

# Headless Relative Clauses in Yucatec Maya

Scott AnderBois and Miguel Oscar Chan Dzul  
Brown University and Universidad de Oriente  
scott\_anderbois@brown.edu, miguel.chandzul@gmail.com

## Abstract

This paper surveys headless relative clauses (i.e. ones with no overt head noun) in Yucatec Maya, an indigenous language of southern Mexico. For Indo-European languages, discussion of such constructions has focused on “free relative clauses” – those with only a bare *wh*-word in place of a head – and to a lesser extent, “light-headed” relative clauses – those with a dedicated set of pronominal elements in place of a head noun. In contrast, we show that Yucatec Maya (YM) allows for four different kinds of surface headless relative clause forms depending on the presence or absence of a *wh*-word and the presence or absence of a determiner, quantifier, or other *D*-element. With respect to free relative clauses in particular, whereas many more well-studied Indo-European languages have morphosyntactically distinct constructions for definite and indefinite free relative clauses (e.g. with an infinitive or subjunctive form in the latter case), we show that Yucatec Maya has a single morphosyntactic form whose (in)definiteness is determined by syntactic context. Finally, we argue for a fundamental interpretive difference between headless relative clauses with no *wh*-word, whose domains are obligatorily anaphoric, and ones with *wh*-words, which we claim lack this property.

## 1. Introduction

Free relative clauses have been of great interest to theorists in part because they provide a lens into the composition of *wh*-words and constructions as well because of their semantic connections with (in)definiteness and modality. While Yucatec Maya (YM) has free relative clauses, they are but one of many relative clause constructions that lack without an overt nominal head (i.e. headless relative clauses). In fact, considering an example like (1), we find that all four logically possible combinations of the presence and absence of a determiner and *wh*-word are attested with the same range of different determiners and quantifiers as other nominals.

Throughout the paper, we use brackets to delineate the embedded clause in relative clause constructions in order to make the data clearer to the reader. To do this, however, raises a potentially thorny syntactic question: how to identify what material is within the embedded clause and what material is not. For example, Gutiérrez-Bravo 2015 argues that relative uses of *wh*-words in different cases are external to the embedded clause. We set aside this syntactic question here, using brackets for smaller constituent without the *wh*-word itself, while remaining agnostic as to whether this represents the entire embedded clause, or some smaller constituent.

- (1) (le) (ba'ax) [t-u jaan-t-aj]=o'  
DEF WHAT PFV-A3 eat-TR-SS.CPLV=DIST  
'what/something that he ate'

While the four different types of headless relative clauses represented by the combinations of optional parentheses in (1) are superficially alike in form and meaning, there are subtle semantic

(and to a lesser extent syntactic) differences that emerge upon close inspection as we will see. In this paper, we survey the form and meaning of these various headless relative constructions in YM with the goal of understanding not only what they have in common, but also the subtle ways in which they differ from one another.

The structure of the paper is as follows: the remainder of §1 provides general background on the language and its verbal and nominal morphosyntax; §2-3 describe *wh*-interrogative clauses and headed relative clauses respectively, since headless relative clauses (and free relative clauses in particular) can be said to differ minimally from each of these; §4 examines in detail the four types of headless relative clauses in (1); and §5 concludes.

### 1.1. Background on Yucatec Maya

Yucatec Maya, or Maaya T'aan, as it is known to speakers, belongs to the Yucatecan branch of the Mayan family of languages. There are three other languages in the Yucatecan branch, all heavily endangered: Mopan (spoken in Belize), Itzaj (spoken in Guatemala) and Lacandon or Lakantum (spoken in Chiapas, Mexico). According to the Instituto Nacional de Lenguas Indígenas (INALI, 2008), YM is the most widely spoken indigenous language of the 365 in Mexico. The 2015 census (INEGI, 2015) states that 859,607 people speak the language in Mexico. The bulk of the population is located in the Yucatan peninsula: an estimated 538,000 in the state of Yucatán; 178,000 in Quintana Roo; and 72,000 in Campeche, with much smaller numbers of speakers in other states of Mexico and even other countries including the United States, Guatemala, and Belize with minimal dialectal difference (see Bricker, Po'ot & Dzúl, 1998)

The data here represent a mix of naturally occurring and elicited examples. Natural examples come from two text collections – Monforte et al. 2011 and Can Canul and Gutiérrez-Bravo 2016 – as well as other internet-based sources as noted. Examples with no source given are elicited.

### 1.2 Basic clausal features

YM is a head-marking language with VOS basic word order. However, other word orders are possible due to the following factors: 1) the possibility of pro-drop/zero anaphora, 2) preverbal topics which occur with the enclitic *=e'* TOP (or a deictic clitic) and a prosodic break following, and 3) an immediately preverbal focus position, with no morphological marking. This possibility is facilitated in part by the fact that core arguments are indexed via two sets of agreement markers, labeled Set A (Ergative/Nominative/Genitive) and Set B (Absolutive/Accusative) in the Mayanist tradition. Options 2 and 3 are illustrated in (2a) by *le áako'* 'the turtle' and the *su'uk* 'grass' respectively. In (2b), we see the same use of topic and focus but in a case where the transitive agent *Juan* is focused. In this case, the verb appears in a special form, typically called Agent Focus in Mayanist literature (see Norcliffe 2009 and references therein), with no Set A pronoun, Aspect/Mood (AM) marker, and with a "subjunctive" status marker.

- (2a) (Le áak=*o'*) (su'uk) t-u jaan-t-aj.<sup>1</sup>  
 DEF turtle=DIST grass PFV-A3 eat-TR-SS.CPLV  
 '(As for the turtle,) it was grass that it ate.'

<sup>1</sup> The following abbreviations for glosses are used: A – Set A; AF – Agent Focus; ANA – Anaphoric; ASSUR – Assurative; B – Set B; CLF – Classifier; CPLV – Completive; CPSV – Compulsive; DAT – Dative; DEAG – Deagentive; DEF – Definite; DEM – Demonstrative; DESI – Desiderative; DIST – Distal; EP – Epenthesis; EX – Existencial; EXTRAF – Extrafocal; F –

- (b) (Bu'ul=e') Juan jaan-t-ej.  
 beans=TOP Juan eat-TR-SS.SBJV.AF  
 '(As for beans,) it was Juan who ate them.'

YM allows for two types of predicates: verbal and non-verbal. Non-verbal predicates occur with no copula and their sole argument is marked by absolutive Set B suffixes. Verbal predicates are distinguished from non-verbal ones by the obligatory presence of a single AM morpheme. Additionally, verbal predicates contain a so-called "status suffix" which is determined by the combination of the AM marker and transitivity. The basic transitive clausal structure is illustrated in (3).

- (3) **Transitive verbal clause structure:**
- |         |      |                 |                                       |
|---------|------|-----------------|---------------------------------------|
| AM      | SetA | (Clitic Adverb) | Stem-(Tr/Caus)-Status-SetB(-Num.SetA) |
| Ts'o'ok | u    | láaj            | p'u'uj-s-ik-en-o'ob.                  |
| TERM    | A3   | all             | angry-CAUS-SS.ICPLV-B1-A3PL           |
- 'They all already made me angry.'

Intransitive clauses, as illustrated in (4a-b), have a similar structure but differ in that they show split ergativity, controlled by the AM marker together with the status suffix. (4a) shows an intransitive with nominative Set A agreement, while (4b) shows absolutive set B agreement.

- (4) **Intransitive verbal clause structure:**
- (a)
- |      |              |                 |                          |
|------|--------------|-----------------|--------------------------|
| AM   | <b>Set A</b> | (Clitic Adverb) | Stem-Status(-NumberSetA) |
| Yaan | <b>u</b>     | láaj            | p'u'uj-ul-o'ob.          |
| CPSV | A3           | all             | angry-SS.ICPLV-A3PL      |
- 'They will all get mad.'
- (b)
- |        |                 |                           |
|--------|-----------------|---------------------------|
| AM     | (Clitic Adverb) | Stem-Status- <b>Set B</b> |
| Sáam   | láaj            | p'u'uj-uk-o'ob.           |
| NI_PFV | all             | angry-SS.SBJV-B3PL        |
- 'They all just got mad.'

The complete set of Set A (Ergative/Nominative/Genitive) and Set B (Absolutive/Accusative) agreement markers is seen in (5). As in many Mayan languages, set A markers have different forms when they are prevocalic, with an epenthetic glide inserted. For first and second person singular, the glide inserted is *w*- and for third person it is *y*-. YM additionally has independent pronouns (right column) which can be used in argument positions, including as datives and the objects of prepositions.

---

Feminine; FC – Free Choice; FUT – Future; ICPLV – Incompleteive; IMP – Imperative; IPFV – Imperfective; LOC – Locative; NEG – Negation; NI\_PFV – Non Immediate Perfective; NOM – Nominative; PASS – Passive; PL – Plural; PREP – Preposition; PROG – Progressive; PTCP – Participle; REL – Relational; SBJV – Subjunctive; SG – Singular; SS – Status Suffix; TOP – Topic; TR – Transitive. We use the official orthography throughout here (Briceño Chel and Can Tec 2014) except for examples from written sources where we retain the original orthography.

## (5) Pronouns in YM

|     | Set A Pre-C | Set A Pre-V | Set B  | Independent |
|-----|-------------|-------------|--------|-------------|
| 1SG | in          | in w-       | -en    | teen        |
| 2SG | a           | a w-        | -ech   | teech       |
| 3SG | u           | u y-        | -Ø/-ij | (le)ti'     |
| 1PL | k           | k           | -o'on  | to'on       |
| 2PL | a ...-e'ex  | a w...-e'ex | -e'ex  | te'ex       |
| 3PL | u ...-o'ob  | u y...-o'ob | -o'ob  | (le)ti'ob   |

Since our focus here is on headless relative clauses and therefore on nominal structure, we refer the reader to Bohnemeyer 2002 and Briceño Chel 2006 for more detailed discussion of these structures and the various AM markers, status suffixes, and other morphology involved.

### 1.3 Basic nominal features

Nominal phrases in YM can contain an array of different elements with no single defining element required. In linear order, these include: quantifiers, determiners, numerals with numeral classifiers, adjectives, one of a very small set of nominal classifiers, nouns, relative clauses (to be discussed below), and phrase-final deictic clitics, as in (6):

- (6) le ka'a-túul in chan aalak' kaax [jaan-t-a'ab-Ø]=o'  
 DEF two-CLF A1 small NOM.CLF hen eat-tr-PASS.CPLV-B3SG=dist  
 'my two small pet hens that were eaten'

Plurality is marked by adding the suffix *-o'ob* PL to the noun, homophonous with the 3rd person plural set B marker. Although plural marking is syntactically optional in most cases, factors such as animacy and definiteness strongly favor that a semantically plural noun display plural morphology (Butler 2011, Vazquez-Rojas et al. 2018). YM does not have grammatical gender, but does have two prefixes *x-* F and *j-* M that mark gender of some sort for certain types of nouns (see Lehmann 2002 for details).

The article *le* DEF obligatorily triggers the use of a phrase-final clitic: *=a'* PROX, *=o'* DIST or *=e'* TOP, as in (7a). Since these clitics are often called deictic clitics, it may seem that *le* is simply a demonstrative. However, Vazquez-Rojas et al. 2018 convincingly show that the range of uses of *le ... =o'* also includes uniqueness and familiarity-based definites, similar to English *the*. On the other hand, however, the use of *le* DEF is not always necessary for cases where the English definite is needed, as seen in (7b). Two unresolved questions at present are how general this is for different nouns and whether such uses require genericity in some sense or truly are to be regarded as definites of roughly the sort found in English.

- (7a) Le chak=a' le boox=o' wa le [t-in p'o'-Ø]=e'?  
 DEF red=PROX DEF black=DIST or DEF PFV-A1SG wash-SS.PFV=TOP  
 'This red one, that black one or the one I washed?'

- (b) Bejla'-e' jach chokoj k'iin  
 today-TOP very hot sun  
 'Today, the sun is very hot.'

YM does not have indefinite articles, instead making use of a bare noun, a quantifier such as *ts'e'ets'ek* 'a few' or a numeral plus sortal or mensurative classifier. Of these other elements, some -- including numeral plus classifier -- can freely occur without an overt noun, while others cannot.

## 2. Wh- Interrogative Clauses in Yucatec Maya

As in many languages, interrogative clauses in Yucatec Maya predominantly consist of particular combinations of elements which also have other uses outside of interrogative clauses. While a few intrinsically interrogative elements do exist, such as the tag question particle *masima* ' (var. *maasa* ' ) and the contrastive topic question marker *kux*, this is the exception more than the rule. Matrix polar interrogative clauses, for example, are formed for many speakers<sup>2</sup> with a second position clitic *wáa*, which is historically related to the disjunctive coordinator (cf. AnderBois 2012, 2018).

Matrix wh- interrogative clauses consist of wh-words occurring in the preverbal focus position as in (8a-b). As we have already seen in (2) for non-interrogative foci, when the interrogative word is a transitive agent, the verb appears in the Agent Focus form, lacking both an AM marker and Set A (Ergative) agreement. The complete set of interrogative wh-words is seen in Table 1 and also includes a number of (free) phonological variants. There are two notable things about the inventory here. First, there is no equivalent to English *when*, with complex expressions like *ba'ax oora* 'what time' and *ba'ax k'iin* 'what day' used instead. Second, there are three wh-words for quantity including a dedicated wh-word for prices, *bajux* WHAT.PRICE.

- (8a) Máax      jaan-t-Ø      le      bu'ul=o'?'  
       WHO        eat-TR-SS.SBJV.AF      DEF      bean= DIST  
       'Who ate the beans?'

- (b) Tu'ux      t-a      w-il-aj      lel=o'?'  
       WHERE      PFV-A2      EP-see-SS.CPLV      DEM=DIST  
       'Where did you see that?'

[Narraciones mayas, p. 48]

<sup>2</sup> The other polar question strategy is the use of intonation. While often regarded as a Spanish borrowing, it remains possible as well that the intonational pattern involved is in fact the remnant of *wáa*'s high tone, especially since intermediate reduced forms such as *áa* are also attested. More careful phonetic and historical work is needed to determine which of these explanations) is ultimately correct (or if both play a role).

Table 1: List of Wh-Expressions in Yucatec Maya

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| WHO                | <i>máax</i>                                             |
| WHAT               | <i>ba'ax</i> (var. <i>ba'an</i> )                       |
| WHERE              | <i>tu'ux</i> (var. <i>tu'un</i> )                       |
| HOW                | <i>bix</i>                                              |
| WHY                | <i>ba'axten</i> (var. <i>ba'anten</i> )                 |
| WHICH (+ N)        | <i>máakalmáak</i>                                       |
| HOW MANY (+CLF +N) | <i>jay</i>                                              |
| WHAT PRICE (+N)    | <i>bajux</i> (var. <i>baajux</i> )                      |
| HOW MUCH (+N)      | <i>buka'aj</i> (var. <i>buka'an</i> , <i>beyka'aj</i> ) |

Since wh- interrogative clauses require the preverbal focus position and only a single such focus is ever permitted in YM, it is perhaps unsurprising that multiple-wh interrogative clauses are not acceptable (though (9a) can marginally be used as an echo question), whether or not the second wh-word is fronted, as shown in (9a-b).

- (9a) \**Máax jaan-t-Ø ba'ax?*  
 WHO eat-TR-SS.SBJV.AF WHAT  
 Intended: 'Who ate what?'

- (b) \**Máax ba'ax jaan-t-ej?*  
 WHO WHAT eat-TR-SS.SBJV.AF  
 Intended: 'Who ate what?'

Embedded wh- interrogative clauses are formally identical to matrix ones with no complementizer or other additional material, as in (10).

- (10a) *K-u ya'ab k'áat-ik-o'ob teen*  
 IPFV-A3 much ask-SS.ICPLV-PL DAT.1SG

*ba'axten* [jach táaj náaj-chaj-en in taal xook]  
 why very very far-SS.CPLV-B1SG A1SG come study

'They ask me a lot why I came to study from so far away.' [Narraciones mayas, p. 96]

- (b) *In w-ojel ba'ax yéetel [t-a beet-aj].*  
 A1 EP-know WHAT with PFV-A2 do.tr-SS.CPLV  
 'I know what you did it with.'

One final feature of interrogative clauses in YM, seen in (10b), is pied-piping with inversion, where the wh-word itself is fronted within the focused complex wh-phrase, in contrast to the [Prep NP] order found elsewhere.

### 3. Headed Relative Clauses in YM

Headed relative clauses are externally headed, with the relative clause itself being finite and postnominal and with no overt complementizer or non-wh relativizing element present. There are two relativization strategies for headed relative clauses in YM. First, there is the gap strategy seen in (11a), where a gap appears in the argument position and no overt marking adjacent to the head noun (i.e. the left periphery of the relative clause itself). Second, there is the pronominal wh- strategy in (11b), where a wh-pronoun, here *tu'ux* WHERE, appears in the left periphery of the relative clause, adjacent to the head noun.

- (11a) T-in k'am-aj le despeensa [t-u síi-aj \_\_\_\_]=o'.  
 PFV-A1 receive-SS.CPLV DEF voucher PFV-A3 gift-SS.CPLV=DIST  
 'I got the voucher they gifted me.'

- (b) le túun jum-p'éeł parte tu'ux [ma' buldoceado]  
 DEF then one-CLF part WHERE NEG bulldozed  
 'A part where it hasn't been bulldozed' [Narraciones mayas, p.53]

Headed gap relative clauses are possible with relativization of subjects, objects, indirect objects, objects of prepositions, times, and possessors (Gutierrez-Bravo, 2013). For locations, however, gap relative clauses do not seem to be possible (Gutierrez-Bravo, 2015), with the relative pronoun *tu'ux* WHERE needed.

- (12a) jun-túul karpinteero [\_\_\_\_ meyaj-t-ik tak gitaaras]  
 one-CLF carpenter work-TR-SS.ICPLV even guitar  
 'a carpenter who even makes guitars'

- (b) T-u sat-aj u máaskab [k-u bis-ik \_\_\_\_ t-u kool].  
 PFV-A3 lose-SS.CPLV A3 machete IPFV-A3 bring-SS.ICPLV to-A3 milpa  
 'He lost his machete that he brings to the milpa.'

- (c) Yaan kex óox-túul ko'olel [k-u ts'a-ik ti'\_\_\_\_]=e'.  
 EX even three-CLF woman IPFV-A3 give-SS.ICPLV to=TOP  
 'there are maybe three women to whom he gave it' [Gutierrez-Bravo, 2015]

- (d) le ch'úupal [taak in bis-ik-im-báa yéetel\_\_\_\_]=o'  
 DEF girl DESI A1 bring-SS.ICPLV-A1-REFL with=DIST  
 'the girl I want to go out with'

- (e) le súutuk [ken a ch'ak-Ø\_\_\_\_]=o'  
 DEF moment IRR.SUB A2 cut-SS.SBJV=DIST  
 'the moment you will cut it'

- (f) le iis [t-in ja'ats'-aj u lu'um-il\_\_\_\_]=o'  
 DEF sweet.potato PFV.A1 dig-SS.CPLV A3 soil-REL=DIST  
 'the sweet potato whose earth I had excavated'

The wh-pronoun relativization for headed relative clauses is possible for the same range of elements as the gap strategy with one key exception (see Table 2 for summary). The wh-pronouns

*máax* WHO and *ba'ax* WHAT cannot co-occur with a head noun in subject or object position, despite functioning in complex wh-phrases (e.g. 'the person with whom...') and in a variety of headless relative clauses (Gutiérrez-Bravo 2015). Put another way, the head noun and wh-word are in complementary distribution, as seen in (13b). This contrasts with other wh-words/argumental positions for which both a head noun and wh-word may co-occur, as in (13a).

- (13a) jum-p'éeł    soolar    tu'ux    [k-in    pak'-ik    su'uk]  
          one-CLF    solar    WHERE    IPFV-A1    plant-SS.ICPLV    grass  
          'a solar (plot of land) where I was planting grass.'

- (b) T-in    chuk-aj    le    {ch'o'/ba'ax}    [k-u    jaan-t-ik    le    xi'im]=o'  
      PFV-A1    trap-SS.CPLV    DEF    rat/WHAT    IPFV-A3    eat-TR-SS.ICPLV    DEF    corn=DIST  
      'I trapped {the rat/what} was eating the corn.'

Table 2: List of Wh-words in Headed Relative Clauses in Yucatec Maya

|                    |                               |
|--------------------|-------------------------------|
| WHO                | √ <i>máax</i> (only w/ PREP)  |
| WHAT (+N)          | √ <i>ba'ax</i> (only w/ PREP) |
| WHERE              | √ <i>tu'ux</i>                |
| HOW                | √ <i>bix</i>                  |
| WHY                | √ <i>ba'axten</i>             |
| WHICH (+ N)        | * <i>máakalmáak</i>           |
| HOW MANY (+CLF +N) | * <i>jay-(CLF)</i>            |
| WHAT PRICE (+N)    | * <i>bajux</i>                |
| HOW MUCH (+N)      | * <i>buka'aj</i>              |

Note. √: acceptable; \*: not acceptable.

#### 4. Headless Relative Clauses in Yucatec Maya

Based on their surface forms, YM has four different headless relative constructions, as illustrated in isolation in (14). (14a) is a standard free relative clause, though as we will see, this single form has both definite and indefinite uses. We refrain from using the term “light-headed” for (14b-c) since this term has often been used to refer to constructions headed by pronominal-like elements that do not occur freely elsewhere in the language (e.g. Citko 2009 for Polish). As we will see in §§4.2.1-4.2.2, however, whether or not the wh-word is present, the full range of determiners, quantifiers, numerals is available here.<sup>3</sup> We instead will use the more neutral term Other Headless Relative (OHR) as a cover term for these forms.

- (14a) ba'ax    [t-u    jaan-t-aj]  
      what    PFV-A3    eat-TR-SS.CPLV  
      'what s/he ate'

[+Wh, -Det] – “Free Relative” (§4.1)

<sup>3</sup> NB. (14a) is also a valid standalone sentence 'What did s/he eat?'. Similarly, (14d) also is a well-formed standalone matrix sentence 'S/he ate it.' with object pro-drop.

- (b) le ba'ax [t-u jaan-t-aj]=o'  
 DEF what PFV-A3 eat-TR-SS.CPLV=DIST  
 'what s/he ate' [+Wh, +Det] -- OHR (§4.2.1)
- (c) le [t-u jaan-t-aj]=o'  
 DEF PFV-A3 eat-TR-SS.CPLV=DIST  
 'what s/he ate' [-Wh, +Det] -- OHR (§4.2.2)
- (d) [t-u jaan-t-aj]  
 PFV-A3 eat-TR-SS.CPLV  
 'what s/he ate' [-Wh, -Det] – “Super-free” (§4.2.3)

#### 4.1. Free Relative Clauses (FRs)

In many languages, three separate Free Relative (FR) constructions can be distinguished both semantically and morphosyntactically: maximal (or definite) FRs, existential (or indefinite) FRs, and free choice FRs. In YM, however, there are only two morphosyntactically distinct constructions. First, there is what we will term Plain FRs, which have both maximal and existential uses -- Max-FR and Ex-FR -- in terms of interpretation, as shown in (15a) and (15b) respectively. However, as we will show below, the two have no difference in their internal structure. That is to say, the interpretive difference between the two is determined by the predicates which select for them rather than by their internal structure.

Second, there are free choice FRs (FC-FRs), as in (15c), which are clearly distinguished by the presence of a free choice morpheme, among other differences. Somewhat surprisingly, cross-linguistically, there are two such free choice morphemes available: *je'el* 'any', as in (15c), and *wa* 'some'.

Since, as we have stated above, [+Det] OHRs make use of a wide range of determiners and other quantificational elements, there is a sense in which FC-FRs could potentially be considered to be a particular kind of [+Det] OHR, especially since these free choice morphemes do not co-occur with determiners. However, beyond their free choice semantics, FC-FRs also differ in that the FC morphemes do not occur outside of free relative clauses with either ordinary nouns or with [-Wh] OHRs. Therefore, while we leave open the question of whether *je'el* 'any' and *wa* 'some' ought to be treated as determiners, they differ from the determiners to be discussed in §4.2 substantially enough to warrant a separate discussion, §4.1.3.

- (15a) Jach uts máax [k-u k'aay-Ø ich maaya].  
 very good WHO IPFV-A3 sing-SS.ICPLV in Maya  
 'The one(s) who sing in Maya are very good.' Max-FR
- (b) Yaan máax [k-u k'aay-Ø ich maaya].  
 EX WHO IPFV-A3 sing-SS.ICPLV in Maya  
 'Someone sings in Maya.' (Lit. "There is who that sings in Maya") Ex-FR

- (c) Jach uts je'el máax(-ak) [k-u k'aay-Ø ich maaya]=e'.  
 very good FC WHO-SBJV IPFV-A3 sing-SS.ICPLV in Maya=TOP  
 'Whoever sings in Maya is good.' **FC-FR**

#### 4.1.1. Maximal Uses of Plain Free Relative Clauses (Max-FRs)

Plain FRs with a maximal interpretation are very close in form to the headed RCs discussed in §3. In both cases, they consist of a wh-word followed by a full finite clause with a gap (though the gap may be hard to discern given the existence of pro-drop). No other relativizer or subordinator is found.

- (16a) ...ka j-k'uch-Ø-Ø tu'ux [yaan le ko'olel]=o'  
 then PFV-arrive-SS.CPLV-B3 WHERE EX DEF woman=DIST  
 '... he arrived [where the woman was].' [Maayaaj ts 'ikbalilo 'ob kaampech, p. 18]

- (b) Lel=a' k-u loobil-t-ik páajtalil ts'ab-a'an  
 DEM=PROX IPFV-A3 harm-TR-SS.ICPLV right give.PASS-PTCP  
 ti' máax [k'al-a'an-o'ob].  
 to WHO enclose-PTCP-PL  
 'This harms the rights given to [those who are incarcerated].'  
<https://www.amnesty.org/download/Documents/POL1067002018MAYA.PDF>

- (c) T-in beet-aj bix [t-u ka'ans-aj-il in maamaj]  
 PFV-A1 do.TR-SS.CPLV HOW PFV-A3 teach.TR-SS.CPLV-EXTRAFF A1 mother  
 'I did it the way my mother taught.'

Compared to headed RCs, a somewhat different set of wh-words are available in Max-FRs, as summarized in Table 3. In addition to contributing to our description of the properties of Max-FRs, these discrepancies provide an argument against the idea that Max-FRs in YM are a special instance of headed RCs with a null head of some sort, as proposed by Gutiérrez-Bravo (2015).

First, and most strikingly, whereas headed relative clauses with *máax* WHO and *ba'ax* WHAT are strictly forbidden except in oblique uses (i.e. when occurring with a preposition), these wh-words are completely acceptable in Max-FRs, as in (16b). Second, the wh-word *ba'axten* 'why' appears to be unacceptable in Max-FRs. This is so not only in adjunct/modifier uses like (17a), as is common cross-linguistically (e.g. Caponigro 2003), but also for argument cases like (17b), which are quite good (at least in English), as discussed by Caponigro 2003, §2.3.3.<sup>4</sup>

<sup>4</sup> One option in both cases is the use of a complex wh-phrase with a pied-piped preposition/relation noun as in (i). While the minimally different version in (ii) is clearly an embedded interrogative clause serving as the complement to *yo'olal* 'about', the structure and interpretation of (i) is less clear.

- (i) Tuukul-naj-en ba'axten yo'olal meyaj-naj-o'ob séeb.  
 think-SS.CPLV-B1SG WHY about work-SS.CPLV-B3PL fast  
 'I pondered the reasons why they worked quickly.'
- (ii) Tuukul-naj-en yo'olal ba'axten meyaj-naj-o'ob séeb.  
 think-SS.CPLV-B1SG about WHY work-SS.CPLV-B3PL fast  
 'I thought about why they worked quickly.'

- (17a) #T-in beet-aj ba'axten [t-a beet-aj].  
 PFV-A1 do.TR-SS.CPLV WHY PFV-A2 do.TR-SS.CPLV  
 Intended: 'I did it for the (same) reason why you did it'

(b) **Context:** Student helping a classmate with homework, but only so that the classmate's father does the student a favor.

- #K'aas ba'axten [t-u beet-aj]  
 bad WHY PFV-A3 do.TR-SS.CPLV  
 Intended: 'Why he did it was bad' (i.e. he did it for the wrong reasons)

A bit less clear is the case of amount-denoting wh-words *jay* 'how many', *buka'aj* 'how much/many', and *bajux* 'what price'. In contrast to headed RCs, one can find apparent Max-FRs with quantity wh-words, as in (18a). However, one can also find examples like (18b), where a quantity wh-word is used similarly, but crucially without a relative clause of any kind. This raises the possibility that rather than being FRs of any kind, such examples are instead best regarded as wh-indefinites<sup>5</sup>, with (18a) therefore being an example of a headed RC which just happens to have a wh-indefinite as its head.

- (18a) U je'ets'-el u ju'un-il **bajux** **taak'in** [k'a'abet] ...  
 A3 confirm.PASS-SS.ICPLV A3 paper-REL WHAT.PRICE money need  
 'How much the project needs is approved...'  
 [http://www.conapred.org.mx/documentos\_cedoc/LFPED\_maya\_WEB\_INACCSS.pdf]

- (b) jach ya'ab chowak ts'oon-o'ob  
 very many long gun-PL  
  
 yéetel **jay-p'éeel** nuukul-il ts'oon  
 with HOW.MANY-CLF instrument-REL gun  
 'There were many long guns with the (remaining) quantity of gun accessories.'  
 [T'ambilák men tunk'ulilo'ob, p. 150]

However, uses of bare wh-words with either definite or maximal semantics are quite limited. For example, simple cases like (19) are quite infelicitous, at least without a very particular context. The key question, then, is whether the necessary context is simply that there be a relative clause-like meaning salient in the discourse (e.g. "that remain in the camp" for (18b)) or if there is some other principled restriction that has no connection to relative clauses (for example, needing to occur within the scope of a particular kind of modal or other operator). We leave it future work to investigate this issue further, and hence mark these cases with a question mark in Table 3.

- (19a) \*K-in bo'ot-ik bajux.  
 IPFV-A3 pay.TR-SS.ICPLV WHAT.PRICE  
 Intended: 'I pay the/a price.'

<sup>5</sup> Given the nature of the particular natural examples we have found and the nature of quantity words, the distinction between a maximal/definite interpretation and an indefinite one is not entirely clear in this case. We leave this question open here.

- (b) \*Táan in tsikbal-Ø yéetel máax.  
 PROG A1 talk- SS.ICPLV with WHO  
 Intended: 'I am talking to someone/them.'

Table 3: Distribution of wh-words in Max-FRs in YM

|                    |                     |
|--------------------|---------------------|
| WHO                | √ <i>máax</i>       |
| WHAT               | √ <i>ba'ax</i>      |
| WHERE              | √ <i>tu'ux</i>      |
| HOW                | √ <i>bix</i>        |
| WHY                | *? <i>ba'axten</i>  |
| WHICH (+ N)        | * <i>máakalmáak</i> |
| HOW MANY (+CLF +N) | ? <i>jay-(CLF)</i>  |
| WHAT PRICE (+N)    | ? <i>bajux</i>      |
| HOW MUCH (+N)      | ? <i>buka'aj</i>    |

Note. √: acceptable; \*: not acceptable; ?: unclear.

We turn now to showing that what we have identified as plain FRs truly have definite/maximal semantics in these uses. Beyond confirming that the cross-linguistically common semantics is indeed present, there is also a more specific motivation to examine their semantics in more detail in YM. FRs in YM combine freely with ordinary determiners and quantifiers in the [+Wh, +Det] OHRs to be discussed in detail in §4.2.1. As such, there is reason to expect a priori that plain FRs might behave like the other major class of expressions which combines freely with determiners and quantifiers, namely common nouns. Bare nouns in YM have generic and indefinite uses (as recently noted by Vázquez-Rojas et al. 2018), occurring primarily in conditional antecedents, habitual/generic clauses with imperfective *k-* IPFV, and purpose clauses.

Despite the similar combinatoric possibilities, however, minimal pairs of episodic sentences provide clear evidence that the semantics of Max-FRs and bare nouns differ. While the Max-FR is acceptable with a definite-like interpretation, the corresponding headed RC with the bare noun *máak* 'person' -- the historical source for the corresponding wh-word -- is entirely unacceptable (as are both the bare noun and the bare wh-word with no relative clause).<sup>6</sup>

- (20) T-in w-áan-t-aj {máax/\*máak} [taal-Ø jo'oljeak]  
 PFV-A1 EP-help-TR-SS.CPLV WHO/person come-SS.CPLV yesterday  
 'I helped the people who came yesterday.'

Beyond this, we find that Max-FRs can be readily paraphrased, as in (21), with ordinary definite NPs with *le ...=o'*, which Vázquez-Rojas et al. 2018 show have a wide range of definite uses including uniqueness and familiarity uses, despite the otherwise deictic clitic *=o'* DIST.

<sup>6</sup> An anonymous reviewer reports that a consultant from Quintana Roo accepts the bare noun form in (20), raising the possibility that there is dialectal variation. AnderBois et al. (t.a.) mention similar variability in the interpretation of bare nouns in the related language, Ch'ol. Additionally, it is clear that the determiner system in YM (as in Ch'ol) has developed relatively recently and so dialectal variation in the semantics of determiners and bare nouns is not unexpected.

- (21) Jach ki' {ba'ax [t-in jaan-t-aj] / le janal=o'}.  
 very tasty WHAT PFV-A1 eat-TR-SS.CPLV DEF food=DIST  
 'What I ate/the food is very tasty.'

While Max-FRs have often been described as "definite" FRs, it is important to be clear about the ways in which they are definite. When referring to a single entity, Max-FRs have definite semantics by virtue of the uniqueness of the thing they describe, but have no particular propensity for being strongly familiar or anaphoric (N.B. nor are they "anti-familiar" in the way that indefinites are). When referring to more than one entity, they share with (English) plural definites the property of referring to the maximal such entity. See [AnderBois and Caponigro \(this volume\)](#) for more detailed discussion of diagnostics for (in)definiteness of FRs including some application to YM.

#### 4.1.2. Existential Uses of Plain Free Relative Clauses (Ex-FRs)

In many European languages, Ex-FRs are distinct from Max-FRs in both form and meaning, leading some scholars to consider them an entirely separate Modal Existential Wh-Construction (e.g. Grosu 2004, Šimík 2011). Syntactically, these forms are infinitival, subjunctive, or otherwise non-finite. Semantically, beyond their indefiniteness, such constructions obligatorily have a modal semantics of a sort that Max-FRs plainly lack. In YM, however, Ex-FRs and Max-FRs have identical morphosyntactic forms and do not differ semantically<sup>7</sup> beyond their presumably definitional indefiniteness, as illustrated in (22).

- (22a) Jach uts máax [k-u k'aay-Ø ich maaya].  
 very good WHO IPFV-A3 sing-SS.ICPLV in Maya  
 'The one(s) who sing in Maya are very good.' **Max-FR**
- (b) Yaan máax [k-u k'aay-Ø ich maaya].  
 EX WHO IPFV-A3 sing-SS.ICPLV in Maya  
 'Someone sings in Maya.' (Lit. "There is who that sings in Maya") **Ex-FR**

In particular, both forms (like headed RCs) involve full finite clauses with a fronted wh- and/or nominal head. While YM has subjunctive mood and non-finite complements in certain environments, neither is required here. Subjunctive forms are optionally possible in Ex-FRs.

- (23) Kex u y-oojel ma' jach séebak u kax-t-ik  
 even A3 EP-know NEG very hurry A3 find-TR-SS.ICPLV  
 ba'ax [ken u núuk-ej].  
 WHAT FUT A3 answer-SS.SBJV  
 'He even knew that it wouldn't be quick to find [something that would respond].'  
 [U yóol xkaambal jaw xiw/Contrayerba, p. 17]

<sup>7</sup> This uniformity seems to be quite common across Mayan languages, as discussed by [Coon and Vázquez Álvarez \(this volume\)](#) for Ch'ol, [Aissen and Polian \(this volume\)](#) for Tsotsil and Tseltal, and Kotek and Erlewine (2018) for Chuj. Additionally, there are other prior works which appear to make this assumption without argument (e.g. Gutiérrez-Bravo 2015 for YM). Indeed, the use of an Ex-FR as the subject of an existential predicate is the default way to encode existential quantification in Mayan languages.

Another place we see the parallel between Max-FRs and Ex-FRs is in the range of wh-words that the two constructions allow. Whereas headed RCs are not possible with *máax* WHO, *ba'ax* WHAT, or quantity-related wh-words like *buka'aj* HOW.MANY, Ex-FRs pattern with Max-FRs in allowing for these freely, as in (24).<sup>8</sup> One minor exception to the uniformity between Max-FRs and Ex-FRs is *ba'axten* WHY, which is possible (albeit infrequent) in Ex-FRs, in contrast to the situation for Max-FRs discussed above. We set aside this discrepancy here since it seems likely that a better understanding of the consistent impossibility of Max-FRs with WHY cross-linguistically may provide an independent explanation (see Aissen and Polian this volume for similar observations in Tzeltalan). The full list of wh-words possible in Ex-FRs is in Table 4.

- (24a) Ba'ax [úuch-Ø]=e' p'áat-Ø mina'an  
 WHAT happen-SS.ICPLV=TOP stay-SS.ICPLV NEG.EX
- ba'ax yéetel [u béey-tal u p'i'is-il  
 WHAT with A3 able-SS.ICPLV A3 measure.PASS-SS.ICPLV
- beyka'aj náak-ik le radioactividad]=o'.  
 HOW.MUCH reach-SS DEF radioactivity=DIST  
 'What happened was that there wasn't [anything to be able to measure how far the radiation had reached].'  
 [https://issuu.com/tchernobylforever/docs/tf-maya p. 95]
- (b) Ts'o'ok-ili' u yáax túux-t-ik jay-p'éel ba'al-o'ob  
 TERM-already A3 first send-TR-SS.ICPLV HOW.MANY-CLF thing-PL
- t-u winal-il septiembre.  
 PREP-A3 month-REL September  
 'He had already first sent [some number of things] in the month of September.'  
 [https://www.lajornadamaya.mx/2018-04-27/U-boonil-eek---o---ob-yaan-Tamakas-ich-3D--biin-u-jelbes-u-kaambalil-ka---an]
- (c) Yaan ba'axten [t-u meet-aj].  
 EX WHY PFV-A3 do.TR-SS.CPLV  
 'There is a reason why he did it.'

In terms of their external distribution, Ex-FRs occur most frequently as the argument of the existential non-verbal predicate *yaan* EX and its negative counterpart *mina'an* NEG.EX, (28a).<sup>9</sup> As has been found for other languages, certain dynamic verbs also appear to allow for Ex-FRs such as *túux* 'send', (24b), and *kax* 'seek, find', (23). Note, however, that given the lack of a morphosyntactic distinction between Max-FRs and Ex-FRs, these claims about dynamic verbs are based on rough intuitions about truth conditions, rather than grammaticality judgments. We therefore regard these data as preliminary, leaving more detailed semantic investigation to future work.

<sup>8</sup> Note again that the quantity word in (b) lacks an overt relative clause and therefore, as discussed above for Max-FRs, might ultimately be best analyzed as a wh-indefinite rather than as an FR at all.

<sup>9</sup> In negative cases, depending on the wh-word, FRs are sometimes dispreferred in favor of negative indefinites based on the negator *mix* 'not even': *mixba'al* 'nothing', *mixmáak* 'no one', *mixtu'ux* 'nowhere', *mixbik'iin* 'never'.

Based on prior cross-linguistic work, one other potential place to look for a formal distinction between Max-FRs and Ex-FRs is in so-called “case matching” effects. Following Bresnan and Grimshaw (1978)'s work on English, Max-FRs, across many languages, have been shown to require their *wh*-words to simultaneously meet the case/category requirements of the matrix and embedded predicates. In contrast, Šimík (2011) claims that Ex-FRs consistently have no such matching requirement (albeit only considering languages where Ex-FRs are necessarily modal/irrealis/non-finite).

While YM lacks morphological case, Gutiérrez-Bravo (2015) has argued with data from prepositions that YM lacks matching effects. However, Gutiérrez-Bravo (2015: §5.4)'s key examples all make use of the matrix predicate *kaxtik* ‘seek, find’ and *ts’a’ik* ‘give’, predicates which cross-linguistically allow for Ex-FRs. To show that YM truly lacks matching effects in Max-FRs, then, we must look at predicates which only allow Max-FRs. As seen in (25b-c), we find that the claim is indeed upheld, with mismatches in prepositions freely possible. Since YM has pied-piping with inversion, we can even find examples with both prepositions adjacent to the *wh*-word, as in (25c).

- (25a) T-in      ts’-aj              in      naj-il              **ti’**  
          PFV-A1      give-SS.CPLV      A1      house-REL      PREP
- máax      [t-u      taas-aj              mas      ya’ab      taak’in]  
          WHO      PFV-A3      bring-SS.CPLV      more      much      money  
          ‘I gave the house to (the person) who brought the most money’  
          [Gutiérrez-Bravo 2015: p. 150]
- (b) Jach      chich      ba’ax      **yéetel**      [k-u      beet-a’al              xanab].  
          very      hard      WHAT      with      IPFV-A3      make.TR-PASS.ICPLV      shoe  
          ‘What shoes are made with is very tough.’
- (c) Xíimbal-naj-en      **yéetel**      máax      **ti’**      [t-in      ts’a’aj              le      siibal]=o’.  
          walk-SS.CPLV-B1SG      with      WHO      to      PFV-A1      give-SS.CPLV      DEF      gift=DIST  
          ‘I walked with [the person to whom I gave the gift].’  
          (Lit. “I walked with to whom I gave the gift.”)

Table 4: Distribution of *wh*-words in Ex-FRs in Yucatec Maya

|                    |                     |
|--------------------|---------------------|
| WHO                | √ <i>máax</i>       |
| WHAT               | √ <i>ba'ax</i>      |
| WHERE              | √ <i>tu'ux</i>      |
| HOW                | √ <i>bix</i>        |
| WHY                | √ <i>ba'axten</i>   |
| WHICH (+ N)        | * <i>máakalmáak</i> |
| HOW MANY (+CLF +N) | ? <i>jay-(CLF)</i>  |
| WHAT PRICE (+N)    | ? <i>bajux</i>      |
| HOW MUCH (+N)      | ? <i>buka'aj</i>    |

Note. √: acceptable; \*: not acceptable; ?: unclear

#### 4.1.3. Free Choice Free Relative Clauses (FC-FRs) in YM

Whereas maximal and existential uses of plain FRs are not formally distinguished, FC-FRs are not only semantically distinct, but also morphologically distinct. They also exhibit further subtle formal distinctions beyond the presence of free-choice morphology, as we will see. Although recent decades have uncovered significant semantic variation in the semantics of free-choice across and within languages, it remains unclear if there is similar variation in FC-FRs. While some recent works have uncovered interesting cross-linguistic variation (e.g. Caponigro and Falaus 2017, Šimík t.a.). YM appears to present a case of variation within a single language since it has two distinct free-choice morphemes in this construction: *wa* and *je'el* ... =*e'*, as in (26).<sup>10</sup>

- (26a) T-in man-aj {je'el/wa} ba'ax t-in w-il-aj {=*e'*/Ø}.
- PFV-A1 buy-SS.CPLV FC/FC WHAT PFV-A1 EP-see-SS.CPLV=TOP
- 'I bought {whatever/something or other} I saw.'
- (b) T-u túux-t-aj ti' wa máax [t-in imbitaar-t-aj].
- PFV-A3 send-TR-SS.CPLV to FC WHO PFV-A1 invite-TR-SS.CPLV
- 'S/he sent it to someone or other I invited'.
- (c) J-in w-uk'-ik je'el máakalmáak
- ASSUR-A1 EP-drink-SS. ICPLV FC WHICH
- [taak a sí-ik ten]=*e'*.
- DESI A2 give-SS.ICPLV DAT.1SG=TOP
- 'I will drink whichever you want to give me.'

<sup>10</sup> The morpheme *wa* is nearly homophonous with the alternative marker *wáa*, which has the following uses: disjunctive coordinator, matrix polar interrogative clause clitic, introducing conditional antecedents, and introducing embedded polar interrogative clauses (cf. English *if*). The morpheme *je'el* is homophonous with the deontic/epistemic AM marker (which obligatorily co-occurs with the clausal clitic =*e'* TOP) and with the ostensive evidential (which obligatorily co-occurs with with =*a'* PROX or =*o'* DIST). Given the apparent semantic and formal differences between these uses, we take these connections to be diachronic rather than synchronic. This is further supported by the observation from an anonymous reviewer that the free choice morpheme has the form *je'en* in Quintana Roo, even though the homophonous non-FC uses are *je'el* in all dialects.

In terms of their semantics, forms with *wa* (*wáa* for some speakers) give rise to non-specific or epistemic indefinite meanings, roughly similar to English *some X or other* or Spanish *algún*. Roughly speaking, *wa* in this construction indicates that the referent of the indefinite varies at least *partially*, or at least does so in the mind of the speaker. Forms with *je'el*, on the other hand, are more similar to English *whatever* or Spanish *cualquier*. They have a "quasi-universal" character to them, requiring, again roughly, that their referent varies completely, that is, with all possible referents in the domain as live options in the mind of the speaker. We leave it to future work to examine their semantics in more detail, including whether and when they give rise to indifference readings in addition to ignorance ones (similar to English *-ever*).

As in the case of quantity words above, one worry that arises with what we have regarded as FC-FRs is that an overt relative clause is not required. We see this illustrated in (27a) for *wa* and in (27b) for *je'el*. Impressionistically, the absence of a relative clause with *wa* is fairly common, whereas with *je'el*, it is robustly possible, but less frequent in natural speech.

(27a) Jach kaada=e' x-Maribel=e' k-u xok-ik wa ba'ax liibro-il.  
 very each=TOP F-Maribel=TOP IPFV-A3 read-SS.ICPLV FC WHAT book-REL  
 'Frequently, Maribel read some book or other.'

(b) ...u loobil-t-a'al ko'olel=e' k-u y-úuch-ul je'el tu'ux-ak=e'...  
 A3 harm-TR-PASS.ICPLV woman=TOP IPFV-A3 EP-happen-SS.ICPLV FC WHERE-SUBJ=TOP  
 '...Violence against women happens wherever...'

[<https://www.oas.org/en/mesecvi/docs/BelemDoPara-MAYA.pdf>]

The existence of such examples raises the possibility that these examples are best analyzed not as FC-FRs, as we have assumed thus far, but rather as free choice wh-indefinites which can happen to have a relative clause modifier. In other words, perhaps such examples are more like English *somewhere*, *nowhere*, and *anywhere*, which happen to include a wh-word and allow for a relative clause (like other ordinary nominals), but are not regarded as RC constructions of any kind. Moreover, these FC morphemes do not serve as determiners elsewhere in the language, including with [-Wh] headless RCs, which will be discussed in §§4.2.2-4.2.3.

A comparison with English FC-FRs with *-ever* is instructive here. Similar to (27) in YM, English *-ever* FC-FRs are quite often possible without an overt RC. Despite this, several facts argue against an alternative analysis regarding *-ever* FC-FRs as headed RCs with free choice items as heads. Applying these same arguments to YM *je'el* and *wa* FC-FRs, we see that these properties similarly support the characterization of these constructions as FC-FRs, despite the existence of cases like (27).

FC-FRs with *ever* differ from lexicalized indefinites with *some*, *any*, and *no* in the range of wh-words they allow. Lexicalized indefinites in English sometimes make use of wh-words as their base (e.g. *somewhere*) while making use of bleached nouns in other cases (e.g. *something*, *somebody*). While they present some additional complications, YM negative indefinites with *mix* similarly make use of wh words in some cases (e.g. *mixtu'ux* 'nowhere' from *tu'ux*), but bleached nouns in other cases (e.g. *mixba'al* 'nothing' from *ba'al* 'thing') and in one case, an archaic wh-word otherwise absent from present day YM (*mixbik'iin* 'never'). FC-FRs with English *ever*, *je'el*,

or *wa*, on the other hand, are always formed from wh-words. Indeed, as seen in Table 5, FC-FRs with *je'el* and *wa* allow for a wider range of wh-words than Max-FRs.

Additionally, if examples like (27) were headed RCs which happen to have an indefinite wh- head, we would predict that this wh-head would interact with relativization strategies in the same ways as any other nominal head. For English, we see that this expectation is borne out for *some*, *any*, and *no* indefinites in (28a), even when this results in the wh-word being repeated. Analogous examples with *ever* FC-FRs, however, such as (28b), are not possible (see Caponigro (t.a.) for more detailed discussion of the English data and further arguments along the same lines).

(28a) {Somewhere/Nowhere/Anywhere} where I went had the book I was looking for.

(b) \*Wherever where I went had the book I was looking for.

For YM forms with *wa* and *je'el*, we see in (29) that the situation is similar to that of English FC-FRs in (29b). If *je'el tu'ux* and *wa tu'ux* were simply nominal expressions with a wh-indefinite as their base, they ought to pattern with other nominal expressions and be able to occur as the head of a headed RC using the pronominal strategy.<sup>11</sup>

(29a) \*Yaan in bin-Ø je'el tu'ux(-ak) tu'ux [ka xi'ik-ech]=e'.  
 CPSV A1 go-SS.ICPLV FC WHERE-SUBJ WHERE IRR go.SS.SBJV-B2SG=TOP  
 Intended: 'I will go wherever you go.'

(b) \*Yaan in bin-Ø wa tu'ux tu'ux [k-a bin-Ø].  
 CPSV A1 go-SS.ICPLV FC WHERE WHERE IPFV-A2 go-SS.ICPLV  
 Intended: 'I will go somewhere or other you're going.'

Beyond the presence of the free-choice morpheme, there are several further morphosyntactic aspects of these constructions not found in related constructions. First, as illustrated in (30), the relative clause itself often appears with the AM marker *káa/ka* IRR, which is most typically used to introduce irrealis clausal complements to modal predicates like *k'áat* 'want'. While *káa* does have insubordination-like matrix uses as an optative, *káa/ka* IRR is ungrammatical in all other headed and headless relative constructions regardless of the semantic environment in which they occur. Second, as also seen in (30), the wh-word itself may optionally occur with the morpheme *-ak* which is possibly related to the intransitive subjunctive status morpheme. The presence or absence of this suffix has no apparent semantic effect.

(30) Yaan in bin-Ø t-a paach je'el tu'ux(-ak)  
 CPSV A1 go-SS.ICPLV PREP-A2 back FC WHERE(-SUBJ)  
 [ka xi'ik-ech]=e'.  
 IRR go.SS.SBJV-B2SG=TOP  
 'I will follow you wherever you go.' [Bible, Matthew 8:19]

<sup>11</sup> It is difficult to construct analogous examples for negative indefinites with *mix* (i.e. things like (28a) in English) since negative indefinites usually occur in the preverbal focus position in the first place rather than in postverbal positions.

One final aspect to note about FC-FRs with *je'el* in particular is that they often occur as clausal topics with the clitic =*e'* TOP.<sup>12</sup> As is common cross-linguistically, the clausal topic construction plays a central role in conditional constructions generally, including unconditionals (see AnderBois (2014) for a survey of unconditionals in YM). The line between unconditionals and topic FC-FRs is, therefore, blurry or non-existent, depending on one's analysis. In order to avoid this issue, here we have focused on FC-FRs in postverbal position, but note that this is not necessarily the typical state of affairs for FC-FRs in YM.

Table 5: Distribution of wh-words in FC-FRs in Yucatec Maya

|                    |                     |
|--------------------|---------------------|
| WHO                | √ <i>máax</i>       |
| WHAT               | √ <i>ba'ax</i>      |
| WHERE              | √ <i>tu'ux</i>      |
| HOW                | √ <i>bix</i>        |
| WHY                | √ <i>ba'axten</i>   |
| WHICH (+ N)        | √ <i>máakalmáak</i> |
| HOW MANY (+CLF +N) | √ <i>jay-(CLF)</i>  |
| WHAT PRICE (+N)    | √ <i>bajux</i>      |
| HOW MUCH (+N)      | √ <i>buka'aj</i>    |

Note. √: acceptable; \*: not acceptable; ?: unclear; n/a: data not available.

#### 4.1.4. Conclusions about FRs

In this section, we have surveyed free relative constructions in Yucatec Maya and shown that such constructions can be used to express maximal/definite, existential, and free choice meanings. Whereas many languages have formally distinct Max-FRs and Ex-FRs, we have argued that YM has a single construction -- plain FRs -- which can be used to express either of these meanings depending on the semantics of the element which selects for them. The parallel range of wh-words they allow, as summarized in Table 6, is one piece of evidence for this.

In contrast to plain FRs, FC-FRs have several morphosyntactic properties which differ from plain FRs. Finally, we have shown that YM distinguishes morphologically between two semantically distinct FC-FRs. While detailed analysis of the semantics of these two types of FC-FRs is largely left to future work, on the face of it, YM FC-FRs appear preliminarily to exhibit a type of variation which is attested for free choice indefinites (partial vs. total variation) in a domain where it has not been reported (free relative clauses).

<sup>12</sup> The fact that this is quite uncommon for FC-FRs with *wáa* FC is likely for scope reasons. YM in general arguably allows only for surface scope; and since *wáa* FC contributes non-specific indefinites, these at least typically take narrow scope and therefore tend to occur postverbally. FC-FRs with *je'e(l)* FC, however, often take wide scope and therefore occur in the preverbal topic position when they take wide scope.

Table 6: Distribution of wh-words across constructions in Yucatec Maya

|                 |                   | HRCs                        | Max-FRs                     | Ex-FRs                      | FC-FRs                      |
|-----------------|-------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| WHO             | <i>máax</i>       | * (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) |
| WHAT            | <i>ba'ax</i>      | * (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) | √ (w/o PREP)<br>√ (w/ PREP) |
| WHERE           | <i>tu'ux</i>      | √                           | √                           | √                           | √                           |
| HOW             | <i>bix</i>        | √                           | √                           | √                           | √                           |
| WHY             | <i>ba'axten</i>   | *                           | *                           | √                           | √                           |
| WHICH (+ N)     | <i>máakalmáak</i> | *                           | *                           | *                           | √                           |
| HOW MANY (+N)   | <i>jay-(CLF)</i>  | *                           | ?                           | ?                           | √                           |
| WHAT PRICE (+N) | <i>bajux</i>      | *                           | ?                           | ?                           | √                           |
| HOW MUCH (+N)   | <i>buka'aj</i>    | *                           | ?                           | ?                           | √                           |

Note. √: acceptable; \*: not acceptable; ?: unclear.

#### 4.2. Other headless relative clauses (OHRs)

At the outset of this section, we noted that YM can be described as having four distinct types of headless relative clauses which differ in the presence or absence of wh-words and determiner-like material. Free relative clauses represent but one of these four possibilities: headless RCs which are [+Wh, -Det]. While this surface combination does turn out to have some special properties, the extent to which it truly patterns distinctly from OHRs in the language is a priori unknown. Gutiérrez-Bravo (2015), for example, takes the extreme position that all headless relative clauses in YM are in fact instances of headed relative clauses, claimed to differ in independently attested properties of nouns (the purported existence of null nouns), determiners (that nominal phrases may either have them or not), and relative clauses (that RCs may either have or lack a relative wh-pronoun).

While we endorse aspects of this picture, we argue that the empirical landscape is more complex than this in several respects. First, we show that [+Wh] HRs are subtly distinct in meaning from [-Wh] ones in that only the latter have an anaphoric domain (see also Coon and Vázquez Álvarez (this volume) and Aissen and Polian (this volume) for related observations about Ch'ol and Tseltalan respectively). Second, we show that whereas [+Wh, -Det] headless RCs (i.e. FRs) can receive definite/maximal interpretations, the minimally different [-Wh, -Det] headless RCs (what we will call 'super-free' relative clauses) do not allow for this. Finally, only [+Wh, -Det] HRs are compatible with the free choice morphology just discussed in §4.1.3.

##### 4.2.1. [+Wh, +Det] OHRs

The first type of OHR we consider are ones which have both a wh-word and a determiner, i.e. [+Wh, +Det]. At first blush, this sort of example appears to be quite similar to forms in other languages that have been termed "light-headed relative clauses", such as those described by Citko (2004) in Polish, exemplified in (31). Like FRs, Polish light-headed RCs have a relative wh-pronoun. In addition, though, they have a demonstrative or other quantificational element

morphologically based on the same *wh*-word as the relative pronouns themselves, what Citko terms a "light head", here *tego* 'this'.

- (31) Jan zobaczył **tego**, kogo Maria zobaczyła.  
 Jan saw this WHO Maria saw  
 'John saw the one Mary saw.'  
 Polish (Citko 2004: p. 98)

Crucially, however, most light heads in Polish do not function as determiners outside of this construction (e.g. with headed RCs or in nominals with no RC of any kind). In contrast, as shown by Gutiérrez-Bravo (2015), [+Wh, +Det] OHRs in YM make use of determiners which are generally available in the language, most commonly with *le* DEF, as in (32).

- (32a) **Le** ba'ax [t-u jaan-t-aj]=o' jach ki'.  
 DEF WHAT PFV-A2 eat-TR-SS.CPLV=DIST very delicious  
 'What he ate was very delicious.'
- (b) Jach uts t-in w-ich **le** bix [a k'aay-Ø]=o'  
 very good PREP-A1 EP-eye DEF HOW A2 sing-SS.CPLV=DIST  
 'I like how you sing.'

Conversely, we find that any determiner or quantifier found in simple DPs in YM can in this position. This is true of numerals with classifiers, (33a), quantifiers, (33b) and words like 'same' and 'different', (33c).

- (33a) **Ka'a-túul** máax [mach-a'ab]=e', túux-t-a'ab-o'ob k'al-bil  
 two-CLF WHO grab-PASS.CPLV=TOP send-TR-PASS.CPLV-B3PL incarcerate-ADJ.PASS  
 t-u kúuch-il Soto del Real  
 PREP-A3 place-REL Soto del Real  
 'The two people apprehended were sent to be jailed at Soto del Real.'  
 [https://www.lajornadamaya.mx/2017-08-22/Taak-ka---ach-u-loobilta---al-La-Sagrada-Familia-tumen-k---aasil-maako---ob]
- (b) ti'al **tuláakal** máax [k'a'abéet ti'], unaj u káaj-al u meyaj...  
 for every WHO need DAT.3SG should A3 start-SS.ICPLV A3 work  
 'For all who need it, the work should begin...' [https://www.lajornadamaya.mx/2018-04-19/Mauricio-Vila-Dosal--Juntuul-maax-ku-k-a-aytaj-ich-maaya]
- (c) Ma' u tu'ub-ul to'one' ti' **jejeláas** máax [k k'a'ay-t-aj]  
 NEG A3 forget-SS.ICPLV DAT.1PL PREP different WHO A1PL preach-TR-SS.ICPLV  
 'Let's not forget that we preach to many different people.'  
 [https://www.jw.org/yua/j%C3%B3o%CA%BCsa%CA%BCanilo%CA%BCob/revista%CA%BCob/w20140515/regla-de-oro-jatsuts-modos/]
- (d) Yaan **ka'a-p'éel** tu'ux [k-in bin-Ø sáamal]  
 EX two-CLF WHERE IPFV-A1 go-SS.ICPLV tomorrow  
 'There are two places I'm going tomorrow'

- (e) T-in sat-aj **tuláakal** le baajux [bo'o-t-a'ab ten]=o'  
 PFV-A1 lose-SS.CPLV all DEF WHAT.PRICE pay. TR-PASS.ICPLV 1SG=DIST  
 'I lost all the money that was paid to me'

#### 4.2.2. [-Wh, +Det] OHRs

As was the case with headed RCs, YM has not only [+Wh] headless RCs, but also [-Wh] ones. We first consider ones with determiner-like material, [-Wh, +Det], before turning in §4.2.3 to super-free relative clauses, [-Wh, -Det]. As in the case of [+Wh, +Det] in the previous section, we find that the full range of determiner-like elements is possible in [-Wh, +Det] OHRs:

- (34a) Leti' le [ts'a-ik to'on le janal]=o'.  
 3SG DEF give-SS.ICPLV.AF DAT.1PL DEF food=DIST  
 'He is the one who gives us food.' [Gutiérrez-Bravo (2015), p. 2]

- (b) **Tuláakal** [k-u púuts'-ul-o'ob], k-u y-áalkab-o'ob.  
 all IPFV-A3 flee-SS.ICPLV-B3PL IPFV-A3 EP-run-SS.ICPLV-B3PL  
 'All those who escape run (from him).' [Maayáaj tsikbalilo'ob kaampech, p. 39]

- (c) **Context:** answering the question of whether there is a young person among a group who speaks Maya.

- Yaan, **jun-túul** [k-u taal-Ø Tahdziu]=i' bey=o'.  
 EX one-CLF IPFV-A3 come-SS.ICPLV Tahdziu=ANA so=DIST  
 'Yes there is, one [young person] who is from Tahdziu is like that.'  
 [Narraciones mayas, p. 306]

While these examples are similar in meaning to their [+Wh] counterparts, we will argue in §4.2.3 that there is a subtle interpretive difference between [+Wh] and [-Wh] headless RCs generally.

#### 4.2.3. Super-free Headless Relative Clauses: [-Wh, -Det]

The last combination of [ $\pm$ Wh,  $\pm$ Det] possible is headless RCs which have neither a wh-word nor a determiner-like element, which we will call super-free relative clauses. Since YM has no complementizer or other overt marker of relativization (besides wh-pronouns), note that super-free relative clauses are formally identical to standalone matrix or finite embedded clauses except in cases where a transitive agent is relativized, as in (35b), in which case the verb appears in the Agent Focus form.<sup>13</sup> For example, the bracketed material in (35a) could also be uttered as a standalone sentence with the meaning "They carried the fiber."

- (35a) Yaan [k-u púut-ik-o'ob le fibra]=o'.  
 EX IPFV-A3 carry-SS.ICPLV-PL DEF fiber=DIST  
 'There were those who carried the fiber.' [Gutiérrez-Bravo (2015) p. 130]

- (b) Je'el a meet-ik tech=e' kex mina'an [meet-ik way]=e'.  
 ASSUR A2 do-SS.ICPLV 2SG=TOP even NEG.EX do-SS.ICPLV.AF here=TOP

<sup>13</sup> Note also that we might expect the Agent Focus form of the verb in (36a) as well since it is the transitive agent which is extracted. However, as Norcliffe 2009 discusses in some detail, Agent Focus in YM is optional in some cases, especially ones involving relative clauses. It is not clear what about these examples causes this difference in this case.

‘You can do it, even though there isn't anyone who does it here.’

One curious fact about super-free relative clauses is that only existential interpretations are possible. This contrasts both with FRs, which allow for both maximal and existential interpretations as well as with bare nouns, which allow for existential and generic interpretations. For example, consider the paradigm in (36).<sup>14</sup>

- (36a) Yaan [xíimbal-t-Ø te'el]=o'.  
EX visit-TR-SS. SUBJ.B3 DEM=DIST  
‘There is someone who visited there.’ **Existential**
- (b) \*Sakpile'en [xíimbal-t-Ø te'el]=o'.  
pale visit-TR-SS.SUBJ.B3 DEM=DIST  
Intended: ‘Those who visited are pale.’ **\*Maximal**
- (c) \*Wáa sakpile'en [xíimbal-t-Ø te'el]=o' kax-t- Ø ts'aak.  
if pale visit-TR-SS.SUBJ.B3 DEM=DIST find-tr-SS.IMP medicine  
Intended: ‘If visitors to there are pale, find medicine.’ **\*Generic**

While the limitation to existential uses is only found in super-free relative clauses, there is one further property we find here that more generally distinguishes between [+Wh] and [-Wh] headless RCs: the latter require a strongly anaphoric domain while the former do not. Note that the referent of the entire headless RC need not be anaphoric. It is the domain set itself – roughly, the analogue of the head noun meaning in a headed relative clause – that is anaphoric to some set in prior discourse. This property is seen in the contrast shown in the minimal pair in (37b) and (37b'), as uttered following (37a).<sup>15</sup> (37b') is interpretable in isolation, but in context fails to make clear the connection between the library-goers and the students previously introduced in (37a).

- (38a) Yaan ya'ab xoknáal te' unibersidaad=o'.  
EX many student DEM.LOC university=DIST  
‘There are many students at the university.’
- (b) Yaan [Ø<sub>dom</sub>] [k-u bin-Ø biblyoteeka]=i'.  
EX IPFV-A3 go-SS.ICPLV library=ANA  
‘There are ones [among them] that go to the library.’
- (b') #Yaan máax [k-u bin-Ø biblyoteeka]=i'.  
EX WHO IPFV-A3 go-SS.ICPLV library=ANA  
Roughly: ‘There are some people who go to the library’

<sup>14</sup> N.B. we focus on examples with non-verbal predicates since this makes for the nearest minimal pair to the existential *yaan* EX.

<sup>15</sup> One complicating factor worth mentioning here is that the anaphoric clitic =i' ANA is obligatory in the second sentence in such sequences. Since this clitic competes for the phrase-final clitic slot with other more highly ranked clitics, it often does not appear, however. More detailed work on its distribution and pragmatic effects is needed (see Hanks 1990: 454-5, 490-1 for some mention of this use of =i' ANA). For present purposes, we can note that omitting it in (37b') produces a non-sequitur not linked to (37a). Conversely, omission of the clitic in (37b) is simply infelicitous given the conflict between the anaphoric needs of Ø<sub>dom</sub> and the lack of a clause-level anaphoric needed for such a link.

Gutiérrez-Bravo (2015: §4.6) makes a very similar claim to the one we have made regarding (37b), claiming that such examples contain an elliptical noun, which is anaphorically interpreted. We can note, however, that he makes this argument by drawing on textual examples like (38a-b), in which the crucial examples like (38b) are uniformly [-Wh]. Given his unified account of all headless RCs in YM, he therefore makes the claim that all headless RCs in YM will have anaphorically interpreted domains, [-Wh] and [+Wh] alike.

However, we find that a minimally different example with a [+Wh] headless RC, (38b'), is infelicitous in this same context, precisely because it seems to be suggesting that the fiber-carrying was performed by a different group of workers, rather than a subset of the 45 just mentioned (see Coon and Vázquez Álvarez this volume and Aissen and Polian this volume for similar claims in Ch'ol and Tzeltalan respectively).

(38a) *cuarenta y cinco*    *máak*    *k-u*    *meyaj-Ø,*    *u*    *personal*    *le*    *maquina=o'*  
 forty-five                    person    IPFV-A3    work- ss.ICPLV    A3    personnel    DEF    machine=DIST

*tumen*    *k-u*    *jo'och-kij-Ø-o'ob,* ...  
 because    IPFV-A3    scrape-henequen-ss.ICPLV-PL

‘Forty-five people worked there, the personnel of the machine. Because they harvested henequen...’

(b) ... *yaan* [*Ø<sub>dom</sub>*]    [*k-u*    *púut-ik-o'ob*    *le*    *fibra*]=o'  
 EX                            IPFV-A3    carry-ss.ICPLV-PL    DEF    fiber=DIST  
 ‘There were those [among the 45 workers] who carried the fiber.’

(b') #... *yaan*    *máax*    [*k-u*    *púut-ik-o'ob*    *le*    *fibra*]=o'  
 EX                            WHO    IPFV-A3    carry-ss.ICPLV-PL    DEF    fiber=DIST  
 Roughly: ‘There were people [other than the 45 workers] who carried the fiber.’

The same distinction can be found between [+Wh, +Det] and [-Wh, +Det] HRCs, though we set this aside, since showing this requires far more extensive discussion of the semantics of definiteness than is possible here.

Finally, one further thing we can now see that differentiates the four types is their compatibility with free choice *je'e(l)* FC and *wáa* FC. For FRs—which are [+Wh, -Det]—free choice morphology is possible as we have just discussed in §4.1.3 and illustrated again in (39a). In contrast, OHRs never allow for free choice morphology. First, whether or not a wh-word is present, free choice morphology does not co-occur with any of the determiners seen in §4.2.1-4.2.2. Second and more strikingly, despite their very similar meanings, [-Wh] OHRs do not allow for free choice morphology, (39b). We offer no explanation here for why this is so, but it highlights the fact that despite their superficial uniformity, headless relative clause constructions in YM are in many ways heterogeneous upon closer inspection.

(39a) *T-in*    *man-aj*    {*wa/je'el*}    *ba'ax*    [*t-in*    *w-il-aj*]=e'.  
 PFV-A1    buy-SS.CPLV    FC/FC    WHAT    PFV-A1    EP-see-SS.CPLV=TOP  
 ‘I bought {something or other/whatever} I saw.’

- (b) \*T-in man-aj {wa/je'el} [t-in w-il-aj]=e'.  
 PFV-A1 buy-SS.CPLV FC/FC PFV-A1 EP-see-SS.CPLV=TOP  
 Intended: 'I bought {something or other/whatever} I saw.'

## 5. Conclusions

In this chapter, we have examined the properties of four distinct types of headless relative clauses which can be descriptively classified according to their pronounced elements: [+Wh, -Det], [+Wh, +Det], [-Wh, +Det], and [-Wh, -Det]. Despite the generality of these elements and the flexibility with which they can be combined, there are a number of ways in which these constructions nonetheless differ subtly from one another.

First, we have seen that while [+Det] headless RCs have the same distribution and meaning as other DPs with the same determiner, different [-Det] forms differ in meaning from one another as well as from other determiner-less nominal expressions (i.e. bare nouns). While bare nouns mostly allow only for existential and generic interpretations, [+Wh, -Det] headless RCs (i.e. FRs) also allow for maximal/definite interpretations, very much like FRs cross-linguistically (§4.1). [-Wh, -Det] super-free relative clauses, on the other hand, only allow for existential interpretations (Sect 4.2.3). Second, FRs are also unique among the 4 combinations in that they are the only case in which the free-choice morphemes *je'e(l)* and *wáa* are possible. Third, we have argued that [-Wh] forms require their domains to be salient in prior discourse, while [+Wh] forms lack this property.

While we have seen that headless RCs in YM are more semantically varied than might be expected, there is one way in which they are far less so than other languages: the lack of a distinction between maximal and existential FRs. Whereas existential FRs cross-linguistically often are distinct morphosyntactically (e.g. non-finiteness, lack of matching effects) and semantically (e.g. obligatory modality), existential and maximal FRs in YM exhibit no such differences (as previously noted by Gutiérrez-Bravo 2015). Overall, we see that Yucatec Maya has a wide range of headless relative constructions which conform in some ways to cross-linguistic patterns from previous literature, while challenging them in others.

## Acknowledgments

Many thanks to all of the organizers and participants in the project Headless Relatives Clauses in Mesoamerican Languages. A special thanks to Judith Aissen, Jessica Coon, Ivano Caponigro, Irma Yolanda Pomol Cahum, and Juan Jesús Vázquez Álvarez for detailed comments and discussion of the similarities and differences in these constructions among Mayan languages.

## References

- AnderBois, Scott (2012). Focus and un informativity in Yucatec Maya questions, *Natural Language Semantics*, 20(4): 349-390.
- AnderBois, Scott (2014). Unconditionals in Yucatec Maya. in *Proceedings of Form and Analysis in Mayan Linguistics* (FAMLi) II, pp. 1-20.
- AnderBois, Scott (2018). U chiikulil k'áatchi': forma, función, y la estandarización de la puntuación, *Cuadernos de lingüística de El Colegio de México*, 5(1): 388-426.
- Briceño Chel, Fidencio (2006). *Los verbos del maya yucateco actual*. Ciudad de México: Instituto Nacional de Lenguas Indígenas
- Briceño Chel, Fidencio & Can Tec, Gerónimo Ricardo (eds.). 2014. *U nu'ukbesajil u ts'üibta'al maayat'aan. Normas de escritura para la lengua maya*. México: Instituto Nacional de Lenguas Indígenas.
- Bricker, Victoria; Po'ot Yah & Dzul de Po'ot Ofelia (1998). *A dictionary of the Maya language as spoken in Hocabá, Yucatán*. The University of Utah Press: Salt Lake City.
- Bohnenmeyer, Jurgen (2002). *The grammar of time reference in Yucatek Maya*. Alemania: Lincom Europa.
- Butler, Lindsay (2011). *The morphosyntax and processing of number marking in Yucatec Maya*. PhD Thesis, University of Arizona.
- Can Canul, César and Rodrigo Gutiérrez Bravo (2016). *Maayáaj tsikbalilo'ob Kaampech = Narraciones mayas de Campeche*, Ciudad de México: Instituto Nacional de Lenguas Indígenas.
- Caponigro, Ivano (2003). *Free Not to Ask: On the Semantics of Free Relatives and Wh-words Cross-linguistically*. PhD Thesis, UCLA.
- Caponigro, Ivano (t.a.). In defense of what(ever) free relative clauses they dismiss: A reply to Donati and Cecchetto (2011). *Linguistic inquiry*, 50(2).
- Caponigro, Ivano and Anamaria Fălăuş (2018). Free Choice Free Relative Clauses in Italian and Romanian, *Natural Language and Linguistic Theory*, 36:323-363.
- Citko, Barbara (2009). What don't wh-questions, free relatives, and correlatives have in common? in *Correlatives cross-linguistically*, Aniko Liptak (ed.). John Benjamins Publishing.
- Dalrymple, Mary (1991). Against Reconstruction in Ellipsis. *Xerox Technical Report*. Palo Alto, CA: Xerox PARC.
- Gómez-Navarrete, Javier Abelardo (2008). *Maaya óox p'éel: método para el aprendizaje de la lengua maya*. Universidad de Quintana Roo: Chetumal, Q.R.

- Grosu, Alexander (2004). The syntax-semantics of modal existential wh-constructions. In *Balkan syntax and semantics*, 405-438. Edited by Olga Mišeska Tomić, Amsterdam: John Benjamins.
- Gutiérrez Bravo, Rodrigo (2013). Free relative clauses in Yucatec Maya. *Language Typology and Universals (Sprachtypologie und Universalienforschung/STUF*, 66: 22-39.
- Gutiérrez-Bravo, Rodrigo (2015). *Las cláusulas relativas en maya yucateco*. El colegio de México: México, D.F.
- Gutiérrez-Bravo, Rodrigo & Jorge Monforte (2011). Focus, agent focus and relative clauses in Yucatec Maya. In *New Perspectives on Mayan Linguistics*, H. Avelino (ed.), Cambridge, Cambridge Scholars Publishing, pp. 257-274.
- INALI (Instituto Nacional de Lenguas Indígenas) (2008). *Catalogo de las Lenguas Indígenas Nacionales: Variantes Lingüísticas de México con sus autodenominaciones y referencias geoestadísticas*. Online at: [www.inali.gob.mx/pdf/CLIN\\_completo.pdf](http://www.inali.gob.mx/pdf/CLIN_completo.pdf)
- INEGI (Instituto Nacional de Estadística y Geografía) (2015). Lenguas indígenas en México y hablantes (de 3 años y más) al 2015. Online at: [http://cuentame.inegi.org.mx/hipertexto/todas\\_lenguas.htm](http://cuentame.inegi.org.mx/hipertexto/todas_lenguas.htm)
- Jacobson, Pauline (1995). On the Quantificational Force of English Free Relatives. In *Quantification in Natural Languages*, Emmon Bach, Eloise Jelinek, Angelika Kratzer, & Barbara H. Partee, eds., Springer Netherlands, 451–486.
- Kotek and Erlewine (2018). Non-interrogative wh-constructions in Chuj (Mayan). In *Proceedings of the Workshop on the Structure and Constituency of the Languages of the Americas (WSCLA)* 21, pages 101-115.
- Lehmann, Christian (2002). *Possession in Yucatec Maya: Second, revised edition*. Erfurt, Germany: Arbeitspapiere des Seminars für Sprachwissenschaft der Universität Erfurt (ASSidUE)
- Monforte, Jorge, Lázaro Dzul & Gutiérrez-Bravo, R. (2011). *Narraciones Mayas*. México D.F., Instituto Nacional de Lenguas Indígenas.
- Norcliffe, Elisabeth (2009). Head marking in usage and grammar: a study of variation and change in Yucatec Maya. Ph.D. thesis, Stanford University.
- Vázquez-Rojas Maldonado, Violeta & Josefina García Fajardo and Rodrigo Gutiérrez-Bravo and Julia Pozas Loyo (2018). The definite article in Yucatec Maya: the case of *le ... o'*, *IJAL* 84(2): 207-242.