Non-interrogative *wh*-constructions in Chuj

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0 Introduction

In many languages, *wh*-words can be used for a variety of functions.

(1) **Some non-interrogative uses of *wh*:**
   a. relative pronoun
      the man who came to class
   b. free relatives
      what I ate yesterday
   c. Polarity and Free Choice Items
      anywhere, *whoever*
   d. indefinites
      e.g. Japanese *wh-ka*
   e. universal quantifiers
      e.g. Japanese *wh-mo*

☞ *Wh*-words appear in a broad range of constructions because they (a) denote alternatives (Hamblin, 1973, a.o.) and (b) are good targets for $\overline{\text{A}}$-movement. We will see both in Chuj.

We present a comprehensive survey of non-interrogative uses of *wh*-words in **Chuj** (Mayan: Q'anjob'alan; Guatemala).

(2) **Non-interrogative *wh* in Chuj:**
   a. Bare *wh*-indefinites
   b. Complex *wh*-quantifiers: free choice and universal
   c. Free relatives: definite and indefinite

- Based on elicitations with a speaker from San Mateo Ixtatán, conducted here in Montreal.
- Contributes to our typological understanding of *wh*-uses cross-linguistically.

1 Background

Chuj is verb-initial. Verbs show ergative/absolutive agreement alignment: Set A = ergative, Set B = absolutive.[2]

(3) **Simple declarative sentences:**
   a. Intransitive:
      Ol-∅-wa ix.
      PROSP-B3-eat CL.FEM
      'She will eat.'
   b. Transitive:
      Ix-∅-in-wa ixim wa'il.
      PRFV-B3-A1s-eat CL.GRAIN tortilla
      'I ate the tortilla.'

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[2]The following abbreviations are used in this presentation: A = Set A (ergative), AF = Agent Focus, B = Set B (absolutive), CL = classifier, IMPF = imperfective, ITV = intransitive verb, NML = nominal suffix, PSV = passive, POSS = possession, PRFV = perfective, PROG = progressive, PROSP = prospective, STAT = stative, SUB = subordinate, TOP = topic, TV = transitive verb. See Domingo Pascual (2007) on Chuj orthographic conventions. All uncredited data is from the authors' notes.

☞ $\overline{\text{A}}$-operators move to pre-verbal position.

(4) **Simple *wh*-questions:**
   a. Intransitive subject:
      Mach ix-∅-ulek'-i?
      who PRFV-B3-come-ITV
      'Who came?'
   b. Transitive object:
      Tas ix-∅-a-man-a'?
      what PRFV-B3-A2s-buy-TV
      'What did you buy?'

Verbs show a transitivity suffix when final in their phonological phrase.

($\overline{\text{A}}$-movement of transitive subjects is marked on the verb with the *Agent Focus* (AF) morpheme and loss of Set A agreement.)

Headed relative clauses in Chuj are gapped clauses preceded by the nominal head they modify.

(5) **Headed relative clauses:**
   a. Ix unin [$_{RC}$ (***mach**) ix-∅-ulek'-i]
      CL 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 one book that I read'

RCs show no overt complementizer akin to English *that*. *Wh*-words cannot be used as relative pronouns.[3]

2 Bare *wh*-indefinites

A postverbal bare *wh*-word in Chuj can be interpreted as an indefinite:

(6) **Post-verbal 'what':**
   Ix-∅-k-il **tas**
   PRFV-B3-A1P-see what
   'We saw something.'
   'We saw what?' (echo qu.)

(7) **Cf. preverbal 'what':**
   Tas ix-∅-∅-il-a'
   what PRFV-B3-A2s-see-TV
   * 'You saw something.'
   'What did you see?'

But this *wh*-indefinite use is highly restricted, in ways that reflect similar constraints in other languages.

☞ *Wh*-indefinites must be simplex *wh*-words, not *which*-phrases.

(8) **'What' *tas* can take a nominal domain to form a *which*-phrase:**
   Tas libro-al ix-∅-∅-awtej?
   what book-NML PRFV-B3-A2s-read
   'Which book did you read?' (cf 7)

(9) **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 6)
   'We saw which book?' (echo question)

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

☞ Unlike *tas* 'what,' *mach* 'who' cannot be an indefinite in these simple affirmative perfective contexts:

(10) **Post-verbal 'what' but not 'who' as *wh*-indefinite:**

a. Ix-∅-k-il **tas**
PRFV-B3-A1P-see what
'We saw something.' (=6)
'We saw what?' (echo qu.)

b. Ix-∅-k-il **mach**
PRFV-B3-A1P-see who
* 'We saw someone'
'We saw who?' (echo qu.)

Such idiosyncrasies between different *wh*-words are attested in other languages as well:

(11) **Dutch *wat* 'what' but not *wie* 'who' as *wh*-indefinite:** (Postma, 1994)

a. Jan heeft **wat** gedaan.
John has what done
'John has done something.'

b. * Er heeft **wie** gebeld.
It has who rung.the.bell
Intended: 'Someone has rung the bell.'

☞ But *mach* 'who' can be an indefinite with the addition of a *licensor*...

(12) **Negation licenses 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.'

(13) **Prospective and progressive aspects license *mach*-indefinite:**

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

b. Lan k-il-an **mach**
PROG A1P-see-SUB who
'We are seeing someone.'
'We are seeing who?' (echo qu.)

(14) **But imperfective aspect does not:**
Tz-∅-∅-il **mach**
IMPF-B3-A2s-see who
* 'You see someone.'
'You see who?' (echo question)

(15) **Conditional licenses bare *mach*-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)

Summary: Three constraints on *wh*-indefinite interpretation:

① Postverbal;

② Simplex;

③ *Tas* 'what' — or *mach* 'who' with an appropriate licensor

All three of these constraints echo similar constraints on bare *wh*-indefinite distribution in other languages. See Postma (1994); Haspelmath (1997); Bhat (2000); Gärtner (2009, a.o.).

3 Complex *wh*-quantifiers

3.1 Free choice *yalnhej wh*

(16) **Free choice item (FCI) formed of *yalnhej* and *tas* 'what':**
Yalnhej tas (libro-al) ol-∅-w-awtej.
YALNHEJ what book-NML PROSP-B3-A1s-read
'I will read anything/whatever / any book.'

Wh-words are often used to form free choice items (FCIs); see Giannakidou and Cheng (2006) for Greek, Catalan, Spanish, Dutch, Korean, Japanese, and Hindi.

☞ *Yal-nhej* seems to be morphologically complex (Buenrostro, 2009).

(17) ***Yal* is an ability modal:**
S-∅-**yal** w-al-an kastiya.
IMPF-B3-able A1s-speak-SUB Spanish
'I can speak Spanish.' (Buenrostro, 2009)

(18) ***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]$_F$'

Q: Is free choice *yalnhej wh* transparently the combination of the modal *yal* 'able' and *nhej* 'only'?

A: No. We argue that *yalnhej wh* is not (synchronically) the combination of *yal* and *nhej*. *Yalnhej* forms a nominal (DP) with the *wh*.

(19) ***Yalnhej wh* can be postverbal, where the modal *yal* cannot be:**
Ol-∅-w-awtej **yalnhej tas** (libro-al).
PROSP-B3-A1s-read YALNHEJ what book-NML
'I will read anything/whatever / any book.'

Negation in Chuj involves the proclitic *manh* and enclitic *(ok)-laj*.

(20) ***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-A1s-read

b. Manh **yalnhej tas** libro-al ok-laj ol-∅-w-awtej.
NEG YALNHEJ what book-NML IRR-NEG PROSP-B3-A1s-read
'I don't read just any book.' (i.e. I read some special kind.)

Similar evidence from the second position particle *pax* 'also' as well.

We have been able to elicit an example of preverbal *yal* separated from *nhej wh*, but it differs in interpretation from FCI examples above:

(21) ***Yal* and *nhej* can be 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.' (cf 16)

The clear modal interpretation here (but not above) shows that *yal* here is interpreted independently as the modal verb. (We are not sure why the interpretation here changes to an expression about *types* of books.)

Summary: *Yalnhej wh* FCIs are nominals, not decomposed into *yal* and *nhej*.

3.2 Universal *masel mach*

Mach 'who' can combine with the universal *masel* 'every':

(22) ***Masel* can take an NP or *mach* 'who':**
a. **Masel** anima ix-∅-ulek'-i.
every person PRFV-B3-come-ITV
'Everyone came.'
b. **Masel mach** ix-∅-ulek'-i.
every who PRFV-B3-come-ITV
'Everyone came.'

Masel mach can take a relative clause or nominal restrictor, and can also be in post-verbal position.

(23) ***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.'

(24) ***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).'

(25) **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.'

(26) **A universal without *wh* is 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.'

Q: Should *masel mach* then be treated (synchronically) as a monomorphemic expression, not decomposed into *masel* and *mach*?

A: No.

(27) **Negation can split *masel* 'every' and *mach*:**
Manh **masel** ok-laj **mach** ix-∅-ulek'-i.
NEG every IRR-NEG who PRFV-B3-come-ITV
'Not everyone came.'

Summary: The *wh*-word *mach* 'who'—but not *tas* 'what'—can form a universal quantifier with *masel* 'every.'

4 Free relatives (FRs)

4.1 Two kinds of free relatives

(28) **Chuj definite FR:**
Ix-∅-in-mak [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B3-A1s-hit who PRFV-B3-come-ITV
✓ 'I hit the person who came.'
* 'I hit someone who came.'

(29) **Chuj indefinite FR:**
Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV
* 'The person came.'
✓ 'Someone came.'

Both FRs are full CPs (see Kotek and Erlewine, 2016).

Definite FR can be in any argument position:

(30) **Definite FR in object and subject position:**
a. Ix-∅-in-mak [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B3-A1s-hit who PRFV-B3-come-ITV
'I hit [the person who came].' (=28)
b. Ix-in-s-mak [$_{FR}$ **mach** ix-∅-ulek'-i].
PRFV-B1s-A3-hit who PRFV-B3-come-ITV
'[The person who came] hit me.'

(31) **Preverbal topic position is ok too:**
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]$_i$, they$_i$ hit me.'

Definite FRs may be used as the domains of quantifiers:[4]

(32) **Quantifiers taking definite FRs:**
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.'

(33) 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.'

[4] One special subtype is a definite FR acting as the domain of the quantifier *jun* 'one,' which results in another type of indefinite FR. In Kotek and Erlewine (2016), we show that such *jun*-FRs have the syntax of definite FRs in being full DPs, rather than the CP size of indefinite FRs discussed here.

An indefinite FR must be the complement of a small set of predicates, with existential force.

(34) **Existential predicates in Chuj:**
a. Ay jun uum sat te' mexa.
EXIST one book surface CL table
'There is a book on the table.'
b. Malaj ch'anh uum sat te' mexa.
NOT.EXIST CL book surface CL table
'There is no book on the table.'
c. Ch'ok ch'anh uum sat te' mexa.
OTHER CL book surface CL table
'There is a different book on the table.'

(35) **Indefinite FR with existential preds:**
a. Ay [$_{FR}$ **mach** ix-∅-ulek'-i].
EXIST who PRFV-B3-come-ITV
'Someone came.' (= 29)
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 that express the existence of their internal argument can license indefinite FRs:

(36) **Indefinite FRs 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 what B3-A1p-do
'We are looking for something to do' (Hopkins, 1967, 158)

4.2 Proposal

We follow the general analysis of indefinite FRs in Caponigro (2003, 2004).
Definite and indefinite FRs have a common CP core:

(37) $[\![[_{CP}\ \text{mach}_i\ [_{TP}\ \text{ixulek'i}\ t_i]]]\!] = \lambda x\ .\ x \text{ came}$

Abstraction triggered by movement of the *wh* pronoun generates a predicate, type $\langle e, t\rangle$.

Indefinite FRs are the complement of existential verbs, e.g.:

(38) $[\![\text{EXIST } (ay)]\!] = \lambda P_{\langle e,t\rangle}\ .\ \exists x\ P(x)$
(cf analyses of English *there is*; Milsark, 1974; McNally, 1998; a.o.)

☞ This explains the limited distribution of indefinite FRs.

Definite FRs are formed by adding a D-layer to the FR.
The addition of a ι D forms a definite FR of type e:

(39) Ix-in-s-mak [$_{DP}$ ι [$_{CP}$ **mach** ix-∅-ulek'-i]].
PRFV-B1s-A3-hit who PRFV-B3-come-ITV
'[The person who came] hit me.' (=30b)

Other D quantifiers form $\langle et, t\rangle$ quantificational DPs:

(40) [$_{DP}$ tzijtum [$_{CP}$ **tas** tz-∅-chonh-nax]]
many what IMPF-B3-sell-PASS
'many things that are sold' (Buenrostro, 2009)

☞ The DP layer makes definite FRs available in any argument position.

Summary: Definite and indefinite FRs are similar internally but different externally, leading to differences in their distribution.

4.3 Evidence from extraction

Headed relative clauses in Chuj are islands for extraction:

(41) * *Mach* [$_{TP}$ ix-∅-y-awtej waj Xun
who PRFV-B3-A3s-read CL Juan

[$_{DP}$ jun libro [$_{RC}$ {ix-∅-s-tz'ib'ej, ix-∅-tz'ib'-an(-i)} __]]]?
one book {PRFV-B3-A3s-write, PRFV-B3-write-AF-ITV}

Intended: 'Who did Juan read a/one book that wrote?'

(Two variants are tested, with and without Agent Focus morphology.)
It is possible to extract out of indefinites FRs:

(42) Ay [$_{FR}$ **tas** ix-∅-s-man waj Xun].
EXIST what PRFV-B3-A3s-buy CL.MASC Juan
'Juan bought something.' baseline

(43) *Mach* [$_{TP}$ ay [$_{FR}$ **tas** ix-∅-s-man-a' ____]]?
who EXIST what PRFV-B3-A3s-buy-TV
'Who bought something?'

However, it is not possible to extract out of definite FRs:

(44) Ix-∅-y-il waj Xun [$_{FR}$ **mach** ix-∅-mak-an-poj te' mexa].
PRFV-B3-A3-see CL Juan who PRFV-B3-hit-AF-break CL table
'Juan saw [the person who broke the table].' baseline

(45) * *Tas* ix-∅-y-il waj Xun [$_{FR}$ **mach** ix-∅-mak-an-(poj) __].
what PRFV-B3-A3-see CL Juan who PRFV-B3-hit-AF-break
Intended: 'What$_i$ did Juan see [the person who broke it$_i$]?'

Summary: It is possible to extract out of indefinite FRs but not out of definite FRs.

Our explanation: An indefinite FR is a (special kind of) CP complement with no DP layer, therefore not a RC island.

5 Conclusion

Today: A survey of non-interrogative uses of *wh*-words in Chuj (Mayan).

- Bare *wh*-indefinites
- Complex *wh*-quantifiers: free choice and universal
- Free relatives: definite and indefinite

All of these various uses of *wh*-words—and many of the conditions we document—are previously attested in other languages.

Kuroda (1965) refers to (Japanese) *wh*-words as *indeterminates* ("nouns that behave like a logical variable"; p. 43) due to this multifunctionality.

☞ **Two key properties** of *wh*-words enable this versatility:

(1) **Semantically: *wh*-words introduce alternatives** (Hamblin, 1973, a.o.)
Alternatives projected by the *wh*-phrase form a domain that can be quantified over (Ramchand, 1997; Kratzer and Shimoyama, 2002, a.o.).

(2) **Syntactically: *wh*-words are natural targets of movement**
Movement creates abstraction structures, forming new $\langle e, t \rangle$ predicates of arbitrary size.

Chuj takes advantage of both properties: *wh*-alternatives enable bare indefinites, free choice items, and universals; *wh*-movement enables definite and indefinite free relatives.

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