Non-interrogative *wh*-constructions in Chuj

Hadas Kotek
McGill University
hadas.kotek@mcgill.ca

Michael Yoshitaka Erlewine
National University of Singapore
mitcho@nus.edu.sg

This paper investigates non-interrogative uses of *wh*-words in Chuj, an understudied Mayan language of Guatemala. Cross-linguistically, *wh*-words are commonly used not only for question-formation but also in a range of other constructions, including in quantification and in the formation of relative clauses. We will show that Chuj can use *wh*-words to form indefinites in certain limited environments, and that it can additionally use *wh*-words to form free choice items and a universal quantifier. In addition, Chuj uses *wh*-words to form free relatives, including definite free relatives but also typologically rare indefinite free relatives. We describe the licensing environments and structural size of these two types of free relatives and show that, despite surface similarities, they are two distinct constructions.

Keywords: *wh*-words, questions, bare *wh*-indefinites, existentials, free choice items, free relatives, Chuj, Mayan

Contents

1 Introduction

This paper investigates non-interrogative uses of *wh*-words in Chuj (ISO code: cac), an understudied language of the Q'anjob'alan branch of the Mayan family. The Q'anjob'alan branch, together with the Ch'olan branch, forms the Western branch of the Mayan language family. Chuj is spoken by approximately 40,000 people in the department of Huehuetenango in Guatemala and an additional 10,000 people in Mexico. We study the San Mateo Ixtatán variety here.[1]

In the first half of the paper, we describe the use of *wh*-words for a wide range of quantificational uses. This includes the use of a bare *wh*-word as a non-specific indefinite, as in (1).

(1) **Bare *wh*-indefinite:**

Ix-∅-k-il **tas**.
PRFV-B3-A1p-see what

'We saw something.'

The affinity between interrogative words and indefinites is widespread and this type of use of bare *wh*-words as indefinites has been observed across a range of languages (Postma, 1994; Haspelmath, 1997; Bhat, 2000; Gärtner, 2009, a.o.). We show that such *bare wh-indefinites* are limited to a certain set of licensing environments. The discussion of these licensing conditions will be the focus of section 3.

In section 4 we turn to two types of quantificational expressions derived of *wh*-words. The first, in section 4.1, is the series of *free choice items* composed of *yalnhej* and a *wh*-word. Although the entire *yalnhej-wh* complex normally forms an unanalyzable nominal constituent, we note that this form could be a grammaticalized combination of the ability modal *yal* and the 'only' word *nhej*. The second, in section 4.2, is the universal quantifier *masel mach* 'everyone.' We analyze *masel mach* as a calcified expression as this *wh*-universal form is limited to *mach* 'who.'

[1]The following abbreviations are used in this paper: A = Set A (ergative), AF = Agent Focus, B = Set B (absolutive), CL = classifier, DEM = demonstrative, FEM = feminine, FOC = focus, IMPF = imperfective, IRR = irrealis, ITV = intransitive verb, MASC = masculine, NEG = negation, NML = nominal suffix, p = plural, PSV = passive, POSS = possession, PREP = preposition, PRFV = perfective, PROG = progressive, PROSP = prospective, RPST = remote past, s = singular, STAT = stative, SUB = subordinate, TAM = tense-aspect marker, TOP = topic, TV = transitive verb.

See Domingo Pascual (2007) on Chuj orthographic conventions. Two points are relevant here: Vowels in word-initial position are prefixed with an unpronounced "h-" in Chuj orthography, to indicate that there is no initial glottal stop, unlike in forms which are written vowel-initially (Buenrostro, 2004). The sequence "nh" represents the velar nasal, also written "ñ" in some Chuj texts.

All uncredited data is from the authors' notes.

The latter half of the paper describes the use of *wh*-words to form *free relatives*. An example is given in (2) below, with the free relative bracketed. The free relative here is introduced by the *wh*-word *tas* 'what' and denotes a specific entity, what I bought.

(2) **Free relative:**

Ix-∅-in-wa [$_{FR}$ **tas** ix-∅-in-man-a'].
PRFV-B3-A1s-eat what PRFV-B3-A1-eat-TV

'I ate what I bought.'

In section 5 we will show that such free relatives fall broadly into three categories, which differ substantially in their distribution and structure.
None of these non-interrogative uses of *wh*-words have been previously documented within the Q'anjob'alan family. This fine-grained investigation into these constructions in Chuj also contributes to our typological understanding of the use of *wh*-words cross-linguistically.

2 Background

We begin with a brief overview of the main features of Chuj that will be relevant for our discussion, including basic clause structure, headed relative clauses, and question formation.

2.1 Basic clause structure

Chuj is a verb-initial language with VSO and VOS as possible word orders. As in other Mayan languages, core nominal arguments are cross-referenced with ergative-absolutive alignment through Set A (ergative) and Set B (absolutive) markers on the predicate. The Set A and Set B markers are given in (3).

(3) **Ergative and absolutive marking:**

	Set A (ergative)		Set B (absolutive)
	___/V	___/C	
1SG	w-	in-	in
2SG	∅	a-	ach
3SG	y-	s-	∅
1PL	k-	ko-	onh
2PL	ey-	e-	ex
3PL	y-	s-	eb'

The Set A markers are also used to mark possessive agreement on nominals as in (75) below:

(4) **Set A as possessor agreement:** (Buenrostro, 2009, p. 214)

S-pat winh hin-mam
A3-house CL.MASC A1s-father

'my father's house'

As in other Q'anjob'alan languages, Chuj possesses a series of nominal classifiers that either precede nominals or appear alone as pronouns.

(5) **Nominal classifiers in Chuj:**

a. Ix-∅-way winh unin.
PRFV-B3-sleep CL.MASC child
'The boy slept.'

b. Ix-∅-way winh.
PRFV-B3-sleep CL.MASC
'He slept.'

These classifier-pronouns also cooccur with pre-verbal topics, if an appropriate classifier exists for the topic constituent (Bielig, 2015):

(6) **A nominal classifier bound by a pre-verbal topic:**

A waj Xun$_i$ ix-∅-s-mak nok' hin-tz'i winh$_i$.
TOP CL.NAME Juan PRFV-B3-A3-hit CL.ANIMAL A1-dog CL.MASC

'Juan hit my dog.'

Pre-verbal tense-aspect markers (TAM) in Chuj are shown in (7) (see Buenrostro, 2007; Carolan, to appear for details). The past perfective marker *ix* may be dropped, as in Q'anjob'al (Mateo Toledo, 2011); in Chuj the alternation between *ix* and ∅ appears to indicate a difference in recent vs. more distant past (Carolan, to appear).[2] The majority of the examples we will discuss below will involve perfective aspect. Wherever there is an aspect-related interaction with the uses of *wh*-words studied here, this is noted explicitly and motivating examples are shown.

[2]We follow Buenrostro (2009) in simply not glossing the null distant perfective marker.

(7) **TAM markers:**

i(x)	recent perfective	PRFV
tz	imperfective	IMPF
lan	progressive	PROG
ol	prospective (future)	PROSP

Examples (8)–(9) show examples of basic transitive and intransitive sentences. Verbs take a status suffix (intransitive ITV *-i*; transitive TR *-a'*) when they occur at intonational phrase boundaries or utterance-finally.

(8) **Basic transitive sentences:**

a. Tz-ach-in-chel-a'.
IMPF-B2-A1s-hug-TV
'I hug you.'

b. Ix-∅-in-wa ixim wa'il.
PRFV-B3-A1s-eat CL.GRAIN tortilla
'I ate the tortilla.'

(9) **Basic intransitive sentences:**

a. Ix-onh-ulek'-i.
PRFV-B1p-come-ITV
'We came.'

b. Ol-∅-wa ix.
PROSP-B3-eat CL.FEM
'She will eat.'

The full template for a verbal predicate is shown in (10). This template presents the *maximal* combination; as noted above, intransitive verbs will lack a Set A (ergative) marker, the status suffix will not be present unless it is at an intonational phrase edge, etc.

(10) **A template for Chuj verbal predicates:**
TAM — Set B — Set A — root — voice — status suffix

As is common in many Mayan languages, $\overline{\text{A}}$-extraction of subjects of transitive clauses triggers a change to verbal morphology in that clause. This construction is called Agent Focus (AF) in the Mayan literature (see Stiebels, 2006; Norcliffe, 2009; Coon et al., 2014, and references therein). AF verbs can be identified by the lack of a Set A agreement marker and the addition of an AF suffix, *-an*. We additionally observe the intransitive,

rather than the transitive status suffix on the verb. Relevant for this paper, we observe AF in subject *wh*-questions (11c) and in subject relative clauses (see (13b) below).

(11) **Agent Focus in transitive subject questions:**

a. **Mach** ix-∅-ulek'-i?
who PRFV-B3-come-ITV
'Who came?' intransitive subject question

b. **Mach** ix-∅-w-il-a'?
who PRFV-B3-A1s-see-TV
'Who did I see?' transitive object question

c. **Mach** ix-in-il-an-i?
who PRFV-B1s-see-AF-ITV
'Who saw me?' transitive subject question

2.2 Headed relative clauses

As a focus of our study here will be free relatives formed using *wh*-words, we briefly discuss the structure of headed relative clauses in Chuj, which generally do not involve *wh*-words. Relative clauses in Chuj are simply gapped clauses preceded by the nominal head that they modify. Some examples are given in (12). For convenience, the head nouns in the examples in this section are underlined.

(12) **Headed relative clauses:**

a. Ix unin [$_{RC}$ ix-∅-ulek'-i]
CL.FEM child PRFV-B3-come-ITV
'the girl who came'

b. Jun (ch'anh) libro [$_{RC}$ ix-∅-w-awtej]
one CL.BOOK book PRFV-B3-A1s-read
'the book that I read'

As with question formation in (11c), transitive subject relativization trigger Agent Focus on the embedded verb (13).

(13) **Transitive subject relative clause triggers Agent Focus, cf (11a–c):**

Winh unin [$_{RC}$ ix-∅-man-an ixim pastel]
CL.MASC child PRFV-B3-buy-AF CL.GRAIN cake

'the boy who bought the cake'

Unlike headed relative clauses in English, relative clauses in Chuj cannot be introduced by an overt complementizer, such as English *that*. The examples below, based on (12a–b) above, show that *wh*-words cannot be used as relative pronouns in argument relatives:[3]

(14) **Relative clause cannot be introduced by relative pronoun:**

a. * Ix unin [$_{RC}$ **mach** ix-∅-ulek'-i]
CL.FEM child who PRFV-B3-come-ITV
'the girl who came'

b. * Jun (ch'anh) libro [$_{RC}$ **tas** ix-∅-w-awtej]
one CL.BOOK book what PRFV-B3-A1s-read
'the book that I read'

In the case of adjunct relatives, however, *wh*-words can be used as relative pronouns at the edge of a headed relative clause. This is exemplified in (15) below. We note that this same pattern has been described for Yucatec Maya by (Guttiérrez-Bravo, 2013): *wh*-relative pronouns are ungrammatical in argument relativization but possible in adjunct relativization.

(15) ***Wh*-relative pronoun possible in adjunct relativization:**

Tz-in-kot t'a jun lugar [$_{RC}$ (**b'ajtil**) tz-∅-al-chaj Español].
IMPF-B1s-come PREP one place where IMPF-B3-speak-PSV Spanish

'I come from a place where Spanish is spoken.'

2.3 Question formation

In this section we present what can be thought of as the canonical use of *wh*-words, that of constituent question formation. The two *wh*-words that will be most important for our study are *mach* 'who' and *tas* 'what.' (16) below gives examples of *wh*-questions using *mach* and *tas*.

(16) a. **Mach** ix-∅-ulek'-i?
who PRFV-B3–come-ITV
'Who came?'

b. **Tas** ix-∅-a-man-a'?
what PRFV-B3-A2s-buy-TV
'What did you buy?'

[3]Similar facts are presented for the San Sebastián dialect of Chuj in Maxwell (1976).

Wh-question formation generally involves the fronting of the *wh*-word to a pre-verbal position, leaving a post-verbal gap. (We discuss exceptions to this fronting requirement later in the section.) Recall from the discussion of example (11) above that when the fronted *wh*-word is a transitive subject, the verb will be in the Agent Focus form. Some examples of *wh*-questions with other *wh*-words are given here:

(17) **Examples of other *wh*-words:**

a. **Bak'in** ix-∅-ulek' waj Xun?
When PRFV-B3-come CL.NAME Juan
'When did Juan come?'

b. **B'ajtil** ix-∅-a-man-a'?
Where PRFV-B3-A2s-buy-TV
'Where did you buy it?'

c. **Tasyu'uj** ix-∅-el waj Xun?
Why PRFV-B3-leave CL.NAME Juan
'Why did Juan leave?'

d. **Tas** ix-∅-aj waj Xun?
What PRFV-B3-go CL.NAME Juan
'How did Juan go?'

e. **Jay-wanh** eb' winh unin ix-∅-ulek'-i?
How.many-CL.NUM PL CL.MASC child PRFV-B3-come-ITV
'How many boys came?'

f. **Jay-e** lapis ix-∅-a-man-a'?
how.many-CL.NUM pens PERF-B3-A2s-buy-TV
'How many pens did you buy?'

In this paper, we will concentrate on *wh*-arguments involving the *wh*-words *mach* 'who' and *tas* 'what' as in (16) above. Animate *which*-phrases such as the English *which boy* or *which girl* can be formed by adding a nominal domain to *mach*.[4]

(18) ***Mach* can take a domain to form a *which*-phrase:**

a. **Mach** winh ix-∅-ulek'-i?
who CL.MASC PRFV-B3-come-ITV
'Who$_{masc}$ came?'

b. **Mach** winh unin ix-∅-k-il-a'?
who CL.MASC child PRFV-B3-A1p-see-TV
'Which boy did we see?'

[4]Domingo Pascual (2007) gives the word *aja'a* for 'which' in Chuj. We have not encountered any uses of this word in our elicitations.

When a plural *wh*-phrase is constructed, it may be optionally marked by the plural marker *-tak*, (19a). Animate individuals may also be marked by the (animate-only) plural marker *eb'*, (19b). If the *wh*-word is explicitly marked as plural, so must the noun, (19c).

(19) ***Mach* can be pluralized in two different ways:**

a. **Mach**-tak ix-∅-ulek'-i?
who-PL PRFV-B3-come-ITV
'Who$_{pl}$ came?'

b. **Mach** eb' winh winak ix-∅-mak-an-cham nok' tz'i' chi
who PL CL.MASC man PRFV-B3-hit-AF-dead CL.ANIMAL dog DEM
ix-∅-el-i?
PRFV-B3-leave-ITV
'Which of the men who killed the dog left?' (Buenrostro, 2009, 210)

c. **Mach**-tak *(eb') winh unin ix-∅-ulek'-i?
who-PL PL CL.MASC child PRFV-B3-come-ITV
'Which boys came?'

Similarly to *mach*, an inanimate nominal domain can be added to *tas* 'what' to create a *which*-phrase:

(20) ***Tas* can take an inanimate domain to form a *which*-phrase:**

Tas libro-al ix-∅-y-awtej waj Xun?
what book-NML PRFV-B3-A3-read CL.NAME Juan

'Which book did Juan read?'

Mach can also be used to form inanimate *which*-phrases, although more often *tas* is used for this purpose (20). Note however that *tas* cannot be used with an animate domain:

(21) ***Mach* can take an inanimate domain, but *tas* cannot take an animate domain:**

a. **Mach** libro-al ix-∅-y-awtej waj Xun?
what book-NML PRFV-B3-A3-read CL.NAME Juan
'Which book did Juan read?'

b. * **Tas** winh ix-∅-ulek'-i?
what CL.MASC PRFV-B3-come-ITV
Intended: 'Who$_{masc}$ came?'

If a *wh*-phrase is not fronted, the result is an echo question (22a).[5] Such a question cannot be embedded under a question-embedding predicate such as *ojtak* 'know' (22b). Only questions that involve *wh*-fronting are 'true' questions that can be embedded (22c).

[5]In some cases an alternative interpretation of a non-fronted *wh*-word as a non-specific indefinite is available. See section 3.

(22) **Questions without fronting are echo questions and cannot be embedded:**

a. Ix-∅-ulek' **mach**?
PRFV-B3-come who
'Who came?' (echo question) (cf 16a)

b. * K-ojtak [ix-∅-ulek' **mach**].
A1p-know PRFV-B3-come who
Intended: 'We know who came'

c. K-ojtak [**mach** ix-∅-ulek'-i].
A1p-know who PRFV-B3-come-ITV
'We know who came'

Question formation involves optional pied-piping of additional material along with the *wh*-word to the front of the question. When pied-piping occurs, secondary fronting takes place to reverse the order of the *wh*-word with respect to its pied-piped preposition, as is common in other Mayan languages (Smith-Stark, 1988; Aissen, 1996; Coon, 2009, a.o.).[6]

(23) **Pied-piping with secondary fronting vs. preposition stranding:**

a. **Mach** y-et(-ok) ix-ach-och-i?
who A3-with-IRR PRFV-B2p-help-ITV
'Who did you help?'

b. **Mach** ix-ach-och y-et(-ok)?
who PRFV-B2p-help A3-with-IRR
'Who did you help?'

(24) a. **Tas** y-et(-ok) ix-∅-tajnih ix Malin?
what A3-with-IRR PRFV-B3-play CL.FEM Maria
'What did Maria play with?'

b. **Tas** ix-∅-tajnih ix Malin y-et(-ok)?
what PRFV-B3-play CL.FEM Maria A3-with-IRR
'What did Maria play with?'

Finally, if there is a pre-verbal topic, the fronted *wh*-word must follow the topic (Bielig, 2015; see also Aissen, 1992). Recall that the topic then binds a classifier-pronoun in post-verbal position.

[6]Descriptively, we refer to items such as *et* 'with' using the term "(agreeing) preposition," rather than "relational noun." This terminological choice is orthogonal to our discussion here. In all examples involving *et* 'with,' it is possible to add the irrealis marker *-ok* to the preposition without a change in meaning. This alternation occurs freely in all positions. Examples with *-ok* were judged as marginally better when *et* is stranded.

(25) **Questions can be embedded under a topic:**

a. Ix Mia$_i$, **mach** y-et ∅-tajnih ix$_i$ ewi?
CL.FEM Mia who A3-with B3-play CL.FEM yesterday
'Who did Mia play with yesterday?'

b. Ix Matal$_i$, **mach** winh unin ix-∅-y-il ix$_i$?
CL.FEM Magdalena who CL.MASC child PRFV-B3-A3-see CL.FEM
'Which boy did Magdalena see?'

3 Bare *wh*-indefinites

In this section we turn to our first non-interrogative use of *wh*-words in Chuj: bare *wh*-indefinites. In some limited contexts, the bare *wh*-words *tas* ('what') and *mach* ('who') can be interpreted as nonspecific indefinites with the meanings 'something' and 'someone,' respectively. We will begin by giving some background on the use of bare *wh*-words as indefinites cross-linguistically and some common restrictions on such uses. We will then present the various conditions under which Chuj *tas* 'what' and *mach* 'who' can have this indefinite interpretation.

3.1 Background: bare *wh*-indefinites

In addition to their use in interrogative clauses, *wh*-words are often used cross-linguistically to form indefinites (see e.g. Cheng, 1991; Postma, 1994; Haspelmath, 1997; Bhat, 2000; Gärtner, 2009, and references therein).[7] We can broadly classify such uses into two categories: indefinites formed of *wh*-words with additional morphology on them, and indefinites which are bare *wh*-words. Examples of each are given below.

(26) **An indefinite formed of a *wh*-word with the morpheme *-ka* in Japanese:**

Dare-ka-ga ki-ta.
who-KA-NOM come-PAST

'Someone came.'

[7] Cheng (1991, p. 80) in turn cites Chomsky (1964); Katz and Postal (1964); Klima (1964) for early discussion of the relationship between indefinite and interrogative nominal forms. See also Kuroda (1965), who one year later introduced the term "indeterminate" to refer to "nouns that behave like a logical variable" (p. 43), including such items which can be used interrogatively or indefinitely.

(27) **An indefinite bare *wh*-word in Mandarin Chinese:**

Ta bu xihuan **shenme**.
he NEG like what

'He doesn't like anything.' (Li, 1992, 127)

We will show in the following section that Chuj has indefinites of the latter type, which we call *bare wh-indefinites*. Here we will therefore briefly review previous cross-linguistic work on such indefinite uses of bare *wh*-words.[8]

It has been noted that the use of bare *wh*-words as indefinites is cross-linguistically quite common. Building on previous literature, Gärtner (2009) compiled the following list of 62 languages with bare *wh*-indefinites (what he calls "[i=i]" or "interrogative=indefinite" languages), which he says is based on an aggregate survey of approximately 150 languages. (See also Appendix B of Gärtner (2009) for additional details.)

(28) **Languages with bare *wh*-indefinites (Gärtner, 2009, 12):**
Aghem, Assuriní, Atayal, Belorussian, Burushaski, Chinese, Diyari, Djaru, Dutch, Dyirbal, Old English, Finnish Sign Language, Galibi, German, Goajiro, Gooniyandi, Gothic, Classical Greek, Guaraní, Hmong Njua, Hopi, Jaminjung, Kaingang, Kamaiurá, Khmer, Klamath, Koasati, Korean, Lakhota, Latin, Lithuanian, Mangarayi, Mapuche, Maricopa, Martuthunira, Masalit, Mising, Mundari, Newari, Panare, Panyjima, Pashto, Passamaquoddy, Eastern Pomo, Ancash Quechua, Russian, Vedic Sanskrit, Santali, Shoshone, Siuslaw, Old Church Slavonic, Slovene, Takelma, Thai, Ukrainian, Warndarang, Wintu, Xinh Mul, Yaqui, Yidini, Yindjibarndi, Yup'ik

At the same time, it has been noted that the use of bare *wh*-words as indefinites is limited in these languages in a number of ways. One limitation is in the inventory of *wh*-words which can receive an indefinite interpretation. In Dutch, for example, the *wh*-word *wat* 'what' can have an indefinite 'something' interpretation, as in (29a) below, but the *wh*-word *wie* 'who' cannot (29b):

(29) **Dutch *wat* 'what' but not *wie* 'who' can be indefinite:**

a. Jan heeft **wat** gedaan.
John has what done
'John has done something.' (Postma, 1994, 187)

[8]For a review of the former option—indefinites formed of *wh*-words with additional morphology—see Haspelmath (1997) and also Bhat (2000).

b. * Er heeft **wie** gebeld.
It has who rung.the.bell
Intended: 'Someone has rung the bell.' (Postma, 1994, 188)

Similarly, in many languages the indefinite use of *wh*-words is limited to simplex *wh*-words rather than *wh*-phrases headed by items such as *which*. For example, while Mandarin Chinese allows for an indefinite interpretation of *wh*-words—in certain circumstances, to be detailed below—nominals headed by 'which' *na/nei* cannot receive such an interpretation.

(30) **Mandarin Chinese *which*-phrase does not allow indefinite interpretation:**

* Ta bu xihuan **na**-ge (ren).
he not like which-CL person
Intended: 'He does not like any person.' (cf 27) (Li, 1992, 150)

A second common limitation is that, in languages with interrogative *wh*-fronting, the *wh*-word must not be fronted. This restriction is observed in Shoshone (Uto-Aztecan), as illustrated in example (31) below. The *wh*-word must be fronted in Shoshone questions (Miller, 1996), as in (31a), whereas *wh*-indefinites must not be (31b). As we have seen in section 2.3 above, Chuj is also an interrogative *wh*-fronting language, and we will indeed later observe this in-situ requirement on bare *wh*-indefinites in Chuj.

(31) **Shoshone (Uto-Aztecan) bare *wh*-indefinites must be in-situ:**

a. **Hakke** ɨn puikka?
who you saw
'Who did you see?'

b. Nɨ kian **hakke** puikka.
I perhaps someone saw
'I saw someone.' (both from Bhat, 2000, 383, from Miller, 1996)

A third common restriction is that bare *wh*-indefinites must be in the scope of a particular licensing environment or operator. A common licensing environment is negation; see for example the indefinite use of the Vietnamese *wh*-word licensed by negation in (32) below.

(32) **Vietnamese *wh*-indefinite licensed by negation:**

a. Co ay gap **ai**
she met who
'Who did she meet?'
* 'She met someone/anyone.' (Tran and Bruening, 2013, ex. 1)

b. Tan khong moi **ai**
Tan Neg invite who
'Tan didn't invite anyone.'
'Who did Tan not invite?' (Tran and Bruening, 2013, ex. 25)

Bare *wh*-indefinites are similarly licensed under negation in Mandarin Chinese, as well as in polar questions and in the antecedent of conditionals, leading Huang (1982); Li (1992); Cheng (1994) to describe bare *wh*-indefinites as negative polarity items. However, Lin (1998) has shown that *wh*-words in Mandarin can also receive an indefinite interpretation in some irrealis contexts such as under future modals.[9]
As we will see in the following section, the distribution of bare *wh*-indefinites in Chuj resembles that in Mandarin Chinese, with licensors including negation, conditionals, and prospective (future) aspect. One immediate difference between Mandarin Chinese and Chuj is, of course, the fact that for interrogative clauses, Mandarin Chinese is a *wh*-in-situ language whereas Chuj is a *wh*-fronting language (see section 2.3). While previous work such as Cole and Hermon (1998) has claimed that the use of *wh*-indefinites may correlate with the availability of interrogative *wh*-in-situ, more recent work by Bruening (2007) and Aldridge (2007) have disputed this alleged connection. The facts we will present from Chuj support the idea that the availability and distribution of bare *wh*-indefinites is independent of the language's *wh* interrogative strategy: in particular, we will show that Chuj allows for bare *wh*-indefinites in licensing conditions very similar to that in Mandarin Chinese, even though they differ in their interrogative *wh* usage.

3.2 Bare *wh*-indefinites in Chuj

In this section we will describe the limited conditions under which bare *wh*-words can take an indefinite interpretation. Following the background above, we will cover three restrictions on bare *wh*-indefinites: the behavior of different *wh*-words and phrases, the in-situ requirement, and licensing environments.
First, we note that bare *tas* 'what' can be freely interpreted as an indefinite in any post-verbal position (33a).

[9]The characterization of these environments identified by Lin (1998) has been thought of as (similar to) so-called non-veridical environments (Giannakidou, 1998; Giannakidou and Cheng, 2006, see e.g.).

(33) **Post-verbal 'what' but not 'who' can be interpreted as a *wh*-indefinite:**

a. Ix-∅-k-il **tas**
PRFV-B3-A1p-see what
'We saw something.' (=1)
'We saw what?' (echo question)

b. Ix-∅-k-il **mach**
PRFV-B3-A1p-see who
* 'We saw someone' 'We saw who?' (echo question)

In contrast, *mach* 'who' cannot be an indefinite in (33b), although we will see bare *mach* indefinites in a certain limited set of environments below.
These *wh*-indefinites must be simplex and cannot take a nominal domain. Recall that *wh*-words in questions can take a domain to form a *which*-phrase, as illustrated again in (34) below. We contrast these examples to (35), which is based on (33a) above. The addition of a nominal domain blocks the indefinite 'some book' reading, leaving only the echo question reading available.

(34) **'What' *tas* can take a domain to form a *which*-question:**

a. **Tas** ix-∅-∅-il-a'?
what PRFV-B3-A2s-see-TV
'What did you see?'

b. **Tas** libro-al ix-∅-∅-awtej?
what book-NML PRFV-B3-A2s-read
'Which book did you read?'

(35) **Indefinite *tas* cannot take a nominal domain:**

Ix-∅-k-il **tas** libro(-al)
PRFV-B3-A1p-see what book-NML

* 'We saw some book.' (cf 33a)
'We saw which book?' (echo question)

Second, we note that *wh*-indefinites must be in a post-verbal argument position and cannot be fronted. Compare the intended declarative reading of (36) with an indefinite *tas* to the grammatical *wh*-question in (34a) above. We observe that when a *wh*-word is fronted only the interrogative reading is available.

(36) **Fronted *wh* cannot be indefinite:**

* **Tas** ix-∅-∅-il-a'.
what PRFV-B3-A2s-see-TV

Intended: 'I saw something.' (cf 34a)

Recall that Chuj is an interrogative *wh*-fronting language. Such a requirement that *wh*-indefinites be in-situ is common in languages with *wh*-fronting (Cheng, 1991; Bhat, 2000, a.o.), as mentioned above.

Third, we turn to the special licensing conditions for the indefinite use of *mach* 'who' as 'someone.' Unlike *tas* which can be interpreted indefinitely in any post-verbal argument position, a limited set of licensors is necessary for this indefinite reading of *mach*.

A common licensor of bare *wh*-indefinites is negation and negation in Chuj indeed licenses the indefinite use of *mach* as a narrow-scope 'someone.' Negation in Chuj circumscribes the main predicate. The first morpheme has various realizations, for example surfacing as *manh* with nonverbal predicates and prospective aspect, *maj* with perfective aspect, and *max* with imperfective aspect (Coon and Carolan, 2015). The second morpheme is an invariant *laj* and either attaches to the predicate (the verbal root itself, or after an irrealis marker *ok*) or to the first negation morpheme. With stative predicates, this process results in the form *malaj*.[10]

(37) **Negation is a licensor of bare *mach*-indefinites:**

a. Maj ∅-k-il laj **mach**/**tas**.
NEG B3-A1p-see NEG who/what
'We didn't see anyone/anything.'

b. Maj ∅-ulek' laj **mach**.
NEG B3-come NEG who
'No one came.'

Bare *wh*-indefinites are also licensed in the antecedent of conditional clauses:

[10] *Malaj* is used with stative verbs (Domingo Pascual, 2007, pp. 142, 200), such as *gana* 'want/like':

(i) Malaj in-gana jun pastel.
NEG A1s-want/like one cake
'I don't want/like the cake.'

Malaj will also be discussed in section 5.1 as the negative existential predicate.

(38) **Conditional licenses bare *wh*-indefinites:**

Tato tz-∅-∅-il **mach/tas**, ∅-∅-al t'a hin.
if IMPF-B3-A2s-see who/what B3-A2-say PREP B1s

'If you see someone/something, let me know.' (lit. say it to me)

The last licensors are the prospective (future) and progressive aspects, in (39). Here, in addition to *tas* 'what,' *mach* 'who' is also licensed:[11]

(39) **The prospective and progressive aspects license *wh*-indefinite:**

a. Ol-∅-w-il **mach**
PROSP-B3-A1s-see who
'I will see someone.'
'I will see who?' (echo question)

b. Lan k-il-an **mach**
PROG A1p-see-SUB who
'We are seeing someone.'
'We are seeing who?' (echo question)

This is in contrast to the perfective, observed above in (33), and the imperfective in (40) here below, where *tas* can take an indefinite interpretation but *mach* cannot.

(40) **Imperfective aspect does not license bare *mach*-indefinite:**

a. Tz-∅-∅-il **tas**
IMPF-B3-A2s-see what
'You see something.'
'You see what?' (echo question)

b. Tz-∅-∅-il **mach**
IMPF-B3-A2s-see who
* 'You see someone.'
'You see who?' (echo question)

We note that the licensing of bare *wh*-indefinites by negation, conditionals, and prospective (future-oriented) aspect parallels their licensing environments Mandarin

[11]Transitive verbs in the progressive aspect appear with the suffix *-an*, glossed SUB for "subordinate clause" in (Buenrostro, 2004), which we adopt here. This suffix seems to be identical to the Agent Focus suffix, as is common in Q'anjob'alan languages (Coon et al., 2014), but this verb form is formally distinct from the AF form. For one, here the Set B agreement slot is dropped, with a Set A cross-referencing the subject, whereas the AF verb lacks a Set A marker. (Compare with (11c) and (13b) above.) See Coon and Carolan (2015) for detailed discussion, and see also discussion after example (40).

Chinese (see e.g. Lin, 1998), although the progressive (see 39b) does not license bare *wh*-indefinites in Mandarin Chinese. We suspect that the licensing of *wh*-indefinites in the Chuj progressive is related to the syntax of the progressive itself: the progressive is morphosyntactically quite distinct from all other aspects and arguably involves embedding the main predicate under the marker *lan*. See Coon and Carolan (2015) and footnote 11 above.

Recall from above that *tas* 'what' differs from *mach* in allowing an indefinite interpretation in any post-verbal position, without a designated licensor, but cannot take a nominal domain as in *tas libroal* with an intended interpretation of 'some book' (35). We can show this same pattern with *mach*. Because *mach*, unlike *tas*, requires a licensing environment such as negation, we start with the baseline bare *wh*-indefinite in (41a). The addition of an explicit domain to *mach* in (41b) again leads to ungrammaticality of the indefinite reading.

(41) **Indefinite *mach* also cannot take a nominal domain:**

a. Maj ∅-k-il laj **mach/tas**.
NEG B3-A1p-see NEG who/what
'We didn't see anyone/anything.' (= 37)

b. * Maj ∅-k-il laj **mach** winh unin.
NEG B3-A1p-see NEG who CL.MASC child
Intended: 'We didn't see any boy.' (see also 35)

Finally, we note that a *wh*-indefinite need not be a core argument of the verb, as in the examples we have seen above. This is demonstrated in example (42) below, where *mach* with an indefinite interpretation is the object of a preposition.

(42) **A *wh*-indefinite may be the object of a preposition:**

Maj in-och laj y-et **mach**.
NEG B1s-help NEG A3-with who

'I didn't help anyone.'

In summary, in this section we presented the distribution of bare *wh*-indefintes in Chuj. Three types of restrictions were documented, which are all independently well attested in the distribution of bare *wh*-indefinites cross-linguistically, as reviewed above. First, we saw that different *wh*-phrases differ in the availability of indefinite interpretation: *tas* 'what' can be an indefinite rather freely, *mach* 'who' requires an explicit licensor, and complex *wh*-phrases with nominal domains cannot be used. Second, we showed that bare *wh*-words are required to be in post-verbal position for their intended indefinite

reading. Such a requirement is common in languages with obligatory interrogative *wh*-fronting. And third, for *mach* 'who,' a class of licensing constructions were documented. This includes negation, conditionals, and prospective (future) and progressive aspects.

4 Complex *wh*-quantifiers

We next turn to quantificational expressions formed of *wh*-words combined with additional morphology. The use of modified *wh*-words to form a variety of quantificational expressions is cross-linguistically well attested. We will call these *complex wh-quantifiers*. The two forms that we will discuss here is the *yalnhej-wh* free choice series and the universal quantifier *masel mach*.

4.1 Free choice *yalnhej-wh*

In this section we discuss Chuj free choice items formed of *wh*-words modified with *yalnhej*. A basic example is given in (43). Here we gloss *yalnhej* as an unanalyzed unit, but we will return to this later in this section.

(43) **Free choice item formed of *yalnhej* and *tas* 'what':**

Ol-∅-w-awtej **yalnhej tas**.
PROSP-B3-A1s-read YALNHEJ what

'I will read anything/whatever.'

The term *free choice* for these items comes from Vendler (1962) and Ladusaw (1979) and reflects the intuition that (43) expresses that, no matter what entity is chosen, the speaker will read it—the speaker is indifferent towards the choice of actual referent. We will translate these items using English *wh-ever* and *any*, although the latter also has an NPI use in English. The use of *wh*-words to form free choice items (FCI) is cross-linguistically well-attested; for example, Giannakidou and Cheng (2006) present such examples in Greek, Catalan, Spanish, Dutch, Korean, Japanese, and Hindi.
The FCI in (43) is in post-verbal argument position, but FCIs are frequently fronted to pre-verbal position as in (44). FCIs are also not limited to object position; see (45) for a FCI in subject position. Note also that this FCI in (45) is formed using *mach* 'who.'

(44) **FCI can be in pre-verbal position:**

Yalnhej tas ol-∅-w-awtej.
YALNHEJ what PROSP-B3-A1s-read

'I will read anything/whatever.'

(45) **FCI can be a subject:**

In-s-mak **yalnhej mach**.
B1s-A3-hit YALNHEJ who

'Anyone/whoever hit me.'[12]

The domain of *yalnhej-wh* FCIs can be further restricted by the addition of a nominal domain or a relative clause:

(46) **FCI restricted by a nominal domain:**

Yalnhej tas libro-al tz-∅-∅-awtej.
YALNHEJ what book-NML IMPF-B3-A2s-read

'You read any book.'

(47) **FCI restricted by a relative clause:**

Yalnhej mach s-∅-jaw-i ol-in-och y-et-ok.
YALNHEJ who IMPF-B3-come-ITV PROSP-B1s-help A3-with-IRR

'I will help {anyone who / whoever} comes.'

In addition to FCIs formed with *tas* 'what' and *mach* 'who,' FCIs formed of *b'aj* 'where' are also quite natural:

(48) **A place FCI:**

Yalnhej ba'j tz-∅-∅-al in-b'at-i.
YALNHEJ where IMPF-B3-A2s-say B1s-go-ITV

'I go anywhere/wherever you say.'

To summarize, *yalnhej* can productively combine with a range of *wh*-words to form a free choice item which can be in pre-verbal or post-verbal position. These FCI can also take a nominal domain or relative clause.
Now we turn to the structure of these FCIs themselves. There is reason to believe that *yalnhej* is internally complex and made up of the ability modal *yal* and the 'only' word

[12]We recognize that the translation here with *anyone/whoever* is unnatural in English. A more natural translation may be 'Someone or other hit me.'

nhej. Free choice examples are analyzed in this way by Buenrostro (2009), with *yal-nhej* glossed as 'able-only'.

(49) ***Yal* is an ability modal:**

S-∅-**yal** w-al-an kastilla.
IMPF-B3-able A1s-speak-SUB Spanish

'I can speak Spanish.' (Buenrostro, 2009, p. 142)

(50) ***Nhej* is an 'only' word:**

A **nhej** waj Xun tik ko-gana.
FOC only CL.NAME Juan DEM A3p-like

'We like only [this] Juan.'

The idea that *yal* and *nhej* should be thought of as separate morphemes is supported by examples such as (51) which also receive a free choice interpretation.

(51) ***Yal* and *nhej* separated:**

Yal ol-∅-w-awtej **nhej** tas libro-al.
able PROSP-B3-A1s-read only what book-NML

'I can read any/whichever type of book.'

However, we will argue that in the majority of cases here, where *yal-nhej* is linearly contiguous, *yalnhej* forms a nominal constituent (DP) with the *wh*-word and any restricting material. In particular, *yal* in examples with pre-verbal *yalnhej-wh* is not a modal predicate taking a *nhej-wh* argument.

We give three arguments for this proposal. First, *yalnhej-wh* FCIs have the distribution of a nominal constituent: they can be in post-verbal argument position and can be fronted as a unit to pre-verbal position, without restriction. This can be observed in the examples above.

Second, items such as *pax* 'also' which normally appear in an immediately post-verbal position cannot split *yal* and *nhej*. This would be unexpected under the view that *yal* here is the regular modal verb.

(52) ***Yal* and *nhej* cannot be split by *pax* 'also':**

a. * **Yal** pax **nhej tas** libro-al ol-∅-w-awtej.
able also only what book-NML PROSP-B3-A2s-read

b. Ol-∅-w-awtej pax **yalnhej tas** libro-al.
PROSP-B3-A2s-read also YALNHEJ what book-NML
'I will also read any BOOK.'

The third and final argument comes from the position of negation. Recall that negation in Chuj circumscribes the predicate. Example (53a) shows that the second negation marker, *laj*, cannot be placed immediately after *yal*, as would be expected if *yal* here is the main predicate. Instead, *laj* with the irrealis marker *ok* must follow the entire FCI as in (53b).

(53) ***Yal* and *nhej* cannot be split by negation:**

a. * Manh **yal** (ok)laj **nhej tas** libro-al ol-∅-w-awtej.
NEG able IRR-NEG only what book-NML PROSP-B3-A2s-read

b. Manh **yalnhej tas** libro-al ok-laj ol-∅-w-awtej.
NEG YALNHEJ what book-NML IRR-NEG PROSP-B3-A2s-read
'I don't read just any book.' (i.e. I read some special kind of book.)

The conclusion then is that *yalnhej* in these FCIs is not obviously decomposable into the modal *yal* and the 'only' word *nhej*. Instead, *yalnhej* consistently forms a nominal constituent with the *wh*-phrase. We speculatively conclude that *yalnhej* is unanalyzable in the synchronic grammar of Chuj, but may be diachronically related to the (now rarer) construction involving the modal *yal* and a separate 'only' *nhej*, exemplified by (51), which also yields a similar free choice reading.

4.2 Universal *masel mach*

The San Mateo Ixtatán variety of Chuj has two common forms of universal quantifiers, *masel* and *masanil*. *Masel* must take a restrictor (54a), whereas *masanil* can stand on its own as 'everyone' (54b) or take a nominal domain.

(54) **Two forms of universal quantifiers, *masanil* and *masel*:**

a. **Masel** anima ix-∅-ulek'-i.
every person PRFV-B3-come-ITV

b. **Masanil** ix-∅-ulek'-i.
everyone PRFV-B3-come-ITV
'Everyone came.'

The latter quantifier commonly appears as *masel mach* 'every who' to mean 'everyone' (55a) and *masanil* can also take *mach* (55b). In this section we present a brief study of these *wh*-derived universals, *masel mach* and *masanil mach*, focusing on *masel mach* which is more common.

(55) ***Masel* and *masanil* can take *mach* 'who':**

a. **Masel mach** ix-∅-ulek'-i.
every who PRFV-B3-come-ITV

b. **Masanil mach** ix-∅-ulek'-i.
every who PRFV-B3-come-ITV
'Everyone came.'

The universal quantifiers have thus far all ranged over the entire set of human individuals. The domain of *masel mach* can be further restricted by a relative clause or a nominal domain:

(56) ***Masel mach* restricted by a relative clause:**

Masel mach ix-∅-ulek'-i ix-∅-k-il-a'
every who PRFV-B3-come-ITV PRFV-B3-A1p-see-*tv*

'We saw everyone who came.'

(57) ***Masel mach* restricted by a plural nominal domain:**

Masel mach *(eb') ix unin ix-∅-ulek'-i.
every who PL CL.FEM girl PRFV-B3-come-ITV

'All the girls came.'

These nominal domains as in (57) must be plural, as indicated by the ungrammaticality of removing the plural marker *eb'*.
In the examples, the universal quantifiers have all been in pre-verbal position, but this need not be the case:

(58) ***Masel mach* in post-verbal position:**

Ix-∅-k-il **masel mach** (ix-∅-ulek'-i).
PRFV-B3-A1p-see every who (PRFV-B3-come-ITV)

'We saw everyone (who came).'

Finally, we note that *masel* is curiously unable to take *tas* 'what' to form a universal quantifier over inanimates, *masel tas*, parallel to *masel mach*. This is shown in example (59) below, while example (60) shows that the attested *masel mach* is limited to animate domains.

(59) **There is no *masel tas*:**

* Ix-∅-w-awtej **masel tas** juntzan libro tik.
PRFV-B3-A1s-read every what certain book DEM

Intended: 'I read {every one/each} of these books.'

(60) ***Masel mach* is limited to animate domains:**

* Ix-∅-w-awtej **masel mach** juntzan libro tik.
PRFV-B3-A1s-read every who certain book DEM

Intended: 'I read {every one/each} of these books.'

Instead, inanimate universal quantification involves a simple *masanil* taking a domain, as in example (61).

(61) **Universals without *wh* are used instead:**

Ix-∅-w-awtej **masanil** juntzan libro tik.
PRFV-B3-A1s-read every certain book DEM

'I read {every one/each} of these books.'

To our knowledge the only *wh*-universal forms that exist are the animate *masel mach* and *masanil mach*, with the former being preferred. This exceptional use of *mach* cannot be subsumed under any independent differences among the *wh*-words. The only other difference between *mach* and *tas* that we have observed is a difference in their licensing as bare indefinites, in section 3 above, where bare *tas* could be an indefinite in any post-verbal position, whereas bare *mach* required a particular type of licensing environment.

A possible conclusion at this point would be to say that *masel mach* and *masanil mach* now have the status of compounds which are in the lexicon as one syntactic atom each. Evidence from the placement of negation in (62) shows that this is not true. The universal quantifier and *mach* can be separated by the irrealis marker and second negation marker *laj* when the universal operator itself is negated:

(62) **Negation can split 'every' and *mach*:**

a. Manh **masel** ok-laj **mach** ix-∅-ulek'-i.
NEG every IRR-NEG who PRFV-B3-come-ITV

b. Manh **masanil** ok-laj **mach** ix-∅-ulek'-i.
NEG every IRR-NEG who PRFV-B3-come-ITV
'Not everyone came.'

We conclude that this restriction of universals to *mach* must be some lexical selectional idiosyncrasy but that these combinations are not compounds. We leave a further investigation of these forms for future work.

5 Free relatives

In this section we turn our attention to *free relatives* (FRs) in Chuj. Free relatives are headless relative clauses introduced by a non-interrogative *wh*-word, as in the underlined portion of the English *Mary liked [$_{FR}$ what John cooked]*. Two kinds of FRs have been identified in the literature and are attested cross-linguistically: *definite* FRs (like the English example in the previous sentence) and *indefinite* FRs. Here we will briefly introduce the properties of both constructions, and show that both can be found in Chuj. One example of each type of FR is given in (63a–b):

(63) a. **Indefinite free relative in Chuj:**

Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV

'Someone came.'

* 'The person came'

b. **Definite free relative in Chuj:**

Ix-∅-in-mak [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B3-A1s-hit who PRFV-B3-come-ITV

* 'I hit someone who came.'

'I hit the person who came.'

We will show that indefinite free relatives have a limited distribution in Chuj, occurring as the complement of existential predicates, as well as a limited set of other verbs whose meaning contains an existential component. On the other hand, the distribution of definite free relatives is not limited. We begin by examining the behavior of indefinite FRs in section 5.1, and then turn our attention to definite FRs in section 5.2.

5.1 Indefinite free relatives

5.1.1 Background: Indefinite free relatives

It has been observed that some languages allow FRs to occur with an indefinite interpretation as the complement of existential predicates. This is disallowed in most

Germanic languages (with the exception of Yiddish; see Caponigro 2003), but found in other Indo-European and Semitic languages. We will refer to such FRs as *indefinite FRs*. Examples of indefinite FRs from Modern Hebrew are given in (64a–b). These FRs are equivalent in meaning to complex indefinite DPs, as highlighted by the English translation, giving the construction its name.

(64) **Indefinite free relatives in Hebrew:**

a. Yesh l-i [$_{FR}$ **ma** li-kro].
EXIST to-1sg what INF-read
'I have something to read.'

b. Eyn l-i [$_{FR}$ im **mi** le-daber].
NOT.EXIST to-1sg with who INF-talk
'I don't have anyone to talk to.'

Although there is much cross-linguistic variation in the details of such indefinite FRs (see e.g. discussion in Izvorski, 1998; Grosu, 2004; Šimík, 2011), a generalization is that they must be the internal argument of a verb which expresses existence, often of a 'have' or 'exist' type. In the Hebrew examples above, the existential verbs *yesh* (EXIST) and *eyn* (NOT.EXIST) are used. We can contrast these grammatical cases with the ungrammatical example below, where an existential verb is not used.

(65) **Hebrew indefinite FR must be the object of an existential verb:**

Kani-ti [$_{FR}$ **ma** li-kro].
bought-1sg what INF-read

Intended: 'I bought something to read.'

As we will see, indefinite FRs in Chuj must also be the complement of an existential verb. For more on such indefinite FRs cross-linguistically, we refer the reader to Grosu and Landman (1998); Izvorski (1998); Grosu (2004); Šimík (2008, 2011, 2013) and references therein.

5.1.2 The structure of indefinite free relatives

In this section we will discuss the structure of indefinite FRs in Chuj, focussing on examples which involve the existential predicate *ay*. Our discussion will be based on the Chuj indefinite free relative (63a) above, repeated below as (66). Additional predicates which allow for indefinite FRs will be discussed in the following section.

(66) **Indefinite free relative in Chuj:**

Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV

'Someone came.' (= 63a)

We propose that indefinite FRs such as (66) involve a one-place existential predicate which takes a CP with a *wh*-word fronted to its edge. The proposed structure is sketched in (67). This *wh*-fronted clause is labeled "FR" for "free relative."

(67) **Proposed structure for indefinite free relatives:**

Ay [$_{FR}$ **mach** [$_{TP}$ ix-∅-ulek'-i ___]].

EXIST who PRFV-B3-come-ITV

'Someone came.' (= 66)

This fronting is obligatory, as the ungrammatical unfronted version shows:

(68) **Fronting is obligatory in the free relative:**

* Ay [$_{FR}$ ix-∅-ulek' **mach**].
EXIST PRFV-B3-come who

Intended: 'Someone came.' (cf 66)

Two alternative hypotheses can be quickly dismissed. First, we might imagine that the surface strings such as *ay mach* in fact form nominals, with the morpheme *ay-* affixed onto the *wh*-word. In addition to the fact that *ay* and other licensing predicates are independently free-standing existential predicates in Chuj—see section 5.1.3 below—we also note that these combinations such as *ay mach* cannot together occupy a post-verbal argument position:

(69) ***Ay mach* must be pre-verbal:**

* Ix-∅-ulek' ay-**mach**.
PRFV-B3-come EXIST-who

Intended: 'Someone came.'

Furthermore, it is not the case that the existential predicate must be strictly adjacent to the *wh*-word in these indefinite FRs. Example (70) below shows that the *wh*-word may be separated from *ay*, in this case by the 'also' word *pax*:

(70) **Existential predicate may be separated from *wh* by sentential material:**[13]

Ay pax [$_{FR}$ **mach** chanh y-iko'].
EXIST also who four A3-POSS

'There are also those who have four.' (Williams and Williams, 1971, 332)

A second alternative hypothesis is that the existential predicates take two separate arguments: a *wh*-word, base-generated high, and a corresponding gapped clause. In this case, the *wh*-word that we observe right after the existential predicate did not originate from within the gapped clause. The argument against this view comes from the behavior of Agent Focus in these clauses. Recall that Agent Focus marks the $\overline{\text{A}}$-movement of transitive subjects, as illustrated in (11c) and (13b) above. In indefinite free relatives with transitive verbs, we again observe Agent Focus marking on the verb when the *wh*-indefinite word corresponds to a transitive subject. This suggests that the *wh*-word originates as an argument of the following clause, rather than being an independent argument of EXIST.

(71) **Agent Focus marking inside the sister of *ay* with fronting of subject 'who':**

Ay [$_{FR}$ **mach** ix-∅-man-an ch'anh uum tik].
EXIST who PRFV-B3-buy-AF CL.BOOK book DEM

'Someone bought this book.'

As expected, we do not observe Agent Focus marking with object *wh*-questions, since only the fronting of transitive subjects can trigger AF marking.

(72) **No Agent Focus marking when transitive objects are fronted:**

Ay [$_{FR}$ **tas** ix-∅-in-man-a'].
EXIST what PRFV-B3-A1s-buy-TV

'I bought something.'

Note that this example in (72) is an indefinite FR formed of the *wh*-word *tas* 'what' instead of *mach* 'who' as in the examples above. In general, there are no differences between *mach* and *tas* in the formation of (indefinite) FRs. In addition, although here we will concentrate on examples with *mach* 'who' and *tas* 'what,' it is also possible to construct indefinite FRs with *b'ajtil* 'where':

[13]The preposition/relational noun *'iko'* here expresses possession (Hopkins, 2012, 23).

(73) **An indefinite FR introduced by *b'ajtil* 'where':**

Ay [$_{FR}$ **b'ajtil** tz-∅-al-chaj Español].
EXIST where IMPF-B3-speak-PSV Spanish

'There are places where Spanish is spoken.'

5.1.3 Licensing predicates

So far we have concentrated on Chuj indefinite FRs which are involve the existential predicate *ay*. In this section we will show that this indefinite FR interpretation is available more generally with predicates which express the existence of their internal argument description.

We begin by taking a brief look at existential predicates in Chuj more generally. Chuj has three basic existential predicates: the positive predicate *ay*, its negative counterpart *malaj*, and a predicate meaning roughly 'other, distinct, separate' *ch'ok*, (74). These predicates can also be used to express possession, as in (75).

(74) **Existential predicates in Chuj:**[14]

a. Ay jun uum sat te' mexa.
EXIST one book [A3-]surface CL.WOOD table
'There is a book on the table.'

b. Malaj ch'anh uum sat te' mexa.
NOT.EXIST CL.BOOK book [A3-]surface CL.WOOD table
'There is no book on the table.'

c. Ch'ok ch'anh uum sat te' mexa.
OTHER CL.BOOK book [A3-]surface CL.WOOD table
'There is a different book on the table.'

(75) **Existential predicates expressing possession:**

a. Ay jun hin-tz'i.
EXIST one A1s-dog
'I have a dog.'

b. Malaj hin-tz'i.
NOT.EXIST A1s-dog
'I don't have a dog.'

[14]The noun *sat* is used to introduce surfaces and can also mean 'face' (Hopkins, 2012). In the examples such as (74), *sat* is underlyingly the possessed *s-sat*, which undergoes a productive simplification into *sat* (Buenrostro, 2009). *Sat te' mexa* is thus literally "[on] the surface of the table."

c. Ch'ok jun hin-tz'i.
OTHER one A1s-dog
'I have a different (kind/breed of) dog.'

All three of these one-place existential predicates can take a *wh*-fronted clause to yield an indefinite FR. Data here is shown for *mach* 'who' but similar facts hold for *tas* 'what.'

(76) **Indefinite FR with different existential predicates:**

a. Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV
'Someone came.' (= 66)

b. Malaj [$_{FR}$ **mach** ix-∅-ulek'-i.
NOT.EXIST who PRFV-B3-come-ITV
'No one came.'

c. Ch'ok [$_{FR}$ **mach** ix-∅-ulek'-i.
OTHER who PRFV-B3-come-ITV
'Others came.'

In addition to these basic existential predicates, some other verbs which express the existence of their internal argument can license indefinite FRs in that position, as is the case for indefinite FRs in some other languages (see discussion in Grosu, 2004). Here we demonstrate this with *aj-nak* 'be born,' *chash* 'find,' and *say* 'look for':

(77) **Indefinite free relatives with predicates with an existential component:**

a. Aj-nak [$_{FR}$ **mach** famoso].
born-STAT who famous
'Someone famous was born.' (e.g. 30 years ago)

b. Ix-∅-chash [$_{FR}$ **mach** ol-∅-po-an ke'n hin-carro].
PRVF-B3-find who PROSP-B3-fix-AF CL.METAL A1s-car
'Someone was found who will fix my car.'

c. Ko-say-an [$_{FR}$ **tas** ∅-ko-k'ulej].
A1p-look.for-SUB[15] what B3-A1p-do
'We are looking for something to do' (Hopkins, 1967, 158)

Finally, we will discuss indefinite FRs in the complement of the stative predicate *gana*. The predicate *gana* in Chuj is ambiguous between 'like' and 'want' when it takes a nominal complement (78).

[15]Recall that transitive verbs in the progressive aspect appear with a SUB "subordinate" suffix in Chuj (Buenrostro, 2004; Coon and Carolan, 2015). While there is no overt progressive marker *lan* in this example given by Hopkins (1967), the translation makes it clear that this is the source of the *-an* suffix.

(78) ***Gana* can be 'like' or 'want':**

Malaj in-gana **tas**.
NEG A1s-want what

'I don't want/like anything.'

The predicate *gana* is able to take a *wh*-fronted clause as its complement and interpret it as an indefinite FR, but in such cases only the 'want' reading of *gana* is available:

(79) **With *wh*-sister, only the 'want' reading survives for *gana*:**

Hin-gana [$_{FR}$ **mach** s-∅-p'at-i].
A1s-want who IMPF-B3-come-ITV

'I want someone to come.'

* 'I like someone who comes.'

This too can be explained through our generalization that indefinite FRs are licensed by verbs which directly express existence of this argument as part of its meaning. Intuitively, to want something is to want to have it, but to like something is not equivalent to liking to have it. In this way, we posit that the 'want' reading, but not the 'like' reading, includes an existence component which licenses the use of the indefinite FR.

5.1.4 The complexity of *wh*-phrases in indefinite free relatives

A noteworthy property of indefinite free relatives is that the *wh*-phrase involved must be a bare *wh*-word without a nominal domain. Compare (80a–b): while it is possible to say 'someone came' using an indefinite FR, it is not possible to further restrict the domain of the *wh*-word with additional material, such as 'boy.'

(80) **No nominal domain with *mach* indefinite FR:**

a. Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV
'Someone came.'

b. * Ay [$_{FR}$ **mach** winh unin ix-∅-ulek'-i].
EXIST who CL.MASC boy PRFV-B3-come-ITV
Intended: 'Some boy came.'[16]

[16]To express this intended meaning of 'Some boy came' with a nonspecific indefinite limited to boys, either an indefinite DP *jun winh unin* is used as in (i) or *ay* takes an indefinite headed relative clause *jun winh unin ixulek'i* (ii). Neither option can involve the use of a *wh*-word.

This is consistent with the fact that the bare *wh*-indefinites introduced in section 3 are also unable to take complex domains (cf (35)–(41) above). This contrasts with the ability of *wh*-words to take such domains when they function as question words, forming *which*-phrases, as illustrated in (18)–(20) in section 2.3.
Similarly, with the *wh*-word *tas* 'what,' only a bare *wh*-word can be used, and an additional domain (here: 'book') cannot be added:

(81) **No nominal domain with *tas* indefinite FR:**

a. Ay [$_{FR}$ **tas** ix-∅-s-man waj Xun].
EXIST what PRFV-B3-A3-buy CL.NAME Juan
'Juan bought something.'

b. * Ay [$_{FR}$ **tas** (ch'anh) libro(-al) ix-∅-s-man waj Xun].
EXIST what CL.BOOK book-NML PRFV-B3-A3-buy CL.NAME Juan
Intended: 'Juan bought some book.'

We might wonder whether a nominal domain could be introduced on the other side of the *wh*-word, preceding it, but this too is ungrammatical. This is illustrated with 'who' in (82a) and 'what' in (82b):

(82) **Free relatives may not have overt head nominals:**

a. * Ay winh unin [$_{FR}$ **mach** ix-∅-ulek'-i].
one CL.MASC child who IMPF-B3-come-ITV
Intended: 'There is a boy who came'

b. * Ay ch'anh libro [$_{FR}$ **tas** ix-∅-w-awtej].
one CL.BOOK book what PRFV-B3-A1s-read
Intended: 'There is a book that I read.'

As with questions, indefinite free relatives may trigger preposition stranding, or they may involve pied-piping of the preposition, with secondary fronting.

(83) **Prepositions are stranded, or they are pied-piped with secondary fronting:**

a. Ay [$_{FR}$ **mach** ix-in-och y-et(-ok)].
EXIST who PRFV-B1s-help A3-with-IRR
'There is someone I helped'

(i) Ix-∅-ulek' jun winh unin.
PRFV-B3-come one CL.MASC boy
'Some/a/one boy came.'

(i) Ay jun winh unin ix-∅-ulek'-i.
EXIST one CL.MASC boy PRFV-B3-come-ITV
'There was some/a/one boy who came.'

b. Ay [$_{FR}$ **mach** y-et(-ok) ix-in-och-i].
EXIST who A3-with-IRR PRFV-B1s-help-ITV
'There is someone I helped'

5.2 Definite free relatives

Next we turn our attention to so-called definite free relatives. We will show that they are different from indefinite free relatives in several important ways: definite FRs' distribution in the sentence is not limited in the way that the distribution of indefinite FRs is; instead, they can appear in any syntactic position and as the sister of any verb. In addition, definite FRs allow for modification by a nominal domains, unlike indefinite FRs.

5.2.1 Background: Definite free relatives

The most common FRs cross-linguistically are those that can be interpreted as a definite description (see e.g. Jacobson, 1995). These are often termed *definite FRs*, in the literature, and here we will follow this tradition. Examples of definite FRs in English introduced by *what*, *who*, and *where* are given in (84)–(86) below. In each pair, (a) provides an example with a FR and (b) provides the corresponding paraphrase using a definite DP or a PP.[17]

(84) **English free relatives introduced by *who*, *what* and *where*:**
a. I'll buy [$_{FR}$ what you are selling].
b. I'll buy [$_{DP}$ the thing(s) that you are selling].

(85) a. I'll dance with [$_{FR}$ who you choose].
b. I'll dance with [$_{DP}$ the person(s) that choose].

(86) a. I'll live [$_{FR}$ where rent prices are cheap].
b. I'll live [$_{PP}$ in the place(s) where the rent prices are cheap].

One example from Modern Hebrew is given in (87). As the translation indicates, here too the FR refers to a definite object.

(87) **Definite free relative in Hebrew:**

Ahav-ti et [$_{FR}$ **ma** she-kara-ti].
like.PAST-1sg ACC what that-read.PAST-1sg
'I liked what I read.' = 'I liked the thing(s) I read.'

[17] We note that the English free relatives here can also take the bound morpheme *-ever*, which follows the *wh*-word (Bresnan and Grimshaw, 1978). See section 4.1 for a discussion of the construction in Chuj which most resembles English *wh-ever* free relatives and free choice *any* nominals.

5.2.2 The distribution of definite free relatives

We now turn to the distribution of definite FRs in Chuj and compare it to that of indefinite FRs from section 5.1 above. Recall the indefinite FR example (63), repeated here as (88) below. The FR *mach ixuleki* is interpreted as an indefinite description in (88a). To be interpreted in this way, the FR must be the sister of an existential predicate such as *ay* in (88), *malaj*, or *ch'ok*, or of a limited set of predicates whose meaning contains an existential component, such as 'be born' and 'find.' In contrast, example (88b) illustrates that when the FR *mach ixuleki* occurs outside of this limited set of environments, it is interpreted as a definite description.

(88) a. **Indefinite free relative in Chuj:**

Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV

'Someone came.'

* 'The person came'

b. **Definite free relative in Chuj:**

Ix-∅-in-mak [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B3-A1s-hit who PRFV-B3-come-ITV

* 'I hit someone who came.'

'I hit the person who came.'

When a FR is interpreted as a definite FR, it may occur in any argument position. Examples (89) below shows a definite FR as a pre-verbal subject topic, in contrast to the definite FR in object position in (88b) above.

(89) **Definite FRs can be subjects:**

A [$_{FR}$ **mach** ix-∅-ulek'-i] ix-in-s-mag-a'.
TOP who PRFV-B3-come-ITV PRFV-B1s-A3-hit-TV

'The person who came hit me.'

In addition to *mach* 'who' and *tas* 'what,' it is possible to construct definite FRs introduced by *b'ajtil* 'where.' These *where*-FRs share their properties with the FRs described above. In (90), the FR is able to occupy pre- and post-verbal positions.

(90) **A definite FR introduced by *b'ajtil* 'where':**

a. Tz-in-kot t'a [$_{FR}$ **b'ajtil** tz-∅-al-chaj Español].
IMPF-b1-come PREP where IMPF-B3-speak-PSV Spanish
'I come from (the place) where Spanish is spoken' (cf 15a–b)

b. [$_{FR}$ **B'ajtil** kot-nak-in] te k'achan tikneik.
where come-RPST-B1s very clear now
'Right now (the weather) is clear (in the place) where I come from.'

Although Chuj does not have a dedicated definite article, definite FRs can co-occur with the demonstrative markers, proximal *tik* and distal *chi*.[18]

(91) **A definite FR can co-occur with a demonstrative:**

Ix-∅-w-il [$_{FR}$ **mach** ix-∅-ulek] tik.
PRFV-B3-A1s-see who PRFV-B3-come-ITV DEM

'I saw this person who came.'

5.2.3 The complexity of *wh*-phrases in definite free relatives

A second property that sets definite free relatives apart from indefinite free relatives is the fact that they may include overt nominal domains.
Recall that indefinite free relatives may not include such a domain, as shown in (92), repeated from (80) above.

(92) **No nominal domain with indefinite FR:**

a. Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV
'Someone came.'

b. * Ay [$_{FR}$ **mach** winh unin ix-∅-ulek'-i].
EXIST who CL.MASC boy PRFV-B3-come-ITV
Intended: 'Some boy came.'

In contrast, definite free relatives may include a domain:

(93) **Nominal domains are possible with definite FR:**

a. Ix-∅-w-ilelta [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B3-A1s-meet who PRFV-B3-come-ITV
'I met the person who came.'

b. Ix-∅-w-ilelta [$_{FR}$ **mach** winh unin ix-∅-ulek'-i].
PRFV-B3-A1s-meet who CL.MASC boy PRFV-B3-come-ITV
'I met the boy who came.'

[18] *Tik* 'this' can appear immediately following the *wh*-phrase, or at the end of the FR. If *tik* occurs at the end of the sentence, the status suffix at the end of the verb is dropped.

(94) a. Ko-gana [$_{FR}$ **tas** ix-∅-s-man waj Xun].
A1p-like what PRFV-B3-A3-buy CL.NAME Juan
'We like the thing that Juan bought.'

b. Ko-gana [$_{FR}$ **tas** libro-al ix-∅-s-man waj Xun].
A1p-like what book-NML PRFV-B3-A3-buy CL.NAME Juan
'We like the book that Juan bought.'

Notice that an alternative analysis of these examples, where *mach* and *tas* constitute relative pronouns when they co-occur with an explicit nominal domain, is untenable for two reasons. First, such an analysis would predict the relative pronoun to follow the nominal domain, resulting in the word order *winh unin mach* rather than *mach winh unin* and similarly *jun/ch'anh libro-al tas* rather than *tas libro-al*.[19] Moreover, this would be unexpected, since headed relatives are never cooccur with overt argument *wh*-relative pronouns, as we have shown in section 2.2 above.
As with questions and indefinite free relatives, definite free relatives may trigger preposition stranding or they may alternatively involve pied-piping of the preposition with secondary fronting.

(95) **Prepositions are stranded or they are pied-piped with secondary fronting:**

a. Ix-∅-w-ilelta [$_{FR}$ **mach** y-et h-och ix Malin].
PRFV-B3-A1s-meet who A3-with B3-help CL.FEM Maria

b. Ix-∅-w-ilelta [$_{FR}$ **mach** h-och ix Malin y-et-ok].
PRFV-B3-A1s-meet who B3-help CL.FEM Maria A3-with-IRR
'I met the person who Maria helped.'

5.2.4 Free relatives with quantifiers

An important characteristic of definite FRs is that they may be used to express the domains of different quantifiers. Examples (96)–(98) show free relatives as the domains for *jantak* and *tzijtum*, two different forms of the word for 'many,' as well as *juntzan* 'certain, several' (plural). Notice again that the FR may appear pre- or post-verbally, and it may include a nominal domain. For convenience, we underline the quantifier in each sentence.

[19]The word order "nominal *wh* clause" is attested in the case of adjunct-relativization, as in (15) above. However, we have already independently observed that *mach* and *tas* cannot act as such relative pronouns, as we saw above in (14).

(96) **Quantifiers taking definite FRs in any syntactic position:**

a. [Jantak [$_{FR}$ **mach** ix-∅-ulek'-i]] ix-∅-w-il-a'.
many who PRFV-B3-come-ITV PRFV-B3-A1s-see-TV

b. Ix-∅-w-il [jantak [$_{FR}$ **mach** ix-∅-ulek'-i]].
PRFV-B3-A1s-see many who PRFV-B3-come-ITV
'I saw the many people who came.'

(97) a. [Tzijtum [$_{FR}$ **mach** eb' winh unin ix-∅-ulek'-i]] ix-∅-w-il-a'.
many who PL CL.MASC child PRFV-B3-come-ITV PRFV-B3-A1s-see-TV

b. Ix-∅-w-il [tzijtum [$_{FR}$ **mach** eb' winh unin ix-∅-ulek'-i]].
PRFV-B3-A1s-see many who PL CL.MASC child PRFV-B3-come-ITV
'I saw the many boys who came.'

(98) a. [Juntzan [$_{FR}$ **mach** ix-∅-ulek'-i]] ix-∅-w-il-a'.
certain who PRFV-B3-come-ITV PRFV-B3-A1s-see-TV

b. Ix-∅-w-il [juntzan [$_{FR}$ **mach** ix-∅-ulek'-i]].
PRFV-B3-A1s-see certain who PRFV-B3-come-ITV
'I saw these people who came.'

5.3 *Jun* free relatives

Having presented the distribution and structural characteristics of indefinite FRs and definite FRs in Chuj, in this section we conclude our discussion of Chuj FRs with the particular characteristics of FRs with *jun* 'one.' We will see that these special FRs seem to be a sort of hybrid which shares some characteristics with the indefinite FRs above and some characteristics with the definite FRs.

The word *jun* in Chuj itself means 'one.' The examples in (99) and (100) show that *jun* can be added to both definite and indefinite nominals expressions—in this case, the nominal and classifier *winh unin* 'CL boy.' Adding *jun* fixes the referent to be singular, whereas the baselines without *jun* are underspecified for number.

(99) ***Jun* can be added to a definite nominal:**

a. Ko-gana winh unin ix-∅-ulek'-i.
A1p-like CL.MASC child PRFV-B3-come-ITV
'We like the boy(s) that came.' (singular or plural)

b. Hin-gana **jun** winh unin tik.
A1s-like one CL.MASC child DEM
'I like this boy.' (singular)

(100) ***Jun* can be added to an indefinite nominal:**

a. Ay winh unin ix-∅-ulek'-i.
EXIST CL.MASC child PRFV-B3-come-ITV
'Some boy(s) came.' (singular or plural)

b. Ay **jun** winh unin ix-∅-ulek'-i.
EXIST one CL.MASC child PRFV-B3-come-ITV
'Some/a/one boy came.' (singular)

Now we turn to *jun* free relatives. Our first example is in (101) below:

(101) **A *jun* free relative, as the argument of *ay*:**

Ay **jun mach** ix-∅-ulek'-i.
EXIST one who PRFV-B3-come-ITV

'Some/a/one person came.'

At this point, our FR with *jun* simply resembles the indefinite free relatives we described in section 5.1 above. The first indefinite FR example considered here, (66), is repeated here as (102) below. It seems that the only difference between example (101) and (102) is the addition of *jun*.

(102) **Indefinite free relative, repeated:**

Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV

'Someone came.' (= 66)

There are, however, significant differences between *jun* FRs and indefinite FRs. Recall that indefinite FRs as in (102) must be the internal argument of a limited set of verbs with an existential meaning (section 5.1.3 above). *Jun* FRs, by contrast, are not subject to this restriction. Example (103) below shows a FR with *jun* in the object position of 'see,' a verb which does not involve existential semantics. Example (104) gives a FR with *jun* as a pre-verbal subject topic.

(103) ***Jun* FR as object of 'see':**

Ix-∅-w-il **jun mach** ix-∅-ulek'-i.
PRFV-B3-A1s-see one who PRFV-B3-come-ITV

'I saw some/one/a person who came.'

(104) ***Jun* FR as pre-verbal subject topic:**

[**Jun mach** ix-∅-ulek'-i] ix-∅-w-il-a'.
one who PRFV-B3-come-ITV PRFV-B3-A1s-see-TV

'[Some/a/one person that came]$_i$, I saw them$_i$.'

Notice also that in both of these examples, the FR with *jun* is interpreted indefinitely. This is a general property of FRs with *jun*: unlike adding *jun* to a lexical noun (see (99)–(100) above) which does not affect its (in)definiteness, FRs with *jun* are always interpreted indefinitely. For example, compare example (103) above with example (105) below, which simply differs in the removal of *jun*. The sentence is grammatical but only with *mach ixulek'i* interpreted as a definite FR.

(105) **FR without *jun* as the object of 'see' must be definite:**

Ix-∅-w-il **mach** ix-∅-ulek'-i.
PRFV-B3-A1s-see who PRFV-B3-come-ITV

'I saw the person/people who came.' (cf 103)

With regard to these distributional facts, then, *jun* FRs pattern with definite FRs and not with indefinite FRs presented above. Nonetheless, their meaning is indefinite.
Like both indefinite and definite FRs, *jun* FRs allow for both preposition pied-piping and stranding options.

(106) ***Jun* FRs optionally pied-pipes with secondary fronting:** (cf 95)

a. Ix-∅-w-ilelta **jun mach** y-et h-och ix Malin.
PRFV-B3-A1s-meet one who A3-with B3-help CL.FEM Maria

b. Ix-∅-w-ilelta **jun mach** h-och ix Malin y-et-ok.
PRFV-B3-A1s-meet one who B3-help CL.FEM Maria A3-with-IRR
'I met a/one person who Maria helped.'

There is, however, one other characteristic besides interpretation which unifies indefinite FRs and *jun* FRs. Recall that indefinite FRs disallow the addition of nominal domains such as 'boy,' whereas definite FRs allow such restriction. In this case *jun* FRs pattern with indefinite FRs:

(107) ***Jun* FRs disallow nominal domains:**

a. * Ix-∅-w-il **jun mach** winh unin ix-∅-ulek'-i.
PRFV-B3-A1s-see one who CL.MASC boy PRFV-B3-come-ITV
Intended: 'I saw some/one/a boy who came.' (cf 103)

b. * [**Jun mach** winh unin ix-∅-ulek'-i] ix-∅-w-il-a'.
one who CL.MASC boy PRFV-B3-come-ITV PRFV-B3-A1s-see-TV
Intended: '[Some/a/one boy that I saw] came.' (cf 104)

These *jun* FRs thus exhibit a combination of the characteristics of indefinite and definite FRs, presented earlier. Like indefinite FRs, they have an indefinite interpretation and disallow nominal domains. On the other hand, like definite FRs, they have a free distribution and are not limited to the complement position of certain existential verbs.

6 Conclusion

In this paper we studied non-interrogative uses of *wh*-words in Chuj, an understudied Mayan language of Guatemala. We showed that Chuj can use bare *wh*-words as *wh*-indefinites in certain environments, and that *wh*-words can form free relatives of two different kinds, indefinite and definite. These two kinds of free relatives are different from one another in several important ways: definite FRs' distribution in the sentence is not limited in the way that that of indefinite FRs is; instead, they can appear in any syntactic position and as the sister of any verb. In addition, definite FRs allow for modification by a nominal domain, unlike indefinite FRs.
The following table summarizes the key properties of the constructions that make use of *wh*-words discussed in this paper—*wh*-questions, bare *wh*-indefinites, *yalnhej* + *wh* free choice items (FCIs), *masel mach* universals, and the three varieties of free relatives, with regard to the ability of the *wh* to have a nominal domain, to pied-pipe or prepositions strand, and be in pre-verbal and post-verbal positions.[20]

(108) **Summary of the properties of the *wh*-constructions studied in this paper:**

Availability:	*wh*-qu	bare indef	*yalnhej* FCI	*masel mach* ∀	Free relatives		
					indef	def	*jun*
Nominal domain	✓	✗	✓	✓	✗	✓	✗
Prep. pied-piping	✓	NA	NA	NA	✓	✓	✓
Prep. stranding	✓	NA	NA	NA	✓	✓	✓
Pre-verbal pos.	✓	✗	✓	✓	✗	✓	✓
Post-verbal pos.	✗ (a)	✓ (b)	✓	✓	✓ (c)	✓	✓

a. Echo questions have *wh*-words in post-verbal position.

[20]Recall that there is one additional use of *wh*-words as relative pronouns in headed relative clauses, but only in adjunct-relatives. For more on this limited use of *wh*-words, see section 2.2.

b. Bare *tas* can be an indefinite in any post-verbal position; bare *mach* requires a licensing operator.

c. Indefinite free relatives must be the complement of an existential verb such as *ay* or one of a limited set of other verbs which involves existential semantics.

References

Aissen, Judith. 1992. Topic and focus in Mayan. *Language* 68:43–80.

Aissen, Judith. 1996. Pied-piping, abstract agreement, and functional projections in Tzotzil. *Natural Language & Linguistic Theory* 14:447–491.

Aldridge, Edith. 2007. *Wh*-indefinites and their relation to *wh*-in-situ. *Proceedings of the 43rd Annual Meeting of the Chicago Linguistic Society (CLS 43)* 139–153.

Bhat, Darbhe Narayana Shankara. 2000. The indefinite-interrogative puzzle. *Linguistic Typology* 4:365–400.

Bielig, Louisa. 2015. Classifiers and constraints in Chuj topic constructions. Manuscript, McGill University.

Bresnan, Joan, and Jane Grimshaw. 1978. The syntax of free relatives in English. *Linguistic Inquiry* 9:331–391.

Bruening, Benjamin. 2007. *Wh*-in-situ does not correlate with *wh*-indefinites or question particles. *Linguistic Inquiry* 38:139–166.

Buenrostro, Cristina. 2004. El sufijo *-an* en el Chuj de San Mateo Ixtatán. *Anales de Antropologia* 38:255–267.

Buenrostro, Cristina. 2007. Oraciones de complemento en Chuj de San Mateo Ixtatán. *Anales de Antropologia* 41:239–266.

Buenrostro, Cristina. 2009. *Chuj de San Mateo Ixtatán*. El Colegio de México.

Caponigro, Ivano. 2003. Free not to ask: On the semantics of free relatives and wh-words cross-linguistically. Doctoral Dissertation, University of California at Los Angeles.

Carolan, Elizabeth. to appear. An exploration of tense in Chuj. In *Proceedings of VocUM*. Montreal: University of Montreal.

Cheng, Lisa Lai-Shen. 1991. On the typology of *wh*-questions. Doctoral Dissertation, Massachusetts Institute of Technology.

Cheng, Lisa Lai-Shen. 1994. Wh-words as polarity items. *Chinese Languages and Linguistics* 2:615–640.

Chomsky, Noam. 1964. *Current issues in linguistic theory*. Mouton.

Cole, Peter, and Gabriella Hermon. 1998. The typology of *wh*-movement: *wh*-questions in Malay. *Syntax* 1:221–258.

Coon, Jessica. 2009. Interrogative posessors and the problem with pied-piping in Chol. *Linguistic Inquiry* 40:165–175.

Coon, Jessica, and Elizabeth Carolan. 2015. Nominalizations and the structure of progressives in Chuj Mayan. Manuscript, McGill University.

Coon, Jessica, Pedro Mateo Pedro, and Omer Preminger. 2014. The role of case in A-bar extraction asymmetries: evidence from Mayan. *Linguistic Variation* 14:179–242.

Domingo Pascual, Pascual Martín. 2007. *Stzolalil stz'ib'chaj ti' Chuj: Gramática normativa Chuj*. Academia de Lenguas Mayas de Guatemala (ALMG).

Giannakidou, Anastasia. 1998. *Polarity sensitivity as (non)veridical dependency*. John Benjamins.

Giannakidou, Anastasia, and Lisa Lai-Shen Cheng. 2006. (In)definiteness, polarity, and the role of *wh*-morphology in free choice. *Journal of Semantics* 23:135–183.

Grosu, Alexander. 2004. The syntax-semantics of modal existential wh constructions. In *Balkan syntax and semantics*, 405–438.

Grosu, Alexander, and Fred Landman. 1998. Strange relatives of the third kind. *Natural Language Semantics* 6:125–170.

Guttiérrez-Bravo, Rodrigo. 2013. Free relative clauses in Yucatec Maya. *STUF: Language Typology and Universals* 66:22–39.

Gärtner, Hans-Martin. 2009. More on the indefinite-interrogative affinity: the view from embedded non-finite interrogatives. *Linguistic Typology* 13:1–37.

Haspelmath, Martin. 1997. *Indefinite pronouns*. Oxford.

Hopkins, Nicholas A. 1967. The Chuj language. Doctoral Dissertation, University of Chicago.

Hopkins, Nicholas A. 2012. *A dictionary of the Chuj (Mayan) language as spoken in San Mateo Ixtatán, Huehuetenango, Guatemala ca. 1964-65*. Tallahassee, Florida: Jaguar Tours.

Huang, Cheng-Teh James. 1982. Logical relations in Chinese and the theory of grammar. Doctoral Dissertation, Massachusetts Institute of Technology.

Izvorski, Roumyana. 1998. Non-indicative wh-complements of existential and possessive predicates. In *Proceedings of NELS 28*, ed. Pius N. Tamanji and Kiyomi Kusumoto, 159–173.

Jacobson, Pauline. 1995. On the quantificational force of free relatives. In *Quantification in natural langauges*, ed. Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara Hall Partee. Springer.

Katz, Jerrold J., and Paul M. Postal. 1964. *An integrated theory of linguistic descriptions*. MIT Press.

Klima, Edward. 1964. Negation in English. In *The structure of language: readings in the*

philosophy of language, ed. Jerry Alan Fodor and J. J. Katz, 246–323. Prentice-Hall.

Kuroda, Sige-Yuki. 1965. Generative grammatical studies in the Japanese language. Doctoral Dissertation, Massachusetts Institute of Technology.

Ladusaw, William A. 1979. Polarity sensitivity as inherent scope relations. Doctoral Dissertation, University of Texas at Austin.

Li, Yen-hui Audrey. 1992. Indefinite *wh* in Mandarin Chinese. *Journal of East Asian Linguistics* 1:125–155.

Lin, Jo-Wang. 1998. On existential polarity *wh*-phrases in Chinese. *Journal of East Asian Linguistics* 7:219–255.

Mateo Toledo, B'alam. 2011. The finiteness of nonverbal predicates in Q'anjob'al (Maya). In *New perspectives in Mayan linguistics*, ed. Herberto Avelino, 160–182. Cambridge Scholars Publishing.

Maxwell, Judith. 1976. Chuj intransitives: or when can an intransitive verb take an object? *Mayan Linguistics* 1:128–140.

Miller, Wick R. 1996. Sketch of Shoshone, a Uto-Aztecan language. In *Handbook of north american indians: Languages*, ed. Ives Goddard, 693–720. Washington: Smithsonian Institution.

Norcliffe, Elisabeth. 2009. Revisiting agent focus in Yucatec. In *New perspectives on Mayan linguistics*. MITWPL.

Postma, Gertjan. 1994. The indefinite reading of WH. *Linguistics in the Netherlands* 11:187–198.

Smith-Stark, Thomas. 1988. 'pied-piping' con inversión en preguntas parciales. Manuscript, El Colegio de México.

Stiebels, Barbara. 2006. Agent Focus in Mayan languages. *Natural Language & Linguistic Theory* 24:501–570.

Tran, Thuan, and Benjamin Bruening. 2013. Wh-phrases as indefinites: A Vietnamese perspective. In *Linguistics of Vietnamese: an international survey*, ed. Daniel Hole and Elisabeth Löbel. Walter de Gruyter.

Vendler, Zeno. 1962. Each and every, any and all. *Mind* 71:145–160.

Williams, Kenneth L., and Barbara Williams. 1971. According to our ancestors: Folk texts from Guatemala and Honduras. In *Summer institute of linguistics publications in linguistics and related fields 32*, 97–108, 325–338. Summer Institute of Linguistics of the University of Oklahoma.

Šimík, Radek. 2008. Czech modal existential wh-constructions as vp-level free relatives. *Linguistics in the Netherlands* 121–132.

Šimík, Radek. 2011. Modal existential wh-constructions. Doctoral Dissertation,

Rijksuniversiteit Groningen.
Šimík, Radek. 2013. An annotated bibliography on modal existential wh-constructions. Manuscript, University of Potsdam.