. I take this latter position in our glosses for the sake of simplicity and expository cohesion with our verbal glosses.

Lastly, person marking appears on what are called the “independent pronouns”: these particular forms are the focus of this paper. Previous studies have grouped them as a unit because of their surface form:

Independent Pronouns: the *basic* series

	<u>singular</u>	<u>plural</u>
1st	ayin	ayon
2nd	ayach/hach	ayex

Despite their unified label, these units manifest themselves in many sentence positions and serve many different purposes. Canonically they appear before the verb in FOCUS position, but they also can appear in TOPIC position usually alongside the proximal demonstrative *ti*'. I call these pre-verbal uses the *emphatic uses* since they serve a pragmatic function that emphasizes the speaker or addressee in some form or other. Chapter 4 and 5 of this paper will provide a formal analysis of these uses.

The *basic* series can also occur post-verbally as oblique arguments and locatives: chapter 3 will separate these *prepositional* uses from the former. For now, I present

their full distribution in order to draw a reliable picture of what is happening.

2.4 The Independent Pronouns: Distribution

This section will outline the distribution of the independent pronouns and point out the major data points relevant to our analysis. Since the pronouns in the table above can co-occur with the proximal demonstrative *ti'*, I will also broadly cover the distribution of these units - called the *ti'* series - in this section:

Independent Pronouns: the *ti'* series

	singular	plural
1st	ayin ti'	ayon ti'
2nd	ayach/hach ti'	ayex ti'

Independent pronouns most commonly appear in FOCUS position as a focused subject or object. Third-person nominals in this position may co-occur with certain morphemes. For example, the emphatic particle *a* precedes third person nominals in FOCUS (17a), (18a). The AGENT FOCUS suffix *-on* appears on the verb when a third person subject is *focused* (17a). However, *-on* does not appear with first or second person subjects (17b), and *a* cannot precede the independent pronouns (17c), (18c).

(17) Subject in focus

Q: Who saw the bird?

- a. a naq maltixh x=∅-∅-il-on no' tz'ikin.
 FOC CL maltixh COM=B3-A3-see-AF CL bird.
 '[Maltixh]_F saw the bird.'
- b. **ayin** x=∅-w-il no' tz'ikin.
 PRO.1S COM=B3-A1S-see CL bird
 '[I]_F saw the bird.'¹⁶
- c. *a ayin xwil no' tz'ikin
 Intended: '[I]_F saw the bird.'

(18) Object in focus

Q: Who did we help?

- a. a naq maltixh x=∅-ko-kol-o'
 FOC CL maltixh COM=B3-A1P-help-TV
 'We helped [Maltixh]_F.'

¹⁶We use theory-neutral glossing for each example of an independent pronoun in this paper: PRO.person.number.

- b. **ayach** x=ach-ko-kol-o'
 PRO.2S COM=B2S-A1P-help-TV
 ‘We helped [you]_F.’
- c. # a ayach xach kokolo’
 Intended: ‘We helped [you]_F.’

We will refer to the latter restriction as the “*a* constraint”.

(A) the *a* constraint: the emphatic particle *a* cannot precede emphatic uses of independent pronouns.

The *ti*’ series of independent pronouns cannot occur in FOCUS; rather, they appear in TOPIC. Since there are no formal ways to distinguish FOCUS from TOPIC for first/second person¹⁷, this conclusion can only be grounded in semantic data. That is, the onus is on us to prove that when *ayin ti*’ appears directly before the verb complex, it is actually in TOPIC, not FOCUS. Therefore, this conclusion will be established more thoroughly in chapter 5. Here is an intuitive piece of evidence:

- (19) Context: The speaker won a bird watching competition. Her friend asks, “who saw the bird?”:
 # ayin ti’ xwil no’.
 Intended: ‘[I]_F saw it.’

In (19), *ayin ti*’ cannot occur before the verb in a context that would normally elicit a focused noun like in (17).

Indeed, the *ti*’ series is most commonly used in TOPIC position. Luckily this position is formally distinguishable for these pronouns. There can only be one element in FOCUS per sentence; thus one can determine if the pronoun is in TOPIC by positioning another focused noun or wh-word after it:

¹⁷The AGENT-FOCUS stem does not co-occur with first and second person, so one cannot use this morphology to tell when a 1-2 subject is focused. In addition, there are no resumptive classifiers for 1-2 person topic. Moreover, there can be multiple preverbal topics in Q’anjob’al, so even if one had two preverbal phrases they could both be *topics*.

Topic + focus

- (20) Context: Lucia saw a fish and nothing else. The speaker saw a bird and nothing else. Describe:

ix lucia a no txay x=∅-∅-il ix, **ayin ti'** a no tz'ikin
 CL lucia FOC CL fish COM=B3-A3-see CL PRO.1S DEM FOC CL bird
 x=∅-w-il-a'
 COM-B3-A1S-see-TV

'Lucia, she saw a [fish]_F. Me, I saw a [bird]_F.'

Topic + interrogation

- (21) Context: Teams are assigned a number in a tournament. The speaker is tasked with figuring out what the number of each team is. She approaches one of the teams and asks:

ayex ti' tzet numero-al ex?
 PRO.2P DEM WHAT number-ABSTR B2P

'You all, what number are you?'

The *a* constraint also applies here:

- (20') Context: Lucia saw a fish and nothing else. The speaker saw a bird and nothing else.

a ix lucia a no txay x=∅-∅-il ix, (***a**) ayin ti' a no tz'ikin x=∅w-il-a'
 Intended: 'Lucia, she saw a [fish]_F. Me, I saw a [bird]_F.'

Above, the emphatic particle can appear before a third person nominal in TOPIC, but not the independent pronoun.

The *ti'* series can also be used to indicate that a speaker is surprised at the mention of the referent of the pronoun. When elicited, it sounded like my consultant used an intonational rise at the end of the constituent, like an echo-question in English (indicated by the L-H in the sentence below). Despite the intonational differences, this use may also be in TOPIC position.

Q: Who saw Xhuwin?

Context: Maltixh saw Xhuwin. The speaker is surprised that Xhuwin is being talked about.

- (22) ix Xhuwin_{L-H}, a naq Maltixh x=∅-∅-il-on ix.
 CL Xhuwin FOC CL maltixh COM=B3-A3-see-AF CL
 'Xhuwin? [Maltixh]_F saw her.'

Q: Who saw you?

Context: Maltixh saw the speaker. The speaker is surprised that she is being inquired about.

- (23) **ayin** **ti'**_{L-H}, naq MALtixh x-in- \emptyset -il-on-i.
PRO.1S DEM CL maltixh COM=B3-A3-see-AF-IV
'Me? [Maltixh]_F saw me.'

Here, the *ti'* series can occur with the same function and intonation as a third person noun.

Although the *ti'* series can occur freely in TOPIC (and possibly as its own “echo-question”), the *basic* series appears in TOPIC under a narrower set of conditions. They seem to only occur in TOPIC with a focused noun:

Topic + focus

- (20”) Context: Lucia saw a bird and nothing else. The speaker saw a bird and nothing else.

a ix lucia a no txay x= \emptyset - \emptyset -il ix, **ayin** a no tz'ikin
FOC CL lucia FOC CL fish COM=B3-A3-see CL PRO.1S FOC CL bird
x= \emptyset -w-il-a'
COM=B3-A1S-see-TV

'[Lucia]_{CT} saw a [fish]_F. [I]_{CT} saw a [bird]_F.'

In this position, however, the 2nd person singular cannot appear in its truncated form:

- (24) a ix lucia a no txay x= \emptyset - \emptyset -il ix, **ayach** (***hach**) a
FOC CL lucia FOC CL fish COM=B3-A3-see CL PRO.2S (***PRO.2S.TRUNC**) FOC
no tz'ikin xela'
CL bird COM.B3.A2S.see-TV
'As for Lucia, she saw a fish. As for you, you saw a bird.'

This paper unfortunately does not give a full account of how this short form developed. I offer a few potential narratives, the truth of which can be analyzed in a later study.

The basic series cannot occur with an interrogative, in our “surprise” scenario, or “out of the blue”:

*Interrogative

- (21') Context: Teams are assigned a number in a tournament. The speaker is tasked with figuring out what the number of each team is. She approaches one of the teams and asks:

ayex tzet numero-al ex?

Intended: 'As for you, what number are you?'

*Echo-Question

- (23') Context: A friend asks "Who saw you?". The speaker is surprised that they are being inquired about.

ayin_{L-H} naq MALTixh xin iloni.

Intended: 'Me? [Maltixh]_F saw me.'

*No context¹⁸

- (25) Can you say:

ayin (pause) a no' tz'ikin xwila

Intended: 'Me, I saw a [bird]_F.'

This data suggests that the *basic* series is generally disallowed in topic position, with (20") possibly a case of DOUBLE FOCUS or an elicitation issue. I will argue that this is not the case in chapter 4; rather, these items can be only used as a CONTRASTIVE TOPIC, and appear in a smaller set of discourse contexts due to *focus intervention effects*.

The *ti'* series can also occur after the nucleus of a sentence in what I call the 'anti-topic' use. It is important to recognize that these pronouns do not mirror third person in prototypical subject or object position – syntactically, they are not immediately after the VERB-COMPLEX:

Context: The speaker sold her toy "monster".

- (26) x=∅-in-txon=toq cham qoqo ayin ti'
COM=B3-A1S-sell=DIR CL monster PRO.1S DEM
'I sold the monster.'

- (27) *xintxontoq ayin ti' cham qoqo
Intended: 'I sold the monster.'

Above, the subject of the sentence is the speaker, but *ayinti'* can only appear after the object. This sentence violates the rigid verb-subject-object order of Q'anjob'al, indicating that *ayinti'* is in some later sentence position or is a postposed subject. Indeed,

¹⁸Here what I am getting at is that *ayinti'* is more "accommodatable" in TOPIC than *ayin*.

this use of the pronouns can occur in assertions like (25), but is more commonly used in questions:

Context: A priest wants to baptize a child.

(28) q=ach w-a' bautizar hach ti' / ayach ti'?
 POT-B2S A1S-CAUSE baptized PRO.2S DEM / PRO.2S DEM
 'I am going to baptize you?'

(29) mak=ach=txel hach ti' / ayach ti'?
 WHO=B3S=INT PRO.2S DEM / PRO.2S DEM
 'Who are you?'

We suspect these morphemes are the same as the *ti'* series in TOPIC - indeed, Mateo Toledo calls a sentence with these post verbal pronouns “an emphatic context” (Mateo Toledo 2008 pg 35). These pronouns are important to our argument insofar as they call into question the notion that the emphatic pronouns can be decomposed into the emphatic particle *a*, which cannot occur post-verbally.

This paper will focus on formally describing both the *basic* and *ti'* series of *emphatic* pronouns. However, there are other non-pragmatically driven uses of these pronouns that must be separated from the former in order to get a full picture of the data. For one, the *basic* series can turn up post-verbally as an oblique argument or locative adjunct to verbs:

(30) x=∅-q'ajab' naq Maltixh ayin
 COM=B3-speak CL maltixh PRO.1S
 'Maltixh spoke to me.'

here, the verb is formally intransitive, so *ayin* cannot be one of its arguments. Unlike the emphatic pronouns, this kind of pronoun is able to co-occur with the demonstratives *ti'* (proximal) and *tu'* (distal).

(31) x=in lo-w ayach tu'
 COM=B1S eat-AP PRO.2S DEM.DIST
 'I ate where you are.'

(32) x=ach lo-w ayin ti'
 COM=B2S eat-AP PRO.1S DEM.PROX
 'You ate where I am.'

Chapter 3 will show that these uses derive from a separate lexical entry than the emphatic uses: that is, these pronouns are only related to the emphatic pronouns insofar

as they are homophonous words.

In addition, there are uses of the *basic* series in sentences conveying the location of the speaker or addressee: these uses contain the existential marker *ay*:

- (33) ayin ek' satkan
PRO.1S DIR heaven
'I am in heaven.'

Again, this is argued to be an instance of a different homophonous word.

Despite their wide ranging distribution, independent pronouns cannot occur in the canonical subject or object position, with or without the demonstrative *ti'*:

**basic* series as Subject

- (34) Context: The speaker saw the bird (as opposed to seeing the dog or the fish).
a. a no' tz'ikin x=∅-w-il-a'
FOC CL bird COM=B3-A1S-see-TV
'I saw the [bird]_F'
b. *a no' tz'ikin xwil **ayin**
Intended: 'I saw [the bird]_F'

**ti'* series as Subject

- (35) Context: The speaker sold her toy monster to one of her friends.
a. x=∅-in-txon=toq cham qoqo
COM=B3-A1S-sell=DIR CL monster
'I sold the monster.'
b. *xin txontoq **ayinti'** cham qoqo
Intended: 'I sold the monster.'

**basic* series as object

- (36) Context: A monster captured and sold the speaker to his friends.
a. x=in s-txon=toq cham Qoqo
COM=B1S A3-sell=DIR CL monster
'The monster sold me.'
b. *xin stxontoq cham Qoqo **ayin**
Intended: 'The monster sold me.'

There is no way to tell if a *ti'* series independent pronoun is allowed in the OBJECT position because it could always be at the right boundary of the nucleus in an "anti-topic" position. It is assumed here that *ayinti'* as a prototypical *object* is also infelicitous.

Alternatively, the anti-topic use may correspond to a postposition of the pronoun as an ergative subject, in which case the *ti'* series pronouns may be allowed in the object position.

2.5 Independent Pronouns: Our Analysis

So far, our presentation of the independent pronouns has been data driven. This section will present an informal analysis of these elements that I will expound upon and formalize later. Broadly, I posit that the independent pronouns are actually three distinct homophonous “words” – two lexemes and one existential structure marking ‘personal location’ – that each developed from three respective historical processes. The post-verbal indirect object/locative use historically developed from the preposition *b'ay* + the Set B markers. Existential pronouns can be synchronically decomposed into exactly those two elements: the existential *ay* + set B markers. They represent half of a sentence that conveys the location of the discourse participant. Lastly, emphatic pronouns historically developed from the emphatic particle *a* + set B markers. These three different uses of the “pronouns” each have different syntax and semantics. This paper proposes that the post-verbal *b'ay* uses are prepositional phrases (PP). The pronouns of personal location have the same sentence structure as sentences headed by the existential marker *ay* (a “predicate”), but with a first/second person subject.¹⁹ The emphatic basic series are *a*-phrases with a first/second person argument: they are compositionally constructed from the emphatic particle. The emphatic *ti'* series are also *a*-phrases, but they seem to have a historical connection to the particle rather than a synchronic one.

None of these syntactic types are well-formed directly after the verb because they are not classifier phrases nor can they reside within classifier phrases. Prepositional phrases can only appear before or after the nucleus of a sentence. The existential structure is almost finite in itself, and can only appear after a verb as an embedded sentence. Lastly, a phrase headed by *a* – here called an “*a* phrase” (*a*P) – takes a classifier phrase as its complement, but is not itself a classifier phrase. Indeed, *a*Ps only appear before the verb in TOPIC or FOCUS. In contrast, only phrases headed by a classifier (possibly co-occurring with certain numerals or quantifiers) can appear directly after a verb.

I follow Pascual (2007) and Barenno et al. (2005) in positing that the preverbal *emphatic* uses are consistent with the syntax of the emphatic particle *a* in Q'anjob'al. This allows us to account for much of the data presented above. For example, that the

¹⁹Many authors have mapped existential sentences onto the non-verbal predicate structure. I choose to be agnostic on the syntactic configuration of these sentences because existential structures require a phrase after the subject – they are not good by themselves:

Context: The speaker sees a bird.

**ay no tz'ikin.*

Intended: ‘A bird exists/there is a bird’ (where “there” is the dummy subject, not the demonstrative)

emphatic particle *a* cannot occur before these pronouns in TOPIC or FOCUS suggests that *a* is already somehow encoded into the pronouns. This paper argues that since they have the same syntax as *a* phrases, they cannot be preceded by *a*.

A later in-depth investigation into their semantics suggests that the emphatic pronouns largely have the same semantics as *a*-phrases. For reference, here are two contexts that engender *focus*:

Explicit Question Under Discussion:

(37) Q: Who saw the chicken?

- a. *a naq maltixh*
 FOC CL *maltixh*
 ‘[Maltixh]_F.’
- b. *ayin*
 PRO.1S
 ‘[Me]_F.’

Implicit Question Under Discussion:

(38) Context: Maltixh and the speaker competed to see an elusive bird. The speaker discusses the winner with a friend who knew that the competition had taken place that day, but hadn’t asked about it.

- a. *a naq maltixh x=∅-∅-il-on no’ tz’ikin*
 FOC CL *maltixh COM=B3-A3-see-AF CL bird.*
 ‘[Maltixh]_F saw the bird.’
- b. *ayin x=∅-w-il no’ tz’ikin*
 PRO.1S *COM=B3-A1S-see CL bird*
 ‘[I]_F saw the bird.’

In (37), the question requires its third person “short answer” to be preceded by *a*. For first person, *ayin* is the favored answer, indicating that its pragmatics is perhaps more similar to “*a naq maltixh*” than “*naq maltixh*”. In (37) a question is asked, requiring a focused constituent answer. In (38), no explicit question is asked, but there is clearly an issue in the discourse context that allows the use of the FOCUS position; or perhaps the speaker wants to *indicate* that there is an issue that is unresolved between her and her friend. This kind of situation is an example of an implicit question under discussion. In both of these examples, *a*-phrases as well as independent pronouns are favored. Thus, the semantics of *a* phrases at least in FOCUS corresponds to the semantics of the emphatic pronouns.

There is phonological motivation for our characterization as well. If *ayin* evolved from *a + in*, the presence of the glide /y/ must be accounted for. Luckily, glide-formation between two adjacent vowels is a cross linguistic phenomenon: it is one form of “hiatus resolution” (Casali). Moreover, it is a process in Q’anjob’al: /y/ is

pronounced when Set B markers are infix in phrasal negation (15a). Speakers of Q'anjob'al infix the Set B markers within the word *manaq*, yielding (for second person plural):

ma|naq + hex → ma|hex|naq → mayexnaq – ‘not you (all)’

That other processes involve glide formation, particularly with the Set B markers, suggests that this process is normal in the language.

Indeed, this analysis may help explain allomorphic variation with second person singular independent pronouns, which can be both *ayach* and *hach*. Perhaps this unique variation only happens in second-person because glide-formation (i.e. *ayach*) is not necessary between two similar vowels. In other words, glide formation *can* be used to distinguish the two morphemes *a* and *=ach*, but it is optional since part of each morpheme is present in the shorter version – *a* corresponds to the emphatic particle and *ch* corresponds to the Set B marker. Although this latter evidence seems convincing, I will argue in Chapter 3 that it is inadmissible because the prepositional pronouns show the same variation in second-person singular.

Q'anjob'al's sister language Akatek provides certain parallels that favor our analysis. Akatek's emphatic pronouns clearly consist of the emphatic cleft *ja*'²⁰ (analogous to *a*):

Cleft in Akatek

- (39) *ja*'-∅. naj Xhunik x-∅-wey-i
 CFT-B3 CL John COM-B3-sleep-IV
 ‘It is John who fell asleep.’ {Zavala (1992b), 216; via Schüle 2000}

Independent Pronouns in Akatek

- (40) **jein** ach-ma'-on an
 PRO.1S B2S-hit-AF CL1S
 ‘It was me who hit you.’ {Schüle 2000}
- (41) eyman chi-w-il el **ja'-in ti'** an
 quickly IMPF-B3-A1-see DIR:out CFT-B1 DEM CL1S
 ‘I will learn very quickly.’²¹ {Penalosa & Say (1992); via Schüle 2000}

In (40), the independent pronoun *jein* offers the same focus like semantics as preverbal independent pronouns do in Q'anjob'al. More importantly, the phonological relationship between the cleft in (39) and the independent pronoun is obvious here. Indeed, in (41), the independent pronoun retains the full form of the cleft. That a closely related

²⁰We call *ja*' “cleft” and *a* “particle” because of their different effects on the syntax. While *ja*' necessitates a syntactic structure with a relative clause (*biclausal*), sentences with *a*-focus in Q'anjob'al are monoclausal. I will discuss this distinction further in chapter 4.

²¹This pronoun appears to be in some “anti-topic” analogue

language shows this clear of a relationship with its emphatic particle (i.e. *ja'*) indicates that the emphatic pronouns in Q'anjob'al probably developed along a similar trajectory.

If the syntax, semantics, and phonology of Q'anjob'al motivate a relationship between the emphatic independent pronouns and *a*, the question arises: is this a compositional or a historical relationship? In the syntactic analysis above, I posited a compositional relationship – that is, the Set B clitics latch onto the emphatic particle *a*, a phonological process produces the intervening glide, and the semantics builds the same meaning as *a* + classifier phrases. However, these pronouns could very well be frozen forms in the language, with their similar syntax/semantics a relic of a compositional relationship in an earlier stage of the language. Chapter 4 investigates this question in depth and points out that there is no conclusive evidence either way, and therefore, in the big picture, this question doesn't really matter. Regardless of their history, the pronouns' use is *exactly* the same as *a* phrases with third person complements: they have the same distribution, contextual restrictions, and semantic peculiarities. I choose to use a compositional analysis of the *basic* series in order to display this tight-knit relationship.

On the other hand, the *ti'* series emphatic pronouns can occur in a variety of discourse contexts that *a* + classifier phrases cannot occur in. Most clearly, the 'anti-topic' use of the pronouns does not parallel third-person *a* phrases. Indeed, that speakers of Q'anjob'al only postpose *ti'* series pronouns suggests that these particular units have crystallized into lexical entries, upsetting the "normal" syntax of verbal sentences. This evidence indicates that at least *ayin ti'* does not compositionally derive from *a*.

2.6 Independent Pronouns: Competing Analyses

Most literature on Q'anjob'al stays neutral on these particular issues. However, many authors choose to gloss independent pronouns as *I*, *you*, *we*, and *you (all)*, suggesting that these pronouns are really "pronouns" like *naq*, *ix*, and *heb'*, or like the Spanish pronouns *yo*, *tu*, etc. Indeed, both Mateo-Toledo (2008) and the standard Q'anjob'al-Spanish dictionary *Vocabulario Q'anjob'al* choose to gloss the pronouns in this way. Although I assume that these glosses are for the sake of expository or educational purposes, it is useful to take on this straw man in order to pursue our analysis.

Under this analysis, the independent pronouns' semantics are simple: *ayin* refers to the speaker and *ayach* the addressee. Their semantics are interesting only because of their linear position in a sentence. What I call the "prepositional pronouns" are prepositional only insofar as they appear beyond a sentence's nucleus; the "emphatic pronouns" are emphatic only because they reside in FOCUS and TOPIC.

This analysis fails to capture the distribution of these pronouns as outlined in 2.4. If they were pronouns like *naq*, *ix*, and *heb'* they should be allowed in SUBJECT and OBJECT position. They should be able to co-occur with the emphatic particle *a* in FOCUS and TOPIC.

Furthermore, the three structures I discussed above are not even in complimentary distribution: the prepositional pronouns can occur in emphatic positions, in which case the *a*-constraint does not apply. That these uses can occur in the same syntactic position under distinct conditions indicates that they are separate sets of lexemes. The next chapter on prepositional pronouns will pursue this point.

Another clearer alternative to our solution for the preverbal pronouns has been explicitly proposed in the literature: that the independent pronouns are actually instances of the existential morpheme *ay* + Set B markers (Martin 1977, OKMA 1999). That is, every instance of the pronoun corresponds to the existential predicate-like structure outlined in the last section. This hypothesis will be called the “existential hypothesis”.

This hypothesis does not make much sense for the prepositional uses of the independent pronouns because the existential *ay* appears at the beginning of a sentence. It would only make sense to posit that post-verbal pronouns were derived from *ay* if they were really embedded sentences. In that case, how they convey a prepositional-type meaning is left completely unclear.

Nevertheless, it is less obvious that this analysis does not work for the emphatic uses of the pronouns. Indeed, authors may want to analogize these constructions to the cleft-construction in English, which is often used to translate sentences with these emphatic pronouns:

- (42) *ayin xwila'*
 ‘**It is me** who saw it.’

Of course, for this analysis to be correct, the existential *ay* would have to have a copular sense like English *is*. This claim does not align with syntax/semantics of *ay*.

In the last section I proposed that there is an existential version of the independent pronouns, but it has a completely different structure than the emphatic uses. Indeed, it is interesting that a language would even use an existential structure with first or second person complements. Existential structures with third person require an indefinite subject, and are used to introduce some discourse referent that was previously unknown to the hearer (c.f. English: ‘there is’). However, the speaker and addressee are intimately known to each other by the fact of their participation in the discourse. The existential marker *ay* licenses first and second person subjects only in its additional role in ‘Personal location’ sentences (Martin 1977). Looking at that specific structure provides compelling evidence against the existential hypothesis: the existential sentence (32) can be replicated for second and third person, but the short version of second person singular cannot be used:

- (32) *ayin ek' satkan.*
 PRO.1S DIR heaven
 ‘I am in heaven.’

(43) ayach/(**hach*) ek' satkan.
 PRO.2S DIR heaven
 'You are in heaven.'

(44) ay= \emptyset =ik' naq Xhunik satkan
 EXS=B3=DIR CL John heaven
 'John is in heaven.'

In (44), the directional marker *ek'* cliticizes onto the existential marker *ay*. That *ay* manifests in third person suggests that (32) and (43) also contain the marker. However, as one can see, the second-person singular pronoun does not display the same allomorphy here as it does in FOCUS below (45): using the shortened version of second person singular makes it uninterpretable. Therefore, it seems to be a different structure, compositionally formed from the existential *ay* + Set B clitics + the directional *ek'*.

Context: Who saw the bird?

(45) ayach/hach x= \emptyset -el-a'
 PRO.2S/PRO.2S COM=B3-A2S.see-TV
 '[You]_F saw it.'

Emphatic uses of the pronouns can also occur in situations where *ay* is infelicitous:

(46) Context: Who saw the bird?
 a. ayach
 PRO.2S
 '[You]_F.'
 b. a naq Maltixh / **ay* naq Maltixh
 FOC CL maltixh
 '[Maltixh]_F.'

Here, *ay* does not convey the same semantics as the it-cleft in English. Since phrases headed by *a* but not *ay* are felicitous, it seems clear that the emphatic uses derive from the former.

Not to hit this point over the head, but even existential sentences with similar linear order as sentences with emphatic pronouns differ greatly in their semantics.

(47) ay heb' [ch'- \emptyset -al-on-i [man yel-oq- \emptyset]]
 EXS 3PL INC-A3S-say-AF-IV NEG true-IRR-A3S
 'Some of them say that it is not true.' {Mateo Toledo 2008}

Here, *ay* co-occurs with the third-person plural pronoun *heb'* before what could be the matrix verb of the sentence. However, this sentence could just as easily be a bi-clausal

structure, with *ay* as its matrix predicate and *ch'aloni* within a relative clause. The 'agent-focus' suffix *on* marks extraction of a subject in both FOCUS contexts and relative clauses, so either of these analysis work. What is more damning, however, is the translation Mateo-Toledo gives to this sentence: "Some of them say that it is not true". To replicate an English sentence structure that fits under our analysis, this translation can easily be recast into: "**there are** people who say that it is not true". This sentence has an indefinite subject, necessitated by the existential reading of the sentence – definites must be hearer-old (Heim 1983). In contrast, *hach/ayach xwila* does not have an indefinite subject, and would be near-impossible to motivate an "existential" like semantics for.

Above, I have demonstrated two possible, but flawed, attempts at a unified analysis of the independent pronouns. I have argued that there are really three different kinds of pronouns, a prepositional kind, an existential kind, and an emphatic kind. In later chapters I will occasionally return to some of these competing analyses to provide more evidence against them. Indeed, investigation of these varied analyses has made each different structure all the more defined, and offers clues into many aspects of the language.

3 (B')ayins: Prepositional Independent Pronouns

3.1 Two lexemes, two historical processes

Independent Pronouns: the *basic* series

	<u>singular</u>	<u>plural</u>
1st	ayin	ayon(on)
2nd	ayach/hach	ayex

This thesis aims to give an accurate description of the independent pronouns. Although we will focus on their *emphatic* uses, one must look at their entire distribution to understand what factors - syntactic, semantic, and pragmatic - condition where they can and cannot appear. Moreover, in order to understand every data point, one must be able to disentangle instances of potentially separate lexemes²². This chapter will show that a post-verbal set of pronouns, although similar in form to the emphatic uses, derive from a different lexeme: one historically related to the single preposition in Q'anjob'al, *b'ay*.

Since these two sets of pronouns look the same, one might guess that they stem from same lexeme with a broad-enough meaning to suit every pre-verbal and post-verbal context. For example, we might treat them as regular pronouns as many previous authors have: *ayin* pointing to the speaker, *ayach* the addressee. Their *position* in the sentence would allow them to employ all these different uses. However, in this chapter I will show that the postverbal set of pronouns display regular differences in meaning from the emphatic uses that are not predicated on their position in the sentence.

Indeed, this thesis argues that the emphatic uses are compositionally derived from the emphatic particle *a*. Under the assumption that the post-verbal pronouns are instances of the same word, this analysis doesn't make sense. The emphatic particle cannot occur after the verb - it is bound to the preverbal positions.

- (1) x=ø-q'ajab' naq Maltixh ayin
COM-B3-speak CL maltixh PRO.1S
'Maltixh spoke to me.'
- (2) *xq'ajab naq Maltixh a ix Xhuwin
Intended: 'Maltixh spoke to Xhuwin'

Since the emphatic particle cannot occur after the verb, a proponent of the "regular pronoun" account has no way to account for the following constraint outlined in the last chapter:

²²I use "lexeme" to mean entry in the lexicon: what is memorized case-by-case by a native speaker. Formally represented as a triplet of phonological form, syntactic type, and semantics.

(A) the *a* constraint: the preverbal particle *a* cannot precede focused 1st or 2nd person subjects/objects.

In this thesis, I aim to provide a functional analysis of why constraints like (A) exist in the grammar of Q’anjob’al. It is much more enlightening to discard the assumption that all uses of *ayin* stem from the same lexeme and subsequently group together uses into lexemes based on shared syntactic and semantic features. My solution, that the emphatic uses derive from the emphatic particle *a* and the indirect object/locative uses derive from the preposition *b’ay*, provides an elegant account for these constraints that doesn’t rely on any far-fetched assumptions. Indeed, it is normal in languages for speakers to employ the same function word in multiple uses with distinct semantics: Velleman (2014) posits that an emphatic particle *aree* in K’ichee’ has at least three distinct semantics. Native speakers may consciously think that these words are the same, but on a closer look, they are clearly serving different purposes.

The post-verbal independent pronouns indicate the beneficiary, source, or location of the event denoted by the verb²³. In section 3.2 and 3.3 I will show that this wide variety of uses are exactly the same as those of phrases headed by *b’ay*. In contrast, the emphatic uses of the independent pronouns, in most cases, refer to the agent or patient of an event – they agree with the set markers on the verb – and act as the focus or contrastive topic of a sentence. Indeed, the post-verbal independent pronouns rarely agree with the person markers on the verbs: in (1), *in* does not, and cannot appear within the verb complex:

- (1) x(*=in) q’ajab’ naq Maltixh ayin
 Intended: ‘Maltixh spoke to me.’

The pronouns only “agree” with the person markers on the verb in special cases where the beneficiary/location is the same as the agent/patient:

- (3) x=ach-lo ayach tu’
 COM-B2S-eat PRO.2S DEM.DIST
 ‘You ate *where you are* (right now).’
- (4) x=in-y-il naq Maltixh ayin
 COM-B1S-A3S-see CL maltixh PRO.1S
 ‘Maltixh looked *at me*.’

Above are some of the few cases where the post-verbal pronouns have the same referent as the person markers on the verb, but they clearly serve both thematic roles. In (3), the addressee is both the agent and location of the eating event; in (4), the speaker is

²³We ignore the anti-topic position at this stage.

both the patient and the beneficiary of the seeing event (*il* is a transitive verb)²⁴. In contrast, all of the emphatic uses in this paper agree with the person markers on the verb. Indeed, I posit that *the* overarching function of the emphatic uses is to allow the agent/patient of a sentence to be the focus or contrastive topic.

If these are instances of a different lexeme, the “post-verbal” pronouns should be able to appear in the focus position because any constituent can be focus-fronted. This prediction is corroborated: these items can be focus-fronted while conserving their semantics. What is focused is the *beneficiary* or location of the event, not the agent or patient.

- (5) Context: I will send something to you all (and not others).

ayex q=∅-w-altoq junxa ti'
 PRO.2B POT=3B-1A-send something DEM

‘I will send something to [you all]_F.’

In addition, *a* can precede these uses:

- (5') a ayex q=∅-w-altoq junxa ti'
 FOC PRO.2P POT=3B-1A-send something DEM

‘I will send something to [you all]_F.’

Here, the indirect object appears pre-verbally and contrasts with a set of alternative beneficiaries. Like third person nouns in focus, it can occur with or without *a*.²⁵ In addition, it doesn't agree with the person markers on the verb, so it isn't the agent or patient of the event. Importantly, it is well formed with the emphatic particle *a* or without, which cannot precede emphatic independent pronouns constraint (A) above. (5') thus illustrates that these two sets are actually formally distinguishable.

Thus, despite the characterization as *post-verbal*, implying some sort of complementary distribution with the emphatic uses, these pronouns can in fact occur in a pre-verbal position, namely focus. Since these uses are semantically and formally distinguishable from emphatic uses, they should be treated with separate semantics. Accordingly, they should be analyzed as instances of a different lexeme.

The single preposition in Q'anjob'al *b'ay* provides a useful window into this particular usage of the independent pronouns. *b'ay* is an incredibly versatile preposition: its use covers many prepositional contexts that are differentiated in other languages. Indeed, linguists have argued that *b'ay* corresponds to the dative use “to”, directional “to”, source “from”, locative “at”, and beneficiary “for”²⁶. I claim here that certain

²⁴It is interesting that the beneficiary is realized as both the object and indirect object here, but this fact does not weaken my analysis.

²⁵Focus without *a* requires intonation; focus with *a* does not (Fowlie 2013).

²⁶Pye 2007, MT 2008.

post-verbal uses of the independent pronouns exhibit the same *general-purpose* semantics as *b'ay*, and are thus historically related to the preposition. That is, they are prepositional phrases with 1st and 2nd person complements. Accordingly, they will be referred to as the *prepositional pronouns* in the rest of this paper.

One of the most conclusive forms of evidence for a historical connection to *b'ay* is another constraint:

(B) the *b'ay* constraint: *b'ay* cannot precede prepositional pronouns:

- (6) x=∅-q'ajab Maltixh b'ay ix Xhuwin
 COM=B3-speak Maltixh PREP CL Xhuwin
 'Maltixh spoke to Xhuwin.'
- (7) *xq'ajab Maltixh b'ay ayin
 Intended: 'Maltixh spoke to me.'

The verb *q'ajab* is formally intransitive: it takes a prepositional phrase headed by *b'ay* to indicate the recipient of the speaking event. However, for example (7) to have its intended reading, speakers cannot head the prepositional phrase with *b'ay* (compare sentence (1)). These pronouns have the same distribution as *b'ay* phrases, suggesting that they are the same syntactic type. I will motivate this analysis in the following sections by providing a thorough description of their distribution and semantics side by side with *b'ay* phrases.

3.2 Prepositional Pronouns as Indirect Object

In sentences (1), (4) and (5), the prepositional pronouns were the indirect object of the verbs *q'ajab* "to say", *il* "to look (at)", and *altoq* "to send". Each one of these verbs can take *b'ay* phrases to indicate the beneficiary of the event.

- (8) ...cham reyal Israel max=∅-y-altoq b'ay Ben-adad...
 CL king Israel COM=B3-A3-send PREP Benhadad
 '...the king of Israel sent [this message] to Benhadad...' {1 Kings 20:11}
- (9) x=∅-∅-il naq Maltixh b'ay ix Xhuwin
 COM=B3-A3-see CL maltixh PREP CL Xhuwin
 'Maltixh looked at Xhuwin.'
- (10) a. x=∅-q'ajab' naq Maltixh b'ay ix Xhuwin
 COM=B3-speak CL maltixh PREP CL Xhuwin
 'Maltixh spoke to Xhuwin.'
- b. x=∅-q'ajab maltixh ayin/ayon/ayex/ayach/hach/(*hin)
 COM=B3-speak maltixh PRO.1S/PRO.1P/PRO.2P/PRO.2S/PRO.2S/(*B1S)
 'Maltixh spoke to me/to y'all/to you/to you/ (*me)'

Examples (8) (9) and (10a) show that these three verbs take prepositional phrases with *b'ay*. Example (10b) shows that every independent pronoun in the set is felicitous in this position, and moreover that the person marker on its own is infelicitous.

Indirect object uses of *b'ay* phrases are not limited to verbal sentences. Certain predicates like *watx'* “be nice” can take *b'ay* phrases to mark the beneficiary of the predicate. In these sentences, prepositional pronouns can also appear as the indirect object.

- (11) a. kawal watx' hin ch'an ayex/ayach/hach
 TNS good B1S DIM PRO.2P/PRO.2S/PRO.2S
 ‘I am pretty nice to y'all/you/you.’
- b. kawal watx' hex ch'an ayin / (*hin)
 TNS good B2P DIM PRO.1S / (*B1S)
 ‘You are pretty nice to me’ {Mateo Toledo 2008}
- c. kawal watx' hex ch'an b'ay naq Maltixh
 TNS good B2P DIM PREP CL maltixh
 ‘You all are pretty nice to Maltixh.’

Again, every independent pronoun (11a) can occur where the clitic markers cannot (11b) and in the same location as a *b'ay* phrase (11c).

In (5) a prepositional pronoun was focus-fronted. *b'ay* phrases can also be focused to yield similar semantics:

- (12) Context: Maltixh looked at Xhuwin (and no one else).

a b'ay ix Xhuwin x= \emptyset - \emptyset -il naq Maltixh
 FOC PREP CL Xhuwin COM=B3-A3-see CL maltixh

‘Maltixh looked [at Xhuwin]_F.’

- (13) Context: Maltixh looked at me (and no one else).

a ayin x=in-y-il naq maltixh
 FOC PRO.1S COM=B3-A3-see CL maltixh

‘Maltixh looked [at me]_F.’

These examples show that *b'ay* phrases, as indirect objects, have the same distribution as the prepositional pronouns.

3.3 Locative prepositional pronouns

Like *b'ay* phrases, these pronouns can also be an adjunct to most verb phrases in Q'anjo'bal, referring to the location of the event denoted by the verb. Of course,

it should be unclear at this point as to what it even means for the *speaker*, or any person for that matter, to be the “location” of an event. Indeed, the locative uses, by themselves, refer to *some place* associated with the discourse participant(s), not the discourse participant himself.

- (14) Context: My friend John and I went to your house to help you do homework yesterday.

x=ach-ko-kol ayach
COM=B2S-A1P-help PRO.2S

‘We helped you at yours.’

This sentence is also felicitous in a context where we helped someone who was trying to kill himself: that is, (14) by itself is ambiguous between the above reading and “we saved you *from yourself*”. This ambiguity is clearly predicted from our analysis because *b’ay* can express a locative and an ablative²⁷ (“source”) role to its complement. In fact, *b’ay* displays the same ambiguity with a third person argument – that is, if we are located at the house of someone non-local to the discourse:

- (15) Context: A truck is unloading potatoes in front of the house of Yakin. We helped unload.

x=∅-ko-kol ch’en b’ay naq Yakin
COM=B3-A1P-help CL PREP CL yakin

‘We helped (unload) it at Yakin’s.’

Again, the independent pronouns and *b’ay* phrases have the same distribution and semantics. Furthermore, the *b’ay* phrases are ambiguous in the same way as the independent pronouns. Sentence (16) is felicitous in both of the following contexts.

Context A: We helped Maltixh at Yakin’s house.

Context B: We helped Maltixh who was being beaten up by Yakin.

- (16) x=∅-ko-kol naq Maltixh b’ay naq Yakin
COM=B3-A1P-help CL maltixh PREP CL yakin

A: ‘We helped Maltixh at Yakin’s.’

B: ‘We helped Maltixh from Yakin.’

This is the exact same ambiguity that arises with the independent pronoun in sentence (14) - that is, *b’ay* phrase as *ablative* or *locative*.

In addition, the locative use of *b’ay* phrases can be focused:

²⁷I don’t mean to imply that Latinate notions like ablative and locative are fundamental pieces of all languages or that *b’ay* should necessarily be decomposed into separate uses corresponding to these terms. I merely use them as a useful tool to elicit the different shades of meaning of *b’ay* phrases.

(17) Context: What house did you guys unload at?

a b'ay naq Yakin x=∅-ko-kol ch'en
FOC PREP CL yakin COM=B3-A1P-help CL

'We helped (unload) it [at Yakin's]_F.'

Here, it is clearly Yakin's house that is being referred to, as it is a complete answer to a question asking for the place where a truck was unloaded. In this way, *b'ay* seems to be able to coerce its argument into a sort-of possessive relationship with some silent, salient entity.

Indeed, speakers indicate a third-person possessor in Q'anjob'al by post-posing the possessor after the possessed noun. One might guess, then, that the salient entity has been elided, in the following way:

(18) a b'ay na naq Yakin xkokol ch'en
'We helped (unload) it [at Yakin's house].'

Although this is a useful idea for what is happening in the semantics of these prepositional phrases (the referent is some salient entity associated with the person), the independent pronouns' syntax, at least, doesn't work in this way:

(19) Context: We helped you at your house (and not at other places).

a ayach x=ach-ko-kol-o'
FOC PRO.2S COM=B2S-A1P-help-TV

'We helped you [at yours]_F.'

In sentence (14) and (19) the independent pronoun *ayach* refers to the addressee's house. Here, speakers use the Set B marker *ach*. However, if there was an implicit location in the syntax, the Set A marker *ha* would be used since Q'anjob'al uses Set A markers to indicate a pronominal possessor.

Variations on sentence (19) provide definitive evidence that the prepositional uses are distinct from the emphatic ones. Consider the following contrasts:

(19') Context: You need help on your homework. John and I help you.

a. x=ach-ko-kol-o' (for reference)
COM=B2S-A1P-help-TV

'We helped you.'

- b. Context A: We helped you at your house (and not at any other places).
Context B: We helped you (and no one else)
ayach x=ach-ko-kol-o'
PRO.2S COM=B2S-A1P-help-TV
A: 'We helped you [at your (place)]_F.'
B: 'We helped [you]_F.'
- c. a ayach x=ach-ko-kol-o'
FOC PRO.2S COM=B2S-A1P-help-TV
A: 'We helped you [at your (place)]_F.'
B: # 'We helped [you]_F.'

The contrast between (19'b) and (19'c) provides definitive evidence that these independent pronouns are a different lexeme than the emphatic uses. In (19'b) there is an ambiguity between the locative reading (A) and the focused object reading (B). However, the focused-object reading is infelicitous when *a* precedes the focused constituent in (19'c). The focused object use cannot occur after *a*: this evidence indicates that *a* is contained in its semantics. Conversely, the locative use can occur with or without *a* (corresponding to the two kinds of *focus* in Q'anjob'al): this suggests that the emphatic particle is not contained in its syntax or semantics.

With the bare prepositional pronouns, the discourse participant(s)' actual location doesn't matter: the pronouns refer to some place associated with the participant whether or not they are present.

- (20) Context: Your mom invites me to go to your house for lunch, but you won't be there.

ayach q=in toj lo y-et chuman
PRO.2S POT=B1S go eat A3S-for lunch

'At your place, I will go eat for lunch.'

In order to refer to the speaker or addressees' location at the time of utterance, the first person pronouns must co-occur with the demonstrative *ti'*, and the second person pronouns with the demonstrative *tu'* (c.f. sentence (3)).

- (21) Context: Your mom invites me to go to your house for lunch, but you won't be there.

#ayach tu' q=in toj lo yet chuman
Intended: 'I will eat there at your (place) for lunch.'

- (22) Context: You invite me to come over for lunch.

ayach tu' q=in toj lo yet chuman
PRO.2S DEM.DIST POT-B1S go eat A3S-for lunch

'Where you are, I will go eat for lunch.'

Sentence (21) is only felicitous in the second context when the addressee is presumably at the location of the event.

First person has to co-occur with the proximal demonstrative and second person with the distal to convey this sense. This distribution makes intuitive sense since the proximal demonstrative refers to an area closer to the speaker and the distal farther away or perhaps associated with the addressee:

(23) Context: You ate with me.

x=ach lo ayin ti'/(**tu'*)
 com-b2s eat PRO.1S DEM.PROX/(**DEM.DIST*)

'You ate where I was.'

(24) Context: I ate with you.

x=in lo ayach tu'/(*#ti'*)
 COM-B2S eat PRO.2S DEM.DIST/(*#DEM.PROX*)

'I ate where you were.'

In (26), *ayach ti'* might be able to occur here in its "anti-topic" use, but it doesn't convey the same reading.

The distribution of *b'ay* also only occurs with *tu'*, and displays the same contrast with third person animate complements:

(25) Context: A truck is unloading potatoes in front of the house of Yakin. We helped unload.

x= \emptyset -ko-kol ch'en b'ay naq Yakin tu'/(*#ti'*)
 COM=B3-A1P-help CL PREP CL yakin DEM.DIST/(*#DEM.PROX*)

'We helped (unload) it where Yakin was.'

Sentence (25) has similar semantics to (16). However, it doesn't refer to a salient place associated with Yakin, but rather where Yakin actually is:

(26) Context: What house did you guys unload at?

a. a b'ay naq Yakin x= \emptyset -ko-kol ch'en
 FOC PREP CL yakin COM=B3-A1P-help CL

'We helped (unload) it [at Yakin's]_F.'

b. #a b'ay naq Yakin tu' xkokol ch'en
 Intended: 'We helped (unload) it [at Yakin's]_F.'

The only difference between (26a) and (26b) is the presence of *tu'* at the end of the prepositional phrase. Prepositional phrases with animate complements and *tu'* actually

refer to the location of the complement itself, not some place associated with it.

This contrast occurs with first person as well. *ayin ti'* is felicitous only in a context where the location of the party is the same as the location of the speaker:

(27) Context: The speaker is downtown and she wants to invite my coworker to a party. The speaker wants to tell them the party will be at her place and not at any other persons house.

a. ayin q=∅-‘oq q’in
PRO.1S POT=B3-be party

‘The party will be [at my place]_F.’

b. #a ayin ti’ q’oq q’in

Intended: ‘The party will be [at my place]_F.’

(28) Context: The speaker is at her house and she invites her coworker to a party occurring there tonight.

a ayin ti’ q=∅-‘oq q’in
FOC PRO.1S DEM.PROX POT=B3-be party

‘The party will be [where I am]_F.’

Above (27b) and (28) are the same sentence. In (27b), *ayin ti'* is not felicitous because the party will occur in a different location than where the speaker is currently. In (28), since the party will occur at the speaker’s location, *ayin ti'* is preferred. This contrast suggests that *ti'* allows the *b'ay* phrase to refer to the speaker’s location rather than that silent, salient entity in (27a).

Since there is such a tight correspondence between *b'ay* phrases and prepositional pronouns, it is necessary to investigate whether the pronouns are historically frozen forms or if the Set B markers cliticize onto *b'ay* (with some phonological process deleting the implosive. This investigation might tell us something about how other uses of the independent pronouns developed, and provide a clearer picture of how Set B markers interact with elements outside of the verb complex. This question is the focus of the following subsection, but before that, I want to entertain certain assumptions that I will eventually disprove in order to uncover other interesting parallels between *b'ay* phrases and prepositional pronouns.

If these pronouns can be decomposed into *b'ay* + Set B markers, there would have to be an explanation about why *b'ay* cannot co-occur with *ti'* in the senses above. At first, one could argue that since *b'ay* only occurs with third person arguments, it is always referring to some distal location. Formal evidence for this generalization may rely on another word: *kayti'*, meaning “here”. Our language consultant consistently noted that *kayti'* could substitute for *ayinti'* in most contexts.²⁸

²⁸These demonstrative semantics extend to the plural pronouns:

- (29) Context: The speaker is explaining balloon-toss. She want to tell her friend that she should stand in some place.
- a. ayach tu', ayin ti'
 PRO.2S DEM.DIST PRO.1S DEM.PROX
 'You there, me here.'
- b. b'ay tu', kayti'
 PREP DEM.DIST, HERE
 '(You) there... (me) here.'

Both sentences are felicitous in the above context. *Kayti'* presumably contains the proximal demonstrative. The morpheme *kay* seems to have an analogous meaning to *b'ay*, and furthermore contrasts only in the first phoneme. Therefore, on a preliminary analysis, the second person prepositional pronouns can be decomposed into *b'ay* + *ach/ex*, and the first person *kay* + *in/on*.

However, it is unclear that these pronouns can be decomposed in any synchronic way; more likely, they developed historically from these two different morphemes and have since solidified into a single set of words. I focus on this problem in the following section.

3.4 Is it really b'ayach?

The independent pronouns display the same distribution and semantics as *b'ay* phrases. Nevertheless, it is not yet clear exactly how this relationship is encoded. Do these pronouns actually decompose into *b'ay* and the Set B markers? As I will show, this is probably not the case.

If these pronouns actually consisted of the morpheme *b'ay* and the Set B markers, there would have to be some phonological rule that necessarily deletes the implosive from the start of *b'ay* (and possibly *kay*) when the clitics attach to it. Although there have been diachronic processes akin to this rule - e.g. debuccalization of /ɓ/ to /ʔ/ ²⁹ – there isn't any attested phonological rule that would predict this occurring. Initial implosives on verbs do not disappear when status suffixes attach to them. Furthermore, it is not as if the implosive *b'* is *optional*:

- (30) *xach kokol b'ayach
 Intended: 'I helped you at your place.'
- (31) *b'ayach xach kokolo'
 Intended: 'I helped you [at your place]_F.'

ayex tu', ayon ti'
 PRO.2P DEM.DIST, PRO.1P DEM.PROX
 'Y'all there, us here.'

²⁹Overview of Syntax, Phonology in Mayan. Bennett et al (2015).

- (32) *b'ayach tu' xach kokolo'
Intended: 'I helped you [where you are]_F.'

This data suggests that there is either a hard phonological rule deleting the implosive on *b'ay*, or these words are not compositionally formed from the preposition, but rather developed from the word historically. Again, word-initial bilabial implosives have been lost historically, so it is not implausible that these prepositional phrases solidified into their own form of “pronoun”.

More obviously, if these words were compositionally formed from the preposition *b'ay*, it would be hard to motivate why the second person singular can be *hach*. This form is clearly its own word with no phonological relationship to *b'ay*. It would be suspect to argue that *b'ay* is deleted fully on only second person singular.

The problem of *hach* raises a larger issue for the *emphatic* uses. So far, we've used this dual form as evidence that the emphatic pronouns are compositionally formed from the particle *a*. Since the phoneme /a/ occurs at the beginning of the second person singular clitic marker *hach* /atʃ/, there does not necessarily have to be a resolving glide in between the particle *a* and the person-marker *hach* to conserve each morpheme. However, the prepositional pronouns show the same pattern in second person without having any relationship to the emphatic particle. Thus, I need a different explanation for why this pattern exists.

At this point, thoughts on this pattern are speculative. The argument above for the emphatic pronouns might have been correct originally, and speakers could have analogized the prepositional with the emphatic uses and began to use both *ayach* and *hach* once both uses had solidified into words. One might call this a *meta-linguistic* account of lexical change, whereby speakers create new lexical items due to their conscious knowledge of surface similarities between those forms. Indeed, it is much harder to consciously understand what *b'ay* or *a* means than *hin* or *hach*. Thus, there may not have seemed to be so large a difference between *ayach* as the focus or topic and *b'ayach* after the verb. On the other hand, this change might be peculiar to 2nd person singular, and have nothing to do with phonological logic.

Even though we give a diachronic analysis for the development of the prepositional pronouns, it is clear that they have not changed drastically from their original configuration. They still are unable to co-occur with *b'ay*, suggesting that they have a *phrasal* syntactic type (i.e. prepositional phrases). Moreover, they occur in similar contexts and display the same ambiguities as *b'ay* phrases do today. Indeed, there is no functional reason for them extending into any other sort of use, since *b'ay* has such a broad meaning.

An accurate historical story of the development of either of these uses of the pronouns remains an unsolved problem in this thesis. Nevertheless, separating these two uses, the *b'ayins* and the *ayins*, is incredibly useful for our main goal.

4 Emphatic Independent Pronouns: the basic series

Independent Pronouns: the *basic* series

	<u>singular</u>	<u>plural</u>
1st	ayin	ayon
2nd	ayach/hach	ayex

The *emphatic* uses of the *basic* series are the “canonical” independent pronouns in Q’anjob’al. Grammars of Q’anjob’al always introduce the independent pronouns as elements that appear pre-verbally.³⁰ This thesis chooses to spend the most time on these uses precisely because of their purported frequency. Moreover, these pronouns are pragmatically-driven, so their function is more difficult to determine (or at least, requires more time) than uses we have discussed so far.

First and foremost, the aim of this paper is give an accurate description of the independent pronouns. However, an investigation into the fine grained semantics of the emphatic uses and by extension, the emphatic particle *a*, sheds light on many intriguing phenomena in the intersection between syntax and pragmatics. This particular chapter should show anyone who is not familiar with Mayan languages how their syntax is dependent on and determined by discourse factors.

4.1 Compositional Process or Historical Relic?

Section 2.5 presented a synchronic analysis of these emphatic uses, arguing that their syntax and semantics are the same as third-person classifier phrases preceded by *a*. This analysis was driven by a particular observation: that *a* cannot precede emphatic independent pronouns. As I argued, the glide in each pronoun - *ayin* - forms from an independent phonological rule of “glide formation” that occurs in other structures in the language like constituent negation.

Unfortunately, the facts aren’t this simple, as there is no *conclusive* evidence that these pronouns can be decomposed into *a*, as opposed to being ‘frozen forms’. Indeed, the prepositional pronouns have the same distribution and semantics as *b’ay* phrases, but their phonology indicates that they are historically related to the preposition, not synchronically derived from it. One might want to argue that the emphatic uses, too, are lexical items that have their particular function because of their historical connection with the emphatic particle. Below are these two different analyses, together with different implications and predictions they make:

³⁰Mateo-Toledo 2008, Pascual 2007, OKMA 1999, Lopez et al 2003.

Synchronic

- Set B markers cliticize onto *a*
- Synchronic phonological rule produces intervening glide *y*, doesn't need to occur for second person singular
- Lexicon: *a*, Set B markers

Historical

- Set B markers are not realized on the pronouns
- Historical phonological process produces intervening glide *y*, also produces second person singular truncated form
- Lexicon: *a*, Set B markers, *a[pro]*, *ayin*, *ayon*, *ayach*, *hach*, *ayex*

Above, the historical hypothesis must claim that there is a third person emphatic independent pronoun *a[pro]* because *a* can occur by itself when there is an unspecified third-person in focus:

(1) **Third person ‘independent pronoun’:**

Context: There is a tree in the distance. Maltixh saw it but Xhuwin didn't.

A: Did Maltixh see the tree?

Ja, a x=∅-∅-il-on te'
AFF, FOC COM=B3-A3-see-AF CL

B: ‘Yes, [he]_F saw it’

The historical analysis would have to stipulate that *a* in (1) is a pronominal form. The synchronic analysis accounts for (1) simply by the stipulation that *all* Set B markers can cliticize onto *a*, even null ones. Here, it is clearly simpler to give a synchronic analysis since there aren't two *as* in the lexicon, but whether that is the *correct* analysis is left unclear.

Under a synchronic analysis, one might expect other clitics like *k'al* ‘only’ or *ton* ‘intensifier’ to be able to attach closer to the emphatic particle than the Set B markers, especially since that is possible with the aspect marker (Section 2.2). If *a* and the Set B markers are able to be separated, one could confidently state that they are present in these forms. This data appears in certain monolingual texts (4), but it was only marginal for the consultant:

(2) a=k'al naq Maltixh xilon no' tz'ikin
FOC=only CL maltixh saw.AF CL bird
‘Only Maltixh saw the bird.’

(3) ayin k'al xwil no' tz'ikin // * a=k'al=in xwil no' tz'ikin
PRO.1S only saw CL bird
‘Only I saw the bird.’

- (4) Context: Only one family fled speaker’s town after a disease. Speaker sees them later, and says:

?a=ton=ex ch=ex xiw b’ay ilia
 FOC=TNS=B2P INC=B2P fear PREP disease

‘You were the ones who feared the disease.’ {text taken from Q’anjob’al Bible³¹}

In (3), the clitic *k’al* cannot occur closer to the emphatic particle than the Set B marker. The majority of (4), however, was taken from a Bible translation: naturally occurring data displays this pattern. However, (4) sounded somewhat ‘strange’ to the consultant. Of course, the Q’anjob’al of the Bible may be different from the language of the consultant. These pronouns may be more ‘lexicalized’ for the consultant.

What is arguably more important to this kind of evidence is whether there are implicit *preferences* for ordering clitics in Q’anjob’al: the Set B clitics seem to be preferred closer to the aspect marker. Reordering the clitics conveys a slightly different meaning:

“ The meaning of the particles in different positions is complex and requires further analysis. The aspectual particles *to*, *xa*, and *xa’al* and the dubitative *mi* may have an unexpectedness meaning when they precede the absolutive person on verbs.... The intensifier particles *wali* and *toni* and the frequency particle *k’al* can also have the unexpected meaning, which is best translated as ‘quick and unexpected’. This seems available only when the particles precede the verb.” {Mateo Toledo, 65-66}

At least at the current stage of the language, reordering might only be possible on the aspect marker in order to convey this kind of meaning, and not on the emphatic particle because of these general ordering preferences. So even though the Set B clitics are strange if expressed after *ton* or *k’al* in focus position, I cannot say for sure that they aren’t actually there. This is not evidence against the synchronic hypothesis, but a *lack of evidence* for it.

In the end this paper chooses to use the synchronic hypothesis both for parsimony and expositional purposes. That is, a synchronic analysis not only postulates a smaller lexicon, but highlights the real distinction between this series and the *ti’* series, which are lexicalized, ‘frozen’ forms that cannot be decomposed into *a*.

The following chapter will give a formal description of the semantics and pragmatics of the basic emphatic series. Throughout, I will show that their semantics corresponds to third person classifier phrases preceded by *a*, which can occur both preverbally, in “focus” position, and at the left-periphery of the sentence, in “topic” position. I will argue that a “F marks” (focus-marks) Set B markers and classifier

³¹Revelations 19:5. Specifically, *a ton ex chex xiw b’ay* was taken from a translation of the Bible into Q’anjob’al. The Bible sounded to the consultant like it was in an older or more traditional register of Q’anjob’al than she was used to.

phrases in the syntax, so their referents can be interpreted as the *focus* or *contrastive topic* of a sentence. There I will use Constant (2014)’s idea of “topic-abstraction” to relate these two notions, and further derive the correct compositional semantics of sentences with *a* in topic position. Lastly, I will argue that the infelicity of the basic series and the emphatic particle in *wh*-questions is an example of a cross-linguistic phenomenon: *focus intervention effects*.

Section 4.2 gives an overview of the topic and focus position in Q’anjob’al and an informal characterization of *focus* and *contrastive topic*, two cross-linguistic notions that correspond to the two different uses of the basic emphatic series. Section 4.3 presents the data: *a* and the pronouns in both uses. Section 4.4 develops a formal semantic toolkit to talk about *focus* and *contrastive topic*. Section 4.5 uses these tools to analyze the basic series in focus and topic. Section 4.6 discusses one ‘topic-like’ context where *a* and the basic series are disallowed: contrastive topic in *wh*-questions. There, I integrate Constant’s work on contrastive topic with Beck’s *focus-intervention effects* to explain why CT questions do not occur in Q’anjob’al. Section 4.7 concludes.

4.2 (Contrastive) Topic and Focus in Q’anjob’al

In her seminal paper, *Topic and Focus in Mayan*, Judith Aissen claims that there are at least two preverbal sentence positions in every Mayan language: topic and focus (Aissen 1992). These two positions are differentiated by their linear order: in sentences with both topic and focus, topic precedes focus:

- (5) TOPIC FOCUS NUCLEUS
- | | | | | |
|------------------|--------|-----------|------------------|-----|
| xim ixim (pause) | a | ix Xhuwin | x=∅-∅-lo-n | xim |
| CL corn | FOC CL | Xhuwin | COM=B3-A3-eat-AF | CL |
- ‘the corn, [Xhuwin]_F ate it’

Their prosody differs as well: topic may be its own intonational phrase, whereas focus is prosodically integrated with the clause that follows. Above, there can be a long pause || after the topic, but never the focus (Aissen 2016). Their morphological effect on the following sentence also differs. In Q’anjob’al, an element in topic will co-occur with a “resumptive pronoun” – the classifier of the constituent in topic – after the verb:

- (6) **ix** Xhuwin, x=∅-lo **ix**
- CL Xhuwin, COM=B3-eat CL
- ‘Xhuwin, she ate.’

Resumptive pronouns will be used as a diagnostic for topic position for third-person preverbal constituents: they do not show up when a constituent is in focus. Rather, focus can trigger an ‘agent-focus’ suffix on the verb discussed later in this section.

A broad question in the literature has been to what extent these pre-verbal structural positions associate with particular pragmatic functions or are syntactic constructions with no sole function (AnderBois 2012). These positions are called “focus” and “topic” due to their discourse functions; however, these functions seem to be more “prototypical” than stable across the language family – there isn’t *one thing* focus or topic does in Mayan.

Focus

Broadly, sentences with constituents in focus highlight or emphasize a certain constituent as important, the “focus” (the rest of the sentence is called the “background”). Many linguists have characterized *focus*, cross-linguistically, with pragmatic generalizations: as *new information*, or *emphasized material*. The most influential *semantics* of these sentences comes from Mats Rooth: he notes that sentences with *focus* evoke “sets of alternatives” to the focus (Rooth 1992). These alternatives can be constructed by substituting out the *focused* element with other known individuals in the discourse context; the *background* should be left unchanged. Since showing is easier than telling, I will give a few examples of *focus* in English to clarify the idea. Canonically, *focus* in English shows up in sentences with *focused* constituents bearing an ‘A-accent’ (7) or in an *it-cleft* (8):

(7) **Intonational Focus in English**

Context: Who ate the cookies?

[I]_F did. ³²

(8) **It-cleft in English**

Context: The box of cookies that had been left out in the morning at the house of Joann, Leslie, and Pablo is now empty. Everyone is fuming on the inside, until Joann says:

OK fine. It was [me]_F who ate them.

Both sentences (7) and (8) have the same ordinary meaning: to paraphrase, “the speaker ate the cookies”. In addition, both of them evoke the same set of alternative statements – “Leslie ate the cookies”, “Pablo ate the cookies”. Rooth formalizes this notion by conceiving of a phrase α as having two semantic values: an ordinary semantic value (the propositional content) $[[\alpha]]^{o(rdinary)}$ and an additional semantic value $[[\alpha]]^{f(ocus)}$ containing these alternative sets (Rooth 1992). This alternative value is computed by substituting the “F-marked” constituent – that is, the constituent bearing the A-accent – with other entities of the same semantic type:

³²We subscript *F* on the constituent that bears the A accent. This accent corresponds to the pitch contour H*-L.

$[[[I]_F \text{ ate the cookies}]]^f = \{ x \text{ ate the cookies} \mid x \text{ in } D_e \}$ ³³

Above, the focus value is represented in set notation; in prose, it is the set of all sentences that differ from *I ate the cookies* on the value of *I*. This focus value interacts with the ordinary semantics of a sentence when certain words like *only* are present in a sentence. Indeed, constituents preceded by *only* must bear an A-accent, suggesting that the word must interact with the phrase’s focus semantic value in addition to the ordinary meaning. Specifically, *only* entails the additional information (i.e. from $[[\dots\textit{only}\dots]]^o$) that each of the alternative propositions in $[[\dots\textit{only}\dots]]^f$, besides the one uttered, is false.

Roberts (1996), an influential paper on the formal properties of discourse dynamics, proposes an alternative “pragmatic” way of looking at A-accented sentences in English: sentences with A-accented constituents (and focus more generally) presuppose a “question under discussion” (QUD)³⁴. She conceives of discourse as being driven by inquiry: many natural-language conversations consist of raising and trying to resolve questions. The “question under discussion” is the question at a given moment in discourse that each conversational participant tries to resolve. This intuitive view of discourse lets her account for *focus* and other phenomena in English. Indeed, if there is an explicit question in the discourse, like (5), its answer will bear an A-accent. If an A-accent appears in a sentence without an explicit question having been uttered, each discourse participant infers that some particular question under discussion exists: this is precisely what we mean when we say “focus is alternative evoking”³⁵. In fact, since many linguists represent questions as the set of alternative answers, Robert’s presupposition of a QUD can be modeled as the exact same set as Rooth’s focus value (Roberts 1996). In this chapter, Rooth’s *focus semantic value* will be used in many places, but in the absence of any other operator – in basic cases – it can be intuitively thought of as this particular kind of presupposition.

Cross-linguistically, *focus* takes many forms. For example, Hungarian has a preverbal slot for *focused* elements; certain linguists have claimed that constituents in this slot convey the additional information that *only* does in English without any overt operator: sentences with *focus* assert that the alternative uttered is true and every other alternative is false (É Kiss 1998). This kind of focus is called “exhaustive focus”.

Q’anjob’al’s preverbal position, in contrast, acts more like *intonational focus*. “Exhaustivity” is conversationally implicated, but not asserted (i.e. part of its truth-conditions):

³³ D_e is the *Domain* of model theoretic entities of type *e*: individuals. I use $[x]_F$ to mark the *focus* of a sentence.

³⁴Here, I call a “presupposition” that information that is tagged as already being shared or “old”; information that is salient to all conversational participants (Stalnaker 1978). By “presuppose” I mean “indicate to be information shared by all discourse participants”.

³⁵Try using the sentence “*I ate the cookies*” (with stress on “*I*”) without inferring the question in (5). Impossible.

(9) Context: Who did you see at the party? (the speaker saw Xhuwin and Maltixh)

a ix Xhuwin xwila', k'al xwil naq maltixh
 FOC CL Xhuwin saw, and saw.A1S CL maltixh

'I saw [Xhuwin]_F, and I saw Maltixh.'

The conjunction *k'al* 'and' should not be able to be used if the first half of (9) had some exhaustive assertion. Since she could assert that another alternative was true without revising her earlier statement, preverbal focus does not *entail* exhaustivity. In (9), for whatever reason, the speaker answered the QUD only partially at first.

Focus in Q'anjob'al does not require any alternative to have been explicitly stated or even indicated by the discourse context: it is not "contrastive" in the sense of É Kiss 1998. Below, A asks B what their favorite song is, and then who wrote the song, saying explicitly that they do not know any possible alternatives to the answer. Still, B can respond with the answer in focus preceded by *a*:

(10) A: What is your favorite song?

B: "Mujeres."

A: Who wrote Mujeres? I don't know any Spanish musicians.

a Arjona x=∅-∅-b'itne-n-i
 FOC Arjona COM=B3-A3-sing-AF-IV

B: '[Arjona]_F sang it.'

Above, focus with *a* can be used without any explicit contrast to some other musician. Rooth's focus values do not require any of these alternatives to be known or in the common ground between each discourse participants. All sentences with focus evoke is that there *are* alternative answers to the QUD.

These last two pieces of data are important for our analysis since they show that the emphatic particle is not contributing any truth-conditional or dynamic meaning besides the normal Roothian focus semantics, since other Mayan languages' emphatic particles may contribute extra information (like *aree* in K'iche') (Yasulval new). In contrast, *a* merely seems to be one way of marking the preverbal focus. If there were constraints on *a*, we could elicit independent pronouns in contexts that violate these constraints; such data would be helpful in determining whether *a* is actually contained in the pronouns. However, *a* always seems to be felicitous in focus position³⁶. I will argue later that this particle is the language's F-marker, taking a conservative stance on the semantics that makes them always felicitous to use with the pronouns. I will assert that the Set B markers require *a* because they are clitics that need a host, and furthermore, *a* is required with any focused element that cannot bear stress.

It is useful to have a formal test whether a phrase is in focus and not topic

³⁶At least with definite entities, which the speaker and the addressee are.

position. In Q’anjob’al, the suffix *-on* provides such a test: it appears on the verb when a transitive agent is in focus:

(11) Context: Who saw the bird?

a ix Lucia x=∅-∅-il-on no’ tz’ikin
 FOC CL lucia COM=B3-A3-see-AF CL bird

‘[Lucia]_F saw the bird.’

Above, the suffix *-on* appears on the verb because *ix Lucia* is focus-fronted. This suffix also appears when a transitive agent has been extracted from a relative clause, and thus it is useful to think of it as an indicator of agent extraction, rather than a particular marker of *focus*³⁷. Nevertheless, it provides a nice test for “focus-hood”, as opposed to “topic”.

One last note: this preverbal position can host *wh*-words in questions.

(12) mak x=∅-∅-il-on no’ tz’ikin?

WHO COM=B3-A3-see-AF CL bird

‘Who saw the bird?’

The agent focus suffix *-on* occurs on the verb, indicating that *mak* is in the same structural position as sentences with focus. More tellingly, sentences cannot have a *wh*-word and a constituent in focus simultaneously. This pattern is robust across the language family (AnderBois 2016).

Topic

‘Topic’ is a cross-linguistic notion that happens to apply almost perfectly to a left-peripheral sentence position in Q’anjob’al. Sentences with a constituent in topic, broadly, are divided into the ‘topic’, ‘what the sentence is about’, and ‘comment’, the information about that entity. This definition is, of course, frustratingly vague and non-predictive; nevertheless, it is broad enough to suit our purposes now, without diving into the fine-grained details of different kinds of topic. Indeed, *topics* have a variety of uses: they can contrast with other potential topics³⁸, re-emphasize what the speakers are discussing (continuing topic), or mark a ‘switch’ from one topic to another (switch topic). Certain topics are even categorized as ‘scene-setting’: “a ‘scene-setting’ topic provides a spatial, temporal or individual framework within which the main predication holds” (Chafe, 1976, pp. 50-51, via Aissen 2016). These different kinds vary in their

³⁷Coon et al. 2014 shows that *-on* can occur in environments where a subject has not been extracted. They propose that this marker assigns case to the object in ambiguous contexts (Coon et al. 2014). For the purposes of this paper, I give a description of its distribution rather than its actual function to tease out properties of the rest of the sentence.

³⁸This is confusingly called contrastive topic” by many authors, but I will use that term to indicate another use of topic related to Roberts’ QUD.

fine-grained details, but they are largely used in the same kind of structure in Mayan and beyond.

In this chapter I will focus on a particular kind of topic that has been investigated more thoroughly in the literature: *contrastive topic* (CT). Daniel Büring was the first to formalize this notion in a QUD framework in order to give a pragmatic analysis of the rise-fall-rise (H*-L-H%) intonational contour, or ‘B-accent’ in English:

- (13) A: What about Fred? What did he eat?
 B: [Fred]_{CT} ate the [beans]_F.
- (14) A: What about the beans? Who ate them?
 B: [Fred]_F ate the [beans]_{CT}.³⁹ {Büring 2003}

In (13), the B-accent appears on *Fred*; in (14), this accent is placed on *beans*. Büring argues that sentences with B-Accents on a particular constituent presuppose a complex structured question under discussion: in (13), this question is: *For each person, what did they eat?*; in (14), this question is: *For each food, who ate it?*

This question is *complex* insofar as it indicates that multiple “sub-questions” need to be asked for it to be resolved. It is *structured* in that there is some kind of “strategy” for resolving it. In English, the placement of the B-accent (the *contrastive topic* marker) determines what kind of strategy is presupposed: in (13), since there is a B-Accent on *Fred*, the speaker chooses to resolve the question “person-by-person”; in (14), the speaker chooses to resolve the question “food-by-food”.

Just like sentences with focus, sentences with CT can be thought of as evoking a set of alternatives, but alternative *questions* rather than *answers*. Sentence (13) evokes the alternative set “What did Fred eat?”, “What did Lucy eat?”, “What did Pablo eat?” etc. Sentence (14), on the other hand, evokes “Who ate the beans?”, “Who ate the rice?” etc. I will refer to each structured set of questions as a single **strategy**.

Contrastive topic is encoded in the grammar of many languages: linguists have claimed that it exists in Mandarin, Turkish, and Japanese, among others (Constant 2014). In this chapter, I will argue that it is one use of a preverbal position in Q’anjob’al: particularly, when the emphatic particle *a* precedes a constituent in this preverbal position, a particular set of alternative questions is presupposed.

I will draw from Noah Constant’s work on contrastive topic, which seeks to integrate the notion with focus. He notes that both phenomena not only have “alternative evoking” capabilities, but also formal similarities as they are realized cross-linguistically. In English, for example, A-accented (H*-L) are a subpart of B-Accents (H*-L-H%).

- (15) [[Fred]_F]_{CT} ate the [beans]_F.

³⁹I will subscript CT-marked constituents with “CT”. In English this corresponds to the B-accent. Indeed, in (13-14), CT and F co-occur. In (13), *beans* has the A-accent since it is an answer to the QUD: “What did he eat?”. In (14), *Fred* has the A-accent since it is an answer to the QUD: “Who ate them?”

In Constant’s work, a contrastive topic is an “F-marked” constituent that is *abstracted* to the domain of questions, and thus the *focus semantic value* of a sentence with CT contains the alternative set of questions:

[[[[Fred]_F]_{CT} ate the [beans]_F]]^f = { What did *x* eat? | *x* in D_e }

Since the emphatic particle *a* can occur before both focus and topic, this integration seems perfect for Q’anjob’al. That is, I seek to categorize *a* in focus position as *focus* and *a* in topic position as *contrastive topic*. This characterization also gets at the generalization that *a* is always felicitous in focus⁴⁰, but only felicitous in topic in particular discourse contexts – those which have a salient strategy.

4.3 The basic series in context

The basic series of emphatic pronouns is licensed by the same particular pragmatic scenarios as *a*. Canonically, *a* precedes short and long answers to *wh*-questions; likewise, the *basic* series of emphatic pronouns are the only units felicitous for a first or second person answer. Ex. (16) gives an answer to a question with an object in focus; ex. (17) gives a focused short answer.

(16) **Long Answer: Explicit Question Under Discussion:**

- a. Context: The speaker and her friends helped Maltixh. Someone asks: Who did you guys help?
a naq maltixh x=∅-ko-kol-o’
FOC CL maltixh COM=B3-A1P-help-TV
‘We helped [Maltixh]_F.’
- b. Context: The speaker and her friends helped the addressee. Someone asks: Who did you guys help?
ayach / hach x=ach-ko-kol-o’
PRO.2S / PRO.2S COM=B2S-A1P-help-TV
‘We helped [you]_F.’
- c. Context: The speaker and friends helped the addressees. Someone asks: Who did you guys help?
ayex / (*ex) x=ex-ko-kol-o’
PRO.2S / (*B2P) COM=B2P-A1P-help-TV
‘We helped [you (all)]_F.’

⁴⁰Really, either *a* or special intonation.

(17) **Short Answer: Explicit Question Under Discussion:**

- a. Context: Maltixh saw the chicken. Someone asks: Who saw the chicken?
a naq maltixh
FOC CL maltixh
‘[Maltixh]_F.’
- b. Context: The speaker/speaker and friends/addressee/addressees saw the chicken. Someone asks: Who saw the chicken?
ayin / ayon / hach / ayach / ayex
PRO.1S / PRO.1P / PRO.2S / PRO.2S / PRO.2P
‘[Me]_F.’ / ‘[Us]_F.’ / ‘[You]_F.’ / ‘[You]_F.’ / ‘[You (all)]_F.’

In (16), both a + third person and the basic series appear directly before the verb. (16-b/c) shows that the *ayach/hach* variation is peculiar to second person singular, not second person in general. In (17), each basic series pronoun is available where *a* occurs with third person.

The basic series can turn up preverbally in scenarios with no *explicit* question if there is some *implicit* question that is salient:

(18) **Implicit Question Under Discussion:**

Context: Maltixh and the speaker are competing to see an elusive bird. In (a), Maltixh saw it; the speaker didn’t. In (b), the speaker saw it; Maltixh didn’t. The speaker relays these respective bits of information to a friend who knew about the competition.

- a. a naq maltixh x=∅-∅-il-on no’ tz’ikin
FOC CL maltixh COM=B3-A3-see-AF CL bird
‘[Maltixh]_F saw the bird.’
- b. ayin x=∅-w-il no’ tz’ikin
PRO.1S COM=B3-A1S-see CL bird
‘[I]_F saw the bird.’

Above, the speaker either assumes her friend wants to know who saw the bird, or is trying to indicate that the question *who saw the bird?* should be the topic of conversation. In either case, this implicit QUD is indicated by the element in focus.

The basic series pronouns can also occur at the left periphery of a sentence: i.e. in some kind of ‘topic’. Since there is no agent-focus marker to distinguish between these two preverbal positions for first/second person, it is useful to place another constituent in focus to differentiate this use:

(19) **Contrastive Topic + Focus**

Context: The speaker went to the zoo with her class. After the zoo, her professor brings all the kids together and asks, “What did you all see at the zoo?” In (a), the speaker says what she saw. In (b), the speaker speaks for Maltixh, since he is too shy to speak for himself.

Q: What did you all see at the zoo? (*tzet cheyila?*)

- a. TOPIC FOCUS NUCLEUS
 ayin a=k'al no tz'ikin x=ø-w-il-a'
 PRO.1S FOC=only CL bird COM=B3-A1S-see-TV
 '[I]_{CT} only saw the [birds]_F.'
- b. a naq Maltixh ti' a no' tz'ikin x=ø-ø-il naq
 FOC CL maltixh DEM.PROX FOC CL bird COM=B3-A3-see CL
 '[Maltixh]_{CT} here saw a [bird]_F.'
- c. ??? naq Maltixh a no' tz'ikin xil naq
 Intended: '[Maltixh]_{CT} saw a [bird]_F.'

In (19b), *a* + third person topic is felicitous in the same scenario as *ayin*. The resumptive pronouns in (19b-c) indicate that (*a*) *naq Maltixh* is in the topic position. That *ayin* occurs in the same linear position as these topics suggests that it occupies the same structural position. This data suggests an incredibly tight connection between *a* and the *basic* series.

The question given above is complex: the teacher is asking for each student to tell him what they saw. This kind of question is a perfect scenario for Büring's *contrastive topic*, since any answer will necessarily be incomplete (since students don't know what every other student saw) and thus will likely presuppose some kind of strategy for resolving the complex question. That topic without *a* is degraded (19c) indicates that *a* serves to make topic “contrastive”, and a topic lacking *a* serves some other kind of discourse function.⁴¹

One mysterious empirical phenomenon is that the truncated form of 2nd person singular – *hach* – cannot appear in this contrastive topic use of the basic series:

(20) ***hach in CT**

a ix lucia a no txay xil ix, ayach / (***hach**) a no tz'ikin
 FOC CL lucia FOC CL fish saw CL PRO.2S / (*PRO.2S.TRUNC) FOC CL bird
 xela'
 saw

'[Lucia]_{CT} saw a [fish]_F. [You]_{CT} saw a [bird]_F.'

This truncated form can appear as the focus, a *ti'* series pronoun (*hach ti'*), and even a prepositional pronoun. Such data makes one wonder whether these uses of the basic

⁴¹Although this strangeness could also stem from the lack of the demonstrative.

series actually correspond to the “existential lexeme” discussed in chapter 2, which cannot be shortened. However, the existential marker *ay* cannot appear in third person here:

(21) ***ay in CT**

a ix lucia a no txay xil ix, *ay naq Maltixh a no tz'ikin xiloni / xil naq.

Intended: '[Lucia]_{CT} saw a [fish]_F. Maltixh is the one that saw a [bird]_F.'

For *ayach* to be an “existential” structure, *ay* must have a copular sense, which it doesn't as we've shown in section 2.5. Even if one lets it have a copular sense for these particular kinds of sentences, *ay* cannot occur with third person above. First of all, the rest of the sentence must be a headless relative clause. It is unclear if focus can even exist in a headless relative clause; even if it could, both *xiloni'* (relative clause with subject-extracted) and the normal focused sentence *xil naq* are infelicitous in this scenario.

It is still unclear to me why *hach* cannot appear in these uses. Since these uses of the pronouns are less frequent than focus, prepositional, and *ti'*-series uses, it may be that these uses are synchronically built from the emphatic particle and the focus uses are historically related to it. That is, the truncated form of second person singular is a historical development, a mark of ‘lexicalization’ that has not yet taken place for these contrastive topic uses. These thoughts are speculative at this point.

It is less common for *a* to occur in topic without an intervening focus, but it is possible:

(22) **Lone CT - third person**

Context: There is a dog race, where if a dog gets to the end, their owner gets a medal. Maltixh's dog got to the end, but Xhuwin's dog didn't. The speaker's friend wonders:

A: Whose dog finished?

- a. a naq maltixh x=∅-apni no' tx'i' naq; a ix Xhuwin
 FOC CL maltixh COM=B3-finish CL dog CL.POSS; FOC CL Xhuwin
 maj apnoq no tx'i' ix
 NEG.COM finish CL dog CL.POSS

B: 'As for [Maltixh]_{CT}, his dog finished. As for [Xhuwin]_{CT}, her dog didn't finish'

- b. # naq maltixh xapni no' tx'i' naq.

Intended: 'As for [Maltixh]_{CT}, his dog finished.'

Above, resumptive pronouns indicate that the preverbal constituents are in topic, not focus. These pronouns act as the third-person possessor each dog. Here, topic without *a* is infelicitous.

Here, independent pronouns were interpretable to the consultant, but seemed to be a bit unclear:

(23) **Lone CT - first person**

Context: The speaker's dog finished but Maltixh's didn't.

A: Whose dog finished?

?ayin xapni no' hin-tx'i'. axa naq maltixh maj apnoq no' tx'i'
PRO.1S COM.finish CL A1S-dog. CNTR CL maltixh NEG.COM finish CL dog
naq
CL.POSS

B: 'As for [me]_{CT}, my dog finished. As for [Maltixh]_{CT}, his dog didn't finish.'

This sentence should not be ambiguous with an independent pronoun in *focus* since only subjects or objects can be in focus and *ayin* is a possessive; therefore, the judgment is likely due to processing difficulties at the time of elicitation rather than real ungrammaticality. In order to focus possessives, speakers of Q'anjob'al must place both the possessor and the possessed material into focus⁴²:

(23') Context: Maltixh's dog won the race, not the speaker's.

A: Whose dog won?

a no tx'i' naq MALTixh xa'on ganar
FOC CL dog CL maltixh COM.make-AF win

'[Maltixh]_F's dog won [it].'

* a naq maltixh xa'on ganar no' s-tx'i'

Intended: '[Maltixh]_F's dog won [it].'

Here, *no' tx'i'* 'the dog' must co-occur with its possessor when the possessor is focused. This data suggests that in (23), *ayin* can only be interpreted as a contrastive topic. Nevertheless, since CT is a far rarer use of the *basic* series in Q'anjob'al, the consultant may have been trying to interpret *ayin* as a focused element⁴³. Indeed, (23) is perfectly fine if one substitutes a pronoun that cannot occur in focus – *ayinti'* – for *ayin*.

(23'') A: Whose dog finished?

ayin ti' x=∅-apni no' hin-tx'i'...
PRO.1S DEM COM=B3-finish CL A1S-dog

B: 'Me, my dog finished...'

⁴²This process is called "pied piping" in the literature.

⁴³She may have also been confused as to why the meaning of *ayin* had changed somewhat from the many focused *ayins* I had elicited previously.

Since the *ti'* series can never occur in focus, the consultant does not have to deal with the ambiguity present in (23). **Chapter 5** will discuss the subtle differences between the meaning of *ayinti'* and *ayin* in scenarios like (23).

In (23), the word *axa* occurs before the topic *naq maltixh* in the second sentence. This word is important because it occurs frequently in contrastive topic scenarios, and is likely to be elicited in contexts where this analysis would predict *a* to be felicitous. Indeed, it may "override" uses of *a* in topic in many places. I give a description of it here, and a formal analysis of it next section, in order to show that its distribution and semantics do not invalidate our analysis of *a*.⁴⁴ There must be a pause after a sentence with CT if speakers want to use *a* again (24b-c), but *axa* requires no pause (24-a); this indicates that *axa* can conjoin sentences together while *a* only occurs past the sentence boundary:

(24) **axa vs. a in Lone CT**

A: Whose dog finished?

B: *ayinti' xapni no' hin-tx'i'*...

'Me, my dog finished.'

Continuation:

a. ... (no pause)

axa naq maltixh maj apnoq no' tx'i' naq
 CNTR CL maltixh NEG.COM finish CL dog CL.POSS

'... whereas Maltixh, his dog didn't finish.'

b. ... (no pause) #*a naq maltixh maj apnoq no' stx'i' naq*.

Intended: '... as for Maltixh, his dog didn't finish.'

c. ... (pause)

a naq maltixh maj apnoq no' tx'i' naq.
 FOC CL maltixh NEG.COM finish CL dog CL.POSS

'... As for Maltixh, his dog didn't finish.'

In (24-a) *axa* seems to point to the same strategy presupposed by *a*, but requires some alternative question in that strategy to have already been answered: it is a conjunction of these contrastive answers.

Here is *axa* in CT + Focus scenarios for extensiveness:

⁴⁴Moreover, *axa* is an example of data that further research on these uses of topic (as well as person marking) should investigate.

(25) **axa vs. a in CT + focus**

Context: Zoo scenario. The speaker saw a tiger, and Maltixh saw a bird (again, Maltixh is too shy to speak out loud in front of the class).

Q: What did you all see?

ayin a no' b'alam xwila axa naq Maltixh a k'al no'
PRO.1S FOC CL tiger COM.A1S.see.TV CNTR CL maltixh FOC only CL
tz'ikin xil ix
bird see CL

'[I]_{CT} saw a [tiger]_F whereas [Maltixh]_{CT}, he saw only a [bird]_F.'

This word is also used to conjoin two sentences with first/second person contrastive topic. Indeed, there are many variations on *axa* with first/second person that seem to mean the exact same thing, and indicate that *axa* may be able to be decomposed into *a-xa* or *ax-a*:

(26) **axa + first person in CT + focus**

Q: What did you all see?

a naq Maltixh a no' tz'ikin xil naq...

'[Maltixh]_{CT} saw a [bird]_F.'

Bare pronoun:

... **Ayin** a k'al no' b'alam xwila.

Cliticized *xa*:

... **Ayin=xa** a k'al no' b'alam xwila.

ax:

... **ax ayin** a k'al no' b'alam xwila.

axa:

... **axa ayin** a k'al no' b'alam xwila.

ax + Set B markers:

... **axin** a k'al no' b'alam xwila.

Above, the Set B markers can even cliticize onto *ax*, a word that may be a truncated version of *axa*. My consultant noted that all of these have the same meaning: '...whereas [I]_{CT} only saw a [tiger]_F.' If there are any subtle shades of meaning, I will not be able to uncover them here, but it is clear that they involve *axa* or similar elements. I leave this endeavor to future studies on contrastive topic in Q'anjob'al.

4.4 A Compositional Toolkit for our Data

This section will develop a formal semantic toolkit that predicts our data in every context above. This toolkit will mostly draw from Constant (2014)’s work on CT (and his predecessors), but will also discuss Hamblin semantics for questions, and the semantics of the contrastive conjunction *axa*.

Focus values

As discussed in 4.2, every phrase α has two semantic values, its ordinary semantic value $[[\alpha]]^o$ and its focus semantic value $[[\alpha]]^f$: a set of alternative phrases of the same type as $[[\alpha]]^o$, including $[[\alpha]]^o$ itself. Its ordinary semantic value is compositionally built from the ordinary meaning of each of its constituents in the normal complex way. In contrast, its focus semantic value is not used at every stage of the compositional process. Thus, Rooth talks about a process whereby *focused* elements are “F-marked” in the syntax, but left open to *focus interpretation* later in the derivational process (Rooth 1992). This is particularly important in order to get the correct contrasting types for phrases where the *focus* corresponds to only a subpart of the phrase. For example, one would want propositions containing a focused entity to contrast with other propositions, not entities:

- (27) A: Who saw the bird?
 B: $[[[\text{Maltixh}]_F \text{ saw the bird }]]^f = \{x \text{ saw the bird} \mid x \text{ in } D_e\} \neq \{x \mid x \text{ in } D_e\}$

Above, even though *Maltixh* is the *focus*, the correct set of alternatives involves propositions, not entities. *Maltixh* is thus “F-marked” in the syntax, which indicates to the semantics exactly what model-theoretic entity should be substituted out for other entities. A-accented are the F-markers of English.

I provide the following algorithm as an intuitive way to get the focus value for sentences with a single focus:

- (28) **Focus construction:** $[[\alpha]]^f$ returns a set S consisting of all entities β of type($[[\alpha]]^o$), such that β can differ from α only on the value of “F-marked” constituents.

This construction entails the following two properties of the focus value of any phrase α :

- (1) $[[\alpha]]^o$ is in S
- (2) if $\text{type}([[\alpha]]^o) = T$, $\text{type}(S) = \langle T, t \rangle$, a set of alternatives of α ’s type.

This construction algorithm is presented as a quick way for the reader to calculate focus values of sentences, not as the compositional process that actually builds these values. For contrastive topic, as we shall see, this construction will be incorrect.

In Q’anjob’al, I posit that the emphatic particle *a* is an F-marker just like A-

accents in English. That is, it has no particular ordinary semantics (it could be thought of as the identity function), but it abstracts over entities in the *focus*-dimension.

- (29) **The emphatic particle in Q'anjob'al:** for any phrase μ referring to an individual m :
- a. $[[a \mu]]^o = [[\mu]]^o$ (that is, m)
 - b. $[[a \mu]]^f = \{ x \mid x \text{ in } D_{\text{type}(m)} \}$ (because μ is F-marked)

Although the description above seems to predict that a is necessary in focus position, focus in Q'anjob'al can occur without a : other focus sensitive operators like *ech ch'an* 'only' can precede a constituent in focus position. However, one could easily work F-marking into the semantics of every operator that heads a focused phrase. A bigger problem for this characterization is that a classifier phrase sometimes seems to be allowed by itself in preverbal focus if it is stressed (Fowlie 2013):

- (30) Q: Who saw the bird?
- naq *MALT*ixh x= \emptyset - \emptyset -il-on no' tz'ikin
 CL maltixh COM=B3-A3-see-AF CL bird
- '[Maltixh]_F saw the bird.'

These phrases are *necessarily* stressed, and are thus "F-marked by their intonation". Focus with a , on the other hand, does not need any stress. Indeed, the third person anaphoric uses of classifiers - *naq, heb'* - that cannot bear stress cannot occur without a :

- (31) Context: A man and a woman compete in a bird-watching competition. The man saw the bird.
 Q: Who saw the bird?
- a naq x= \emptyset - \emptyset -il-on no' tz'ikin // **NAQ* xilon no' tz'ikin
 FOC CL COM=B3-A3-see-AF CL bird
- '[He]_F saw the bird.'

The contrast above suggests that a is used as the default F-marker in order to circumvent intonational problems in Q'anjob'al.

Note that even phrases without F-marking have a focus value: the singleton set containing the ordinary semantic value of the sentence.

- (32) **Focus value of phrase lacking F-marking:** $[[\alpha]]^f = \{\alpha\}$
 e.g: $[[\text{Maltixh saw the bird}]]^f = \{\text{Maltixh saw the bird}\}$

Above, no element is F marked, so the focus value is this singleton set.

Compositionally, focus values have been typically computed via some kind of **predicate abstraction**, a combinatory rule that allows sentences to take entities as arguments (by binding a trace within that sentence). Then, the focused entity (a set of alternatives) combines with the abstracted predicate via **pointwise function application**, which returns the set containing the output of each function application to the set of alternatives. Subsequent researchers have shown that to soundly use predicate abstraction, all the model theoretic types of lexical units have to change (Ciardelli & Roelofsen 2011)⁴⁵. In this paper I do not go through this process (because it is mathematically complex), but any of our focus values can be derived using a system like the one in Ciardelli & Roelofsen (2011). Below gives a formal definition of pointwise function application, which will be used later for computing contrastive topic values.

- (33) **Pointwise function-application**: if Y consists of a set of functions of type $\langle \sigma, \tau \rangle$, and X consists of a set of elements of type σ , $[[X Y]] = \{y(x) \mid x \text{ in } X, y \text{ in } Y\}$ (**pw-app**)

Focus interpretation happens via a silent operator \sim , also known as the “Rooth squiggle”. This operator allows focus values to be *used* by conversational participants: \sim presupposes that some subset of the focus value exists in the discourse. Sentences with focus really only contrast with *salient* alternatives, not every alternative:

- (34) A: Who saw the bird? (Only Maltixh, Xhuwin, and Lucia are present)
 B: Maltixh saw the bird.
 $[[[\text{Maltixh}]_F \text{ saw the bird }]]^f = \{x \text{ saw the bird} \mid \text{for } x \text{ in } D_e\}$
 $[\sim [[\text{Maltixh}]_F \text{ saw the bird }]] \gg (\text{presupposes}) \{ \text{Maltixh saw the bird, Xhuwin saw the bird, Lucia saw the bird} \}$

Rooth’s squiggle is essentially a way of formalizing the “presuppositional” or “backward looking” nature of focus.

The squiggle operator has been formalized in the following fashion:

- (35) **Generalized Squiggle Operator** (Constant 2014)
- a. $[[\sim \alpha]]^o = [[\alpha]]^o$
 - b. $[[\sim \alpha]]^f = \{ [[\alpha]]^o \}$ (**f-reset**)
 - c. ... and presupposes that the context contain an antecedent C such that:
 - i. $C \subset [[\alpha]]^f$
 - ii. $|C| > 1$
 - iii. $[[\alpha]]^o \in *C$

Clause (a) states that \sim does not interact with the ordinary semantic value of a sentence. Clause (b) states that the focus semantic value of a sentence resets after focus

⁴⁵This is worked out in a variable-free semantics in Shan 2004

interpretation (Constant 2014). This particular process will be called **f-reset** in our derivations below. Rooth posits this as a property of \sim in order to derive the focus values for sentences in which this operator applies more than once (Rooth 1992, pg 20).

Clause (c) requires the context to contain a salient set of more than one alternative (ii) that is a subset of the focus value of α (i). (c-iii) includes “ $\in *$ ”, which is the *ancestral* relation of set membership: that is, the ordinary semantic value of α has to be a member of C or a member of a member of C, etc. $[[\alpha]]_o$ has to be *somewhere within* C. This relation allows \sim to be applied to sentences with contrastive topic.

One important rule that one needs to draw attention to here is that focus *has* to be interpreted by speakers. Each F-marked element in a sentence has to associate with a particular operator: for our case, this operator is usually \sim , but it could theoretically be something else.⁴⁶ Discourse participants cannot choose whether or not to apply \sim to a sentence with an element in focus.

Questions & Alternatives

What does it mean for a context to “contain a salient set of alternatives”? This question is elegantly answered if one adopts a Hamblin Semantics for questions, in which the meaning of a question q is its set of possible answers:

- (36) **Meaning of a Question:** $[[q]]^o = \{a_1, a_2, a_3 \dots\}$
 e.g.: $[[\text{Who saw the bird}]]^o = \{\text{Maltixh saw the bird, Xhuwin saw the bird ...}\}$

Each question has type $\langle\langle s, t \rangle, t \rangle$: it is a set of propositions, just like our focus values! Thus, if p is a proposition, clause (c) of the squiggle operator can be recast into more intuitive terms:

- (37) Squiggle operator for a proposition p :
- c. presupposes that a question q is salient in the context such that:
 - i. the possible answers of q ($[[q]]^o$) is a (possibly proper) subset of $[[p]]^f$ ⁴⁷
 - ii. there are more than one possible answer to q
 - iii. p is an answer to q

Thus, the sentence “[Maltixh]_F saw the bird” will presuppose the question “Who saw the bird?” This connection intuitively predicts why answers to *wh*-questions must bear A-accent and why sentences with A-accent always indicate some *wh*-question.

I will assume that polar questions denote the singleton set containing their propositional content:

- (38) **Meaning of a Polar question** q : if q contains the proposition p , $[[q]]^o = \{p\}$ ⁴⁸
 e.g. $[[\text{Did Maltixh see the bird}]]^o = \{\text{Maltixh saw the bird}\}$

⁴⁶Later we will see that *wh*-words are focused elements that associate with the Q operator.

⁴⁷The focus semantic value usually involves all possible alternative individuals. Questions on the other hand only include those alternatives that are possible answers; the denotation of a question is restricted by context; focus, on the other hand, is only restricted insofar as \sim has operated on it.

⁴⁸This representation gets at the intuition that a polar question is compositionally constructed out

Since this value is equivalent to the focus value of propositions lacking F-marking, one might think that \sim applied to those statements would presuppose a polar question. However, \sim presupposes an antecedent that has more than one element (c-ii), so this relationship is not predicted. Indeed, clause (c: i-ii) predicts that \sim can never operate on a sentence without an F-marked constituent.⁴⁹

This corollary turns out to be OK when applied to natural language, since sentences lacking F-marking do not seem to presuppose their corresponding polar question. Conversational participants can assert a proposition without even indicating that there is a question relating to the truth of the proposition:

A: I saw a beautiful bird today.

B: Cool!

Above, the question *did you see a beautiful bird?* is clearly not present in the previous discourse since B had no knowledge of this proposition beforehand.

This conception of polar questions lets us predict the correct focus value of sentences with lone CT.

Contrastive Topic as Focus

Constant (2014) seeks to analogize *contrastive topic* with *focus*. That is, the *strategy* or set of alternative questions presupposed by a sentence with contrastive topic is the value of C above in (35). He posits an operator, $CT-\lambda$, that *abstracts* the focus semantic value of a proposition from sets of alternative propositions to sets of sets of alternative propositions, that is, *sets of questions*.

Here, our earlier algorithm for **focus construction** falls flat, since the alternatives in $[[\alpha]]^f$ are not the same type as $[[\alpha]]^o$. Therefore, I offer another construction for contrastive topic in order to help readers compute these values on their own. This algorithm is taken from Büring 2003:

of the proposition it contains, and biased towards an affirmative answer. Many linguists model polar questions as the set containing the proposition and its negation $\{p, \neg p\}$, drawing on the intuition that it is just as easy to answer ‘No’ to a polar question as it is to answer ‘Yes’. However, there are arguably no polarity particles in Q’anjob’al, so this counterargument may not apply to the language. Additionally, there are no syntactic operations like *do*-insertion necessary to create polar questions: to construct a polar question out of a proposition, speakers of Q’anjob’al use the nucleus of a sentence with a different intonational contour. So even though some syntactic operation could add in $\neg p$ in English, these kinds of operations are not available in Q’anjob’al. Nevertheless, for a cohesive theory of polar questions in Q’anjob’al we still have to explain what a negative answer is actually doing.

⁴⁹Here is a proof of this statement: Let p be a sentence without any F-marking. $[[p]]^f = \{p\} = S$. Assume \sim can operate on p . Then there exists an alternative set C in the context that is a subset of S s.t. $|C| \geq 2$. However, since $|S| = 1$, all subsets of S have cardinality < 2 . Thus, \sim cannot operate on p .

(39) **Focus construction of sentences with CT:**

Step 1. Replace any F-marked element besides the contrastive topic with a *wh*-word.

Step 2. Form a set of questions from the result of step 1 by replacing the contrastive topic with a variable.

For sentences with both CT and focus, this set is always made up of *wh*-questions (by step 1 above):

$$[[[\text{Maltixh}]_{CT} \text{ ate the } [\text{beans}]_F]]^f = \{ x \text{ ate what? } \mid x \text{ in } D_{\text{people}} \}$$

$$[[[\text{Maltixh}]_F \text{ ate the } [\text{beans}]_{CT}]]^f = \{ \text{Who ate } x \mid x \text{ in } D_{\text{food}} \}$$

Each of these strategies involve alternative *wh*-questions, which necessitate a focused answer. This theory gets at why both contrastive topic and focus are present in the sentences.

Using *Hamblin* semantics for questions, these sets can be broken down into their corresponding sets of propositions:

(40) **Focus value of a sentence with CT + focus**

$$\begin{aligned} & [[[\text{Maltixh}]_{CT} \text{ ate the } [\text{beans}]_F]]^f = \{ x \text{ ate what? } \mid x \text{ in } D_{\text{people}} \} \\ & = \{ \{x \text{ ate } y \mid y \text{ in } D_{\text{food}} \} \mid x \text{ in } D_{\text{people}} \} \end{aligned}$$

Turning to our generalized squiggle, we now see that the correct *strategies* are presupposed. Below I assume there are two people and two food options present in the discourse context:

$$\begin{aligned} & [\sim [[\text{Maltixh}]_{CT} \text{ ate the } [\text{beans}]_F]] \gg C = \{ \text{Maltixh ate what?}, \text{Xhuwin ate what?} \} \\ & = \{ \{ \text{Maltixh ate the beans}, \text{Maltixh ate the rice} \}, \\ & \quad \{ \text{Xhuwin ate the beans}, \text{Xhuwin ate the rice} \} \} \end{aligned}$$

Here, C is a subset of the focus value in (40), satisfying clause (c-i) of the \sim operator. Moreover, $|C| = 2 > 1$, satisfying (c-ii). Lastly, the actual proposition *Maltixh ate the beans* is not a member of C , but a member of a member of C . Since clause (c-iii) in (35) only stated that the ordinary meaning of a proposition can be *somewhere* within C (by the set-membership ancestral relation), this strategy is predicted.

Constant's innovation in this area is *topic abstraction*: that is, he compositionally derives exactly how the focus value of a proposition becomes a set of questions rather than its typical set of contrastive answers.

Topic abstraction is made possible by Constant's $CT-\lambda_i$ operator, which abstracts the focus value of a sentence into a set containing that focus value: if this sentence

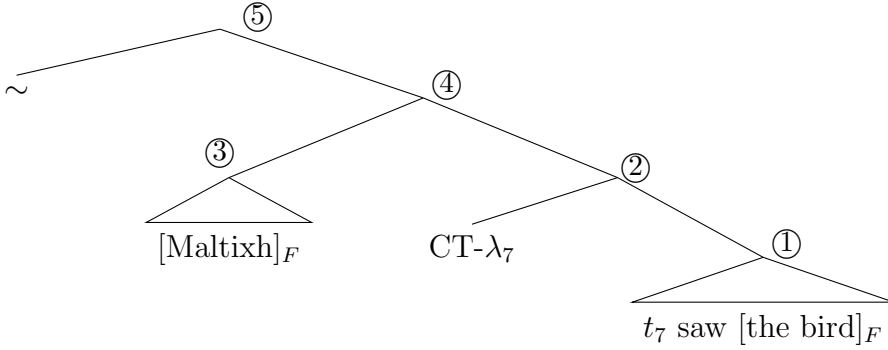
already contains a focused element, the focus value (previously a set of propositions) will become a set of sets of propositions (a set of questions). Below, I assume all propositions are interpreted relative to an assignment function g , and CT-lambda operates only on sentences that contain an indexed trace t_i .

(41) **CT-lambda operator:** Given a phrase α :

a. $[[\text{CT-}\lambda_i \alpha]]_g^o = \lambda x. [[\alpha]]_{g[i/x]}^o$

b. $[[\text{CT-}\lambda_i \alpha]]_g^f = \{ \lambda x. [[\alpha]]_{g[i/x]}^f \}$ (**topic-abstr**) (Constant 2014)

After application, this structure combines with an F-marked entity: in the ordinary dimension, this entity fills in the variable x by **function application (app)**. In the focus dimension, this entity and its alternatives fill in the set in (b) by **pointwise function application (pw-app)**. Given a discourse with two people, Maltixh, and Xhuwin, here is a derivation of the focus value of “[Maltixh]_{CT} saw the [bird]_F”. I assume all propositions are interpreted relative to an assignment function g :



$[[\textcircled{1}]]_g^f = \{g(7) \text{ saw the bird, } g(7) \text{ saw the tiger, } g(7) \text{ saw the tree ...}\}^{50}$

$[[\textcircled{2}]]_g^f = \{ \lambda x. \{x \text{ saw the bird, } x \text{ saw the tiger, } x \text{ saw the tree ... } \} \}$ (**topic-abstr**)

$[[\textcircled{3}]]_g^f = \{ \text{Maltixh, Xhuwin, Lucia ...} \}$

$[[\textcircled{4}]]_g^f = \{ \{ \text{Maltixh saw the bird, Maltixh saw the tiger, Maltixh saw the tree...}, \{ \text{Xhuwin saw the bird, Xhuwin saw the tiger, Xhuwin saw the tree...}, \{ \text{Lucia saw the bird, Lucia saw the tiger, Lucia saw the tree...} \} \}$ (**pw-app**)
 $= \{ \text{What did Maltixh see?, What did Xhuwin see?, What did Lucia see?...} \}$

$[[\textcircled{5}]]_g^f = \{ \text{Maltixh saw the bird} \}$ (**f-reset**)

$\gg \{ \text{What did Maltixh see?, What did Xhuwin see?, What did Lucia see?} \}$

$= \text{For each person, what did they see?}$

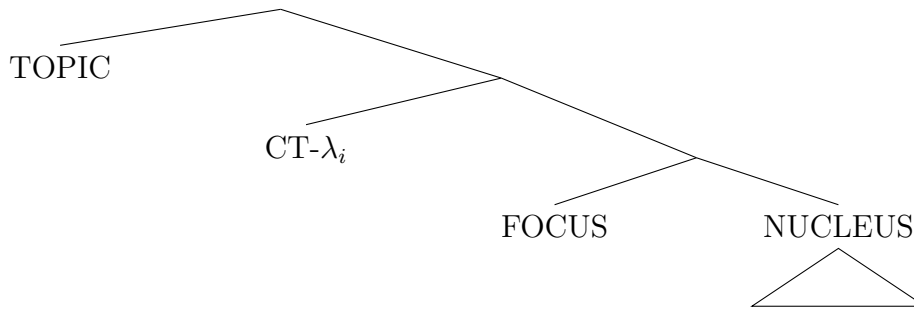
Above, *Maltixh* is F-marked by the H*-L pitch contour. CT- λ_i is phonologically realized by the L-H% (B accent). Syntactically, it is in a left-peripheral position, and makes sure it's operating on a trace by moving the contrastive topic above it. Constant thus gives an intuitive account of *topic-fronting* in English: when the object is fronted before the sentence, it is interpreted as a contrastive topic:

⁵⁰Here I give three potential things ‘to see’ in the domain of individuals (a bird, a tiger, and a tree), but this is not meant to be exhaustive. The ellipsis is supposed to indicate that these sets contain every alternative.

(42) I ate the [rice]_{CT} but [the beans]_{CT}, Fred ate.

In Q'anjob'al, CT- λ_i intuitively goes in a left-peripheral position as well - between topic and focus:

Sentence Structure in Q'anjob'al:



However, CT- λ_i does not associate with a movement rule, since there is always a trace (for first/second person) or a resumptive pronoun/anaphoric classifier (for third person) to bind in subject or object position.⁵¹ Therefore, for our purposes, this CT- λ_i operator works the same in the semantics, but is subject to syntactic and prosodic variation across languages.

Semantics of *axa*

Now that a toolkit has been developed, I can give a preliminary analysis of the contrastive conjunction *axa*. Again, this word is only important to our analysis insofar as it can be an alternative to *a* in contrastive topic (if another sentence has been said).

In contrastive topic, [$\sim a \phi$] presupposes that there is some salient set of alternative questions in the discourse, a salient discourse strategy. I propose that [*axa* ϕ] conjoins two elements of this same discourse strategy. In fact, *axa* seems to take some previous statement, ψ , as an argument, as well as whatever is presupposed by \sim in the previous sentence (i.e. C , which can be a discourse strategy):

(43) **Meaning of *axa*(C)(ψ)(ϕ):** $[[\psi]]^o \in * C \wedge [[\phi]]^o \in * C$

In these semantics, *axa* relates its following sentence *phi* to some previously stated proposition ψ , saying that they both lie somewhere within the presupposed discourse strategy or question under discussion: the focus value of *phi* and *psi*. In our examples above ψ and ϕ were both answers to one of the questions in a strategy, but theoretically they could both be questions. Indeed, *axa* can occur before questions.

⁵¹Constituents in topic do not show any formal evidence of being moved like the agent focus suffix for focus.

(44) ***axa* in questions**

ayin numero cinco hin; axa naq Maltixh, tzet numero-al naq?
PRO.1S number 5 B1S; CNTR CL mlatixh WHAT number-ABSTR CL?

‘I am number five. Whereas Maltixh, what number is he?’

Our characterization additionally predicts that *axa* is felicitous in focus, since *C* can be a QUD as well as a strategy. Mateo-Toledo (2008) gives us such an example:

(45) ***axa* in focus**

axa b’ay-tu’ xin x-ø-ø-jay wal nil-an heb’
CNTR PREP-DEM.PROX TNS COM-B3-A3-come TNS group-POS they

‘It is there where they really came and stayed grouped.’ {Mateo Toledo 498}

Above, Mateo-Toledo’s translation using the *it-cleft* suggests that *b’aytu’* is in focus, not a contrastive topic.⁵² Thus, as we have seen, *a* is virtually meaningless, but *axa* is required in scenarios in which a strategy *C* and an antecedent ψ are “out there” in the discourse.

A more in depth look at the semantics of these different contrastive topic markers might point to a cleaner compositional analysis. I discuss *axa* only due to its frequency in the language, not because it affects my analysis in any real way. For my descriptive purposes, this characterization works, and predicts the data presented in section 4.3.

4.5 Formal Analysis of the *basic* series in focus and topic

Using the tools above, we can now analyze our data from section 4.3. We will analyze only the basic series here - *a* phrases with third person complements can be analyzed in the exact same way. Below, I do not deal with the interpretation of person features (first and second person) in our compositional semantics. I assume that sentences are interpreted relative to a speaker *s*, but I use English in my meta-language, calling the speaker “me”, the addressee “you”, plural speaker “we”, and plural addressee “y’all”.

4.5.1 Sentences with one element in focus

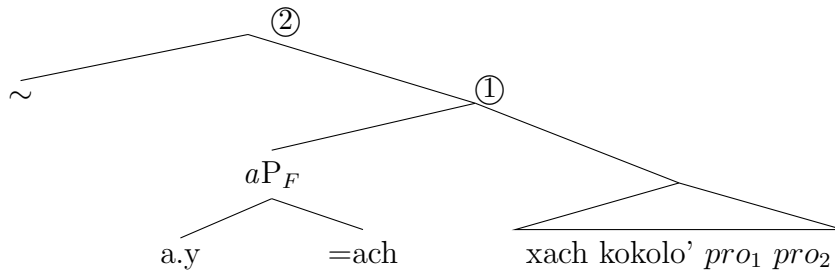
A complete answer to a question can be represented as the following structure:

⁵²Unfortunately there is no formal evidence of *b’aytu* being in focus, but I think it is likely.

- (16) Context: The speaker and her friends helped the addressee. Someone asks:
Who did you guys help?

ayach x=ach-ko-kol-o'
PRO.2S COM=B2S-A1P-help-TV

‘We helped [you]_F.’



[[①]]^f = {we₁ helped you₂, we₁ helped Xhuwin, we₁ helped Maltixh... } (**focus construction**)

[[②]]^f = {we₁ helped you₂} (**f-reset**)

>> {we₁ helped you₂, we₁ helped Xhuwin, we₁ helped Maltixh} = *Who did we help?*

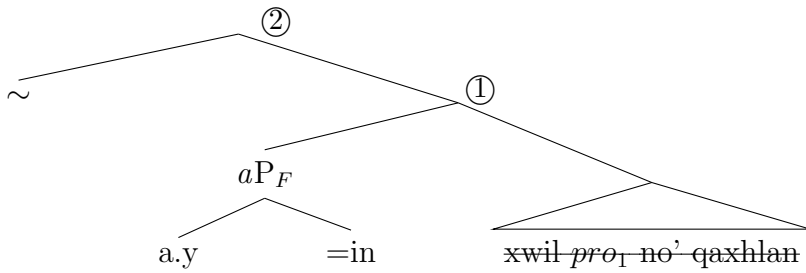
Above, *a* F-marks the Set B marker =*ach* in the syntax, which makes it available for focus interpretation later in the sentence by ~. This sentence presupposes an antecedent *C* that is a subset of the focus value, has more than one element, and includes the ordinary semantic value as an element. The question that A asked satisfies those three constraints.

As we've shown, the basic series pronouns (as well as *a* + classifier phrases) can be short answers to a question in addition to long answers. For simplicities sake, I assume that these are *elliptical* in the sense that the full syntactic structure of a sentence exists in these sentences, but is not overtly expressed:

- (17) Context: The speaker/speaker and friends/addressee/addressees saw the chicken.
Someone asks: Who saw the chicken?

ayin
PRO.1S

‘[Me]_F.’



[[①]]^f = {I₁ saw a chicken, Maltixh saw a chicken, Xhuwin saw a chicken ...}
 [[②]]^f >> {I₁ saw a chicken, Maltixh saw a chicken, Xhuwin saw a chicken} = *Who saw a chicken?*

This conception of short answers gives the correct contrastive set under focus interpretation. The short answer *ayin* should contrast with a set of propositions, not entities. This way, the sentence presupposes the question *Who saw the chicken?*, rather than a set of alternative individuals. This point will be relevant in discussing the *ti'* series pronouns on their own.

Ellipsis presents an empirical problem: how do we know that *ayin* is not a contrastive topic, with its following elements elided? I.e. why does *ayin* on its own have to presuppose a set of answers rather than a set of questions?

Firstly, presupposition of a strategy is not met in as many situations as the presupposition of a question under discussion. In contexts where there is no reason to have a strategy, *a*-phrases should only be interpreted as focus.

Nevertheless, *a*-phrases on their own are always interpreted as focus even in contexts where both presuppositions are met. For example *ayin* cannot be uttered after the question “What did you all see at the zoo?” (*tzet cheyila?*) In that context, *ayin* cannot be interpreted as a focused short answer because the speaker is human: the questioner uses *tzet* ‘what’ to ask for an inanimate (actually animal) answer. But why can’t it be interpreted as a contrastive topic?

This problem stems more from what qualifies as a legitimate **answer** to a question than anything else. Roberts (1996) helps on this point, giving definitions of **complete** and **partial answers**:

(46) **Answerhood**

- a) A partial answer to a question *q* is a proposition which contextually entails the evaluation of at least one element of [the alternatives of *q*].
- b) A complete answer is a proposition which contextually entails an evaluation for each element of [the alternatives of *q*]. (Roberts 1996)

By itself, *ayin* as a contrastive topic is neither a complete nor partial answer to “What did you all see at the zoo?” As contrastive topic, *ayin* indicates that the speaker is about to give a partial answer to the complex question, but is not by itself a partial answer. In other words, an addressee cannot evaluate the truth of any alternative just by

knowing that the speaker is talking about herself. In English, the infelicitous exchange would be something along the lines of:

A: What did you all see at the zoo?

B: *As for me.

This constraint on “answerhood” more importantly applies to lone CT. That is, this exchange in Q’anjob’al cannot happen:

- (47) Whose dog finished?
 As a complex question: *For each person, did their dog finish?*
- a. *ayin
 Intended: ‘*As for me.’
 - b. *a naq maltixh
 Intended: ‘*As for maltixh.’

One might think that answering “ayin” would entail or at least implicate the positive answer to the question in (47): *that the speaker’s dog finished*. However, our analysis predicts that interpreting *ayin* as a contrastive topic does not entail the truth or falsity of any possible answer. All it does is introduce a positive or negative answer to the question about the speaker. Alternatively, one might think that this sentence would be more available to be interpreted as a *focused* answer to the question above. However, since possessors in focus have to co-occur with the possessed material, *ayin* cannot be interpreted as a focused short answer to the question.⁵³

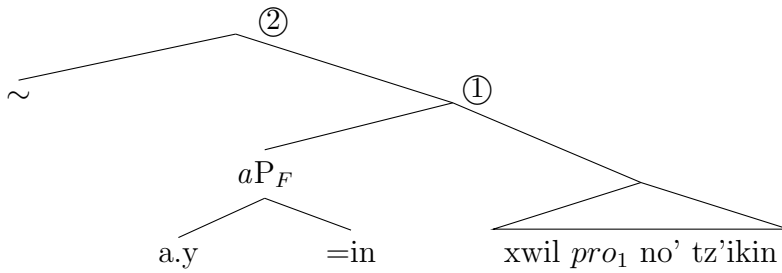
The *implicit question under discussion* in section 4.3 displays the same truth conditions and presupposition as the short answer in (17):

- (18) Context: Maltixh and the speaker are competing to see an elusive bird. The speaker saw it; Maltixh didn’t. The speaker relays this information to a friend who knew about the competition.

ayin x=ø-w-il no’ tz’ikin
 PRO.1S COM=B3-A1S-see CL bird

‘[I]_F saw the bird.’

⁵³One might think that the discussion above disallows contrastive topic to occur in questions (CT-Question), because a CT-Question would not give a partial or complete answer to the complex question presupposed by ~ [CT-Question]. Since these are felicitous in many languages (Constant 2014), we don’t want our formulation to inherently disallow them. One way of thinking about these moves are that they are pragmatically allowed because they point to a further resolution of the complex question, and if they are uttered by someone who isn’t informed about the answer, they could clarify what kind of strategy is desired.



[[①]]^f = {I₁ saw a bird, Maltixh saw a bird, Xhuwin saw a bird ...}

[[②]]^f >> {I₁ saw a bird, Maltixh saw a bird, Xhuwin saw a bird} = *Who saw a bird?*

This sentence is felicitous under a few kinds of situations: one in which the addressee looks like they want to know the result of the competition; and one in which the speaker wants to act as if that question was in the discourse. In the first situation, there is some salient question in the context, it is just not spoken out loud. In the second situation, the act of presupposing this question indicates to the addressee that the speaker wants this question to already be present.

In these scenarios, speakers cannot elide the nucleus – just saying *ayin* is infelicitous:

(18') **Short answer to an implicit QUD:**

Context: Maltixh and the speaker are competing to see an elusive bird in a park. The speaker saw it; Maltixh didn't. The speaker relays this information to a friend who knew about the competition, and was waiting outside the park to hear who won.

a. # *ayin*. Q'ANJOBAL
Intended: 'It was me.'

b. # *me*. ENGLISH⁵⁴

Our consultant was not able to say *ayin* in this context. Moreover, in English, only the it-cleft “short answer” is felicitous, not the prototypical short answer.⁵⁵ It might be useful to give some kind of constraint on ellipsis here.

(48) **Ellipsis Constraint:** Only elide material that is given (explicitly stated before)!

⁵⁴Here, one needs an account for why the first-person displays its accusative form “me” instead of “I” even though it is a subject. This particular consideration is not a problem in Q'anjob'al because *ayin* can be a focused subject or a focused object.

⁵⁵This difference has been discussed in English by Hankamer & Sag 1976, who differentiate deep anaphora like propositional ellipsis (the *it-cleft*) from surface anaphora like verb-phrase ellipsis, which needs a linguistic antecedent.

Such a constraint might be another way to predict that CT interpretation of *basic* pronouns by themselves is infelicitous, because the elided information after the contrastive topic would be *new* in some way. This undertaking is somewhat orthogonal to my project, so I will leave that to interested readers.

4.5.2 Contrastive Topic + focus

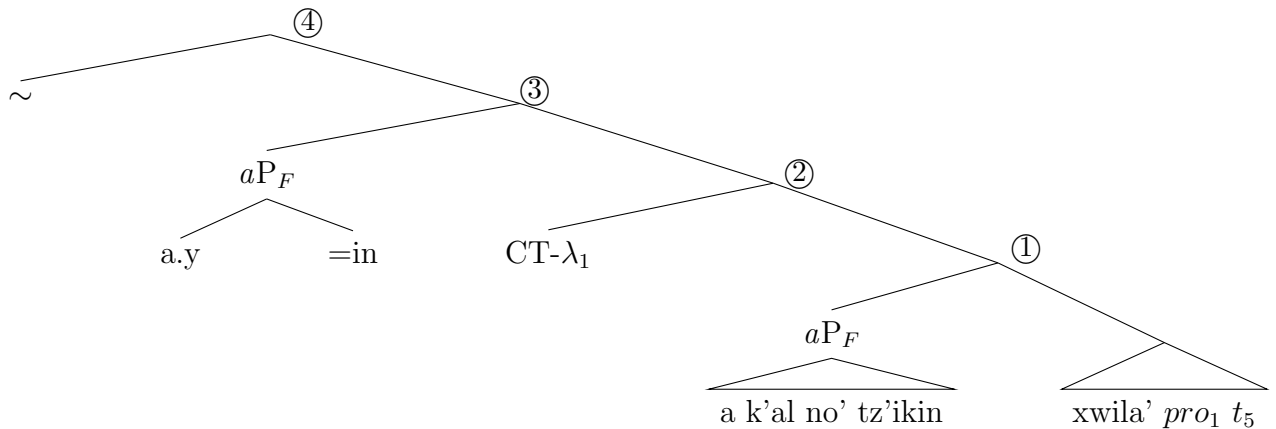
As the last section proposed, CT- λ occupies the position directly above focus in Q'anjob'al, "abstracting" the focus semantic values of its sister node. Below I give a derivation for sentence (19-a), which includes contrastive topic and focus:

- (19) Context: The speaker went to the zoo with her class. After the zoo, her professor brings all the kids together and asks:

Q: "What did you all see at the zoo?" (*tzet cheyila?*)

ayin a=k'al no tz'ikin x=ø-w-il-a'
 PRO.1S FOC=only CL bird COM=B3-A1S-see-TV

'[I]_{CT} only saw the [birds]_F.'



[[①]]_g^f = {g(1) only saw the bird, g(1) only saw the tiger, g(1) only saw the tree ...}

[[②]]_g^f = { λx. {x only saw the bird, x only saw the tiger ... } } (**topic-abstr**)

[[③]]_g^f = { {I₁ saw the bird, I₁ saw the tiger, I₁ saw the tree...} } (**pw-app**)

{Maltixh saw the bird, Maltixh saw the tiger, Maltixh saw the tree...}... }
 = {What did I₁ see?, What did Maltixh see?... }

[[④]]_g^f >> { What did I₁ see?, What did Maltixh see? ... }

= For each person in the class, what did they see?

The presupposition is a complex structured question; therefore, (18-a) points to a certain way of resolving the question raised by the teacher.

Chapter 2 gave this example to show *ayin* in contrastive topic position⁵⁶:

- (49) Context: Lucia saw a fish and nothing else. The speaker saw a bird and nothing else.

a ix lucia a no txay x=∅-∅-il ix, **ayin** a no tz'ikin
 FOC CL lucia FOC CL fish COM=B3-A3-see CL PRO.1S FOC CL bird
 x=∅-w-il-a'
 COM=B3-A1S-see-TV

‘[Lucia]_{CT} saw a [fish]_F. [I]_{CT} saw a [bird]_F.’

Both sentences in (49) would presuppose the same structured question as our derivation above. However, the prompt wasn’t a complex question; rather, it was the information that the consultant should “describe the context”. Although no *explicit* question had been uttered, the consultant can clearly presuppose that I wanted to know what each person saw “person-by-person”. This example is somewhat analogous to an implicit question-under-discussion for focus.

4.5.3 Lone CT

In sentences with only a *contrastive topic*, CT-λ operates on phrases that have no F-marking – where the focus semantic value of the phrase is the singleton set containing its ordinary semantic value. CT-λ abstracts this singleton set, binding a trace or resumptive pronoun. Then, the focused entity in topic position combines pointwise with the CT-λ set, creating a set of singleton sets of propositions – that is, a set of polar questions:

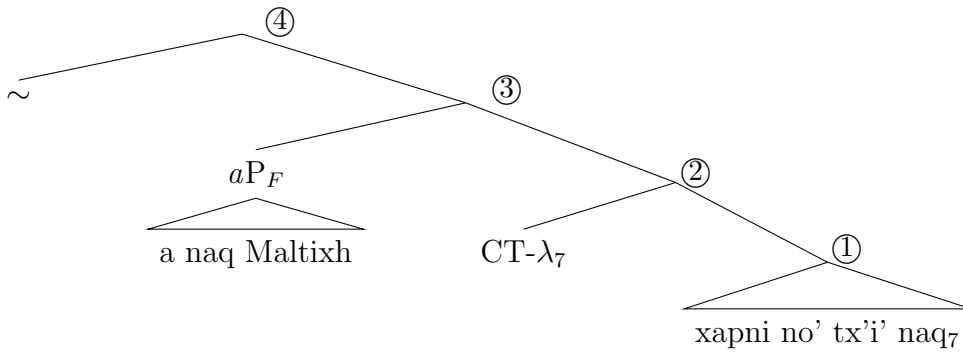
- (22) Context: There is a dog race, where if a dog gets to the end, their owner gets a medal. Maltixh’s dog got to the end, but Xhuwin’s dog didn’t. The speaker’s friend wonders:

A: Whose dog finished?

a naq maltixh x=∅-apni no' tx'i' naq...
 FOC CL maltixh COM=B3-finish CL dog CL.POSS...

‘As for [Maltixh]_{CT}, his dog finished...’

⁵⁶Chapter 2 example (20”)



- [[①]]_g^f = {the dog of g(7) finished} **f-value lacking f-marking**
 [[②]]_g^f = { λx.{the dog of x finished} } (**topic-abstr**)
 [[③]]_g^f = { {the dog of Maltixh finished}, {the dog of Xhuwin finished}... } (**pw-app**)
 = {Did Maltixh's dog finish?, Did Xhuwin's dog finish? ... } **def. Polar Question**
tion
 [[④]]_g^f >> { Did Maltixh's dog finish?, Did Xhuwin's dog finish? }
 = For each person, did their dog finish?

The sentence above presupposes a *strategic* answering of A's question: that is, answer the question only partially, and for each person. This sentence might work better in context (22) if A was holding a sheet containing rows for each persons dog, marking down all the dogs that finished.

The same derivation above works for the basic series pronoun *ayin* as a lone-CT. I don't derive it here based on its marginal acceptability, even though I believe that the judgment was a processing issue rather than a semantic one.

4.6 Focus Intervention Effects in *wh*-Questions with CT

The basic series pronouns and the emphatic particle can occur in a particular use of topic, *contrastive topic*. I will now show that these phrases pattern with the emphatic particle where it is infelicitous. This one-to-one correspondence provides conclusive evidence for a tight relationship between the pronouns and the particle.

CT-Questions

In his dissertation, Constant notes that contrastive topic markers are available in questions in languages like Mandarin Chinese, Czech, Turkish, and Japanese (Constant pg 56):

- (50) Nǐ dǒng le. Tā dǒng-bù-dǒng ne?
 You understand asp he understand-not-understand ct
 'You understand now. But does [he]_{CT} understand?' (Chao 1968: 802, via Constant)

Sentence (50) seems to presuppose the complex question: *for each person, do they understand?* The question in (50) is a single element in the discourse strategy it presupposes. Indeed, there does not seem to be any intuitive reason why questions should not be able to have contrastive topic, that is, indicate the same discourse strategy that an assertion makes.

Even with the correct presuppositions met, B-accents can never be realized in a question in English (Constant pg 57). German, too, does not allow for its contrastive topic in questions (Büring 2003). Here, we can draw an analogy to Q'anjob'al, where *wh*-questions cannot be preceded by a basic series pronoun even if there is a salient strategy in the discourse:

(51) ***basic series in interrogatives:**

Context: Teams are assigned a number in a tournament. The speaker is tasked with figuring out what the number of each team is. All the teams are standing on a field together. The speaker approaches one of the teams and asks:

Strategy: For each team, what number are they?

*ayex tzet numero-al ex?

Intended: 'As for y'all, what number are you?'

Like all *wh*-words in Mayan, *tzet* (*numero-al*) occurs in focus position. Therefore, one would expect *ayex* to be able to occur as the contrastive topic before it, since this is a context where a particular strategy should be salient. A reader may think that this infelicity stems from the contrastive topic being second person in this scenario; however, third person phrases in topic show the same infelicity when preceded by *a*:

(52) ***a phrase in interrogatives:**

Context: There is a tennis tournament: Lucia, Maltixh etc. Are playing. The speaker has to figure out each of the players' numbers. She goes up to the moderator and says:

a. A: "I know that Lucia is number 5."

w-ojtaq tol a ix Lucia numero cinco ix
 A1S-know CMPL FOC CL Lucia number five CL

'I know that Lucia is number 5.'

b. continuation:

*...a naq Maltixh, tzet numero-al naq?

Intended: 'As for Maltixh, what number is he?'

c. continuation:

naq Maltixh, tzet numero-al naq?
 CL Maltixh, WHAT number-ABSTR CL

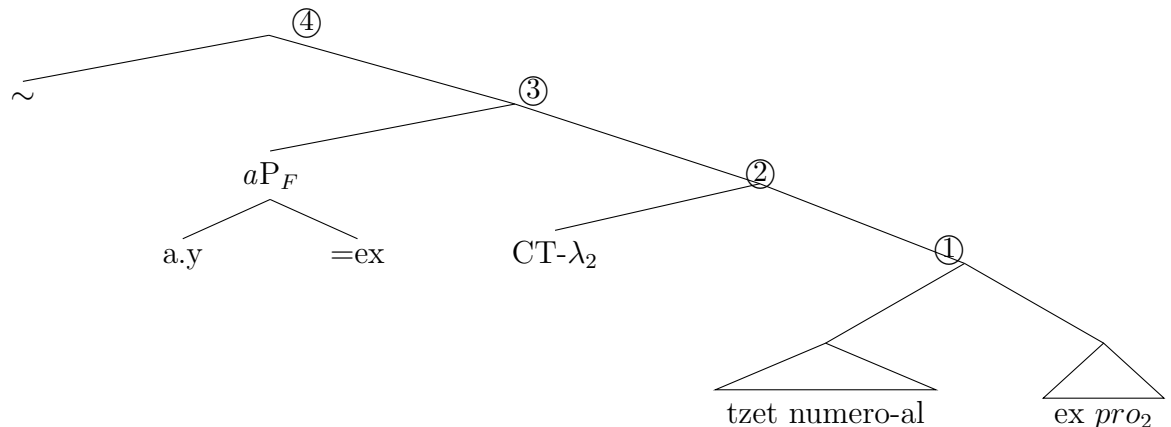
'Maltixh – what number is he?'

In (a), the speaker establishes that she is going to speak about the numbers of each player, “player-by-player”. The topicalized phrase “a ix Lucia... ix” within the embedded sentence of (a) clearly indicates that a particular strategy is salient. However, she may not go on to use *a* before another player if she wants to ask a question (b). On the other hand, bare classifier phrases in topic position are interpretable (c).

This contrast calls for some kind of distinction to be made between normal topics and those with *a* in front of them. I have already made this distinction in the syntax/semantics: topics with *a* are F-marked, so they contrast with a salient set of alternatives. Nevertheless, our syntax/semantics so far would predict that (51) and (52-b) are felicitous.

Indeed, below is a derivation for (51). Node ④ consists of the focus value of the question – *tzet numeroal ex* – which is equivalent to its ordinary semantic value (Beck 2006). Node ② abstracts the focus value, binding the trace in the subject position of the non-verbal predicate. Node ③ consists of a set of questions: What number are y’all? What number is the other team? Lastly, Node ④ presupposes the discourse strategy that I included in the context.

(53) Proposed Derivation for a CT question



- $[[j]]_g^f = \{g(2) \text{ is number one, } g(2) \text{ is number two, } g(2) \text{ is number three ... } \}$
 - $[[k]]_g^f = \{\lambda x. \{x \text{ is number one, } x \text{ is number two, } x \text{ is number three}\} \}$ (**topic abstr**)
 - $[[l]]_g^f = \{\{y'all_2 \text{ are number one, } y'all_2 \text{ are number two...}\},$
 - $\{\text{the other team is number one, the other team is number two...}\} \dots \}$ (**pw-app**)
 - $[[m]]_g^f = \{ \{y'all_2 \text{ are number one, } y'all_2 \text{ are number two, } y'all_2 \text{ are number three ... } \} \}$
- (**f-reset**)

>> For each team, what is their number?

If this sentence is derivationally possible, how can one account for the clear infelicity of *a*-phrases before *wh*-questions (51, 52b)?

This paper discards the assumption that this sentence can be derived, taking issue

with the question derivation above in the *ordinary* dimension, not the focus dimension. Indeed, I take this data to be a particular example of a cross linguistic phenomenon: focus intervention effects in questions (Beck 2006).

Certain languages do not allow questions to contain focus sensitive words like *only* in English: “the combination of a *wh*-phrase with a quantificational or focusing element leads to ungrammaticality in certain configurations.” (Beck 2006). Languages like Korean, Malayalam, and Hindi display these patterns:

- (54) *Minsu-man nuku-ll po-ass-ni? KOREAN
 minsu-only who-Acc see-Past-Q
 Intended: ‘Who did only Minsu see?’ {Beck 2006}

Above, *man*, meaning “only”, cannot occur in a *wh*-question. Beck maintains that this ungrammaticality arises from the derivational process of the ordinary semantics of questions, mediated by a complementizer operator Q. Indeed, I have not indicated how questions even derive their set of possible answers as their ordinary meaning yet. This paper will maintain that questions operate in the same dimension as focus alternatives.

Beck asserts that the following formula will create un-interpretable utterances in any language:

- (55) **Focus Intervention Effects:** A quantificational or focusing element may not intervene between a *wh*-phrase and its licensing complementizer.

$$* [Q_i [\dots [\text{intervener} [\dots \text{wh-phrase}_i \dots]]]] \quad (\text{Beck 2006})$$

In Q’anjob’al, the *contrastive topic* is an “intervener” like any other in the formula above precisely because it is a “focusing element”. To motivate this account, one requires some formal notion of how questions are interpreted: the semantics of both the Q operator and *wh*-words themselves. Indeed, this builds on the semantics for questions proposed in section 4.4.

wh-words, like focus, are alternative evoking linguistic elements. Beck and Constant take these words to *only* have a focus semantic value:

- (56) **Semantics of *wh*-words**
 a. $[[t_{zet}]]^o = \text{undefined}$
 b. $[[t_{zet}]]^f = \{x \mid x \text{ in } D_{\text{inanimate}}\}$

Beck takes the question operator to “rescue the structure as a whole from undefinedness” (pp. 12). Q sets the ordinary semantic value as the focus semantic value of a phrase:

(57) **Q-operator**

- a. $[[Q \alpha]]^o = [[\alpha]]^f$
- b. $[[Q \alpha]]^f = [[\alpha]]^f$

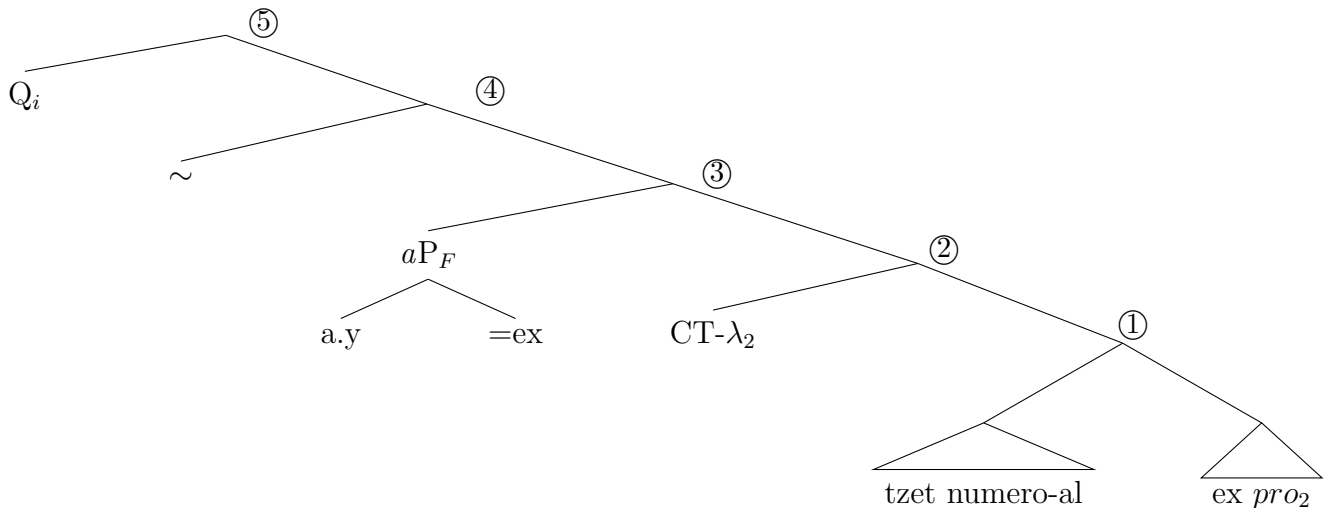
Q is a complementizer, and thus sits on the edge of the clausal boundary (CP).⁵⁷ Certain authors have claimed that this operator corresponds to overt morphemes in languages like Japanese (*ka*), Korean (*ni*) (54), and Tlingit (*sá*) (Cable 2010). As far as I know, it corresponds to no lexical item in Q'anjob'al.

If a focused element intervenes between Q and its corresponding *wh*-word, it will require interpretation by the \sim operator.⁵⁸ Here, \sim will theoretically reset its focus value to the set containing its ordinary semantic value (**f-reset**). Since the ordinary semantic value is undefined at this point, the phrase's focus value will become undefined as well. This leads to uninterpretability, since Q cannot rescue the sentence from undefinedness. The following formula will result in a faulty derivation:

$[Q_i [Y \sim [CT-\lambda [wh\text{-word}_i]]]]$ because $[[Y]]^f$ is undefined the entire structure is undefined.

This proposal seems related to the negative judgments in (51) and (52-b). Particularly, since Constant showed that contrastive topic is really a *focus* phenomenon cross-linguistically, one would expect these intervention effects to appear in certain languages with contrastive topic.

Q has wide scope over a clause in Q'anjob'al, causing these intervention effects to occur. The correct derivation of (51) (resulting in ungrammaticality) is below:



⁵⁷That *a naq maltixh* as a topic can occur within embedded sentences (52-a) lends more support to this syntactic analysis.

⁵⁸ \sim is not an optional operator. If some element is F-marked, some operator needs to interpret it. Indeed, for *wh*-words, this operator is Q. This was explained in section 4.4.

$[[\textcircled{1}]]^o = \text{undefined}$
 $[[\textcircled{1}]]^f = \{g(2) \text{ is number one, } g(2) \text{ is number two, } g(2) \text{ is number three ... } \}$
 $[[\textcircled{2}]]^o = \text{undefined}$
 $[[\textcircled{2}]]^f = \{\lambda x. \{x \text{ is number one, } x \text{ is number two, } x \text{ is number three}\} \}$ (**topic-abstr**)
 $[[\textcircled{3}]]^o = \text{undefined}$
 $[[\textcircled{3}]]^f = \{\{y'_{\text{all}_2} \text{ are number one, } y'_{\text{all}_2} \text{ are number two...}\},$
 $\quad \{\text{the other team is number one, the other team is number two...}\} \dots\}$
 $\quad = \{\text{What number are } y'_{\text{all}_2}?, \text{ What number is the other team? } \}$ (**pw-app**)
 $[[\textcircled{4}]]^o = \text{undefined}$
 $[[\textcircled{4}]]^f = \text{undefined}$ (**f-reset**)
 $[[\textcircled{5}]]^o = \text{undefined}$
 $[[\textcircled{5}]]^f = \text{undefined}$

Both the ordinary and focus semantics are undefined, resulting in uninterprebilty. Because of these structural incompatibilities, CT-questions cannot be interpreted in Q'anjob'al.

(52-c) showed a classifier phrase appearing in topic before a question. This phrase is not an “intervener” in Beck’s logic because it does not require focus interpretation by our friendly squiggle. To derive this value, I use normal Predicate Abstraction:

$$(58) \quad \textbf{Predicate abstraction: } [[i \text{ X}]]_g = \lambda x. [[X]]_{g[i/x]} \quad (\textbf{pred-abstr})$$

Indeed, (52-c) can be derived in the following way:

(52-c) naq maltixh, tzet numeroal naq?
‘Maltixh – what number is he?’

All ordinary semantic values are undefined until Q.

$$\begin{aligned}
[[\text{tzet numeroal naq}_7]]_g^f &= \{ g(7) \text{ is number one, } g(7) \text{ is number two ... } \} \\
[[7 \text{ tzet numeroal naq}_7]]_g^f &= \lambda x. \{ x \text{ is number one, } x \text{ is number two...} \} \quad (\textbf{pred-abstr}) \\
[[\text{naq maltixh } [7 \text{ tzet numeroal naq}_7]]_g^f & \quad (\textbf{app}) \\
&= \{ \text{Maltixh is number one, Maltixh is number two...} \} \\
[[Q [\text{naq maltixh } 7 \text{ tzet numeroal naq}_7]]_g^{o,f} & \\
&= \{ \text{Maltixh is number one, Maltixh is number two...} \} \\
&= \textit{What is Maltixh's number?}
\end{aligned}$$

Thus our system can derive the correct ordinary and focus semantic value of this sentence.

Unlike *wh*-questions, our system predicts that CT in polar questions without a focused element is felicitous:

- (59) a naq maltixh xkol naq ix Xhuwin?
 ‘Did [Maltixh]_{CT} help Xhuwin?’

$$\begin{aligned} [[\text{xkol naq}_8 \text{ ix Xhuwin}]]_g^o &= g(8) \text{ helped Xhuwin} \\ [[\text{xkol naq}_8 \text{ ix Xhuwin}]]_g^f &= \{g(8) \text{ helped Xhuwin}\} \end{aligned}$$

$$\begin{aligned} [[\text{CT-}\lambda \text{ xkol naq}_8 \text{ ix Xhuwin}]]_g^o &= \lambda x.[x \text{ helped Xhuwin}] \\ [[\text{CT-}\lambda \text{ xkol naq}_8 \text{ ix Xhuwin}]]_g^f &= \{\lambda x.\{x \text{ helped Xhuwin}\}\} \text{ (topic-abstr)} \end{aligned}$$

$$\begin{aligned} [[\text{a naq maltixh}]]_g^o &= \text{Maltixh} \\ [[\text{a naq maltixh}]]_g^f &= \{\text{Maltixh, Xhunik } \dots \} \end{aligned}$$

$$\begin{aligned} [[\text{a naq maltixh CT-}\lambda \text{ xkol naq}_8 \text{ ix Xhuwin}]]_g^o &= \lambda x.[x \text{ helped Xhuwin}](\text{Maltixh}) \\ \text{(app)} & \\ &= \text{Maltixh helped Xhuwin} \\ [[\text{a naq maltixh CT-}\lambda \text{ xkol naq}_8 \text{ ix Xhuwin}]]_g^f &\text{ (pw-app)} \\ &= \{\{\text{Maltixh helped Xhuwin}\}, \{\text{Xhunik helped Xhuwin}\} \dots\} \\ &= \{\text{Did Maltixh help Xhuwin?}, \text{Did Xhunik help Xhuwin? } \dots\} \end{aligned}$$

$$\begin{aligned} [[\sim \text{a naq maltixh CT-}\lambda \text{ xkol naq}_8 \text{ ix Xhuwin}]]_g^f &= \{\text{Maltixh helped Xhuwin}\} \\ \text{(f-reset)} & \\ &>> \text{For each person, did they help Xhuwin?} \\ [[\text{Q } \sim \text{a naq maltixh CT- xkol naq}_8 \text{ ix Xhuwin}]]_g^{o,f} &= \{\text{Maltixh helped Xhuwin}\} \\ &= \text{Did Maltixh help Xhuwin?} \end{aligned}$$

Above, the ordinary value is computed via predicate-abstraction and normal function application. The focus value is computed via topic-abstraction and pointwise application until \sim applies. Squiggle resets the focus semantic value to the set containing the ordinary semantic value. Then, Q sets the ordinary semantic value as this “reset” focus value, which by our definition is a *polar question*. If Q does not operate, this sentence is interpreted as a normal assertion with lone CT. Our system predicts that both interpretations are possible. Unfortunately, I did not have time to elicit this particular piece of data, so I leave it to future studies to verify this particular prediction of our analysis.

At an intuitive level, all this analysis really states is that question interpretation happens after focus interpretation in Q’anjob’al. Whether a statement is a question or assertion is evaluated after its focus values have been computed. This analysis runs counter to *inquisitive semantic* proposals like AnderBois (2012), in which question alternatives are computed in-tandem with focus alternatives: it is the pre-verbal position of FOCUS itself that generates these alternatives. Such accounts capture the surface similarities of both interrogative words and indefinites in Maya.⁵⁹ However, these theories

⁵⁹For example, *maktxel* in Q’anjob’al can mean both “who” and “someone” in different locations in

cannot yet account for how *focus*-like phenomena can occur outside of that particular pre-verbal position in Mayan languages like K'iche' (Velleman 2014).⁶⁰ In this chapter I have shown that a cohesive theory of focus in Q'anjob'al requires focus-alternative computation outside of the syntactic position called FOCUS. This computation elegantly accounts for both focus and contrastive topic interpretation in the language.

Furthermore, predicting infelicity of CT-questions in a language as a side effect of a particular syntactic structure – that is, Q c-commanding CT- λ – is, from what I can tell, a novel analysis in the literature. Whether this analysis can account for the infelicity of CT-questions in languages like English and German is out of the scope of this paper, but should be considered. Moreover, the correspondence of the lack of CT-questions in a language to the presence of other kinds of focus-intervention effects should be investigated in detail.

4.7 Conclusion

There are a few other 'topic-like' contexts in which both the basic series and *a* are infelicitous, but normal classifier phrases can exist:

Echo-question:

- (60) Context: Maltixh saw the speaker. A asks: "Who saw you?" to the speaker. The speaker is surprised that they are being inquired about.

**ayin*_{L-H} naq MALTixh xin iloni.
Intended: 'Me? [Maltixh]_F saw me.'

- (61) Context: Maltixh saw Xhuwin. A asks: "Who saw Xhuwin?" to the speaker. The speaker is surprised that Xhuwin is being talked about.

- a. ix Xhuwin_{L-H} a naq Maltixh x= \emptyset - \emptyset -il-on ix
CL Xhuwin FOC CL maltixh COM=B3-A3-see-AF CL
'Xhuwin? [Maltixh]_F saw her.'
- b. *a ix Xhuwin_{L-H} a naq Maltixh x= \emptyset - \emptyset -il-on ix
Intended: 'Xhuwin? [Maltixh]_F saw her.'

Neither *ayin* nor *a ix Xhuwin* can have a L-H pitch contour that the corresponding third person *ix Xhuwin* can have to mark some kind of inquisitive status.

So far, we've shown that there is a tight correspondence between the emphatic particle and the basic series. In every sentence where *a* + third person is felicitous, so are basic series pronouns and vice-versa. Nevertheless, there are first and second

the sentence.

⁶⁰Granted, AnderBois (2016) suggests that this post-verbal focus is not "encoded" by F-marking, but could be more pragmatic in nature.

person independent pronouns that can appear in every infelicitous use of the *basic* series, including *wh*-questions: the *ti'* series. The next chapter will focus on this series.

5 Emphatic Independent Pronouns: the *ti'* series

5.1 Overview

Independent Pronouns: the *ti'* series

	singular	plural
1st	ayin ti'	ayon ti'
2nd	ayach/hach ti'	ayex ti'

Every pronoun I've focused on so far has the same distribution and semantics as some other 'third-person' structure in Q'anjob'al. Pronouns of personal location - *ayin ek' satkan* 'I am in heaven' – correspond to third person sentences with *ay* 'existential' and *ek'* 'directional: pass by, be'. The prepositional pronouns - *xq'ajab naq ayin* 'He spoke to me' - pattern with *b'ay* preposition' phrases. The *basic* series of pronouns in preverbal positions (focus and topic) pattern with the emphatic marker *a*.

The pronouns that are the focus of this chapter, the *ti'* series, seem to contain the emphatic marker as well: they can appear before the verb (where the emphatic particle occurs), and the particle cannot precede them:

- (1) Context: Lucia saw a fish and nothing else. The speaker saw a bird and nothing else. Describe:

a ix lucia a no txay xil ix, (*a) ayin ti' a no tz'ikin
 FOC CL lucia FOC CL fish saw CL, (*FOC) PRO.1S DEM FOC CL bird
 x=∅w-il-a'
 COM=B3-A1S-see-TV

'[Lucia]_{CT} saw a [fish]_F. As for me, I saw a [bird]_F.'

This data suggests they have the same syntax as *a* + third person: in chapter 2, I called these constituents "*a* phrases". However, the *ti'* series have a different distribution than the emphatic particle as it is currently used in the language: unlike the basic series, these uses cannot be decomposed into the emphatic particle. This syntax must be a relic of a synchronic relationship at a certain stage in history. They are, therefore, the only clear-cut innovation discussed in this thesis, the only kind of first and second person pronoun that has no specific third-person counterpart.⁶¹

In this chapter, I will present many sentences with a *ti'* series pronoun on the left periphery of a sentence, in topic position. These sentences convey a slightly different semantics than the basic series in topic: rather than contrasting with alternative *questions* in a strategy, they contrast with different *entities* in the common ground.

⁶¹That is, if you assume that a *ti'* series pronoun is the same word in topic and anti-topic, which is a fine assumption.

Accordingly, the *ti'* series pronouns can be used in topic in a broader range of contexts than the basic series. These pronouns are the prototypical ‘topic’ personal pronouns in Q’anjob’al.

The *ti'* series can also occur directly after the nucleus of a sentence; I will call this use the “anti-topic” use because (a) they appear at the opposite edge of a sentence from ‘topic’ and (b) they have information structural properties like constituents in topic. This use presents the most concrete evidence against decomposition: the emphatic particle cannot occur post-verbally with third person, so it must not manifest in *ti'* series pronouns.

This chapter will focus on a description of the syntax and pragmatics of the *ti'* series in both topic and anti-topic uses. Based on their distribution and pragmatics, I will propose that the *ti'* series are *external* to the main clause unlike the basic series in ‘topic’. That is, Q’anjob’al distinguishes between an *external* and an *internal* topic.

In conjunction with their external position, these pronouns provide ‘parenthetical’ information that does not semantically depend on the ordinary or focus interpretation of the following sentence. Accordingly, I will use ideas from dynamic semantics to better understand the semantic contribution of these pronouns. Dynamic frameworks conceive of the meaning of a phrase as an update on the context of utterance rather than the phrase’s literal truth conditions. In dynamic frameworks, context can be updated at different points within the sentence as well as at the sentence boundary: this conception of meaning lets us model the information structural contribution of the *ti'* series as updating the discourse’s topic under discussion – as distinct from a sentence’s ‘normal’ propositional contribution or focus interpretation.

Section 5.2 shows that the *ti'* series cannot occur in the focus position, despite claims to the contrary (Mateo-Toledo 2008). 5.3 presents the pre-verbal *ti'* series side-by-side with the emphatic particle and basic series pronouns, showing that they are felicitous in a wider range of contexts and sentences than the basic series: this accounts for differences in their distribution. 5.4 argues that *ti'* series pronouns occupy a different kind of ‘topic’ position than the basic series in topic. There, the paper discusses previous literature on external and internal topic and differentiates these two structural positions in Q’anjob’al. 5.5 examines the post-verbal ‘anti-topic’ use of this series. 5.6 investigates the semantics of the proximal demonstrative, claiming that *ti'* serves a different purpose on these pronouns than with third person classifier phrases. 5.7 provides a pragmatic analysis of the pronouns in topic and anti-topic. 5.8 discusses implications.

5.2 *ti'* series as *focus

Previous literature on Q’anjob’al has claimed that *ti'* series pronouns can occur in the focus position.⁶² Linguists have labeled sentences with a *ti'* series pronoun as a sentence with “focus”:

⁶²Mateo-Toledo 2008, Pascual 2007.

“Focus + Clausal Negation

ayin ti' man w-ojtaq-oq Kokola tu'.

PRO.1S DEM NEG A1S-know-IRR Kokola DEM.DIST

‘I do not know that Kokola [place].’ ” Mateo Toledo 2008

This section will show that this claim does not line up with what we know about focus in Q'anjob'al.

There is no syntactic or morphological test for which preverbal position a *ti'* series pronoun occupies. First and second person elements cannot show up in subject or object position, so “resumptive pronouns” do not appear in the nucleus when any first or second person denoting element is in topic.⁶³ Furthermore, the agent focus marker only shows up for third person, so this method of differentiation is also not applicable to these pronouns. Therefore, one must use semantic/pragmatic clues to figure out which position a pronoun is in.⁶⁴

Last chapter outlined roughly what kind of semantics/pragmatics sentences with focus have. They point to a particular question under discussion (QUD), *focusing* the answer. They can also point to a particular question *implicitly*, evoking the set of alternative answers without the question needing to be asked. An implicit QUD can be derived from the former by general discourse dynamics: sentences with focus presuppose a QUD; if it is not explicitly there, discourse participants will acknowledge its implicit presence and make inferences about its possible answers.

ti' series pronouns cannot be answers to explicit questions (2), nor provide an answer to an implicit one (3). Because these basic uses of focus is not available, it is likely that these words cannot be in that particular preverbal position:

(2) Context: Who saw Maltixh?

a. ayin x=∅-w-il naq

PRO.1S COM=B3-A1S-see CL

‘[I]_F saw him.’

b. #ayinti' xwil naq

Intended: ‘[I]_F saw him.’

(3) Context: Living with three friends. There used to be a cookie lying around the living room, but it's gone. You are going to confess that you ate the cookie.

a. ayin x=in-lo-w=aytoq' xim

PRO.1S COM=B1S-eat-AP=DIR CL

⁶³One cannot use the Set B markers on the verb either, since they always occur whether the preverbal constituent is in topic or focus.

⁶⁴Prosodic information can also be helpful, but I leave that to further studies on these pronouns and focus/topic distinctions.

- ‘[I]_F ate it.’
- b. #ayin ti’ xin lowaytoq’ xim
Intended: ‘[I]_F ate it.’
- c. Context: You know that Maltixh ate it.
a naq maltixh xlon=aytoq xim
FOC CL maltixh saw=DIR CL
‘[Maltixh]_F ate it.’

Above, the *ti*’ series pronouns cannot occur in the same context as the basic series or third person focus marked by the agent focus suffix *-n*. This contrast indicates that *hach ti*’ is always topic when it appears preverbally.

One could argue that the demonstrative *ti*’ makes these have a different kind of use in the focus position. However, with third person, *ti*’ appears in focus in its basic use: as an answer to a question:

- (4) Context: Maltixh saw Xhuwin and he is still in the room.
Q: “Who saw Xhuwin?” (*maktxel xilon ix Xhuwin?*)
- a naq ti’ xil-on ix Xhuwin
FOC CL DEM.PROX saw-AF CL xhuwin

‘It was this guy who saw Xhuwin.’

The agent focus marker *-on* signals that *a naq ti*’ is in focus. However, the *ti*’ series pronouns cannot occur in a minimally different scenario (2b). Of course, the proximal demonstrative *ti*’ above is not necessarily the same one as in the pronouns. However, that this similar element *can* occur in focus shows us that the demonstrative may not disqualify these pronouns from being answers to questions. This data also shows us that it is not the semantics or prosodic characteristics of *ti*’ that prevent *ti*’ series pronouns from appearing in focus.

Essentially, *ti*’ series pronouns have a particular ‘topic like’ semantics, one that corresponds to the left peripheral position of a sentence. The next section will show the wide variety of topic contexts in which they *are* appropriate to place before the verb.

5.3 *ti*’ series as topic

This section gives an informal overview of the *ti*’ series in topic position, showing that they can occur in a wider variety of contexts and sentences than the basic series: they cannot be compositionally related to those pronouns. Here I will develop an informal notion of what they convey, showing that they must contrast with some other salient entity, some other possible topic. These semantics are importantly different from Buring’s notion of “contrastive topic”: these words do not presuppose any kind of discourse strategy.

When prompted to translate a sentence of English, my consultant frequently placed a constituent (subject or object) in topic: speakers employ the position when there is no real “context” in order to establish what they are talking about. There needs to be some *topic under discussion* in the language for discourse to flow naturally.

In such “no-context” contexts - just asking for a translation or a grammaticality judgment - *ti'* series pronouns seemed much more available as the topic than the basic series.

(5) **No Context**

a. Q: Can you say:

ayach ti' x=ach-y-il naq Maltixh
 PRO.2S DEM COM=B3-A3-see CL maltixh

‘As for you, Maltixh saw you.’

b. Q: Can you say:

#ayin a no' tz'ikin xwila
 [I]_{CT} saw a [bird]_F.’

When I first began to elicit basic series pronouns in topic, they were usually infelicitous like in (5b). It was only when I constructed contexts with some kind of discourse strategy that they became appropriate to use.

This kind of data points to the ‘prototypical’ nature of these pronouns as the topic of a sentence. Of course, in (5a), the consultant was likely constructing some kind of scenario in her head in which it was appropriate to use *ayach ti'* as topic - but her ability to easily imagine a scenario suggests that she was familiar with the *ti'* series as topic. Furthermore, it suggests that whatever is presupposed by *ti'* series pronouns can be accommodated much more easily than a discourse strategy.

What is presupposed by these pronouns? We can start by looking at them in familiar scenarios: these pronouns can occur in any “contrastive topic” context that the basic series can occur in, and sometimes were even preferred in those scenarios. An example is shown below:

(6) **Contrastive Topic**

Context: The professor brings whole class to a zoo. Everyone splits up, but the speaker ends up only seeing a bird. The whole class is not at the zoo anymore when the professor asks the class:

“What did you guys see? I heard there were birds, lions, and bears.”

a. ayin ti' a no' tz'ikin xwila'
 PRO.1S DEM FOC CL bird saw

‘As for me, I saw a [bird]_F.’

b. ayin a no' tz'ikin xwila'
 PRO.1S FOC CL bird saw

‘[I]_{CT} saw a [bird]_F.’

Comment: ‘ayin ti’ is better.’

- c. a naq maltixh a no’ tz’ikin xil naq
FOC CL maltixh FOC CL bird saw CL

‘[Maltixh]_{CT} saw a [bird]_F.’

Above, *ayin ti*’ can occur as the topic when there is a particular discourse strategy salient.⁶⁵ This data parallels the basic series and the emphatic particle in topic. Indeed, these pronouns are *contrastive* in a real way: they must contrast with some other salient discourse referent. If there is no other referent that could have been the topic, they cannot be used:

(7) **Contrast:**

Context: There is a priest is in front of a Jewish kid, a Christian kid, and a Muslim kid. Can he say to the Christian kid:

hach ti’ q=ach wa’ bautizar
PRO.1S DEM POT=B2 A1S-CAUSE baptize

‘As for you, I will baptize you.’

(8) **#No Contrast**

Context: The priest is now in front of three Christian kids, and they are all going to be baptized. He wants to tell one of them to make it clear what is going to happen. Can he say to the first one:

- a. q=ach-w-a’ bautizar
POT=B2S-A1S-CAUSE baptize

‘I will baptize you.’

- b. #hach ti’ qach wa’ bautizar

Intended: ‘As for you, I will baptize you.’

Comment: ‘No, because the kids are in the same situation.’

In (7), the priest says *hach ti*’ in order to contrast what he will do to the Christian kid with what he won’t do to the other kids. One might think that these pronouns evoke CT just like the basic series, with a discourse strategy of the form:

Strategy of (7): *for each kid, will you baptize them?*

⁶⁵I will later give an account of the *ti*’ series that predicts this behavior: a *ti*’ series pronoun presupposes that there are other *potential topics* that could’ve been the topic. Inferences arising from this presupposition let *ti*’ series pronouns occur in all the sentences I elicited with a discourse strategy.

However, the priest may only want to interact with the Christian kid, in which case it would be strange to indicate that there is some set of questions to be resolved.

In (8), there may not be a salient series of questions like the ones above because it is clear that the priest will baptize each kid; the presupposition for CT is not met. One could explain the infelicity of (8b) based on this fact. However, I want to argue that the difference between (7) and (8) is more likely that in (7) there is a particular contrast between multiple referents in the discourse context; this analysis is unrelated to the structure of inquiry (QUDs). That is, *hach ti'* cannot be used in (8) because there is no reason to contrast the addressee with other kids, not because the context lacks a structured series of questions to resolve.

ti' series pronouns can occur before polar questions in a contrastive scenario like the one in (7):

(9) **Polar Question**

Context: The priest is in front of a Jewish kid, a Christian kid, and a Muslim kid. He doesn't know which is which. Can he ask one of them:

hach ti', q=ach wa' bautizar?
 PRO.2S DEM POT=B2S A1S-cause baptize

'As for you, will I baptize you?'

Here, *hach ti'* is clearly used to emphasize the addressee in contrast with the other kids in the situation.

Unlike basic series / *a* + third person, these pronouns can also precede *wh*-questions. In this case, they pattern with bare third person phrases.

(10) **wh-Question**

Context: Teams are assigned a number in a tournament. The speaker is tasked with figuring out what the number of each team is. She approaches one of the teams and ask:

a. ayex ti' tzet numero-al ex?
 PRO.2P DEM WHAT number-ABSTR B2P

'As for you, what number are you?'

b. *ayex tzet numeroal ex?

Intended: As for you, what number are you?

Context: Tennis tournament, where Maltixh, Lucia, and more are playing. The speaker has to figure out each of the players' numbers. She goes up to the moderator and says:

c. naq Maltixh, tzet numero-al naq?
 CL maltixh WHAT number-ABSTR CL

'Maltixh what number is he?'

- d. *a naq Maltixh, tzet numeroal naq?
 Intended: ‘As for Maltixh, what number is he?’

Last chapter argued that normal classifier phrases like (10c) were felicitous in this scenario because they do not require focus interpretation. *a* phrases and the basic series, in contrast, require focus interpretation, and thus interfere with the process of deriving the ordinary semantics of the question. Under the assumption that our analysis is correct, this data suggests that either *ayex ti’* isn’t F-marked (no focus interpretation is required), or *ayex ti’* is generated higher in sentence structure than the question operator Q (even if there is focus interpretation, it does not interfere with Q’s operations). I will argue for the latter conclusion based on independent evidence in the next section of this chapter.

These pronouns still need some kind of contrast in order to be used before *wh*-questions. In the following scenario, the speaker is walking down an empty street, save one man who is walking towards her. She cannot use the independent pronoun to make the man understand that she is talking to him:

- (11) You are walking down an alley alone. Someone is walking down the street towards you, and you get scared, so you say:
- a. mak=ach=txel?
 WHO=B2P=INT
 ‘Who are you?’
 - b. #ayachti’ mak=ach=txel?
 Intended: ‘You – who are you?’

Above, the pronouns cannot be understood as ‘vocative’ or ‘attention calling’ like the second person English pronoun in the intended reading. If there is no other entity present to contrast the pronoun with, the pronouns cannot be used in topic.

The pronouns in (6) and (7) occurred in contexts where a discourse strategy might be useful: in (6) the priest may want to ask each kid whether they will be baptized; in (7) the speaker clearly wants to know the number of each team. Nevertheless, there need not be a complex question or discourse strategy for these pronouns to appear at the left periphery:

(12) **Contrastive without CT**

Context: There are two families in front of the speaker. The speaker wants to figure out who one of them is, but doesn’t care about the other – in fact the speaker is not going to talk to the other family at all. The speaker goes up to the first family and asks:

ayex ti’, mak=ex=txel?
 PRO.2P DEM WHO=B2P=INT

‘As for you, who are you?’

If this sentence evoked CT, it would presuppose a set of questions like:

“Who is the first family?” “Who is the second family?”

However, only the first question is actually part of the speaker’s intended strategy. The speaker may only want to use this pronoun to highlight the family as the topic, in order to indicate that they are interested in them as opposed to the other family; she does not want to ask each family who they are. This context rules out the complex question “Who is who?”

Of course, the first family does not know that the speaker is only interested in them: it is not clear to every discourse participant that there is no salient strategy. The speaker might draw attention to the interesting family by using CT, evoking both questions above, without indicating to the family that they are not actually going to resolve both of them.

However, it is much simpler to assume that *ayex ti’* is felicitous because of a straightforward contrast in the domain of *entities*, not due to QUD structure. By using CT, the consultant would disobey the directions in the prompt that rendered the second family unimportant: she doesn’t care about the second family, but she is acting as if there is an unresolved question about their identity. One would think that the consultant would have at least mentioned this discrepancy; in truth, the sentence above seemed perfectly appropriate to the context.

The clearest argument against CT interpretation for the *ti’* series comes from their “exhaustivity implication”: these pronouns imply that the following sentence does not hold for the entities with which they contrast.⁶⁶

(13) Exhaustivity Implication

Context: The speaker recently died and went to heaven. At the gates, the speaker sits in a circle with other recently deceased people. Everyone is telling each other how they died. The speaker points to someone across the room and asks:

hach ti’, x=ach-kam yuj ilia?
PRO.2S DEM, COM=B2S-die by disease

‘As for you, did you die by a sickness?’

Comment: ‘Only one person died by a sickness. Maybe other people died of other things.’

In the comment above, the consultant notes that this sentence implies that the content of the question applies to only one individual. One could almost translate this

⁶⁶This exhaustivity implication is probably the reason that previous authors have said that these pronouns are in the focus position (since *focus* implies exhaustivity as well).

sentence as: “were you the one who died by a sickness?” This implication voids any interpretation as a CT, because CT interpretation would point to a complex question like:

For each person, did they die of a sickness?

This complex question does not imply that only one person died of a sickness - indeed, it does exactly the opposite. The *ti*' series are thus definitively not Büring's contrastive topic.

Any attempts at understanding the *ti*' series through the lens of the basic series fail on closer inspection. That is why I interrogate the pragmatics of the *ti*' series pronouns in their own right, and then see if they have some compositional relationship to the basic series. Based on the data in this chapter, I conclude that they do not.

Lastly, the *ti*' series pronouns can occur in 'echo-questions', mentioned in chapter 2 and chapter 4. The first constituents of these phrases seem to bear a rising intonation (below, L-H) and are followed by a pause:

(14) **Echo Question – first person**

Context: A never asks the speaker about the speaker, always talks about herself.

A: What did you see?

- a. ayin ti_{L-H} a no' tz'ikin xwila'
 PRO.1S DEM FOC CL bird saw
 'Me? I saw a [bird]_F.'

- b. #ayin_{L-H} (pause) a no' tz'ikin xwila'
 Intended: 'Me? I saw a [bird]_F.'

(15) **Echo Question – third person**

Context: A never asks the speaker about Lucia, always talks about herself.

A: What did Lucia see?

- a. ix Lucia_{L-H} a no' tz'ikin xil ix
 CL lucia FOC CL bird saw CL
 'Lucia? She saw a [bird]_F.'

- b. #a ix Lucia_{L-H} a no' tz'ikin xil ix
 Intended: 'Lucia? She saw a [bird]_F.'

Above, the *ti*'-series pattern with a classifier phrase (15a), but not the basic series (14b) or emphatic particle (15b). Again, these pronouns contrast with the referent that was not spoken about. The pronoun in (14a) means something like “you're talking about me and not you?!”

Since echo-questions are kind-of separate discourse moves, they could really be in their own sentence, rather than topic position. However, they are at the left periphery of these sentences, and have similar semantics, so I will include them in my analysis of

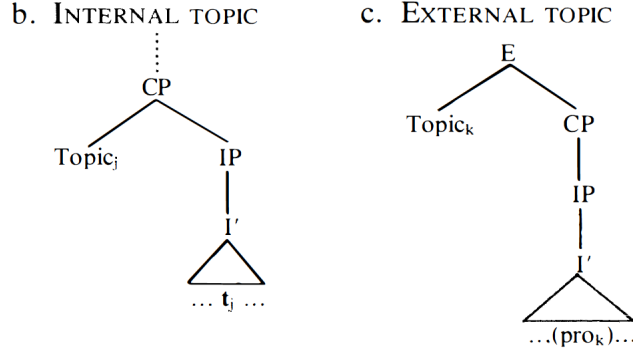
the *ti'* series in topic. At the very least, they show that the *ti'* series has a broader distribution than the basic series, and patterns with normal classifier phrases rather than ones preceded by *a*.

5.4 External and Internal Topic in Q'anjob'al

The differences between *ti'* series and basic series pronouns discussed above suggest that the former pronouns are less connected to the clause than the latter. Indeed, if these pronouns all occupied the same clause-internal 'topic' position, the *ti'* series pronouns would not be 'F-marked' because they do not intervene in *wh*-questions like basic series pronouns (Beck 2006). However, their contrastive presupposition and relationship to the emphatic particle seems to suggest that when they are expressed, something *like* focus interpretation happens. Regardless of this technical argument, the *ti'* series' seem to be more about the context of utterance than the propositional content or alternatives evoked by the following sentence: more pragmatic than semantic. The basic series' semantics depend on both the ordinary and focus semantic values of the following sentence; the *ti'* series, in contrast, seem to be constrained by certain referents already present in the discourse context.⁶⁷ I pursue an analysis that places *ti'* series pronouns structurally higher in the sentence than basic series pronouns, allowing them to make their own kind of 'context update' that is pragmatic in nature, not semantic. Indeed, this analysis – that there is a left-peripheral position external to the main clause and another 'topic' position internal to the main clause – seems to be the correct one when one looks at topics more broadly in Q'anjob'al. I will motivate this analysis with the idea of an external/internal topic divide more generally in the literature on Mayan (Aissen 1992). Then, I will provide empirical evidence from (a) embedded topics and (b) sentences with multiple topics.

In *Topic and Focus in Mayan*, Judith Aissen discusses two structurally differentiated topic constructions in Mayan: those that are *external* to the matrix clause and *internal* to the matrix clause.

⁶⁷Of course, the *ti'* series do depend on the following sentence in particular ways. What other entities they contrast with depends on which entities the following sentence could have applied to. This seems to be more of a pragmatic fact than a semantic one.



While both external and internal topics occur outside of the inflectional head IP⁶⁸, only external topic is its own intonational phrase. Internal topic is prosodically bound to the following sentence, and thus (for our purposes) may not be able to license a pause between the topic and the comment. Importantly, internal topics can appear in embedded contexts while external topics cannot.

Aissen claims that each Mayan language uses only one of these structures as their “topic” (Aissen 2016). Languages like Popti’ and Tzotzil utilize an external topic, while others like Tz’utujil utilize an internal topic. Other linguists have called this claim into question: Can Pixabaj & England (2011) investigated whether both structures appear in K’iche’. Indeed, some kinds of topic in K’iche’ can be embedded and some cannot:

(16) a. **Embedded Continuing Topic in K’iche’** K’ICHE

ri al Ixchel, k-ø-u-chomaaaj [chi ri u-naan
 DET CL Ixchel INC-B3S-A3S-think PREP DET A3S-mother
 x-ø-u-loq’ ulo jun ak’]
 COM-B3S-A3S-buy DIR:toward a chicken

‘Ixchel thinks that her mother bought a chicken’
 {Can Pixabaj & England 2011}

b. ***Embedded Switch Topic in K’iche’** K’ICHE

*ri al Ixchel, k-ø-u-chomaaaj [chi are k’u ri u-naan x-ø-u-loq’ ulo jun ak’]
 Intended: ‘Ixchel thinks that on the other hand her mother bought a chicken’
 {Can Pixabaj & England 2011}

Above in (16a), a ‘continuing topic’ *ri u-naan* ‘her mother’ can appear in an embedded sentence. Since there is no agent-focus marker on the verb, this preverbal constituent is clearly a topic. In (16b), a ‘switch topic’ headed by the phrase *are k’u* cannot be

⁶⁸The focus position is proposed to be in the specifier of IP.

embedded.

Ultimately, Can Pixabaj & England propose that K'iche' has one kind of topic, but two kinds of focus: type I and type II focus. However, they differentiate type II focus on purely pragmatic grounds: unlike type I focus, it does not license the agent-focus marker in K'iche', which is the only formal criterion for this preverbal position across Mayan. Therefore, more recent literature has proposed that type II focus in K'iche' is really just a particular kind of topic, one that happens to be more *pragmatically* similar to the cross-linguistic notion of focus than other kinds of topic (Velleman 2014). Therefore, it is still an open question whether the external/internal distinction holds language internally for K'iche' or any member of the language family.

To date, Q'anjob'al has only been shown to have one kind of topic, which is characterized as *external* because of its prosodic independence and resumptive classifiers. Presumably this characterization is also motivated by Q'anjob'al's close historical relationship with Jakaltek (Popti'), in which the intonational-phrase-final morpheme *an* can appear at the end of a classifier phrase in topic:

(17) **Topic in Jakaltek**

w-uxhtaji **an** [s-loq ho'i no' cheh k'ej'inh tu']. JAKALTEK
 A1S-brother EXCL A3S-buy pro CL horse black DEM

'My brother, he bought that black horse.' {Craig 1977}

Indeed, Aissen argues that the resumptive classifiers themselves are an indicator of this external/internal distinction. Under her analysis, resumptive classifiers are indicative of "base-generation" in a higher position.⁶⁹ Internal topics, on the other hand, are moved from a lower position in the clause.

These particular distinctions do not map cleanly onto the properties of topics in Q'anjob'al. In Q'anjob'al, the topic may not have a prosodic break and can sometimes appear in embedded sentences together with its resumptive pronoun:

(18) **Embedded Topic in Q'anjob'al**

- a. Context: There is a tennis tournament. Lucia, Maltixh and you are playing. The speaker has to figure out how many matches each player won. She knows Lucia won two games.

woqtaq tol **a ix Lucia** K'AB saqach x=ia' ganar **ix**
 A1S-know CMPL FOC CL Lucia two game COM-CAUSE win CL

'I know that [Lucia]_{CT} won [two]_F games.'

- b. ¿hey-ojtaq=∅. mi [tol **heb' naq moso**_i t'ir-t'on-b'a=∅='el heb'
 A2P-saber=B3 DUB CMPL 3PL CL ladino naked-EST-RR=B3=DIR 3PL
naq_i?]

CL

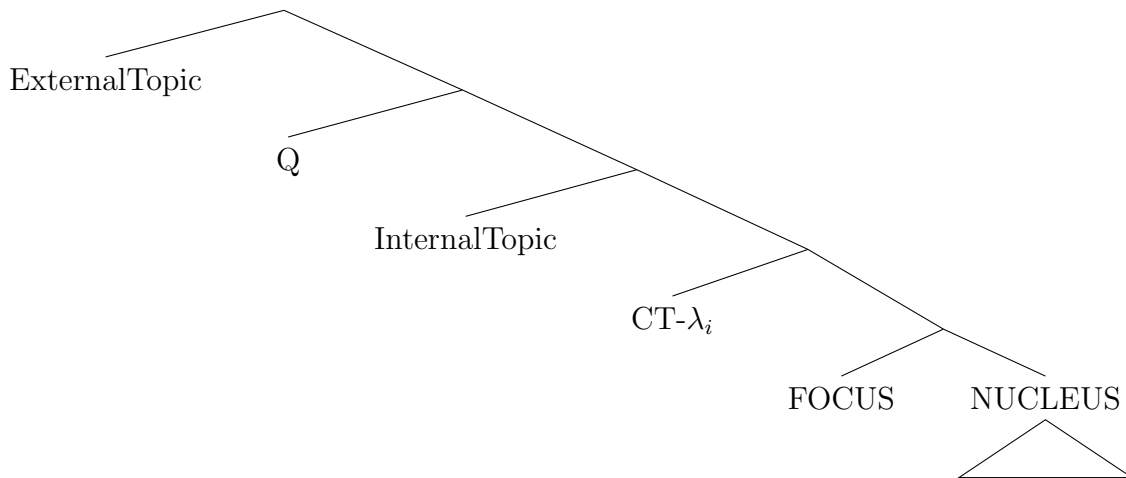
'Did you know that ladinos, they make themselves naked?' {Pascual 2007}

⁶⁹This idea is discussed at length for Chuj in Beilig 2015.

Under Aissen’s characterization, *a ix Lucia* in (18a) and *heb’ naq moso* in (18b) are “external topics” because they co-occur with a resumptive pronoun, but “internal topics” because they occur in an embedded context (Pascual 2007). Indeed, it does not seem like resumptive pronouns should be indicative of an external/internal distinction in a language like Q’anjob’al. Unlike external topics in languages like Yucatec, these topics can be embedded. Granted, the “internal topics” here, in many theoretical paradigms, would still need to be base generated outside of the matrix clause, but this particular point does not seem to exclude languages from having two ‘topic positions’, one structurally higher than the other.

In this paper I claim, in line with the data from K’iche’, that Q’anjob’al uses two structures for different kinds of topic. In addition to an external topic, Q’anjob’al utilizes a clause-internal topic construction that can appear in embedded contexts and hosts a contrastive topic use: that is, it can be used (together with *a*) to indicate a discourse “strategy” (18a). The basic series of pronouns appears in the internal topic, as well as certain kinds of topic without *a* (18b). The *ti’* series only occupies the external topic.

Our analysis of the structure of a sentence of Q’anjob’al looks like the following:



The *ti’* series pronouns occupy the External Topic position, so they can straightforwardly precede questions: whether or not they require focus interpretation, they do not intervene with the ordinary semantic derivation of a *wh*-question. In addition, this external position can host *echo-questions*, which are meta-linguistic uses of the pronouns that are clearly separated from the content of the main clause. Internal topic, on the other hand, hosts the basic series/ *a* + third person in topic (“contrastive topic”) as well as normal classifier phrases like the one in (18b). Internal topic is used for kinds of topic that do not require an immediate context update (‘contrastive topic’, ‘continuing topic’).

Evidence for this characterization comes from two incomplete sources: embedded topics like (18) and multiple topics. According to my elicitations, basic series pronouns

can be embedded without difficulty, but never *ti'* series pronouns:

(19) **Embedded pronouns**

Context: There is a tennis tournament: Lucia, Maltixh and you are playing. The speaker has to figure out how many matches each player won. She knows that she won 2 games.

- a. w-ojtaq tol **ayin** *KAB'* saqach x=w-a' ganar, axa
 A1S-know CMPL PRO.1S two game COM=A1S-CAUSE win CNTR
 naq maltixh ...
 CL maltixh...

‘I know that [I]_{CT} won [two]_F games, but as for maltixh...’

- b. Context: The speaker knows that she won 3 games.
 *w-ojtaq tol **ayin ti'** *OXEB'* saqach xwa' ganar, axa naq maltixh ...
 Intended: ‘I know that as for me, I won [three]_F games, but as for maltixh...’

- c. **ayinti'** *KAB'* saqach xwa' ganar, axa naq maltixh ...
 PRO.1S three game made win CNTR CL maltixh
 ‘As for me, I won [two]_F games, but as for maltixh...’

In (19a), *ayin* appears before the focus of the embedded sentence: it is an embedded CT. *Ayin ti'* could not appear in that same position in an embedded sentence (19b), but can in a matrix clause (19c), so it is probably not the semantics/pragmatics of the *ti'* series pronoun that makes (19b) infelicitous.⁷⁰ Additionally, a sentence of Q'anjob'al can host at least two topics. In the one example I elicited, the *ti'* series pronoun was the first topic:

(20) **Multiple Topic**

Context: The speaker is with a group of people who lived in a particular apartment. A specific landlord kicked every person in the group out at some point in the past; everyone is telling each other when they got evicted.

- ayon=on ti' cham a'txotx x=on=y-ujtej elon cham uqub'ixi
 PRO.1B=EXCL DEM CL landlord COM=B1P-A3-kick DIR CL last-week

‘As for us, the landlord kicked us out last week.’

Above, *ayonon ti'* occurs at the left periphery of the sentence before any other preverbal constituent: this is the external topic. One can tell that the second preverbal constituent, *cham a'txotx*, is also in ‘topic’ because of its resumptive classifier *cham* after the verb. Since *cham a'txotx* is closer to the verb-complex than *ayonon ti'*, I

⁷⁰Granted, the subject of *ojtaq know'* is also first person, so it would have been better if I elicited a second person *ti'* series pronoun in the same contrastive context.

know that there must be two topics in this sentence.⁷¹ Indeed, *cham a'txotx* seems to be a 'continuing topic', because each person presumably has been talking about the landlord before this utterance. Like K'iche', Q'anjob'al's internal topic position may host this particular use of *topic*.

Q'anjob'al sentences have room for more than one topic. Theoretically, external topics cannot be embedded, and may be intonationally separate from the sentence. Internal topics on the other hand can be embedded, and may be prosodically dependent on the following clause. These claims are somewhat preliminary, but they account for certain differences between the *ti'* series and the basic series that cannot be accounted for in any other way I can think of. In any case, this data should be investigated in a more systematic manner because it flies in the face of the majority of the literature on topic in Mayan.

An alternative analysis of the syntax of these series should be mentioned and refuted. The *ti'* series external position may suggest to some that they participate in a biclausal structure: the pronoun is the subject of a relative clause, the demonstrative *ti'* is the head, and the rest of the sentence is the embedded clause itself. Indeed, the demonstrative *le* in Yucatec Maya seems to head relative clauses (Verhoeven & Skopeteas 2015):

(21) **Relative clauses in Yucatec Maya**

- a. Relative clause in Yucatec

le t=u hàant-ah òon-e', Pèdróoh .
 DEF PFV=A.3 eat:TRR-CMPL(B.3.SG) avocado=D3 Pedro
 'Who ate avocado is Pedro'.

- b. Focus in Yucatec

teech k=a bin tak Yaxley.
 2.SG IPFV=A.2 go as.far.as Yaxley
 'YOU are going up to Yaxley'.

- c. Biclausal Construction

teech le k=u bin tak Yaxley=o' .
 2.SG DEF IPFV=A.3 go as.far.as Yaxley=D.2
 'You are the one that is going up to Yaxley'.

In (21a), *le* heads a relative clause in topic position. In (21b), a focus construction is given, with the independent pronoun *teech* (c.f. *hach*) in focus. (21c) gives a biclausal construction headed by the determiner *le* (and ended by the phrase final morpheme *-o'*). This data looks suspiciously similar to the difference between *ti'* series and the basic series.

Under this alternative, a *ti'* series pronoun looks more "external" to the clause

⁷¹If they were in an opposite order, someone could claim that the *ti'* series pronoun was in focus because it does not necessitate a resumptive classifier.

than other topics because they are literally outside of an embedded clause, the subject of relative clause. Sentence (20) looks like it has two topics because the first is actually the subject of a relative clause, and the second is an embedded topic. Indeed, the sense of contrast and “exhaustivity implication” discussed last section may be accounted for by a relative clause interpretation:

- (13) (Repeated) Context: The speaker recently died and went to heaven. At the gates, the speaker sits in a circle with other recently deceased people. Everyone is telling each other how they died. The speaker points to someone across the room and asks:

hach [ti' x=ach-kam yuj ilia]?
 PRO.2S DEM COM=B2S-die by disease

Biclausal translation: ‘Were you the one who died by sickness?’

Comment: ‘Only one person died by a sickness. Maybe other people died of other things.’

Note that the English translation (as a biclausal construction) has the same kind of contrast and exhaustivity that these pronouns evoke: it implicates that only one person out of a few died from sickness. Relating the *ti'* series to relative clauses cross-linguistically might provide a neat picture of their semantics.

Despite these compelling parallels, there are many problems with this analysis. First of all, the comparison with Yucatec is unreliable. Verhoeven & Skopeteas diagnose the biclausal status of (21c) by drawing attention to the verb *kabin*, which does not agree with the second person subject *teech*; the *u* marks third person, agreeing with its head *le*. Compare (21b), a focus construction, where the verb *kabin* agrees with *teech*. In contrast, *ti'* series pronouns in topic agree with the verb: by S&V’s criterion, these sentences should be monoclausal. Furthermore, the demonstrative *le* in Yucatec is a determiner, not a post-nominal modifier like *ti'*: *le* usually precedes a noun. When *le* follows a noun it thus points to the sentence as having a biclausal structure. Q’anjob’al’s *ti'*, on the other hand, is a post-nominal word, so the fact that it appears after the pronoun is not indicative of any different kind of structure. That these two words have certain spatial deictic properties in common do not make them the same.

Second, it is unclear how one would derive the meaning of a sentence like (12) if the question were embedded:

- (12) (Repeated)

ayex ti', mak=ex=txel?
 PRO.2P DEM WHO=B2P=INT

Biclausal translation: *‘You are the one who is?’

Our translation: ‘As for you, who are you?’

The question in (12) was seamless to the consultant. If these sentences were analogous to relative clauses in English, the translation into English should also be interpretable, which it is not.

Crucially, this analysis would have a difficult time accounting for the post-verbal use of these pronouns. This ‘anti-topic’ use can occur at the end of a sentence: in this case *ti’* cannot be the head of the embedded clause. One would have to argue that these constructions include headless relative clauses, like (22b) below. Indeed, Q’anjob’al *does* have sentences with initial headless relative clauses and sentence final subjects, but the verb in the relative clause does not agree with a first or second person subject. An anti-topic *ti’* series pronoun, on the other hand, invariably agrees with its verb:

- (22) Context: We are slaves to the monster “Qoqo”. He sells the speaker to his monster pals, but keeps the rest of us as his pets.

a. Anti-Topic

x=**in**-s-txon=toq cham qoqo **ayin ti’**
 COM=B1S-A3-sell=DIR CL monster PRO.1S DEM

‘The monster sold me.’

b. Relative Clause

[x=∅-∅-txon=toq cham qoqo] **hin**
 COM=B3-A3-sell=DIR CL monster B1S

‘Who the monster sold is me.’

(22a) shows an anti-topic pronoun, which agrees with the Set B marker on the verb. (22b), on the other hand, has third-person morphology on its verb: it uses the Set B marker as its subject. This sentence has a bi-clausal structure with a first person subject: in Mateo-Toledo’s terms, this is a “non-verbal predicate”, where the predicate is a relative clause. Since there are biclausal structures that look very different from sentences with *ti’* series pronouns, it does not seem like this analysis of the *ti’* series can hold water. Our analysis, that Q’anjob’al divides its topics into external and internal, seems to be correct.

The next section examines the anti-topic use of these pronouns, noting what is similar and different about their interpretation from the pronouns in external topic.

5.5 *ti’* series as ‘anti-topic’

Last section briefly discussed the *ti’* series post-verbal function. This use, here called the ‘anti-topic’, provides strong evidence against synchronic decomposition into the emphatic particle *a*:

- (23) Context: The speaker recently died and went to heaven. At the gates, the speaker sits in a circle with other recently deceased people. Everyone is telling each other how they died.

- a. Context: The speaker died from a sickness.
 x=in-kam ayin ti' yuj ilia
 COM=B1S-die PRO.1S DEM by disease
 'I died by sickness.'
- b. Context: Maltixh died by a sickness. The speaker has to speak for him because he is shy:
- i. *xkam a naq maltixh ti' yuj ilia
 - ii. *xkam naq a naq maltixh ti' yuj ilia
 - iii. *xkam naq a naq maltixh yuj ilia
 Intended: 'Maltixh died by sickness.'

In the same context where anti-topic is felicitous (23a), third person with *a* is not (23b). A third person *a* phrase cannot occur on its own (i), with a pronoun *naq* in subject position (ii-iii), and with or without the demonstrative (ii/iii). These pronouns are thus not compositionally derived from the emphatic particle.

Anti-topic is an exceptional use of these pronouns, one that seems unique to first and second person. Example (23) provided a similar context as those in section 5.3: these pronouns have pragmatic similarities to the *ti'* series in topic. Indeed, they seem to be the same lexical item. However, they lack the topic *ti'* series' sense of contrast and with it their exhaustivity implication. They are not exactly like post-verbal third person subjects or objects either: they have pragmatic restrictions that do not always apply to third person subjects/objects. This section will paint a picture of anti-topic's distribution and semantics/pragmatics, showing exactly how it differs from pre-verbal pronouns and post-verbal nominals.

Despite calling these pronouns the "anti-topic", they do not exactly appear at the right-periphery: (23) shows an anti-topic pronoun appearing *before* the oblique argument to the verb phrase. Rather, they always seem to appear at the end of the nucleus:

(24) **Intransitive Subject**

a no' tz'ikin x=∅-w-il ayin ti'
 FOC CL bird COM=B3S-A1S-see PRO.1S DEM
 'I saw only the [bird]_F.' {Mateo-Toledo 2008}

(25) **Transitive Object**

x=in-y-il naq Maltixh ayin ti'
 COM-B1S-A3-see CL Maltixh PRO.1S DEM
 'Maltixh saw me.'

(26) **“Postposed” Transitive Subject**

Context: Someone asks: What did you all sell? (The speaker sold his toy “monster”.)

x=∅-in-txon=toq cham qoqo **ayin ti’**
COM=B3-A1S-sell=DIR CL monster PRO.1S DEM

‘I sold the monster.’

The *ti’* series pronoun above always appears at the end of the sentence regardless of the ordering of the constituents before it. To me, they did not seem to be prosodically separated from the preceding phrase. Its location here indicates that it is within the nucleus of the sentence. Something about this phrase makes it violate the rigid VSO order that Q’anjob’al is known for.

In chapter two, I proposed that these pronouns have the same syntax as *a*-phrases. This stipulation was shown by the *a*-constraint: *a* can precede third person nominals in topic but not *ti’* series pronouns. This syntax forbids them from appearing in subject or object position: they “postpose” after the core subject-object positions.⁷²

Mateo-Toledo calls (24) an “emphatic” use of first person: in conjunction with their strange syntax, these pronouns are pragmatically marked in a way that third person subjects and objects are not. For example, unlike third person subjects and objects, anti-topic pronouns cannot be used to simply describe situations. My consultant noted that (26) could not be used as a simple description; it was better as an answer to the complex question “What did you all sell?”

In addition, these pronouns cannot be used when speakers are already talking about the referent. Third person nominals sound “repetitive” in these contexts, but are felicitous:

(27) a. Context: Heaven scenario. (same as (23))

Lucia yok in-bi’. xinkam (#ayin ti’) yuj ilia
lucia be A1S-name. died (#PRO.1S DEM) by sickness
Intended: ‘My name is Lucia. I died by a sickness.’

b. Context: Same context, but introducing another deceased woman named Lucia.

Lucia yok bi’ ix. xkam ix (Lucia) yuj ilia.
lucia be name CL. died CL (lucia) by sickness
‘Her name is Lucia. Lucia died by a sickness.’

Unlike sentences with third person subjects, sentence (23) cannot be used if the speaker has already indicated that she is discussing herself. This is a common observation with

⁷²Now that this paper has established a difference between external and internal topic, this argument might not be as convincing. The *a*-constraint might only apply to *ti’* series pronouns because they appear in external topic where the emphatic particle does not appear. Next section will show that it may be only the *ti’* series in subject position that are postposed, since demonstratives like *ti’* only appear at the end of a nucleus.

constituents in *pre-verbal* topic position across Mayan: a constituent will be put in topic, and then only appears post-verbally for the rest of the discussion. Indeed, this anti-topic use can be used in all of the scenarios that the topic use could occur in. In (26), it occurs in response to a complex question a contrastive topic scenario. Indeed, in this scenario, the consultant noted that putting *ayin ti*’ in topic did not seem to change the meaning at all.

Anti-topic *ti*’ series can appear in questions in the same contexts as the topic use of the pronouns:

(28) **Polar Question**

Context: A priest is in front of a bunch of Christians, but not every Christian wants to be baptized. He doesn’t know who wants to or not. Can he go up to one of them and ask:

- a. q=ach w-a’ bautizar hach ti?
 POT=B2S A1S-CAUSE baptize PRO.2S DEM
 ‘I am going to baptize you?’
- b. hach ti’, q=ach-w-a’ bautizar?
 PRO.2S DEM POT=B2S-A1S-CAUSE baptize
 ‘As for you, will I baptize you?’

(29) **wh-Question**

Context: Two families, want to figure out who one of them is. Standing next to each other.

- a. mak=ex=txel ayex ti?
 WHO=B2S=INT PRO.2P DEM
 ‘Who are you all?’
- b. ayex ti’, mak=ex=txel?
 PRO.2P DEM WHO=B2S=INT
 ‘As for you (all), who are you?’

Questions with an anti-topic pronoun (28a) and (29a) can appear in the same contexts as ones with topic pronouns (28b) and (29b). However, their effect on the context seems to be different. The consultant noted that (28a) seems to be merely asking for assent: even with an affirmative answer, he can still ask the same question to other people. In contrast, the consultant noted that if the priest received an affirmative answer to (28b), he would not ask to baptize anyone else. In other words, there is no “exhaustivity” implication in (28a).

Additionally, (29a) can be used in a context with no contrast:

(30) **No Contrast**

Context: One family, want to figure out who they are.

- a. mak=ex=txel ayex ti?
 WHO=B2S=INT PRO.2P DEM
 ‘Who are you all?’

- b. #ayex ti', mak=ex=txel?
 Intended: 'As for you (all), who are you?'

The anti-topic pronoun can appear in a question when there is only one potential topic in the context (30a). Here the topic use cannot be used (30b). These pronouns lack the pragmatic contrast and exhaustivity implication that the pronouns in topic bear.

Unlike the pronouns in topic, these pronouns cannot be followed by the contrastive conjunction *xal*:

(31) **Conjunction**

- a. ayin ti', x=in-kam yuj ilia. xal=ach?
 PRO.1S DEM COM=B1S-die by sickness and=B2S
 'As for me, I died by sickness. And you?'
 b. xin kam ayin ti' yuj ilia. #xal=ach?
 Intended: 'I died by sickness. And you?'

In (31a), *xal* seems to target the presupposition of the *ti'* series in topic: it latches onto one of the potential topics with which the first sentence contrasts. In (31b), there does not seem to be any other potential topics for *xal* to target.

All the anti-topic use seems to be doing is *establishing* the speaker or addressee as the 'pragmatic topic', the *topic under discussion* (TUD). For our purposes, a TUD is whatever entity discourse participants are talking about. This notion is different from a syntactic topic, which is the left peripheral position in Mayan. If a constituent is in topic position, it is invariably the TUD after that sentence: such is one function of the topic position. But the converse does not hold. The TUD need not appear in the left peripheral topic position: it can be expressed in subject, object, focus or other positions.

What does it mean to be the topic under discussion? I assume here that the choice of topic tells the discourse participants what kinds of assertions and questions are relevant to say. I do not develop a notion of *relevance* with respect to the TUD here, but one clear empirical phenomenon that gets at this notion is that sentences following an external topic should linguistically express the referent of the topic (e.g. with a resumptive classifier) – one should not establish a topic and then talk about something else.⁷³

This paper proposes that post-verbal *ti'* series establishes the speaker or the addressee as the pragmatic topic; if the speaker is already the TUD like in (25a), this operation will be infelicitous. Indeed, questions with *ti'* series pronouns can invariably be asked to start a conversation between two people, but not when a conversation is already going on:

⁷³Büring (2003) has a notion of relevance to the QUD which I'm sure is related.

- (32) a. *No contrast, beginning of conversation:*
 Context: One person is following the speaker on the street. Nobody else is on the street. The speaker gets scared, so she asks:
 mak=ach=txel ayach ti’?
 WHO=B2S=INT PRO.2S DEM
 ‘Who are you?’
- b. *No contrast, middle of conversation:*
 The speaker recently died and went to heaven. She meets one person at the gates. Only the speaker and the addressee are at the gates, nobody else is around.
 xach kam (#hach ti’) yuj ilia?
 Intended: Did you die from a sickness?

In (32a), there are no possible referents with which to contrast, but the speaker and the addressee have yet to establish either of themselves as the topics of conversation. In (32b) there are also no possible contrastive referents, but my consultant probably inferred that this question would come in the middle of a conversation, not at the beginning. In this case, the speaker is probably already talking about the addressee.

One might expect that the speaker and the addressee are always possible topics under discussion due to their special status in discourse. This data provides an interesting refutation of that intuition: the speaker and the addressee can be established as the TUD: they are subject to the same pragmatic operations that other third-person discourse referents are subject to. Section 5.7 will develop a semi-formal description of what these operations on TUDs look like.

5.6 Semantics of *ti’*

So far, I’ve determined that the *ti’* series can occur in many contexts that *a* cannot appear in and therefore argued that they do not synchronically contain this morpheme. Now we turn to the other functional element that these pronouns may contain: the demonstrative *ti’*. This section argues that *ti’* provides the same kind of dynamic meaning in both topic and anti-topic: it marks the speaker or addressee as the TUD.

The consultant pointed out that *ti’* series pronouns seemed like two words to her: one, the “pronoun” (*ayin*), and the other, the demonstrative (*ti’*). Indeed, other clitics may intervene between these two elements:

- (33) Context: Lucia saw the fish, I saw the bird.
 ix Lucia xilon no txay, ayin=xa ti’ xwil no tz’ikin
 CL lucia saw-AF CL fish, PRO.1S=CNTR DEM saw CL bird
 ‘[Lucia]_F saw a fish, but as for me, I saw a bird.’

Since these pronouns consist of two separate words, the demonstrative must provide some additional function that is unique to it and not the entire phrase. This section will examine the function of *ti'* after third-person nominals, and see if it corresponds to the demonstrative in these pronouns.

This section argues that *ti'* serves a different functional purpose with the *ti'* series than with third person classifier phrases. The demonstrative may have similar pragmatic effects across all persons: it is a way of drawing attention to a particular referent in “locally anchored space” (Himmelman 1996).⁷⁴ However, with third person, speakers of Q’anjob’al use *ti'* to mark that the referent is proximal, or close to the speaker; for first/second person where this is typically redundant, speakers of Q’anjob’al use it to establish the referent as the TUD. Of course, *ti'* may be the same lexeme across all persons, but speakers only use its pragmatics for first/second person (establishing topichood), not its semantics (picking out a proximal referent), because its semantics are vacuous.

The demonstrative *ti'* can be a spatial adverb translated as ‘here’ or an adjectival modifier. When it is a modifier (like in the *ti'* series), it occurs on the right edge of a phrase, usually restricting the referent to those entities that are close-by. In this case, it is usually translated as “this”, but unlike the proximal demonstrative in English it is equally felicitous with proper names, pronouns (4), and indefinite nouns. Indeed, its distribution is extensive: it can modify third-person phrases in topic, focus, intransitive subject and transitive object position. In all of these positions, this demonstrative cannot be used if the referent is not spatially local to the utterance.

(34) **Intransitive Subject**

- a. Tzen ch-ø-e-lok-b’aj aj jun no’ ti’?
 why INC-B3-A2P-hang-DER DIR IND CL DEM
 ‘Why are you hanging up this animal?’ {Mateo-Toledo 2008}
- b. Context: The speaker works on a farm. She realized that her cow died when she went to milk it. So she goes into your house and says to her husband:
 xkam no’ wakaxh (#ti’) yuj sik’
 died CL cow (#DEM.PROX) by cold
 ‘The cow died by the cold.’

In (34a), *ti'* can modify an intransitive subject: in this scenario, it is translated as ‘this’ and thus probably refers to an animal near the speaker. In (34b), the speaker refers to a cow that is outside of her house; she cannot use *ti'* as a modifier here because the cow is not local to the context of utterance.

ti' can also occur as a transitive object:

⁷⁴“Locally anchored space” or “local space” is the spatial location where the discourse takes place, centered around the speaker.

(35) **Transitive Object**

max=∅=s-jatne=kan heb' j-ichmam jan icham na ti
COM=B3=A3-make=DIR 3P A1P-grandfathers IDF.PL old house this

‘Nuestros abuelos construyeron estas casas antiguas.’ {Pascual 2007}
‘Our grandfathers made these old houses.’

Pascual translates *ti*’ as ‘estas’ ‘these’, suggesting that the houses are in front of the speaker in some way or other (in real life or in a picture).

As I showed in section 5.2, the proximal demonstrative can appear in focus position. It draws attention to a particular referent close to the speaker (below, the dead cow) in opposition to the alternatives evoked by focus (below, the other live cows):

(36) **Focus**

Context: The speaker is giving a tour of her farm. She walks through her barn of cows and stands next to one that looks ill.

- a. Translate: “This cow died by a cold.”

jun WAKaxh ti' xkam yuj sik'
IND cow DEM.PROX died by cold

‘A [cow]_F here died by a cold.’ (pointing to the cow)

- b. #jun WAKaxh xkam yuj sik'

Intended: ‘A [cow]_F died by a cold.’

There is no resumptive classifier above (it would be *no'*), so we know *jun wakaxh ti'* is in focus position and not topic. The semantics of *ti'* are pretty clear here: the speaker draws the addressee’s attention towards a particular cow as the one that died from the cold. There, the speaker uses the demonstrative in conjunction with a pointing gesture. The second sentence above is infelicitous because the focused entity could refer to many cows in the barn: a bare indefinite noun does not disambiguate what cow is being referred to.

Note that *ti'* can modify an indefinite phrase (marked by *jun*), making the referent definite. English does not allow its demonstratives to have this kind of distribution, since the demonstrative “this” appears in the same determiner position that indefinite markers like “a” occur. This observation is mirrored in proper names and pronouns in English. In English, since proper nouns and pronouns refer to definite entities, it is strange to precede either of these kinds of words with a demonstrative:

- (37) a. (#this) John likes beans. *pointing at John*

- b. I really don’t like (#this) him. *pointing at a picture of a guy*

The proximal demonstrative “this” can only be used to contrast “John” with other “John”s, or to contrast “him” with some other male entity: essentially it can only be

used when “John” refers to every man named John, and “him” refers to every male. It cannot be used merely to locate some entity in the addressee’s visual field. On the other hand, Q’anjob’al readily allows *ti’* to be used even when it is clear who the referent of a proper name or pronoun is (as in (4) and (38) below). This data calls into question the purported one-to-one mapping between *ti’/tu’* and *this/that* in English. A better translation for *ti’*, in my opinion, would be “here”, as a modifier after a DP:

- (37’) a. [JOHN here] likes beans. *pointing at John*
 b. I really don’t like [HIM here]. *pointing at a picture of a guy*

Indeed, this use of “here” in English can only work when the modified noun bears an A-accent, the F-marker of English. This is analogous to the *ti’* series insofar as these pronouns are historically related to the emphatic particle, the F-marker of Q’anjob’al.

The demonstrative displays the same pattern for third person topics; it cannot be used to serve any discourse function like it does with first and second person if the referent is not local. Indeed, even if the presupposition of a *ti’* series pronoun is satisfied, *ti’* cannot be used after a non-local referent:

(38) **Topic**

- a. Context: Zoo field trip. The professor rounds up all the kids at the front of the zoo at the end. Maltixh had only seen the birds, but he is too shy to speak, so the speaker says to the class:

naq Maltixh ti’ a no’ tz’ikin xil naq
 CL maltixh DEM.PROX FOC CL bird saw CL
 ‘Maltixh here, he saw a [bird]_F.’

Comment: ‘Maltixh has to be there.’

- b. Context: Unfortunately, Maltixh had to go home before the class meets, so the speaker must tell the professor what he saw:

i. naq Maltixh a k’al no’ tz’ikin xil naq
 CL maltixh FOC only CL bird saw CL
 ‘Maltixh, he only saw a [bird]_F.’

ii. #naq Maltixh ti’ a k’al no’ tz’ikin xil naq.
 Intended: ‘Maltixh (now topic), he only saw a [bird]_F.’

Comment: ‘No because he isn’t there.’

In (38a), Maltixh is present in the context of utterance: in this sentence *ti’* appears after the proper noun. In (38b), Maltixh is not present, and *ti’* cannot appear after him in topic. In (38b), there are multiple potential topics in the context, one of whom is Maltixh this seems to satisfy the same constraints on felicity that the *ti’* series showed in section 5.3. However, because Maltixh is not at the zoo, *ti’* cannot be used.

This data makes us question why *ti'* is used at all with first and second person. The speaker and the addressee are by definition “local” to the discourse context, so *ti'* seems like it would be truth-conditionally uninformative if it modifies a first or second person pronoun. The semantics of *ti'* in third person do not lead us anywhere in figuring out what *ti'* does with first/second person.

ti' does not merely mark a referent as local; it clearly serves an extra-linguistic purpose: to make discourse participants look at the referent of the phrase it modifies. But even this purpose does not seem to be relevant for the *ti'* series. For first person, in the contexts presented so far, the addressees were not necessarily looking away from the speaker when she said *ayin ti'*. In (1), for example, I asked my consultant to describe what she saw in the park. In that case, I was looking at her, and she still used *ayin ti'*. For second person, one might think that the speaker uses *ti'* to draw a contrast between a closer addressee and one who is farther away: this would be the contrast visible in the contexts presented in section 5.3. Indeed, this may have been the original purpose of placing *ti'* after these pronouns. However, the *ti'* series in their *anti-topic* use contradicts this claim for second person:

(39) **Anti-Topic**

Context: One person is following the speaker on the street. Nobody else is on the street. The speaker gets scared, so she asks:

mak=ach=txel hach ti'?
 WHO=B2S=INT PRO.2S DEM

‘Who are you?’

Above, there is only one possible addressee, and *ti'* can still be used. Thus, *ti'* does not have the same extra-linguistic function that it has with third person. It seems to be serving a function related to discourse – a pragmatic function, but a linguistic one.

In order to understand this pragmatic function, one must look at both uses of the *ti'* series, anti-topic and topic, and see what is similar between them. I will assume that what is similar is contributed by the demonstrative, and what is different is contributed by their linear order.

This paper has shown that (at least) for first and second person, both uses of *ti'* series establishes the speaker/addressee as the *topic under discussion*, the “pragmatic topic” of discourse. This is the only function of the *ti'* series in their “anti-topic” use. At the left-periphery of a sentence, the *ti'* series are made to be the topic and additionally contrasted with other potential topics. Thus, the demonstrative establishes its referent as a topic, and its linear order contributes the contrast we saw in section 5.3. I will give an informal machinery next section that encapsulates both of these uses.

It would be interesting to investigate whether or not this pragmatic effect is true across all persons. That is, *ti'* may have truth conditional, extra-linguistic, and pragmatic effects. In this case, one would not have to say that the *ti'* of the *ti'* series is a different lexeme than the one that modifies third person – the meaning of *ti'* would be

something like the following:

Meaning of *ti'*: If x is some entity, $[[x\ ti']]$ presupposes that x is proximal to the speaker and makes x the new topic under discussion.

These semantics require some kind of *dynamic* conception of meaning where the topic under discussion can be updated: such a framework will be proposed next section. Indeed, *ti'* seems to only be available as the topic, focus, intransitive subject, or transitive object – I have yet to find a sentence where it can occur as a transitive subject. One might expect that a syntactically ergative language like Q'anjob'al would disallow speakers to introduce pragmatic topics in the ergative position. Alternatively, prosodic considerations may affect the placement of these demonstratives. Unfortunately, I have not investigated either claim, so I leave them for further research on Q'anjob'al demonstratives.

The observation that *ti'* does not modify classifier phrases in the ergative position sheds even more light on the anti-topic uses of the *ti'* series pronouns. The reason we did not call these “subject” or “object” is because sentences with anti-topic *ti'* series pronouns as the subject always violate Q'anjob'al's “rigid” VSO order:

(40) Context: The speaker sold her toy “monster”.

x=∅=in-txon=toq cham qoqo ayin ti'
COM=B3=A1S-sell=DIR CL monster PRO.1S DEM

‘I sold the monster.’

Despite being the grammatical subject of (40), *ayin ti'* appears after the object. This is not a separate prosodic phrase or some kind of parenthetical afterthought: there didn't seem to be a pause between *cham qoqo* and *ayin ti'*. It looks like *ayin ti'* is postposed to the end of the nucleus. Last section, I proposed that this operation takes place because *ayin ti'* is an *a*-phrase, which the subject or object position cannot host. However, this operation may take place because of the demonstrative, which only appears at the end of the nucleus. Again, this operation may happen for information structural reasons: since *ti'* makes the pronoun a pragmatic topic and the ergative subject position is not used to host new topics, the pronoun must be postposed. Alternatively, Q'anjob'al's prosody may effect the placement of demonstratives in a sentence: since these pronouns are made up of demonstratives, prosody dictates that they have to appear at the end of the nucleus rather than in the middle. A rich study of the prosody of Q'anjob'al has yet to be done, but I do not doubt that it will clarify what is happening here.

5.7 Pragmatic Analysis

The following section will show one way to implement the ideas discussed above in a formal framework. However, this section is somewhat preliminary: I believe that

other ways of capturing ‘topichood’ may apply equally well to these pronouns.

In 5.3, the *ti*’ series were presented in topic position that is external to the main clause. They must contrast with some other potential topic, and imply that the following sentence does not apply to any other potential topics. Their meaning is characterized below, informally:

- (41) **Meaning of sentence with a *ti*’ series pronoun in topic (informal):** if α is a pronoun in the *ti*’ series, and m is a proposition or question, and α is at the left periphery:
[[α m]] = “I could’ve said/asked m about some other topic β , but I said/asked m about α ”

In 5.5, the *ti*’ series were presented in their anti-topic use, at the end of a nucleus. These uses establish their referent as the pragmatic topic. Their meaning is characterized below, informally:

- (42) **Meaning of sentence with a *ti*’ series pronoun as anti-topic (informal):** if α is a pronoun in the *ti*’ series, and m is a proposition or question containing α at the end of the nucleus:
[[m]] = “I said/asked m about α ”

This section develops a formal representation of these two meanings and applies it to the examples in 5.3 and 5.5. Here, I will use David Lewis’ notion of a “context scoreboard” and further developments in dynamic semantics to explain the structure of topics.

David Lewis’ 1979 paper, *Scorekeeping in a Language Game*, formalized the study of discourse. He conceived of discourse, at any given moment, as being like a “conversational scoreboard”. Every conversational participant has a (possibly incomplete) view of this scoreboard at a given moment, but can refer to different stuff – propositions, individuals, or questions, etc. – that they can “see” on the scoreboard.

Subsequently, linguists have taken this metaphor to its descriptive endpoint, formalizing different kinds of things that can be on the scoreboard, how they got there, and how different participants can use them. This *dynamic* conception of meaning postulates that a sentence’s meaning is how it “updates” the conversational scoreboard. This is used to explain various linguistic phenomena including focus/QUDs, appositives/relative clauses, polarity particles, and even imperatives.

The first linguistic phenomena discussed in this paradigm were *discourse referents* (“drefs”) in Irene Heim’s File-Change Semantics (Heim 1983). Studies on discourse referents characterize (a) what kinds of model-theoretic entities can be introduced into a context, (b) how exactly are they introduced, and (c) how and when can pronouns or other linguistic phenomena refer back to them. Heim discussed (a) *individuals* as drefs, stipulated that (b) these drefs are introduced by indefinites like “a” in English, and (c) pronouns and definite markers like “the” refer back to *already introduced* discourse

referents referring to individuals (Heim 1983).

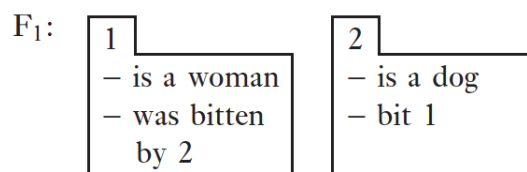
Heim depicted the conversational scoreboard as a set of file-cards, each one for a discourse referent. Predicates describing these entities were written down on the file card corresponding to that entity. Below is a brief example of this kind of system:

(43) Heim’s File-change semantics

F_0 : $\langle \rangle$ (the initial conversational scoreboard is an empty set of file cards)

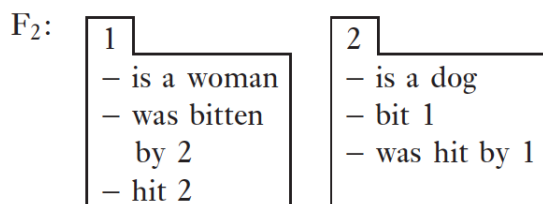
(a) A woman₁ was bitten by a dog₂.

F_1 : $\langle d_1, d_2 \rangle$ (two discourse referents – file cards – introduced by the two indefinites in (a))



(b) She₁ hit it₂.

F_2 : $\langle d_1, d_2 \rangle$ (cards updated of definite entities referred to in (b))



The initial context above is empty, since no discourse referents have been introduced. After (a), two file cards are introduced corresponding to the two drefs “a woman” and “a dog”. Each predicate that applies to these discourse referents is written down on the file card. Note that the relation “2 bit 1” was written down on both file cards: each file card includes everything that applies to it. This is important for our characterization of topic only in its theoretical implications: Heim’s semantics does not distinguish any of these discourse referents as “special”. Of course, the syntax of (a) does not seem to distinguish either of the drefs as special, so there does not seem to be any point in reflecting that on the scoreboard. Indeed, after (b), the new relation between the two entities is written down on both cards. Since the ti’ series presupposes something about the *individual*-type discourse referents already present in a context, this particular representation of discourse seems to be suited for characterizing their semantics.

What are pragmatic topics under this characterization of discourse? It is clear that they cannot be the full set of drefs already introduced, because there would be no point in *establishing* topichood, or *switching* topic. Indeed, the speaker and the addressee should be drefs in any initial contexts: making these entities the topic seems to be giving them a “special” status. Here, previous authors have proposed that the discourse keeps track of a set of “aboutees” that are necessarily a subset of the drefs. Büring (2015) gives us a useful start to this characterization:

... associate a context C with a partial function f_C from individuals to sets of properties, i.e. a set of pairs $\langle x, \Phi \rangle$, where x is an individual (a discourse referent) and Φ is a set of properties. So for any individual i that is part of the context, $f_C(i)$ gives us the set of all properties that are agreed to hold of i . Adding a sentence about i , i.e. a sentence with a Pragmatic Assertion of the form $\langle i, \Phi \rangle$ to the context, results in a new context C' such that $f_{C'}$ is like f_C except that $\phi \in f_{C'}(i)$. Finally, assume that a context C is also associated with a set a_C of aboutees, where a_C is a subset of the domain of f_C . The purpose of this set is to distinguish between individuals that have generally been introduced to the context C (the domain of f_C) and those that are currently ‘under discussion’, a_C . (Büring 2015)

In Q’anjob’al, “aboutees” have particular properties that affect how subsequent sentences are configured. For one, if an individual is an aboutee, it cannot be placed in topic (or anti-topic position for pronouns). Moreover, if an individual is not a discourse referent, it cannot be established as a topic: only *definites* can go in topic position. In addition, I assume that the choice of aboutee(s) affects what kinds of questions and assertions can be said – there is a notion of relevance with respect to the aboutee.⁷⁵ Research on this notion needs to be done in order to give particular predictions about what exactly constitutes “being an aboutee” in Q’anjob’al and other languages.

Note that the set of aboutees can be larger than one. Indeed, like the QUDs in much literature, the TUDs could correspond to a *stack* of drefs, where the top dref on the stack is the current topic under discussion. However, it is unclear to me what the difference between an aboutee that is not the TUD and a normal dref would actually be. For our purposes, then, we will assume there is only one aboutee for every context.

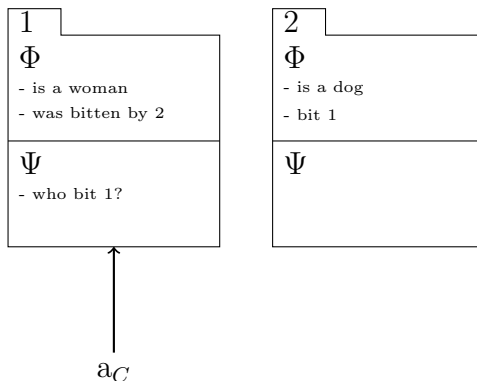
The definition above also only handles assertions, not questions. Questions about discourse referents or the TUD cannot exist in Φ , because they aren’t (in our conception) properties. One way to work questions into this dynamic view is to introduce an “unknown” file card for every *wh*-word, and write down all the alternative properties that could be true of the discourse referents on their file cards.

Of course, this representation of questions is very different from our representation in the last chapter, and requires a lot more time and thought than we have here. For now, questions are associated with each discourse referent that is present in the syntactic form of the question. That is, f_C is a function from discourse referents to a tuple of

⁷⁵For example, the topic under discussion may point to a particular configuration of question under discussion. Compare Büring 2003’s notion of relevance to the QUD.

properties Φ , and questions Ψ . This way a question can be “about” a discourse referent in the same way that an assertion can. A diagram representing this representation is below:

(43') (a) A woman₁ was bitten by a dog₂. (b) She₁ hit it₂. (c) Who bit her₁?



Above, the properties Φ are inscribed on a separate section of the file card from the questions Ψ . Because discourse referent #1 (the woman) was the only one formally present in the question (c), this question is only written down on her file card. Note that the topic under discussion a_C is a pointer to a particular discourse referent (the woman). Our discourse scoreboard is defined as follows:

(44) **Our Discourse Scoreboard:** a context C consists of $\langle f_C, a_C \rangle$, where f_C is a function mapping drefs to a tuple of a set of properties Φ and a set of questions Ψ ; a_C is a particular entity in the domain of f_C . The function $\Phi(f_C(i))$ returns the properties on the file card of i ; the function $\Psi(f_C(i))$ returns the questions on the file card of i .

I define the relation “ m is on the file card of i ” as “ $[[m]] \in_{f_C} i$ ”. This is true if and only if $[[m]] \in \Phi(f_C(i))$ or $[[m]] \in \Psi(f_C(i))$. I also assume that file cards can refer to pluralities of individuals, so that the following formulas can apply equally well to first and second person plural cases.

Now, we turn to the exact operations and constraints that establish first and second person TUDs and contrast them with other discourse referents: a formal characterization of the ti' series in topic and anti-topic.

(45) **Meaning of sentence with a ti' series pronoun in topic (formal):** if α is a pronoun in the ti' series, and m is a proposition or question with a trace j , and α is at the left periphery:

$[[\alpha m]]_C$ maps the context C to a new context C' such that C' is minimally different from C except:

- a. $a_{C'} = \alpha, [[m]]^{g[j/\alpha]} \in_{f_c} \alpha$
- b. $\exists \beta_{contrast} \subseteq \text{Domain}(f_C)$ s.t.
 - i. α is not in $\beta_{contrast}$
 - ii. \exists valid $C'' < f_{C''}, a_{C''} >$ s.t. C'' is minimally different from C except for $a_{C''}$ is in $\beta_{contrast}$ and $[[m]]^{g[j/a_{C''}]} \in_{f_c} a_{C''}$

In prose, a sentence with a *ti'* series pronoun α maps the context C to a new one such that the referent of the pronoun is the new topic under discussion and the following sentence is written on the “file card” of that referent. Moreover, it presupposes that there are a contrastive set of discourse referents $\beta_{contrast}$ (maybe just one) in C that are not the referent of the pronoun, such that one could make a new valid context with an individual in β as the TUD and with the following sentence written on the file card of that individual.

I should explain the informal notion of the *validity* of a context/scoreboard. This is the notion that whatever is on each file card has to make sense given the rest of the information in the context (on the same file card and on others). Indeed, this idea helps us ensure that the *ti'* series in topic position are formally contrasted with a particular subset of discourse referents – ones that could have the following sentence written down on their file card – not any discourse referent. For example, in a situation like (11) with just a speaker and an addressee, the *ti'* series pronoun cannot be used:

- (11) You are walking down an alley alone. Someone is walking down the street towards you, and you get scared, so you say:

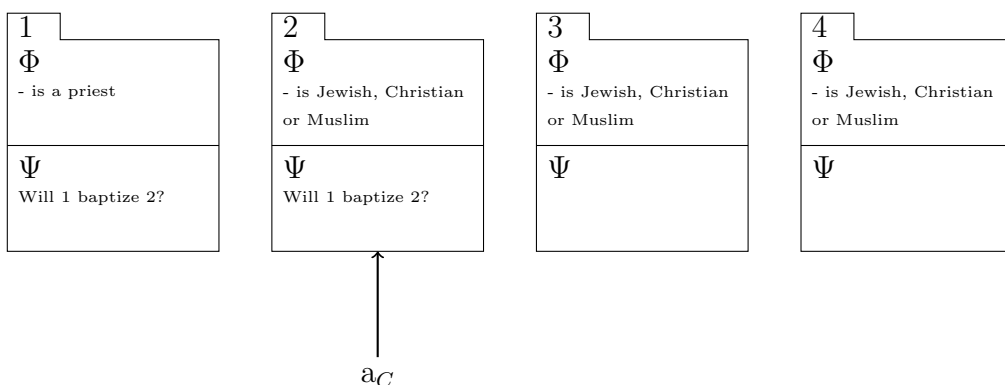
#ayachti' mak=ach=txel?
 Intended: ‘You – who are you?’

Despite the fact that there are two discourse referents here – the speaker and the addressee – the speaker would never ask that question to herself. Thus, a context where the question “who are you?” is written down on the filecard of the speaker is not *valid* and the *ti'* series pronoun cannot be used. Keep in mind that our conception does not disallow *ti'* series in topic in *all* contexts with only two people: our system predicts that if there is a reason to presuppose herself as the sole member of $\beta_{contrast}$, a speaker should be able to use these pronouns.

Below is a pictorial representation using Heim’s file-cards for a particular example, (9). The picture represents the context C' after the question has been asked.

- (9) Context: The priest is in front of a Jewish kid, a Christian kid, and a Muslim kid. He doesn’t know which is which. Can he ask one of them:

hach ti'₂, q=ach₂ w₁a' bautizar?
 As for you₂, I₁ will baptize you₂?:



In this example, $\beta_{contrast}$ intuitively is the set $\{3, 4\}$. This conception aligns with our description because dref #2 is not in this set (b-i), and there exists a valid context C” where, let’s say, dref #3 is the TUD and “Will 1 baptize 2” is written on dref #3’s file card (b-ii).

Note that unlike the conception of “contrastive topic” discussed in chapter four, this definition does not require the speaker to actually go on to inquire about the contrastive entity (as exemplified in (12)). The “strategy” presupposed by Büring’s CT suggests to both discourse participants that they should resolve a series of questions. Here, referring to another potential context C” with someone in $\beta_{contrast}$ as the TUD does not make it necessary for the speaker to ever make it happen. It only presents a contrast. Nevertheless, note how such a pronoun is felicitous in any context where there is a salient “strategy”. In those contexts, there is some non-singleton set of questions organized by entities that are salient in the discourse. In those contexts, α would refer to the entity the current QUD is about, and $\beta_{contrast}$ the set of entities the rest of the questions are about. In CT scenarios, the property or question m could apply to any possible entity in the set that the questions are structured around – C” is valid for any entity in the set. Thus, the presupposition of (45) seems to point to m being a possible resolution of another question. This is why any CT-context where the basic series were felicitous, the ti' series were also felicitous in topic (6), (7), (9), (10). Indeed, since the ti' series are always felicitous in a context with a salient strategy and appear external to the question operator Q, they present an interesting way to ask questions in that strategy in a structured way, seeing as they circumvent the focus-intervention effects discussed last chapter.

Clause (b-ii) is responsible for the exhaustivity implication discussed in section 5.3 (e.g. in sentence (13)). Since the speaker indicated that there are other discourse referent(s) that could’ve been the topic, but did not assert that m applied to those referents, m (probably) does not apply to them, and thus only applies to α .⁷⁶

The echo-question use of topic raises a meta-linguistic issue about the contrastive

⁷⁶This contrastive sense of the ti' series (45b) and exhaustivity implication is reminiscent of the *focus* semantics developed in detail last chapter. Integrating this dynamic conception of discourse with those static semantics by allowing focus interpretation to happen for external topic might be an interesting route for further research.

set $\beta_{contrast}$. For sentence (14) in section 5.3, I translated this use as “you’re talking about me and not you?!” Essentially, this use calls into question the move to establish α as the topic as opposed to some individual in $\beta_{contrast}$.

Lastly, the conjunction *xal* in sentence (31) targets $\beta_{contrast}$:

(31) (Repeated)

ayin ti', x=in-kam yuj ilia. xal=ach?
 PRO.1S DEM COM=B1S-die by sickness and=B2S

‘As for me, I died by sickness. And you?’

Here, *xal=ach* indicates that the addressee is in the contrastive set presupposed by the first sentence, and establishes the addressee as that new aboutee. I leave a complete formal characterization of *xal* and the echo-question for later research.

Anti-topic only does part (a) of (45): it establishes α as the new topic under discussion:

(46) **Meaning of sentence with a *ti'* series pronoun in anti topic (formal):**

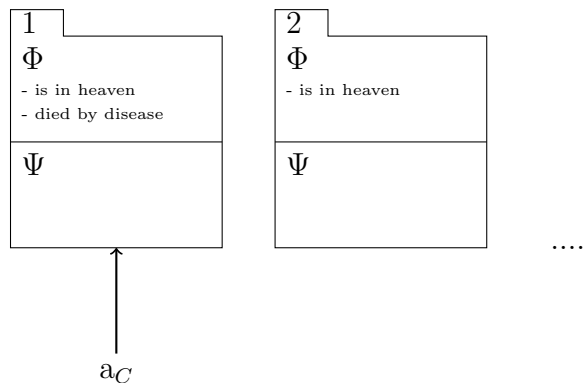
if α is a pronoun in the *ti'* series, and m is a proposition or question, and m contains α (at the end of its nucleus):

$[[m]]_C$ maps the context C to a new context C' such that $a_{C'} = \alpha$ and $[[m]] \in_{fc} \alpha$

Last section noted that this function was probably compositionally contributed by the demonstrative *ti'*. Below is a pictorial representation for the context C' after (23) has been uttered:

(23) Context: The speaker recently died and went to heaven. At the gates, the speaker sits in a circle with other recently deceased people. Everyone is telling each other how they died. The speaker died by a sickness.

xin₁ kam ayin ti'₁ yuj ilia
 ‘I₁ died from a disease.’



The ellipsis above indicates that there are more discourse referents present.

There does not need to be any contrast for speakers to use anti-topic pronouns as exemplified by (30) and (32a). Because of this lack of contrast, there is no exhaustivity implication as exemplified by (28a). Our definition in (46) thus does not include any contrastive presupposition like (45).

Anti-topic pronouns cannot be expressed if speakers are already talking about that entity (27a). One could formulate this as a presupposition in (45) and (46). However, this fact seems to follow from conversational guidelines, rather than anything presupposed by a particular linguistic element:

- (47) **Establish New Topics!** Don't use constructions that establish topichood of an individual x if x is already the topic!

This accounts for why *ayin ti'* cannot be expressed in scenarios where the speaker is already talking about herself (27a), as well as scenarios in which there are only two discourse participants that are presumably talking about themselves (32b).

In contrast, the pragmatics of anti-topic *ti'* series is great in initiatory questions like (32a) because the speaker needs to establish the addressee as an individual she is interested about:

- (32a) Context: One person is following the speaker on the street. Nobody else is on the street. The speaker gets scared, so she asks:

mak=ach=txel ayach ti' ?
WHO=B2S=INT PRO.2S DEM

'Who are you?'

Indeed, the anti-topic use of the pronouns always seemed to be able to appear in sentences meaning 'who are you' or 'who are you all'. These sentences by virtue of their *semantics* always seem to establish one entity (the addressee) as the topic under discussion. Polar questions, in contrast, can be "about" multiple entities, so polar questions with an anti-topic pronoun might allow speakers to ask whether a proposition is true with respect to a particular referent in the sentence (the addressee).

Lastly, *xal* is infelicitous in these scenarios because it cannot target any contrastive referent:

- (31b) (Repeated)
xin kam ayin ti' yuj ilia. #xal=ach?
Intended: 'I died by sickness. And you?'

We thus have before us an intuitive way to get at the pragmatics of the *ti'* series in both locations.

5.8 Implications

In this chapter I discussed perhaps the most interesting use of independent pronouns in Q'anjob'al. This innovation is not exactly language-specific, however. Pronouns looking like the *ti'* series are present in both Popti' and Akatek, the other Proper Q'anjob'alan languages. Insights from this chapter hopefully will apply to these other languages.

This chapter also argued that the *ti'* series and the basic series are representative of two pre-verbal syntactic positions: external and internal topic. These pronouns can be used to differentiate these two positions in further research on the pre-verbal structure of Q'anjob'al.

Third, this chapter showed that these pronouns in topic were 'contrastive', but did not presuppose any kind of discourse strategy. This empirical data may run counter to Constant (2014), which claims that the notion of 'contrastive topic' *qua* 'discourse strategy' exists in many different constructions cross-linguistically. Before calling something a 'contrastive topic', researchers should investigate exactly how it contrasts.

Lastly, this chapter argued that post-verbal set of pronouns (anti-topic) serves a pragmatic function. Like last chapter with focus, I have presented evidence that refutes the notion of a particular sentence position "contributing" a certain kind of pragmatic information that other configurations cannot contribute. Last chapter, I showed that the basic series distribution requires there to be focus interpretation outside of the pre-verbal "focus" position specifically, in the "internal topic" position discussed this chapter. This chapter, I showed that post-verbal pronouns affect the structure of "topic under discussion" in discourse: it is not just the left-peripheral "topic" position that contributes this information. That isn't to say that these structural positions and pragmatic functions aren't *correlated* in the language, but they clearly do not have a one-to-one relationship.

6 Conclusion

In this thesis I have argued that the "independent pronouns" in Q'anjob'al are not really "pronouns" insofar as they do not have the same distribution as third person nominals or third person pronouns in the language. In fact, what are called the "independent pronouns" are actually several distinct lexical items.

First, there are the pronouns of personal location, which synchronically decompose into *ay* and the Set B person-markers. Secondly, there are the prepositional pronouns, which are historically related to Q'anjob'al's general-purpose preposition, *b'ay*. These pronouns have the exact same distribution and range of meanings as *b'ay* phrases (with third person nominals). Thirdly, the emphatic uses of the basic series pronouns correspond to the focus marker *a* and the Set B markers: these pronouns have the same distribution and meaning as *a* + third person. Lastly, the *ti'* series pronouns are related to *a*, but have a different distribution and semantics than the particle currently has in

the language.

As one has hopefully seen in chapters 4 and 5, the emphatic pronouns tell us a lot about the pragmatic functions of the topic and focus position, as well as pre-verbal sentence structure in Q'anjob'al. Hopefully this investigation has illustrated why the relationship between syntax, pragmatics, and morphology is so interesting in these languages.

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