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THEMATIC ARTICLE

The syntax of quantifiers in Chuj

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Abstract
This paper provides a novel description and syntactic analysis of different types of quantifiers in Chuj, an underdocumented Mayan language. We focus on a subset of expressions that quantify over entities, and that have been noted to appear obligatorily in sentence-initial position. We argue that three types of quantifiers should be distinguished: (i) *Predicative A-quantifiers*, which occur sentence-initially because Chuj is a predicate-initial language; (ii) *Focus D-quantifiers*, which occur sentence-initially because they are lexically specified for an [A′] feature; and (iii) *Basic D-quantifiers*, which, lacking an [A′] feature, have no effects on the syntactic position of their host arguments. We also sketch syntactic analyses of each type of quantifier.

Keywords: Syntax; Quantifiers; Mayan; Predication; A′-movement

Résumé
Cet article propose une description et une analyse syntaxique de différents types de quantificateurs en chuj, une langue maya sous-documentée. Nous nous concentrons sur un sous-ensemble de quantificateurs qui apparaissent systématiquement en position initiale de la phrase. Nous soutenons qu'il convient d'en distinguer trois types : (i) les *quantificateurs prédicatifs*, qui apparaissent en position initiale parce que le chuj est une langue à prédicat initial ; (ii) les *déterminants quantificationnels d'emphase*, qui occupent cette position parce qu'ils portent un trait [A′] ; et (iii) les *déterminants quantificationnels de base*, qui, ne portant pas de trait [A′], n'affectent pas la position syntaxique de leurs arguments. Nous proposons également des analyses syntaxiques pour chaque type de quantificateur.

Mots-clés: Syntaxe; Quantificateurs; Maya; Prédication; Mouvement A′

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1. Introduction

Certain classes of linguistic expressions are characterized by distinctive syntactic distributions.[1] Interrogative phrases are a canonical example: in a survey of content questions in 902 languages, Dryer (2013) finds that approximately a third of the world's languages require interrogative phrases to appear at the left periphery. Other kinds of expressions that have been noted to trigger phrasal displacement include (i) focus sensitive items (see e.g. Branan and Erlewine 2023), (ii) certain kinds of definite expressions (e.g., Germanic languages: Holmberg 1986, Diesing and Jelinek 1995; Ch'ol: Coon 2010, Little 2020a), and (iii) certain types of quantifiers (e.g., Hungarian: Kiss 1991, Szabolcsi 1997; Chamorro: Chung 1998; Garifuna: Barchas-Lichtenstein 2012; Mixtec: Ostrove 2018).

This article adds to this literature by providing a novel description and analysis of quantificational expressions in Chuj (Mayan), with a focus on the syntactic position of the arguments that host them. As briefly noted in previous work (Coon et al. 2021; Alonso-Ovalle and Royer 2022, 2024), as well as for the related language Q'anjob'al (O'Flynn 2017), a subset of Chuj quantificational expressions appear at the clause's left periphery. For example, in (1) and (2), the bolded quantificational arguments are prohibited from appearing *after* the verb. Moreover, Chuj's morphology indicates that the quantified agent in the (a) examples has undergone A′-extraction: Agent Focus (AF) morphology (*-an*) arises on the verb whenever a transitive subject is A′-extracted (Buenrostro 2004, 2013, 2021; Coon et al. 2014; Royer 2025).

(1) a. ✓ **Tzijtum heb' ix ix** ix-il-an winh winak.
many PL CLF woman PFV-see-AF CLF man
'Many women saw the man.'

b. * Ix-y-il winh winak **tzijtum heb' ix ix**.
PFV-A3-see CLF man many PL CLF woman

(2) a. ✓ **Masanil heb' ix ix** ix-il-an winh winak.
all PL CLF woman PFV-see-AF CLF man
'All of the women saw the man.'

b. ?? Ix-y-il winh winak **masanil heb' ix ix**.
PFV-A3-see CLF man all PL CLF woman

From a Mayan perspective, the unacceptability of quantified DPs in postverbal positions is unexpected. Mayan languages (England 1991, Aissen 1992, Clemens and Coon

[1] Abbreviations: A: "Set A" (ergative/possessive); ADV: adverbial particle; AF: agent focus; B: "Set B" (absolutive); C: complementizer; CLF: noun classifier; DEIX: Deixis; DEP: dependent clause marker; DIR: directional; DTV: derived transitive status suffix; DUB: dubitative marker; EXT: existential; FOC: focus; INDF: indefinite; IPFV: imperfective; IV: intransitive status suffix; JANTAK: the quantifier jantak; MASC: masculine; NEG: negation; PFV: perfective; PL: plural; PREP: preposition; PRON: pronoun; PROSP: prospective; PV: preverbal DP marker; Q: question; REL: relativizer; S: singular; STAT: stative suffix; TOP: topic; TV: transitive status suffix. Glosses in examples from other sources have been modified in some cases for consistency, and translations from Spanish to English are our own.

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2018, Little 2020b), Chuj included, exhibit verb-initial word order in discourse neutral contexts (3):

(3) Ix-y-il winh winak **heb' ix ix**.
PFV-A3-see CLF man PL CLF woman
'The women saw the man.' (Basic word order: VOS)

Against these empirical facts, this article aims to answer the following questions about the nature of Chuj quantificational expressions, and their effects on the position of nominal arguments:

Q1 Why must some quantifiers appear in a sentence-initial position?
Q2 If any, what kind of movement operations are involved to derive the initial position of the quantifiers in sentences like (1a) and (2a)?
Q3 How are sentence-initial quantifiers formally distinguished from other expressions, including other quantifiers, that do not have to occur in this position?

After providing relevant background on Chuj in section 2, the rest of the article advances three main proposals, shedding light on all three questions above. In doing so, this article also contributes to the overall understanding of Chuj's quantifier inventory, a topic that remains heavily understudied in Mayan linguistics as a whole (Henderson 2016).

In section 3, we first establish that despite their surface similarity, the sentences in (1) and (2) involve two different sub-classes of Chuj quantifiers. In particular, a number of syntactic diagnostics lead us to make the following empirical claims:

(4) **Proposal 1** – "Sentence-initial quantifiers" form a heterogeneous class:
   a. *Tzijtum* 'many' in (1) is an *A-quantifier*, more specifically a nonverbal predicate.
   b. *Masanil* 'all' in (2) is a *D-quantifier*, more specifically a quantificational determiner.

In other words, despite the fact that sentences containing *tzijtum* and *masanil* look identical on the surface – as shown in (1) and (2) – we argue that they exhibit an entirely different syntax. Our use of "A-quantification" versus "D-quantification" is based on terminology used in previous work, including Partee (1995), Keenan and Paperno (2012), and Davis and Matthewson (2019). Specifically, we use "D-quantifiers" to refer to quantificational items that are syntactically contained within the extended nominal domain, and "A-quantifiers" to refer to those that fall outside the nominal domain (e.g., verbs, predicates, auxiliaries, adverbs). Importantly, both D- and A-quantifiers can semantically quantify over entities, the type of quantification we focus on here.

In section 4, we turn to a novel syntactic analysis of quantifiers like *tzijtum*, taking into account the observation from section 3 that this item belongs to a class of nonverbal predicates. Our analysis is based on Mateo Toledo's (2012) and Coon's (2014)

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approaches to nonverbal predication in other Mayan languages, as well as on Coon et al.'s (2014) and Coon et al.'s (2021) analysis of Mayan extraction and relativization. A simplified syntax for (1), paraphrased with English, is provided in (5). Quantifiers like *tzijtum* 'many' are nonverbal predicates that require a DP argument. When this argument is a transitive subject heading a relative clause, as in (1), Agent Focus is triggered on the verb (Bielig 2015, Royer 2025):

(5) **Proposal 2: the syntax of *tzijtum* 'many' in Chuj** → syntax for (1)

$[_{\text{PredP}}$ *tzijtum* $[_{\text{CP}}$ $[_{\text{DP}}$ the people $]_1$ that saw-AF the man $__{}_1$ $]]$

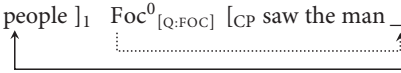
Literal translation: 'The people that saw the man are many.'

In proposing a predicative analysis of this quantificational expression, our analysis diverges from a previous analysis of this same item in Kotek and Erlewine (2019), which identified *tzijtum* as part of a DP. It also diverges from O'Flynn's (2017) treatment of *xiwil* 'many' in Q'anjob'al, which likewise analyzes it as a D-quantifier. On the other hand, our analysis aligns with Mateo Toledo's (2012) approach to *xiwil* in Q'anjob'al, which also treats it as a nonverbal predicate.

Section 5 then turns to a syntactic analysis of *masanil* 'all' in sentences like (2). We first show that the behaviour of quantifiers like *masanil* is distinct from that of other D-quantifiers in the language, which typically appear in regular postverbal argument positions. Building on previous work on related phenomena (Horvath 2007, Cable 2010, Hedding 2025, Branan and Erlewine 2023), we argue that the subset of D-quantifiers that show a strong preference for appearing in sentence-initial positions do so because these quantifiers are sensitive to focus alternatives. We implement this by adopting an analysis of *masanil* as lexically associated with an A′-feature, which we analyze as a general [Q] feature in the context of Cable (2010). As such, *masanil* DPs are eligible goals for the Q-probe on Foc in the left periphery, forcing movement to [Spec, FocP]:

(6) **Proposal 3: the syntax of *masanil* 'all' in Chuj** → syntax for (2)

$[_{\text{FocP}}$ $[_{\text{QP[Q:FOC]}}$ *masanil* people $]_1$ $\text{Foc}^0{}_{[\text{Q:FOC}]}$ $[_{\text{CP}}$ saw the man $__{}_1$ $]]$



As we will argue, only a select subset of D-quantifiers carry the [Q] feature, and as such, most D-quantifiers in the language do not have to appear in a sentence-initial position.

Finally, section 6 concludes with a discussion of important topics for future work.

2. Chuj clausal syntax and the left periphery

This section establishes some background on Chuj. We start in section 2.1 with basic information about the language of study in this work, San Mateo Ixtatán Chuj, and the methodology we employed in the collection of data. We then provide a brief description of Chuj clausal syntax in section 2.2, and of its left periphery in section 2.3.

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2.1 Chuj data and methodology

The main language of study in this paper is Chuj, a language belonging to the Q'anjob'alan sub-branch of Mayan languages (Kaufman 1974, Law 2014).[2] Chuj currently has roughly 95,000 speakers, primarily located in the Department of Huehuetenango in Guatemala and in the State of Chiapas in Mexico, but also in diaspora communities across North America (Maxwell 1993, Hopkins 2021, Kaplan, 2021, Royer et al. to appear). There are two principal dialects of Chuj: San Mateo Ixtatán and San Sebastián Coatán.

All of the data we present in this paper come from the San Mateo Ixtatán dialect, under two principle sources. First, some of the data come from original fieldwork conducted by two of the authors, Cristina Buenrostro and Justin Royer, using a theoretically-driven fieldwork methodology (Matthewson 2004, Bowern 2008, Tonhauser and Matthewson 2016, Bochnak and Matthewson 2020). Second, other data come from segments of Mateo Pedro and Coon's (2018) collection of Chuj narratives, available on the *Archive of the Indigenous Languages of Latin America* (AILLA; ailla.utexas.org). Examples taken from texts are indicated with "txt".

2.2 Basic clausal syntax and (non-)verbal predication

Like other Mayan languages (England 2001, Coon 2016a, Aissen et al. 2017), Chuj is an ergative-absolutive, head-marking language, and exhibits predicate-initial word order in discourse neutral contexts. An example showing these properties is provided below:

(7) Ix-s-man [$_{Obj}$ jun te' onh] [$_{Subj}$ ix Malin].
PFV-A3-buy INDF CLF avocado CLF Malin
'Malin bought an avocado.'

We follow Mayanist tradition in referring to ergative morphemes as "Set A" (which also track possessors in the nominal domain), and absolutive morphemes as "Set B". Notice that Set B is not represented in (7), because third person Set B (singular and plural) has no overt phonological manifestation; examples with overt Set B are provided below:

(8) a. Ix-**onh**-a-yam-a'.
PFV-B1P-A2S-grab-TV
'You grabbed us.' (Set B indexing the transitive object)

b. Ix-**onh**-way-i.
PFV-B1P-sleep-IV
'We slept.' (Set B indexing the intransitive subject)

Note that both verb stems in (8) bear "status suffixes" (*-a'* and *-i* in the above examples), which indicate information about transitivity and mood in Mayan (Coon 2016a, Aissen et al. 2017). As apparent in (7), some status suffixes disappear in certain environments; these only appear when they are at the right edge of intonational phrases or when their absence would lead to illicit consonant clusters (Royer 2022b).

[2]For additional information about Chuj, including grammars, see Hopkins (1967, 2021), Maxwell (1982), García Pablo and Domingo Pascual (2007), Buenrostro (2013), and Royer et al. (2022).

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Nonverbal predicates (NVP), which contrast with verbal predicates in systematically lacking tense-aspect morphology (Grinevald and Peake 2012, Coon 2016b), also appear at the beginning of the sentence. This is the case regardless of whether the predicate is nominal (9a), adjectival (9b), stative (9c), or existential (9d). Chuj does not have an overt copula.

(9) Nonverbal predication in Chuj

a. **Sonum** ix.
marimbista she
'She is a marimbista.'

b. **Te-junk'olal** ix.
very-happy she
'She is very happy.'

c. **Pitz-an** ix.
wake.up-STAT she
'She is awake.'

d. **Ay** jun ix t'atik.
EXT one woman here
'There's a woman here.'

2.3 Topic and focus

While Chuj exhibits predicate-initial word order in discourse neutral contexts, preverbal arguments are very common. This fact will prove relevant for the purposes of the current article, since, as will be shown later, a subset of Chuj quantificational expressions must appear in sentence-initial position in Chuj. An understanding of the Chuj left periphery is thus necessary to properly diagnose the syntax of its quantifiers.

As has been widely noted for many languages of the Mayan family (see e.g. Aissen 1992, 2017b, 2023; Coon 2016a), the left periphery is generally used to signal information structural statuses of the elements of the clause. In Chuj, there are two main types of preverbal arguments: foci and topics. We discuss both in turn below.

Topics in Chuj show the following properties: (i) occurrence at the left periphery, (ii) obligatory coindexation with a postverbal resumptive classifier pronoun (as is the case in other Q'anjob'alan languages; see e.g. Craig 1977, Datz 1980, Aissen 2000), and (iii) the presence of a significant prosodic break immediately after the topic (indicated in examples with a comma; see Royer 2022b on the prosody of topics in Chuj). Examples of subject and object topics are provided below:

(10) a. Ha **ix** **Axul**$_1$, ix-in-y-il **ix**$_1$.
PV CLF Axul PFV-B1S-A3-see she
'As for Axul, she saw me.' (subject topic)

b. Ha **ix** **Axul**$_1$, ix-w-anht-ej **ix**$_1$.
PV CLF Axul PFV-A1S-cure-DTV her
'As for Axul, I cured her.' (object topic)

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As further shown in (10), topics must occur with the marker *ha*, which we follow Bielig (2015) in glossing "PV" for 'preverbal DP marker'.[3] We use this term because foci, which we turn to now, also require this morpheme.

While foci also appear at the left periphery with *ha*, two morphosyntactic facts make it possible to distinguish them from topics. First, unlike topics, foci never trigger resumption. This is shown for both subject and object foci in (11). Second, focused transitive subjects, as in (11a), require a special verb form called "Agent Focus" (see e.g. Coon et al. 2014; Aissen 2017a, 2017b). While such verbs always take two semantic arguments, they are syntactically intransitive. In particular, they (i) lack Set A (ergative) agreement, (ii) show Agent Focus voice morphology on the verb stem (*-an*), and (iii) appear with an intransitive status suffix (11a) (visible only when the verb is final in the intonational phrase; Royer 2022b):

(11) a. Ha **ix** **Axul** ix-in-il-**an**-i.
PV CLF Axul PFV-B1S-see-AF-IV
'It's Axul who saw me.' (agent focus; no Set A, *-an* suffix)

b. Ha **ix** **Axul** ix-w-anht-ej.
PV CLF Axul PFV-A1S-cure-DTV
'It's Axul whom I cured.' (object focus)

In discussing foci, it is important to distinguish between cases of 'contrastive focus' versus 'new information focus'. As has been observed for a range of other Mayan languages (see e.g. Aissen 2017b and citations therein), contrastively focused arguments *must* appear at the left periphery. In other words, they cannot be focused *in situ*. As shown below, Chuj is no exception. Contrastively focused DPs cannot felicitously be interpreted in their *in situ* postverbal position:

(12) **Context**: The speaker is shown a picture in which Xun has an apple, Xapin has a banana, and Kixtup has nothing.

a. ¿To-m [$_{Foc}$ **ha waj Xapin**] yet'-nak te' manzan, yel?
C-DUB PV CLF Xapin with-STAT CLF apple right
'It's *Xapin* who has the apple, right?'

b. Ma'ay, [$_{Foc}$ **ha waj Xun**] yet'-nak te'.
no, PV CLF Xun with-STAT CLF.PRON
'No, it's Xun who has it.'

c. # Ma'ay, yet'-nak te' [$_{Foc}$ **waj Xun**].
no, with-STAT CLF.PRON CLF Xun
Intended: 'No, *Xun* has it.'

[3]Note that the "preverbal marker" *ha* is never possible on postverbal arguments in Chuj.

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(13) **Context:** You think I saw Lukax. But in reality, I didn't see Lukax, I saw Kixtup.

a. [$_{\text{Foc}}$ **Manhoklaj waj Lukax**] ix-w-il-a'.
NEG.FOC CLF Lukax PFV-A1S-see-TV
'It wasn't Lukax who I saw.'

b. [$_{\text{Foc}}$ **Ha waj Kixtup**] ix-w-il-a'.
PV CLF Kixtup PFV-A1S-see-TV
'It was Kixtup who I saw.'

c. # Ix-w-il [$_{\text{Foc}}$ **waj Kixtup**].
PFV-A1S-see CLF Kixtup
Intended: 'I saw *Kixtup*.'

While DP arguments must appear preverbally, there is more flexibility with regards to the position of non-arguments. PPs, for example, can be interpreted with contrastive focus when occurring postverbally:

(14) **Context:** You thought that Telex will be moving to B'ulej, but she'll actually be moving to Yalamb'ojoch.
Ol-b'at kan ix Telex [$_{\text{Foc}}$ **t'a Yalamb'ojoch**], manhoklaj
PROSP-go DIR.stay CLF Telex PREP Yalamb'ojoch NEG.FOC
t'a B'ulej.
PREP B'ulej
'Telex will be moving *to Yalamb'ojoch*, not to B'ulej.'

The same is also true of possessor DPs in possessive phrases:

(15) **Context:** You seem to think Malin's daughter will get married, but that's wrong, because Xuwan's daughter is the one getting married.
Ol-nupnaj ix y-une' [$_{\text{Foc}}$ **ix Xuwan**], manhoklaj ix
PROSP-marry CLF A3-duaghter CLF Xuwan NEG.FOC CLF
y-une' ix Malin.
A3-daughter CLF Malin
'*Xuwan*'s daughter is getting married, not Malin's daughter.'

Previous work on focus in Mayan distinguishes contrastive foci from new information foci, as they commonly show different syntactic profiles. In particular, this work shows that, contrary to arguments with contrastive foci, *in situ* arguments can be interpreted (to varying degrees) with new information focus. Some languages, such as Tsotsil (Aissen 2017b), freely allow *in situ* arguments to have new information focus; others, such as K'iche' (Velleman 2014) and Yucatec Maya (Verhoeven and Skopeteas, 2015), allow all types of arguments to have new information focus *in situ*, except external arguments, which must be in the same preverbal focus position as contrastively-focused expressions.

Interestingly, Chuj seems to show a third possibility: as far the morphosyntax is concerned, all types of foci are treated equally. This is shown in the following

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question-answer pairs, a canonical diagnostic for new information focus. For both external (16) and internal (17) arguments, we see that new information foci must appear pre-verbally:

(16) a. ¿Mach ix-man-an anh paj'ich?
who PFV-buy-AF CLF tomato
'Who bought the tomatoes?'

b. ✓ [$_{Foc}$ **Ha waj Xun**] (ix-man-an anh).
PV CLF Xun PFV-buy-AF CLF.PRON
'It was Xun (who bought them).'

c. # (Ix-s-man anh) [$_{Foc}$ **waj Xun**].
PFV-A3-buy CLF.PRON CLF Xun
Intended: '*Xun* (bought them).'

(17) a. ¿Tas ix-s-man waj Xun?
what PFV-A3-buy CLF Xun
'What did Xun buy?'

b. ✓ [$_{Foc}$ **Ha anh paj'ich**] (ix-s-man winh).
PV CLF tomato PFV-A3-buy CLF.PRON
'It was tomatoes (that he bought).'

c. # (Ix-s-man winh) [$_{Foc}$ **anh paj'ich**].
PFV-A3-buy CLF.PRON CLF tomato
Intended: '(He bought) *tomatoes*'

Note that the parentheses in (16b) and (17b) indicate optionality. In other words, even when providing a fragment answer, speakers require the use of *ha*, a marker which essentially signals occurrence at the left periphery. This suggests that new information focus in Chuj, at least for arguments, must always be expressed by means of a focus construction.

As with contrastive foci, new information foci can sometimes remain *in situ*, specifically when the focused element is not a main argument of the verb. Again, this is the case for PPs (18) and possessors (19). In the case of possessors, displacement of the possessor triggers pied-piping of the entire possessive phrase (19c).

(18) a. ¿B'ajt'il ix-b'at kan waj Xun?
where PFV-go DIR.stay CLF Xun
'Where did Xun move?'

b. ✓ (Ix-b'at kan winh) [$_{Foc}$ **t'a Yalamb'ojoch**].
PFV-go DIR.stay CLF.PRON PREP Yalamb'ojoch
'(He moved) *to Yalamb'ojoch* .'

c. ✓ [$_{Foc}$ **T'a Yalamb'ojoch**] ix-b'at kan winh.
PREP Yalamb'ojoch PFV-go DIR.stay CLF.PRON
'*To Yalamb'ojoch* he moved.'

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(19) a. ¿Mach y-une' ix ix-h-il chi'?
who A3-child CLF.PRON PFV-A2S-see DEIX
'Whose daughter did you see?'
(Lit: 'Whose daughter is that who you saw?')

b. ✓ (Ix-w-il [$_{DP}$ ix y-une') [$_{Foc}$ **ix** **Xuwan**]].
PFV-A1S-see CLF A3-child CLF Xuwan
'(I saw) *Xuwan*'s (daughter).'

c. ✓ [$_{DP}$ Ha ix y-une' [$_{Foc}$ **ix** **Xuwan**]] ix-w-il-a'.
FOC CLF A3-child CLF Xuwan PFV-A1S-see-TV
'It was *Xuwan*'s daughter that I saw.'

It is also worth noting that *ix Xuwan*, without *ha*, can serve as a fragment answer to the question in (19), offering further support that the possessor does not need to be moved.

In sum, the distribution of focused DPs in Chuj – regardless of whether the focus is interpreted as contrastive or new information – can be summarized as follows:

(20) Focused XPs, contrastive and new information alike...
a. must be in the left peripheral focus position when DP arguments of the verb;
b. can be in their *in situ* postverbal position otherwise.[4]

Finally, it is important to note that the Chuj focus position also hosts *wh*-expressions in interrogative clauses (21a), nominal expressions modified by the focus-sensitive item *nhej* 'only' (21b), and the head of relative clauses (21c). As in other languages, *wh*-expressions must be in focus position in order to trigger interrogative meaning, even in echo questions (see also AnderBois 2017 and Caponigro et al. 2021 on other Mayan languages).[5]

(21) a. [$_{Foc}$ **Mach**] ix-ach-chel-an-i?
who PFV-B2S-hug-AF-IV
'Who hugged you?' (*wh*-question)

b. [$_{Foc}$ Ha-**nhej** waj Xun] ix-in-il-an-i.
PV-only CLF Xun PFV-B1S-see-AF-IV
'Only Xun saw me.' (only)

c. W-ojtak [$_{Foc}$ **ix** **ix** [ix-ach-chel-an-i]].
A1S-know the woman PFV-B2S-hug-AF-IV
'I know the woman who hugged you.' (relative clause)

[4] Assuming thar *wh*-words are a type of 'new information' focus, we note here that these expressions do not abide by this generalization. That is, all *wh*-items, be them main arguments or adjuncts, must appear in focus position.

[5] Kotek and Erlewine (2019) report that echo question interpretations are possible when *wh*-items remain in situ. We have not been successful in corroborating this fact with the speakers we have consulted. Echo questions are also reported as impossible for many other Mayan languages (see e.g. Aissen 1996, Curiel Ramírez del Prado 2017, AnderBois and Chan Dzul 2021, Mateo Toledo 2021, Polian and Aissen 2021, Vázquez Álvarez and Coon 2021).

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Turning now briefly to the relative syntactic positions of topics and foci, we note that their order is not free. As shown below, topics are always ordered before foci (Bielig 2015).

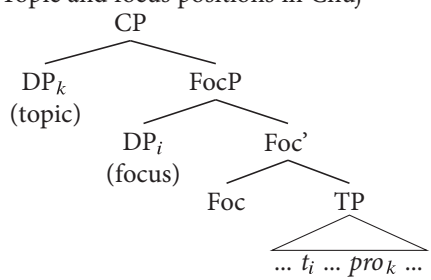
(22) Topics are strictly ordered before foci

a. [$_{\text{Top}}$ Ha ix Malin]$_1$, [$_{\text{Foc}}$ **ha waj Xun**] ix-il-an ix$_1$.
PV CLF Malin PV CLF Xun PFV-see-AF she
'As for Malin, it was Xun who saw her.'

b. *[$_{\text{Foc}}$ **Ha waj Xun**] [$_{\text{Top}}$ ha ix Malin]$_1$, ix-il-an ix$_1$.
PV CLF Xun PV CLF Malin PFV-see-AF she

Building on Aissen (1992) and Bielig (2015), and based on the data seen above, we adopt the extended syntax in (23). Specifically, we assume that topics are base-generated in a peripheral position to the left.[6] Foci, on the other hand, are A′-extracted into the focus position (see Coon et al. 2014, 2021 and Aissen 2017b on this analysis of Mayan focus):

(23) Topic and focus positions in Chuj



Having provided a description of Chuj clause structure, we are now in a position to provide a syntactic description of its quantifiers. As highlighted in the introduction to this article, we will show that distinct quantifiers must appear sentence-initially for different reasons: while some are sentence-initial because they are nonverbal predicates, others must appear sentence-initially due to a requirement that they appear in focus position.

[6]Topics can in fact also appear to the right; see for example Maxwell (1987), Royer (2022b). Since right topics will not play a role in this article, we will not discuss them here.

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3. Sentence-initial quantifiers: D-quantifiers vs A-quantifiers

We now turn to the main topic of this paper: the fact that a subset of Chuj quantificational items seem, at least on the surface, to require their host argument to appear at the clause's left periphery.[7]

Recall the first two examples from the introduction, repeated below.

(24) a. ✓ **Tzijtum heb' ix ix** ix-il-an winh winak.
many PL CLF woman PFV-see-AF CLF man
'Many women saw the man.'

b. * Ix-y-il winh winak **tzijtum heb' ix ix**.
PFV-A3-see CLF man many PL CLF woman

(25) a. ✓ **Masanil heb' ix ix** ix-il-an winh winak.
all PL CLF woman PFV-see-AF CLF man
'All of the women saw the man.'

b. ?? Ix-y-il winh winak **masanil heb' ix ix**.
PFV-A3-see CLF man all PL CLF woman

While the data in (24) and (25) show quantified subjects, we also note here that the exact same facts hold of quantified *objects*. Data comparable to those in (24) and (25), but with *tzijtum* and *masanil* now quantifying over the object, are provided below:

(26) a. ✓ **Tzijtum heb' winh winak** ix-y-il ix ix.
many PL CLF man PFV-A3-see CLF woman
'The woman saw many men.'

b. * Ix-y-il **tzijtum heb' winh winak** ix ix.
PFV-A3-see many PL CLF man CLF woman

[7] Note that the expression *masanil* has different uses, and we only focus on one of these uses here. Other uses include ones in which *masanil* appears as a 'floated quantifier', typically in any of the positions occupied by low adverbs in the language (see Royer 2025):

(i) Ix-s-b'o' [ixim wa'il] {**masanil**} [waj Xun] {**masanil**}.
PFV-A3-buy CLF tortilla all CLF Xun all
'Xun made all the tortillas.'

Moreover, *masanil* can also be used in a special construction in which the quantifier appears as a possessed nominal (see Little 2018 and Henderson 2021 on this construction in Ch'ol and Kaqchikel, respectively). We follow Little (2022) on an equivalent construction in Ch'ol in assuming that the quantifier in this case is the head noun of an adjoined possessive phrase, whose possessor is a null pronoun coindexed with one of the main arguments of the verb, as in (ii). In Ch'ol, the adjunct status of the possessed quantifier is even clearer, given that it must bear a preposition; see for example Little (2022: 499).

(ii) Ix-s-b'o' [ixim wa'il]$_1$ waj Xun, [$_{PossP}$ s-**masanil** *pro*$_1$].
PFV-A3-make CLF tortilla CLF Xun A3-all PRON
Literally: 'Xun made the tortillas, all of them.'

Crucially, in both cases, *masanil* can appear postverbally. Therefore, it is only in its prenominal uses, such as in (25), that the quantifier triggers displacement. We leave an investigation of other uses of quantifiers for future work.

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(27) a. ✓ **Masanil heb' winh winak** ix-y-il ix ix.
all PL CLF man PFV-A3-see CLF woman
'The woman saw all of the men.'

b. ?? Ix-y-il **masanil heb' winh winak** ix ix.
PFV-A3-see all PL CLF man CLF woman

Again, the fact that these quantificational expressions cannot appear in postverbal position is unexpected. As seen in the previous section, Chuj is a verb-initial language. Moreover, notice the presence of the Agent Focus morpheme *-an* on the verb in both (24) and (25). Keeping to our analysis of the Chuj focus construction in section 2, this means that the agent DP – i.e., the one being quantified over – must have been A′-extracted. What, then, explains the fact that these expressions must be sentence-initial?

It is important to mention at this point that while the utterances like (24b) or (26b) (with the quantifier *tzijtum*) are consistently judged as unacceptable by our collaborators, this is not clearly the case for the sentence in (25b) and (27b) (with the quantifier *masanil*). We have chosen to mark the utterances in (25b) and (27b) as "strongly degraded" for the following reasons. First, speakers do not themselves offer postverbal arguments modified by *masanil*, even when discourse neutrality is controlled for. Second, when prompted with sentences like (25b) or (27b), speakers vary considerably in their judgements. For example, when asked to judge the acceptability of a sentence like (25b) on a scale of 1 to 5 (1 = clearly unacceptable, 5 = perfectly acceptable), most judge the utterance as a "2" or "3". However, depending on the speaker, judgements have varied from "1" to "5". We have also not been able to identify contexts that would make the use of postverbal *masanil* more pragmatically acceptable. The judgements are therefore much weaker than with *tzijtum*, which consistently receives a judgement of "1" when appearing postverbally (as in (24b) or (26b) above).[8]

Corpus findings also support the idea that *masanil* is strongly preferred sentence-initially. The results in Table 1 were extracted from a collection of 17 narratives from different speakers of the San Mateo Ixtatán dialect of Chuj (Mateo Pedro and Coon

[8]Kotek and Erlewine (2019) present one example, from elicitation, suggesting that *tzijtum* can appear immediately following a verb. We cite this example as ungrammatical here:

(i) * Ix-w-il tzijtum mach heb' winh unin ix-ul ek'-i.
PFV-A1S-see many who PL CLF child PFV-come DIR.pass-IV
'I saw the many boys who came.'

(noted as grammatical in Kotek and Erlewine 2019: 93)

This sentence, as noted, is consistently judged unacceptable by all of our collaborators. We believe there may have been a confound in judgements with the following construction, where *tzijtum* is part of an embedded CP. In such cases, however, *tzijtum* is still at the left of the embedded verb.

(ii) Ix-w-il-a' [$_{CP}$ to tzijtum mach heb' winh unin ix-ul ek'-i].
PFV-A1S-see-TV COMP many who PL CLF child PFV-go DIR.pass-IV
'I saw that many boys came.'

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Table 1. Position of *masanil* within corpora of San Mateo Ixtatán Chuj

Position of *masanil*	Preverbal	Postverbal
Subject	22	0
Object	25	0
Oblique	8	18
Right side topic, subject	N/A	1

2018). As the table shows, when *masanil* modifies a DP subject or object, it is consistently in a preverbal position. When modifying oblique arguments, on the other hand, both preverbal and postverbal positions are attested. As we will see, this will be an important point of difference between *masanil* 'all' and *tzijtum* 'many', since the two behave differently with regards to oblique arguments.

We are now ready to tackle the question of why *tzijtum* 'many' and *masanil* 'all' must appear sentence-initially. Given the Chuj background in section 2, we can entertain at least two analytical possibilities. On the one hand, it could be that (24) and (25) contain *A-quantifiers*, specifically expressed via nonverbal predication. Quantification expressed via nonverbal predication is common across the world's languages, especially for Indigenous languages of North America (see e.g. Davis and Matthewson 2019 and references therein). Under such a theory, the sentence-initiality of the quantifier would fall out immediately from the fact that Chuj is a predicate-initial language. The presence of Agent Focus morphology on the verb stem would result from agent relativization:

(28) The A-quantifier option:
[$_{\text{PredP}}$ QUANT [$_{\text{CP}}$ [$_{\text{DP}}$ the people]$_1$ that saw-AF the man __$_1$]]
Literal translation: 'The people that saw the man are QUANT.'

The second option would be one in which the quantifier is a *D-quantifier*, and thus part of a DP. Under this account, such a DP would, for some reason or other, have to be in focus position. The behaviour of the quantifier in this case would be reminiscent of the behaviour of *wh*-items, which also trigger phrasal displacement:

(29) The D-quantifier option:
[$_{\text{CP}}$ [$_{\text{DP}}$ QUANT people]$_1$ Foc^0 [$_{\text{CP}}$ saw the man __$_1$]]
Literal translation: 'QUANT people saw the man.'

In the rest of this section, we argue that despite their superficial similarities, the quantifiers in (24) and (25) do not in fact belong to a homogeneous class. Based on several syntactic diagnostics, we argue that both options in (28) and (29) are needed, but for different quantificational expressions. Our main proposal is the following:

(30) **Proposal**

While *tzijtum* 'many' is an A-quantifier (28), *masanil* is a D-quantifier (29).

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The discussion is structured around the predictions made by each analytical possibility, starting with predictions of predicative status in section 3.1, and turning to those of DP status in section 3.2.

3.1 Quantification and nonverbal predicate status

Analysis 1 in (28) predicts that the quantifier should behave as a nonverbal predicate. Therefore, a first diagnostic to consider is whether the respective quantificational expressions *can* serve as the main predicate of a simple predicative clause in Chuj. Having proposed that only *tzijtum*, but not *masanil*, is a nonverbal predicate, we make the following prediction:

(31) If *tzijtum* 'many' is a predicate, it should behave as a NVP.
If *masanil* 'all' is a D-quantifier, it should behave as a DP, not as a NVP.

Here, we discuss three diagnostics to identify nonverbal predication in Chuj. We show that in each case, *tzijtum* checks these diagnostics, whereas *masanil* does not.

A first diagnostic to consider is the ability to appear as the main predicate of a simple NVP clause. Recall from section 2 that Chuj does not have an overt copula, meaning that NVPs can combine with a DP to form a complete sentence. Two examples, with nominal (32a) and adjectival (32b) predicates, are repeated below for illustration:

(32) a. **Sonum** ix.
marimbista she
'She is a marimbista.'

b. **Te-junk'olal** ix.
very-happy she
'She is very happy.'

Now, if *tzijtum* is a NVP, it should also be able to co-occur alone with a DP to form a complete sentence. As shown in (33), *tzijtum* can be used as such. In both occurrences in (33), the quantifier combines alone with a nominal expression to yield an utterance that literally translates as 'they were many'.

(33) a. ¿**Tzijtum** heb' ix, tz-y-al chi', ha ix-he-yamanoch chi'?
many PL CLF IPFV-A3-say DEIX, when PFV-A2P-begin DEIX
'So, there were many of them (women), let's say, when y'all started?'

b. Hi, **tzijtum** heb' ix.
yes, many PL CLF.PRON
'Yes, there were many of them.' (Lit: 'Yes, they were many.')
(txt, CD300715)

The quantificational expression *masanil*, on the other hand, cannot be used alone with a DP to form a truth-conditional sentence. Indeed, the string of words in (34a) cannot be used to express something along the lines of 'all of them are here'. Our collaborators converge on the intuition that (34a) is somehow 'incomplete'. We assume this is because (34a) is not a full sentence. Indeed, to form a full sentence, an existential predicate must be used separately (34b).

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(34) a. **masanil** heb' ix t'atik.
all PL CLF.PRON here
'all of them here' (not a full sentence)

b. **Masanil** heb' ix ay-ek' t'atik.
all PL CLF.PRON EXT-DIR.pass here
'All ofthem are here.'

A second sentence type to consider are possessive sentences. As in other Mayan languages (Coon 2016a), possessive existential constructions in Chuj (the equivalent of possessive 'have' in English) are derived by combining an existential predicate with a possessed nominal, as shown in (35) (see also Freeze 1992 on this strategy more generally).

(35) **Ay** heb' winh **h**-uninal.
EXT PL CLF A2S-son
'You have sons.' (Lit: 'There are your sons')

Now, consider the data in (36). The quantifier *tzijtum* can replace the existential predicate to establish the possessive 'have' relation. This again suggests that it itself can be a NVP.

(36) **Tzijtum** heb' winh **h**-uninal.
many PL CLF A2S-child
'You have many sons.' (Lit: 'Your sons are many'). (txt, CM300715)

On the other hand, while the string of words with *masanil* in (37a) is not in and of itself ungrammatical, it does not form a complete sentence. Something is missing: our consultants consistently translate this string of words as 'all of your sons'. To express a possessive 'have' relation, an existential predicate is required (37b):

(37) a. **masanil** heb' winh h-uninal.
all PL CLF A2S-son
'all of your sons' (not a full sentence)

b. **Masanil** heb' winh h-uninal **ay**-ek' h-et'ok.
all PL CLF A2S-son EXT-DIR.pass A2S-with
'You have all of your sons with you.'

Finally, there is a third, Chuj-specific, prediction of a predicational analysis of quantifiers to be considered. Mayan languages of the Q'anjob'alan sub-branch feature complex secondary predication constructions (see e.g. Mateo Toledo 2012). Such constructions involve complex clauses, which combine a secondary nonverbal predicate with an aspectless clause. An example from Q'anjob'al, a language closely related to Chuj, is provided below:

(38) [PRED **Tz'ayil**] [VP s-tz'aq-on ix Malin xim patej].
burnt A3-hand.make-DEP CLF Malin CLF tortillas
'Mary makes burnt tortillas.' (Lit: 'Mary makes the tortillas burnt')
(Q'anjob'al, Mateo Toledo 2012: 152)

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Chuj also makes extensive use of such constructions. In (39a), we see that the adjective *junk'olal* 'content' can be used as a secondary predicate. The same kind of template can also be used with *tzijtum* 'many' (39b), as expected if *tzijtum* is a NVP:

(39) a. [PRED **Junk'olal**] [VP y-ek' heb' paxyalwum t'atik].
content A3-pass PL visitor here
'The visitors come happy here.'

b. [PRED **Tzijtum**] [VP y-ek' heb' paxyalwum t'atik].
many A3-pass PL visitor here
Lit: 'The visitors come many here.'

The quantifier *masanil*, on the other hand, cannot serve as the NVP of secondary predicate constructions. The following string of words is simply ungrammatical in Chuj (no context can make the sentence acceptable):

(40) * **Masanil** y-ek' heb' paxyalwum t'atik.
all A3-pass PL visitor here
Intended: 'All visitors pass by here.'

In sum, while *tzijtum* checks all diagnostics for predicatehood, *masanil* fails them all.[9] This supports the idea that while *tzijtum* is a NVP, and therefore an A-quantifier, *masanil* is not. We now turn to diagnostics of DP status, showing that *masanil*, but not *tzijtum*, shows all signs of being part of a DP, further supporting our proposal in (30).

3.2 Quantification and DP status

Here, we discuss evidence in support of "DP status" in Chuj, showing that while *masanil* is syntactically part of the DP that it quantifies over, *tzijtum* is clearly external to it. We discuss three predictions: (i) the (in)ability to appear within the complement of a preposition, (ii) the (in)ability to appear as part of the possessor of a possessive DP, and (iii) the (in)ability to be a topic.

One way to identify DP status in Chuj is to check whether an expression can serve as the complement of a preposition. Prepositions in Chuj can only select for nominal expressions (DPs or NPs), and not for verbal and nonverbal predicates. If *tzijtum* is consistently a NVP, we therefore predict that it should not be able to appear within the complement of a preposition. On the other hand, if *masanil* is a D-quantifier, it should

[9] An anonymous reviewer asks whether the unacceptability of *masanil* in examples (34a) and (37a) could be explained by the fact that strong quantifiers cannot appear in existential sentences (Milsark, 1974). We believe this alternative explanation would lead to an incorrect assumption: that strong quantifiers cannot be nonverbal predicates. We know independently that strong quantifiers, including those which seem to express universal quantification, *can* be predicative (see Davis and Matthewson 2019; also Lee 2008 on San Lucas Quiaviní Zapotec and Bruening 2008 on Passamaquoddy). This means that the data in (34a) and (37a) cannot be ruled out on the basis of the weak/strong quantifier divide.

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be able to appear in this position. This prediction is borne out. Let us first consider an example with *masanil*:

(41) a. ✓ [PP T'a **masanil** chonhab'] ix-in-xit' ek'-i.
PREP all town PFV-B1S-go DIR.pass-IV
'I went to every town.'

b. ✓ Ix-in-xit' ek' [PP t'a **masanil** chonhab'].
PFV-B1S-go DIR.pass PREP all town
'I went to every town.'

The above examples show that *masanil* can appear within the complement of the preposition *t'a*. Moreover, notice that the PP can be either preverbal or postverbal, a fact that aligns with the corpus findings we report in Table 1 above. This optionality will be relevant when sketching a syntactic analysis of *masanil* in section 5.

Turning now to *tzijtum*, we find that this quantifier cannot appear within the complement of a preposition, regardless of the position of the PP in the clause.

(42) * T'a **tzijtum** chonhab' ix-in-xit' ek'-i.
PREP many town PFV-B1S-go DIR.pass-IV
Intended: 'I went to many towns.'

To convey the intended meaning, a construction containing a relative pronoun must instead be used. Crucially, this relative pronoun can only be used in cases where an oblique DP is being relativized. This suggests that the nominal expression *chonhab'* has been relativized in (43), yielding a literal meaning along the lines of 'the villages where we went are many'.

(43) **Tzijtum** chonhab' **b'aj** ix-onh-xit' ek'-i.
many village PREP.REL PFV-B1P-go DIR.pass-IV
'We went to many villages.'

Again, these data follow if *tzijtum* is a NVP. Here, its sole argument is simply a relativized oblique argument. While *masanil* can appear in a similar string of words, it again does not convey a complete sentence (44a). To form a complete sentence with this string of words, a predicate is needed (44b). (Note that the predicate is in final position, because the *masanil* constituent is focused here).

(44) a. **masanil** chonhab' **b'aj** ix-onh-xit' ek'-i.
all village PREP.REL PFV-B1P-go DIR.pass-IV
'all of the villages where we went' (incomplete sentence)

b. **Masanil** chonhab' **b'aj** ix-onh-xit'-ek'-i **te'-wach'**.
all village PREP.REL PFV-B1P-go-DIR.pass-IV very-good
'All of the villages where we went were great.'

A second way to identify DP status in Chuj is to test whether the relevant expression can be found within the possessor of a possessive phrase, which is

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restricted to DPs (and not verbs/NVPs). Given our proposal, we predict here that only *masanil* should be possible within a DP possessor, and not *tzijtum*. As shown below, this prediction is borne out for *masanil*. (Again, notice that when inside a possessor, the argument containing *masanil* can remain in its *in situ* postverbal position).

(45) ✓ W-ojtak [heb' y-et'b'eyum [$_{POSS}$ **masanil** heb' ix ix]].
A1S-know PL A3-partner all PL CLF woman
'I know all of the women's partners.'

The prediction is also borne out for *tzijtum*, which cannot appear within the possessor of a possessive phrase (46a). Instead, to convey the intended meaning, *tzijtum* must appear sentence-initially (46b). Here, it appears to select for a relativized possessive DP; the literal translation being 'the women that are such that I know their partner are many':

(46) a. * W-ojtak [heb' y-et'b'eyum [$_{POSS}$ **tzijtum** heb' ix ix]].
A1S-know PL A3-partner many PL CLF woman
Intended: 'I know many women's partners.'

b. **Tzijtum** heb' ix ix w-ojtak heb' y-et'b'eyum.
many PL CLF woman A1S-know PL A3-partner
'I know many women's partners.'

A third and final way to identify whether a quantifier is internal or external to the extended nominal domain is to test whether it can appear as a topic. Indeed, as far we know, only DPs may serve as topics in Chuj. Therefore, if (30) is on the right track, only *masanil* should be able to occur as a topic. Again, this prediction is borne out. As shown in (47), *masanil* can felicitously occur as part of a DP that occupies a topic position.

(47) ✓ [$_{TOP}$ **Masanil** heb' ix unin]$_1$, ix-y-awt-ej ch'anh Popol Wuj
all PL CLF child PFV-A3-read-DTV CLF Popol Wuj
[**heb' ix**]$_1$.
they.FEM
≈ 'As for all the girls, they read the Popol Wuj.'

The example in (47) shows most of the properties of topichood in Chuj discussed in section 2: (i) the topic appears at the left, (ii) it is immediately followed by a considerable prosodic break (indicated with a comma here), and (iii) it is coindexed with a postverbal resumptive pronoun, in this case *heb' ix* 'they'. The only relevant exception is that there is no preverbal marker *ha*. While we come back to this fact in section 5 below, we assume that *masanil* is indeed part of a topicalized DP in (47). The quantifier *tzijtum*, on the other hand, is not possible as a topic. This is shown in (48a). To convey the intended meaning of (48a), the quantifier must occur after the topicalized DP, as in (48b). In this example, the resumptive pronoun is in the position of a relativized DP; in other words, the sentence literally translates as 'As for the girls$_1$, those$_1$ who read the Popol Wuj were many'.

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(48) a. * [$_{TOP}$ **Tzijtum** heb' ix unin] ixyawtej ch'anh Popol Wuj heb'
many PL CLF child read CLF Popol Wuj PL
ix.
CLF.PRON
'As for many of the girls, they read the Popol Wuj.'

b. ✓ [$_{TOP}$ Ha heb' ix unin]$_1$ **tzijtum** [heb' ix]$_1$ ixyawtej ch'anh
PV PL CLF child many PL they read CLF
Popol Wuj.
Popol Wuj
≈ 'As for the girls, many of them read the Popol Wuj.'

Again, the above data follow from the predicative analysis of *tzijtum*: if the quantifier is a NVP, it is expected that (i) it should not be able to be topicalized with the DP it quantifies over and (ii) it should be able to itself serve as the main predicate of a sentence in which a DP is topicalized, as is the case in (48b).

3.3 Summary

This article started by showing a surface similarity between the quantifiers *tzijtum* 'many' and *masanil* 'all', insofar as both tend to be found in sentence-initial positions, at least when they quantify over main arguments of the verb. In this section, we have shown that this similarity is only apparent: while *tzijtum* is an A-quantifier instantiated as a nonverbal predicate, *masanil* is a D-quantifier. The diagnostics we used to draw this distinction are summarized in Table 2 below.

Having established that there are two types of "sentence-initial" quantifiers in Chuj, the next sections sketch and motivate syntactic analyses of each. As we will show, both types of quantifiers require an understanding of the left periphery, since either relativization, focus movement, or topicalization is required to derive their distribution. Section 4 starts with an analysis of A-quantifiers. Section 5 then turns to an analysis of D-quantifiers.

The next sections will also make two additional empirical contributions. First, we will show that neither *tzijtum* nor *masanil* are unique in their category, by identifying

Table 2. Testing for NVP vs DP status

Testing	Diagnostic	*Tzijtum*	*Masanil*
NVP status	Predicational copular clause	✓	✗
	Predicate in possessive 'have' construction	✓	✗
	Secondary predicate	✓	✗
DP status	Can be part of the complement of a preposition	✗	✓
	Can be part of the possessor of a DP	✗	✓
	Can be part of a topicalized DP	✗	✓

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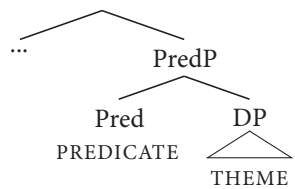
additional quantifiers of each type. Second, section 5 will identify a second category of D-quantifier, which contrary to *masanil*, is perfectly acceptable in postverbal position.

4. A-quantifiers as nonverbal predicates

This section sketches an analysis of A-quantifiers as nonverbal predicate (NVPs) in Chuj. The appendix provides an inventory of NVP quantifiers, which we claim all have the syntax discussed here.

While the verbal domain in Mayan has been thoroughly studied, there are relatively few analyses of nonverbal predication (though see Mateo Toledo 2012, Coon 2014, Armstrong 2017, and Coon and Martinović 2023). Here, we adopt Coon's (2014) analysis of NVPs in a closely related language, Ch'ol. Coon builds on parallel data in Austronesian languages to propose that the subjects of NVPs in Ch'ol are always instantiated as *internal arguments* (building on Sabbagh 2011), rather than external arguments (contra analyses of English-type predication in work such as Bowers 1993, Baker 2003, and den Dikken 2006). This proposal is schematized below, with only the relevant syntactic pieces shown:[10]

(49) The syntax of NVPs in Mayan; building on Coon (2014)



While we refer readers to Coon (2014) for extensive argumentation, we note here that the subjects of NVPs behave syntactically like internal arguments, rather than external arguments. In Ch'ol, sub-extraction out of possessive DPs is possible when the possessive DP is an unaccusative subject or transitive object, but not when it is a transitive subject:[11]

[10]Coon and Martinović (2023) propose an alternative analysis of nonverbal predication in Ch'ol, where the subject is merged as the specifier of a small clause (building on Bowers 1993, Baker 2003, den Dikken 2006). Predicate initiality is then achieved via predicate raising to a projection above the subject. It appears this analysis could be adapted to account for nonverbal predication in Chuj, but it is unclear how it could handle the fact that subjects of nonverbal predicates in Ch'ol behave like internal arguments (Coon 2014), as discussed with regard to (50) and (51) below.

[11]Note that different facts on Ch'ol are reported by Little (2020a, 2020b), who claims that sub-extraction out of possessive phrases is only possible from *unaccusative subjects*, but not *transitive objects*. That said, Little shows that sub-extracting numerals from DPs is in fact possible out of both *unaccusative subjects* and certain types of *transitive objects* (those that have not undergone object shift), but not transitive subjects. Sub-extraction of numerals is also possible from the subjects of NVPs (Little, p.c.). In that sense, there are still parallels between the subjects of NVPs and the syntax of internal arguments, and so the conceptual argument in Coon (2014) can be maintained.

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(50) a. ✓ Maxki$_1$ [$_{TP}$ tyi chäm-i [$_{DP}$ i-wakax __$_1$]]?
who PFV die-IV A3-cow
'Whose cow died?'

b. ✓ Maxki$_1$ [$_{TP}$ tyi aw-il-ä [$_{DP}$ i-chich __$_1$]]?
who PFV A2-see-TV A3-sister
'Whose older sister did you see?'

c. * Maxki$_1$ [$_{TP}$ tyi i-jats'-ä-yety [$_{DP}$ i-chich __$_1$]]?
who PFV A3-hit-TV-B2 A3-sister
'Whose older sister hit you?'

(Ch'ol; examples from Coon 2014: 80-81)

Coon shows that the subjects of NVPs pattern with the unaccusative subjects and transitive objects of the verbal predicates in (50) – and therefore internal arguments. This supports the view that they occupy the internal argument (THEME) position, as in (49).

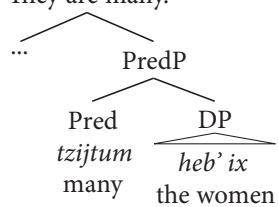
(51) a. ✓ Maxki$_1$ [$_{PredP}$ chañ [$_{DP}$ i-wakax __$_1$]]?
who tall A3-sister
'Whose older sister is tall?'

b. ✓ Maxki$_1$ [$_{PredP}$ maystraj [$_{DP}$ i-wakax __$_1$]]?
who teacher A3-sister
'Whose older sister is a teacher?'

(Ch'ol; examples from Coon 2014: 81)

Extending this syntax for NVPs to Chuj, we now sketch an analysis of A-quantifiers. A syntax for a basic NVP clause with *tzijtum* is provided below. Here, *tzijtum* is instantiated as a NVP which takes the pronoun *heb' ix* 'they (feminine)' as its internal argument.

(52) a. **Tzijtum** [$_{SUBJ}$ heb' ix].
many PL they
'They are many.'

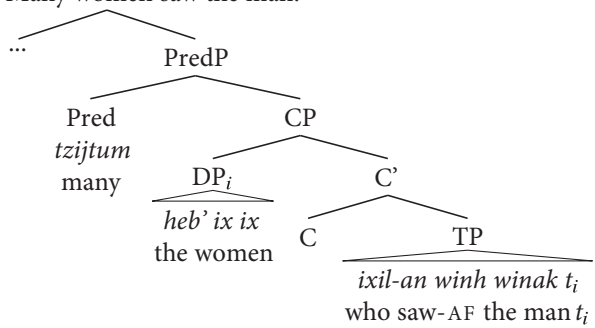
b.


As for sentence (1), repeated below, which drew our attention at the beginning of this article, we propose that the subject of the NVP in this case is a relativized agent. Recall from section 2 that relativization of transitive subjects in Chuj gives rise to Agent Focus morphology on the verb stem. This analysis therefore derives the obligatory use of an Agent Focus construction whenever a quantifier like *tzijtum* quantifies over the agent:

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(53) a. **Tzijtum heb' ix ix** ix-il-**an** winh winak.
many PL CLF woman PFV-see-AF CLF man
'Many women saw the man.'

b.



Since this analysis relies on relativization, it predicts that whenever *tzijtum* quantifies over a transitive subject, an Agent Focus construction will be required (Coon et al. 2014, 2021). As illustrated below, this is indeed the case: a regular transitive verb without Agent Focus morphology cannot be used as an alternative to (53a).

(54) ✗ **Tzijtum heb' ix ix** ix-y-il winh winak.
many PL CLF woman PFV-A3-see CLF man
If the intended meaning is: 'Many women saw the man.'
Could otherwise mean: 'The man saw many women.'

This concludes our analysis of A-quantifiers as NVPs in Chuj. Importantly, we have been able to answer some of our initial questions in this article. One was why the relevant quantifier needed to appear in a sentence-initial position. The answer is straightforward: *tzijtum* is generally sentence-initial, because Chuj is a predicate-initial language. Another question was what kinds of movement operations are involved in the derivation of sentences containing quantifiers like *tzijtum*. Here, we argued that more complex sentences with *tzijtum*, such as the one in (1)/(53a), involve a process of relativization. This also explains why Agent Focus morphology is required whenever *tzijtum* quantifies over a transitive subject. As we will see in the next section, this is crucially different from sentences with *masanil*, which *do not* necessarily trigger the Agent Focus construction.

Before moving on to the next section, however, we note that a list of quantifiers which we have identified as being part of the same category as *tzijtum* is provided in the appendix. Interestingly, all of these quantifiers belong to the semantic class of "vague" (Partee 1989) or "value judgement quantifiers" (Keenan and Paperno 2012) such as 'many' or 'few', whose interpretation is dependent on a contextually-determined standard of comparison. While we do not provide explicit examples with each quantifier, any of these quantifiers (except the "mass" quantifiers, which require a mass noun) could be inserted instead of *tzijtum* in the previous examples.

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5. Analyzing two types of D-quantifiers

In this section, we turn to an analysis of Chuj quantifiers of the *masanil* type, the second class of quantifier that generally appears in a sentence-initial position in Chuj (as in (2)). In section 3.2 we established that *masanil* is a D-quantifier, occurring in the extended projection of DPs. This finding leads to the question of why DPs containing *masanil* occur in a sentence-initial position when they are main arguments of the verb.

Before tackling this question, we first establish a crucial empirical fact, namely that not all D-quantifiers in the language are subject to this requirement. That is, section 5.1 first provides a description of a third type of Chuj quantifier: D-quantifiers that do not have any effect on the syntactic position of their host argument, which we will call "Basic D-quantifiers". We then turn in section 5.2 to an analysis of quantifiers like *masanil* 'all', which we call "Focus D-quantifiers", arguing that these are differentiated from the basic ones insofar as they introduce a focus [A′]-feature, generally targeted by a probe on Foc^0.

5.1 Basic D-quantifiers

While *masanil* generally prefers its host argument to appear at the left periphery, not all D-quantifiers in Chuj show such a requirement. Consider, for instance, the different uses of *jantak* in (55). As indicated in translations, *jantak* can mean 'many' or 'all', depending on the context:[12]

(55) a. Ix-in-y-il [$_{Subj}$ **jantak** heb' anima'].
PFV-B1S-A3-see JANTAK PL person
'Many/all people saw me.'

b. Ix-ko-mol-an [$_{Obj}$ **jantak** heb' ix ch'okch'ok chonhab'il].
PFV-A1P-gather-CON JANTAK PL CLF different towns
'And so we gathered all ofthem women from different towns.'
(txt, CD300715)

c. Ix-och wyolasyonh t'a kib'anh [$_{Obl}$ yoj **jantak** heb' winh solda'o].
PFV-enter violations PREP upon.us by JANTAK PL CLF soldiers
'Violations were brought upon us by many soldiers.' (txt, CD300715)

As shown above, *jantak* can be postverbal when modifying the subject (55a), object (55b), or a DP contained within an oblique phrase (55c). This is strikingly different from quantifiers like *masanil* 'all', which generally force DP arguments to appear at the left periphery.

[12]Note that *jantak* can also mean 'how many', when used as an interrogative word. In such cases, the interrogative word must appear preverbally. We leave an analysis of interrogative quantifiers for the future, noting some avenues for future work in the conclusion. We also note here that *jantak* is not the only quantifier to have double "existential/universal" interpretations in Chuj. The quantifier *junjun* can mean 'some' or 'each', depending on the context (see Royer 2022a) see also Alonso-Ovalle and Royer (2024). Similar facts are reported for other Mayan languages, such as Kaqchikel (Henderson 2014).

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A unifying property of Basic D-quantifiers in Chuj is that their arguments may serve as the sole, postverbal argument of a NVP. Minimal pairs with *pitzan* 'awake' are provided below:

(56) Basic D-quantifiers in Chuj

a. Pitz-an [**jun** winh unin].
wake.up-STAT INDF CLF.MASC child
'A child is awake.'

b. Pitz-an [**tzun** winh unin].
wake.up-STAT INDF.DIM CLF.MASC child
'A (loveable) child is awake.'

c. Pitz-an [**juntzanh** heb' winh unin].
wake.up-STAT INDF.PL PL CLF.MASC child
'Some children are awake.'

d. Pitz-an [**junjun** heb' winh unin].
wake.up-STAT INDF.PL PL CLF.MASC child
'Each child/some children is/are awake.'

e. Pitz-an [**jantak** heb' winh unin].
wake.up-STAT many PL CLF.MASC child
'Many/every child(ren) are/is awake.'

f. Pitz-an [**jay-wanh** heb' winh unin].
wake.up-STAT few-NUM.CLF PL CLF.MASC child
'Few children are standing here.'

This, of course, is not an environment in which a NVP quantifier, such as *tzijtum*, may be found (57). That is, since *tzijtum* is itself a NVP, it cannot co-occur with *ptizan* 'awake':

(57) * Pitz-an **tzijtum** heb' winh unin.
wake.up-STAT many PL CLF.MASC child
Intended: 'Many children are awake.'

As for the quantifier *masanil*, it is again preferred in pre-predicate position:

(58) a. ✓ [**Masanil** heb' winh unin] pitz-an.
all PL CLF.MASC child wake.up-STAT
'All of the children are standing here.'

b. ?? Pitz-an [**masanil** heb' winh unin].
wake.up-STAT all PL CLF.MASC child
'All of the children are standing here.'

Finally, we note that arguments with Basic D-quantifiers pattern with those without quantifiers in being able to serve as foci or topics. In such cases, they show the same morphology generally found on focused and topicalized nominal expressions, discussed in section 2.3. We highlight here the *presence* of the preverbal marker *ha*,

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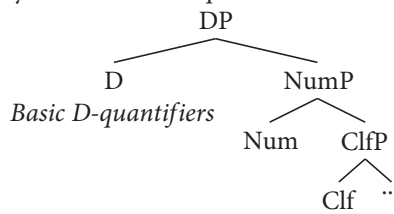
crucially *absent* from sentences in which *masanil* DPs are preverbal. (We return to this point shortly in the next subsection.)

(59) a. [$_{Foc}$ *(Ha) **jantak** heb' anima'] ix-chel-**an** waj Xun.
PV many PL person PFV-hug-AF CLF Xun
'It was many people who hugged Xun.'

b. [$_{Top}$ *(Ha)=xo **jantak** heb' winh w-et'b'eyum], ay **heb' winh**
PV=ADV many PL CLF A1S-friend EXT PL CLF
hin-ch'ox y-il-a'.
A1S-show A1S-see-TV
'As for many of my friends, I taught them.' (txt, CM300715)

For completeness, we extend the analysis of indefinite quantifiers in Royer (2022a) to all quantifiers in (56), which proposes that the indefinite quantifiers *jun* and *juntzanh* in Chuj are D heads:

(60) Syntax of Basic D-quantifiers



Having established that Chuj possesses D-quantifiers that do not exhibit any constraints on appearing at the left periphery, we now turn to an analysis of *masanil* DPs.

5.2. Focus D-quantifiers

In section 3.1, we presented several empirical arguments to demonstrate that *masanil* 'all', contrary to other quantifiers like *tzijtum* 'many', is a D-quantifier: a quantifier that arises internal to the extended nominal domain. Crucially, however, *masanil* sometimes requires the expressions it quantifies over to appear at the left periphery. In section 5.1, we showed that Chuj possesses D-quantifiers that do not exhibit this requirement. Here, we sketch an analysis of *masanil* DPs, which accounts for this point of variation among D-quantifiers.

Recall the main distributional conditions on *masanil* 'all':

(61) The quantifier *masanil*...

a. must be at the left periphery whenever it quantifies over a DP argument of the verb;

b. can be in the postverbal position otherwise.

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The facts in (61) should be reminiscent of the distribution of foci in Chuj, whose distributional conditions are repeated below from (20):

(62) Focused DPs, contrastive and new information alike...

a. must be in the left peripheral focus position when arguments of the verb;

b. can be in their in situ postverbal position otherwise.

We therefore propose that *masanil*, at least when used as a D-quantifier (see footnote 7 above), is a focus-sensitive item. Building on previous work (see e.g. Cable 2010; Coon et al. 2021, Hedding 2022, and Branan and Erlewine 2023 for different formalizations of this particular feature), we tie this to a feature in the syntax of the DP hosting the quantifier, which we refer to as "[Q]" here, after Cable's (2010) approach to question particles:

(63) Proposal about *masanil*

Masanil is a "Focus D-quantifier": it carries the feature [Q], and as such, generally enters into Agree with a null left-peripheral [A′]-probe on Foc^0.

While providing a formal semantic account of *masanil* falls outside the scope of this article, we note here that the proposal that universal quantifiers like *masanil* should be associated with a focus-sensitive feature has precedent. Brisson (2003), for instance, analyzes *all* in English as an item that requires all relevant individuals in the domain of quantification to be considered, and therefore introduces *domain alternatives*. Another precedent is Zeijlstra (2017), which, building on the analysis of PPIs in Chierchia (2013), argues that some universals introduce alternatives. Zeijlstra specifically argues that universal quantifiers introduce alternatives when they are positive polarity items that *must take wide-scope over negative operators*. Our preliminary data suggest that *masanil* must also take scope over negation. The data in (64) are from elicitation. Example (65) was taken from a text, in which the preceding dialogue makes it clear that there is nothing that the speaker can buy (and hence the universal takes wide scope over negation):

(64) **Masanil** heb' icham maj-ja-laj y-il k'inh.
all PL elder NEG.PFV-come-NEG A3-see party
≈ 'All of the elders didn't come to the party.'

a. **Context 1**: About 9 out of 12 elders went to the party. (64) = ✗

b. **Context 2**: None of the elders went to the party. (64) = ✓

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(65) **Masanil** tas manh ko-tzal-laj ko-man-an-i.
all thing NEG A1P-can-NEG A1P-buy-DEP-IV
'We can't buy anything.'[13] (txt, CJ220715)

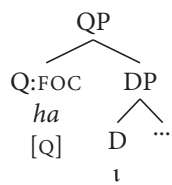
We refer readers to Zeijlstra (2017) for a detailed formal implementation of this analysis of universal quantification. However, as far as we can tell, this analysis could be extended to account for the semantics of *masanil*.

On the morphosyntactic side, recall that *masanil* is different from other D-quantifiers insofar as it does not combine with the "preverbal marker" *ha*.[14] Our corpora confirm this fact: we have not found a single sentence in which *ha* and *masanil* co-occur.

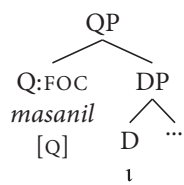
(66) (*Ha) **Masanil** heb' ix-awt-an ch'anh libro.
PV all PL PFV-read-AF CLF book
'All of them read the book.'

We hypothesize that the particle *ha* occupies the highest position in the extended nominal domain, which, following Cable (2010), we label as "QP". This idea, schematized in (67), builds on previous work that proposes that A′-movement always results from movement of a phrase containing a particle (see e.g. Cable 2010; Hedding 2025). This particle could be a *wh*-particle (Cable 2010), or a specific focus-sensitive particle like *ha* (cf. Branan and Erlewine 2023), but we assume that it could also be lexicalized as part of specific focus-sensitive expressions, such as *wh*-words or quantificational expressions (Hedding 2025). In other words, we suggest that *masanil*, as an alternative-sensitive item, occupies the same syntactic position as the particle *ha* (68), explaining why the two do not co-occur. This is schematized below. (Building on the analysis of maximal definites in Royer 2022a, we assume that the head of DP in this case is the operator ι 'iota'.)

(67)



(68)



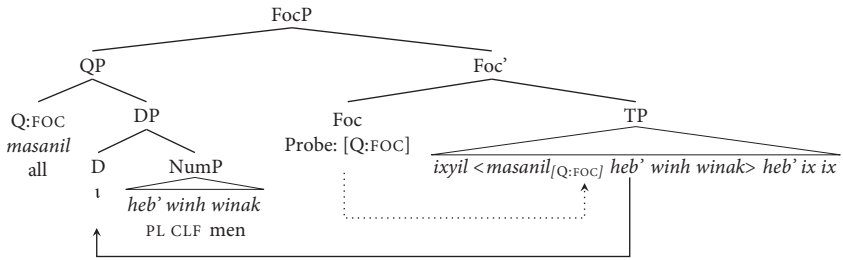
[13] The word *tas* can mean 'what' or 'thing'. Here, we gloss it as 'thing' given that it co-occurs with a quantifier (see Royer 2021 for discussion of this ambiguity).

[14] One exception to this is when the focused DP is a *wh*-word in an interrogative sentence (which must be in focus position; see (21a) above, as well as Royer 2021).

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Turning to an analysis of Focus D-quantifiers inside clauses, we propose that these consistently enter into Agree with a Q:FOC-probe on Foc^0, by virtue of carrying a [Q:FOC] feature.[15]

(69) Syntax of *masanil* in full clauses



In short, then, *masanil* as a Focused D-quantifier bears an inherent [A′]-feature, modeled as the Q-feature of Cable (2010), which requires it to move to the left periphery of clauses in Chuj.

With our analysis of Focus D-quantifiers sketched above, we conclude this section by highlighting three final points about the distribution of *masanil* DPs and their implications for our syntactic analysis. A first point to be addressed is the availability of Focus D-quantifiers to occur in topic position. That is, we saw in section 3.2 that *masanil* DPs can be used as topics in Chuj. Assuming, as proposed in section 2.3, that topics are base-generated in a high peripheral position, we suggest that *masanil* has a non-focused counterpart which occurs in such contexts but still bears a non-focus Q feature. One simple argument for this conclusion is the observation that the particle *ha* is also used to introduce topics; this particle now can be seen as a general-purpose Q head. In discussing this possibility of Q features in topicalization structures, Cable (2010: 232–3) notes that such Q features would necessarily lack the alternative-sensitive semantics otherwise associated with Q heads. One way to make sense of the finding that *ha* (and *masanil*) can occur in both topic and focus position would be to analyze them as only morphologically specified to realize [Q] features in Chuj; while moved focus phrases possess FOC or ALT in the syntax, the topic phrases clearly do not. Nevertheless, the vocabulary items associated with *ha* and Focus D-quantifiers such as *masanil* are compatible with different subtypes of Q, as they realize only the Q feature itself.

Second, something must be said about those cases in which a Focus D-quantifier does not have to move to the focus position. That is, we saw in section 3.2 that when *masanil* DPs arise in oblique or possessor position, they can remain in situ. We suggest that in such cases, the relevant DPs are simply unavailable to the [A′]-probe. For possessors, for instance, this seems to be mostly the case in the language: sub-extraction out of DPs is highly constrained in Chuj, at least when it comes to the

[15]Coon et al. (2021) propose that probes on Foc^0 (or C^0) are composite probes in Mayan: they are relativized to search for (i) an [A′]-feature, either [FOC], [REL] or [WH], and (ii) a [D] feature. We assume the same here, except that the relevant feature is [Q], not [A′].

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left-peripheral focus position (this is contrary to other Mayan languages, such as Ch'ol; see also discussion in Royer 2025):[16]

(70) * ¿Mach ix-h-il [ix y-une' [<mach>]]?
who PFV-A2S-see CLF A3-child who
Intended: 'Whose daughter did you see?'
(see (19a) above for how this can be said)

This restriction can be explained by simply positing that the possessive DP is a phase, and thus that the posessor cannot be extracted from out of it.

For PPs, we could again allude to the fact that PPs are phases, and therefore a QP cannot be targeted by Foc^0. Alternatively, it could be that PPs are simply not targetable by the Probe on Foc^0. For instance, Coon et al. (2021) propose that the focus [A′]-probe in Mayan is relativized to probe specifically for DPs (which would translate here as "QPs"). In other words, PPs could therefore simply not be of the right syntactic category to be targeted by the probe in (69). The fact that they *can* optionally appear to the left of the predicate would then have to be derived without resorting to movement to the specifier of Foc^0. This is independently argued by Royer (2025) for Chuj to account for patterns of syntactic binding: arguments coindexed with main arguments of the verb that are contained within oblique phrases do not reconstruct for binding (see Royer 2025: section 3.4).

A final case to consider is what happens when two foci co-occur within the same sentence. This is particularly relevant, as it has been claimed that multiple foci are not possible within a same sentence across several Mayan languages, a fact which correlates with the unavailability of multiple *wh*-questions (Aissen 1996, Curiel Ramírez del Prado 2017, AnderBois and Chan Dzul 2021, Coon et al. 2021; Mateo Toledo 2021; Polian and Aissen 2021; Royer 2021; Vázquez Álvarez and Coon 2021). Chuj also bans multiple *wh*-questions:

(71) a. # **Mach** ix-man-an **tas(i)**?
who PFV-buy-AF what
Intended: 'Who bought what?'
Could mean: Who bought something(s)?

b. * **Mach tas** ix-man-an-i?
who what PFV-buy-AF-IV

c. * **Tas mach** ix-man-an-i?
what who PFV-buy-AF-IV

If *masanil* DPs in argument position must generally move to the specifier of Foc^0, we might expect ineffability to arise when they co-occur with *wh*-items. This expectation

[16]Sub-extraction of possessive DPs is sometimes possible when forming relative clauses. The sentence in (46b) above is one example.

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is not clearly borne out, however. Speakers vary in whether they are willing to accept the following kind of sentence:

(72) % Tas ix-s-man **masanil** heb' unin?
what PFV-A3-buy all PL child
'What did all the children buy?'

Nevertheless, all speakers we have consulted indicate a preference for the following type of construction to express the intended meaning in (72). In fact, when prompted to translate this target sentence, this is the construction that is generally given:

(73) **Tas** ix-s-man heb' unin, s-**masanil**?
what PFV-A3-buy PL child A3-all
'What did the children buy, all of them?'

As noted in footnote 7 above, we follow Little (2022) in assuming that the quantifier in this case is nominalized, and adjoined as a possessive phrase whose possessor is a null pronoun coindexed with one of the main arguments of the verb:

(74) Structure for (73)
what made <what> [**the children**]_1, [PossP **all** of them]_1

If these uses of *masanil* are in fact of category N, as they can be possessed, then they are either inaccessible to the Q-probe on Foc or they lack a Q feature all together, and may instead simply have an exhaustifying lexical meaning such as 'entirety, totality'.

As for the speakers for whom non-fronted uses of *masanil* in (72) are acceptable, we have already seen evidence from their ability to occur in topic sentences that some uses of *masanil* do not seem to require the presence of a FOC-specified Q head. If such non-focused Q-variants of *masanil* are generally available when it occurs as a topic, then we can assume that speakers may generally resort to these non-focus variants of *masanil* when they occur in argument positions. In fact, this claim can help make sense of one of the original observations made with respect to *masanil*, which is that their non-fronted variants, as in (2), are not fully ungrammatical but degraded. Perhaps this is due to speakers' ability to accept the non-focused variant of *masanil*, albeit reluctantly, in argument positions.

5.3 Summary

This section identified and provided an analysis of two types of D-quantifiers in Chuj: Basic D-quantifiers, which have no effect on the syntactic distribution of nominal arguments, and Focus D-quantifiers, which require arguments to appear in a preverbal position. We proposed that while D-quantifiers that show no left-peripheral restriction are instantiated in the head of DP, D-quantifiers instantiate the head of QP: a phrase usually containing focus sensitive particle that enters into Agree with focus operators at the periphery of the CP domain.

While we only focused on *masanil* DPs here, we note that one other quantifier is like *masanil* by being a Focus D-quantifier. This expression is built from the lexical

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item *yalnhej* and any *wh*-expression except *tas yuj* 'why'. *Yalnhej+wh* quantifiers are discussed at length in Kotek and Erlewine (2019) and Alonso-Ovalle and Royer (2022, 2024). This quantifier is used as a modal indefinite, conveying speaker indifference or ignorance. As discussed in Alonso-Ovalle and Royer (2024), arguments modified by *yalnhej+wh* quantifiers are strongly preferred in preverbal position:

(75) a. **Yalnhej tas** ol-in-man-a'.
YALNHEJ what PROSP-A1S-buy-TV
'I'll buy anything.'
b. ?? Ol-in-man **yalnhej tasi**.
PROSP-A1S-buy YALNHEJ what

Yalnhej-wh quantifiers check all of the same syntactic diagnostics as *masanil*: (i) they can co-occur with prepositions, (ii) they can serve as the possessors of DPs, and (iii) they can be topicalized. Critically, they also do not co-occur with *ha*. Being modal indefinites, it is unsurprising that *yalnhej*-DPs should be associated with a domain alternative feature: based on an in-depth semantic analysis of these quantifiers, Alonso-Ovalle and Royer (2022, 2024) specifically argue that they evoke alternatives (see also, e.g., Kratzer and Shimoyama (2002) and Alonso-Ovalle and Menéndez-Benito (2018) on analyses of similar modal indefinites).

6. Conclusion

This paper has identified, described, and analyzed different classes of quantificational expressions in Chuj, an understudied Mayan language. In doing so, we have provided answers to the main questions posed at the beginning of the paper, which were:

Q1 Why must some quantifiers appear in a sentence-initial position, but not others?
Q2 If any, what kind of movement operations are involved to derive the initial position of the quantifiers in sentences like (1a) and (2a)?
Q3 How are these quantifiers formally distinguished from other expressions that do not have to be sentence-initial?

Starting with **Q1**, we argued that despite initial appearances, the Chuj quantifiers that appear in sentence-initial position are not part of a homogeneous class. On the one hand, some quantifiers, such as *tzijtum* 'many', are "A-quantifiers", syntactically manifested as nonverbal predicates. Since Chuj is predicate-initial language, it immediately followed that such quantifiers should generally be found in sentence-initial positions. On the other hand, we argued that other quantifiers, such as masanil all, were "Focus D-quantifiers": D-quantifiers that carry a focus [Q] feature (Cable 2010), and as such are generally targeted by a left peripheral [A′]-Probe. An important empirical finding in the case of Focus D-quantifiers was that their distribution paralleled that of focused expressions in general: only main arguments must be displaced to the focus position.

This brings us to **Q2**, which is again relevant to both A-quantifiers and Focus D-quantifiers. In particular, while Focus D-quantifiers are targeted for A′-movement

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whenever they form a part of one of the main arguments of the predicate, the derivation of sentences with NVP A-quantifiers also often required a step of A′-movement. That is, to explain sentences like (1), we argued that NVPs often select for relativized arguments. Being "head-raising relative clauses" (Coon et al. 2014, 2021), such sentences involve A′-movement of a relativized DP. More generally, the identification of a large class of A-quantifiers in Chuj brings to mind similar observations in other Indigenous languages of the Americas (see e.g. Davis and Matthewson 2019 and references therein). As for Focus D-quantifiers, this type of quantifier adds to the growing body of work that has shown that certain kinds of quantifier can, much like *wh*-phrases in more widely-studied languages, trigger consistent phrasal movement of certain arguments (see e.g. Kiss 1991; Szabolcsi 1997; Chung 1998, 2008; Barchas-Lichtenstein 2012; Ostrove 2018).

Finally, with regards to **Q3**, we argued that Focus D-quantifiers should be formally distinguished from other DPs that do not have to appear in sentence-initial position. As we showed in section 5, this includes a large class of D-quantifiers, which are most often found in in situ postverbal positions. Building on Cable (2010), Branan and Erlewine (2023), and Hedding (2025), we proposed that the main difference among these kinds of D-quantifiers amounted to the presence or absence of the focus feature, which only Focus D-quantifiers bear. This allowed us to identify a third class of Chuj quantifier, thereby contributing to the current limited understanding of quantification in Mayan (Henderson 2016).

While there remains much potential for future work, we end this article by highlighting two pressing issues. First, while we have mostly ignored *wh*-words – which also have quantificational force and appear in sentence-initial position – these have been treated like DP arguments in previous work on Chuj (see e.g. Kotek and Erlewine (2019) and Royer (2021), and Coon et al. (2021) on Mayan more generally). As such, they could receive an analysis similar to the one proposed for *masanil* DPs. In fact, the analysis on which we based our account of Focus D-quantifiers (Cable 2010) was originally designed to account for the behaviour of *wh*-words in questions. However, it is important to highlight that *wh*-quantifiers seem to exhibit a hybrid behaviour, at least with regards to the diagnostics we established in section 3. For instance, *wh*-words can serve as the main predicate of NVP clauses (76a). At the same time, they can also occur in oblique phrases (76b) (with pied-piping with inversion; see Aissen 1996). Future work should therefore address this hybrid behaviour.

(76) a. ¿**Mach** ix?
who CLF.PRON
'Who is she?'

b. ¿[Obl **Mach** yet'] ix-ach-xit' ek'-i?
who with PFV-B2S-go DIR.pass-IV
'With whom did you go?'

A second pressing issue regards the pragmatics and semantics of Chuj foci and quantifiers, which we also mostly ignored in this paper. With regards to pragmatics, we showed in section 2.3 that Chuj differs from other Mayan languages in treating contrastive and new information foci alike (see e.g. Aissen (2017b) on other Mayan

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languages). On the semantics side, there are also important topics to be addressed. For example, our syntactic analysis of quantifiers like *tzijtum* as NVPs might be taken to predict that these should only have "cardinal" interpretations, as opposed to "proportional" interpretations (see, e.g., the discussion in Keenan and Paperno (2012); Davis and Matthewson (2019)). While we leave a discussion of these data for future work, we note here that upon preliminary investigation, this prediction does not seem to be borne out: while syntactically NVPs, A-quantifiers in Chuj seem to be compatible with both cardinal and proportional interpretations.

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Appendix A. Inventory of Chuj quantifiers

Inventory of quantifiers over entities in San Mateo Ixtatán Chuj

D-quantifiers showing the behaviour of regular arguments	
jun	'one' / singular indefinite determiner
juntzanh	'some' / plural indefinite determiner
junjun	'some/each'
tzun	'one' (affective/diminutive)
jantak	'many/all'
jab'	'little amount of' (for mass nouns only)
chab'ox-#.CLF	'a few'
jay-#.CLF	'few'
Focus D-quantifiers (showing a preverbal preference)	
masanil	'all'
yalnhej+wh	free choice indefinite
Predicative quantifiers	
tzijtum	'many'
pim	'many' (also means 'thick')
jantaknhej	'many'
ma(nh)jantak(ok)	'many'
niwan	'many' (for mass nouns; also means 'big')
wal	'many'
kennhej	'few'
junjunnhej	'few'
chekelnhej	'few'
kenan	'few'
jay-#.CLF-nhej	'few'
jab'tzin	'few' (for mass nouns)
chabtzin	'few' (for mass nouns)

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