

# Alternative unconditionals in Yucatec Maya

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2013 SSILA Annual Meeting, Boston, MA

January 3-6, 2013

## 1 Introduction

- Unconditionals<sup>1</sup> are sentences like (1) which serve to indicate that a proposition holds regardless of how some other issue is resolved.
- (1) conveys that the **Consequent** holds no matter how the **Antecedent** issue is resolved, and therefore that this issue is irrelevant (for the moment).

(1) a. **Antecedent**

Xíimbal-nak-∅ wa áalkab-nak-∅ Maribel-e' ...  
walk-SUBJ-B3 or run-SUBJ-B3 Maribel-TOP  
'Whether Maribel walks or runs, ...'

b. **Consequent**

... k-u k'uchul t-u yora'-ij  
IMP-A3 arrive PREP-A3 time-REL  
'... she will arrive on time.'

- This talk: focus on ALTERNATIVE UNCONDITIONALS like (1) in Yucatec Maya (YM).
- Previous semantic literature has focused on alternative unconditionals in English:

(2) a.  $\overbrace{\text{A}}$  Whether Juan comes or Daniel does  $\overbrace{\text{B}}$ , I will be happy

b. **Components in English:**

- $\text{A}$  Alternative interrogative (*whether* + disjunction with list intonation)
- $\text{B}$  Clausal adjunct (comma intonation?)

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<sup>1</sup>Abbreviations used for glosses for Yucatec Maya examples: CL: numeral classifier, DEF: definite article, DESID: desiderative, IMP: imperfective aspect, INCEP: inceptive aspect, NEG: negation, PFV: perfective aspect, PASS: passive, PL: plural, PREP: preposition, PROG: progressive aspect, PROX: proximal deictic clitic; REL: relational noun suffix, STAT: 'status' suffixes, SUBJ: subjunctive mood, TERM: terminative aspect, TOP: topic marker, For agreement morphology, I follow the terminological tradition among Mayanists, referring to Set A ( $\approx$  Ergative/Nominative/Genitive) and Set B ( $\approx$  Absolutive/Accusative) markers, e.g. A3 = 3rd person Ergative/Nominative/Genitive. B3 is phonologically null and therefore may be left un glossed. All examples are from my elicitations unless otherwise noted.

- (3) a.  $\overset{\textcircled{1}}{\text{ak}}$ - $\emptyset$  Juan  $\overset{\textcircled{2}}{\text{wa}}$  Daniel- $\overset{\textcircled{3}}{\text{e}}$  yan in ki'imak-óol-tal.  
 come-SUBJ-B3 Juan or Daniel-TOP will A1 happy-soul-become  
 ‘Whether Juan comes or Daniel does, I will be happy.’
- b. **Components in YM:**
- ① Subjunctive (*-ak*)
  - ② Disjunction (*wa*)
  - ③ Clausal Topic (*-e'*)

**Central intuition:** Unconditional meaning arises from a conflict between two components:

- (i) Clause whose sole contribution is to evoke alternatives (i.e. is purely *inquisitive*).
  - Especially clear in English – (A) – but also true in YM – ① + ②.
- (ii) Environment which is inherently *anti-inquisitive*, i.e. provide background *information*.
  - Especially clear in YM – ③ – but also true in English – (B).

### Road map:

§2 introduces the semantic properties of unconditionals, building on Rawlins (2008);  
 §3 briefly reviews Rawlins (2008)’s compositional semantics for English;  
 §4 examines the semantic contributions of disjunction and subjunctive in YM;  
 §5 proposes a semantics for topics in YM and shows its contribution to unconditionality;  
 §6 concludes.

## 2 Properties of Alternative Unconditionals

This section: show the properties of alternative unconditionals in English and YM.

### 2.1 Paraphraseable with a set of conditionals

- König (1986) and subsequent authors have noted a tight parallel with conditionals:

- (4) a. **Alternative unconditional:**  
 K'uch-uk- $\emptyset$  Juanita wa ma'-e' Antonio-e' ma' u k'uchul  
 arrive-SUBJ-B3 Juanita or NEG-TOP Antonio-TOP NEG A3 arrive  
 ‘Whether Juanita comes or not, Antonio won’t.’

b. **Conditional paraphrase:**

Wa káa k'uch-uk-∅ Juanita-e' Antonio-e' ma' u k'uchul, wa  
if for arrive-SUBJ-B3 Juanita-TOP Antonio-TOP NEG A3 arrive, if  
ma'-e' mix túun k'uchul  
NEG-TOP not.even PROG.A3 arrive

‘If Juanita comes, Antonio won’t come. If not, she still won’t.’

## 2.2 Distribution Requirement

- The unconditional is not just a *set* of conditionals, but a *conjunction*.
- i.e. the consequent is evaluated relative to a context in which *each alternative in the antecedent is a live option*:

- (5) K'áax-ak-∅ ja' wa ma'-e' yan u yokol ja' t-in najil  
fall-SUBJ-B3 water or NEG-TOP will A3 enter water PREP-A1 house  
‘Whether or not it rains, there will be leaks in my roof.’

Following Rawlins (2008), we will dub this the DISTRIBUTION REQUIREMENT.

- Another indication of this is the ungrammaticality of *túun* ‘then’ in the consequent.

- (6) \*Ayik'al-en wa ma'-e' túun ki'imak in wóol  
rich-B1 or NEG-TOP then happy A1 soul  
Intended: \*‘Whether I am rich or not, then I will be happy.’

## 2.3 Exhaustivity

- The alternatives of the antecedent always *exhaust* the space of possibilities:

- (7) #K'uch-uk Juanita wa ma'-e' Antonio-e' ma' u k'uchul. Yan u  
arrive-SUBJ Juanita or NEG-TOP Antonio-TOP NEG A3 arrive will A3  
k'uchul.  
arrive

‘#Whether Juanita comes or not, Antonio won’t. Antonio will.’

- (8) #Taak Juan wa taak Daniel-e' layli' ki'imak in wóol-e'. Ten-e'  
come.SUBJ Juan or come.SUBJ Daniel-TOP always happy A1 soul-TOP me-TOP  
ma ki'imak in wóol-i'  
NEG happy A1 soul-NEG

‘#Whether Juan comes or Daniel does, I will be happy. I won’t be happy.’

- We conclude following Rawlins (2008) that the antecedent contributes the presupposition that (at least) one of the alternatives holds.

## 2.4 Implicature of speaker indifference

- Unconditionals often convey the speaker's indifference<sup>2</sup> to the antecedent:

(9) Ayik'al-en wa ma'-e' ki'imak in wóol.  
 rich-B1 or NEG-TOP happy A1 soul

'Whether I am rich or not, then I will be happy.'

**Implicature:** The speaker personally doesn't care whether or not s/he is rich.

- However, in other cases, this implication is clearly not present:

(10) Tak in ayik'al-tal, chen ba'ale' ayik'al-en wa ma'-e' ki'imak in wóol.  
 DESID A1 rich-become just but rich-B1 or NEG-TOP happy A1 soul

'I want to be rich, but whether or not I'm rich, I will be happy.'

(No implicature)

### Properties of unconditionals:

- I. Paraphraseable with conjunctions of conditionals
- II. All alternatives are live options
- III. Exhaustivity relative to presupposed background

## 3 Composition of alternative unconditionals in English

Rawlins (2008) proposes that the composition of alternative unconditionals in English proceeds in three steps:

- (1) The embedded alternative question contributes an exhaustive set of alternatives:

*Whether Maribel walks or runs,*

|  
 { Maribel walks }  
 { Maribel runs }

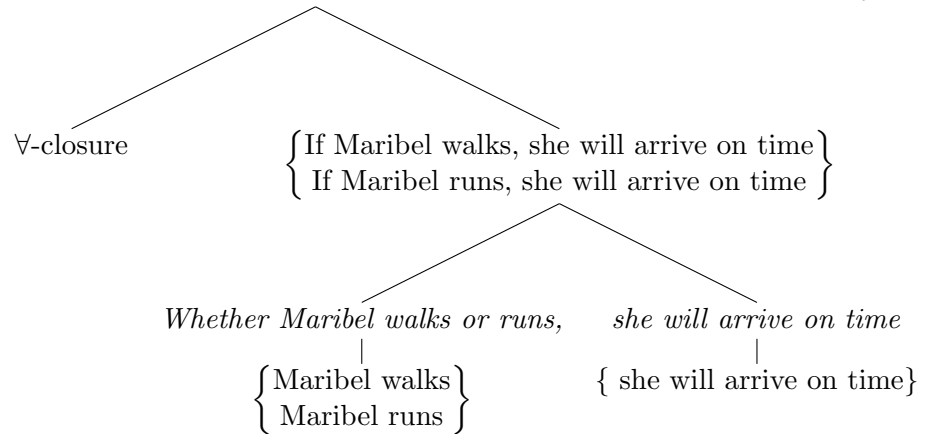
- (2) These alternatives combine pointwise with the consequent to make a set of conditionals:

{ If Maribel walks, she will arrive on time }  
 { If Maribel runs, she will arrive on time }

<sup>2</sup>N.B. while Rawlins (2008) does not discuss an implicature of personal indifference, he does use the term 'indifference implication' to refer to the logical independence of the antecedent and consequent. To avoid this confusion, we will, when necessary, refer to the latter as logical independence or orthogonality and the former as personal indifference.

(3) A covert universal-closure operator ensures that each one is true:

{ If Maribel walks, she will arrive on time and If Maribel runs, she will arrive on time }



**Summary of Rawlins (2008) for English:**

- I. Set of conditionals:** Interrogative semantics of antecedent
- II. Distribution:** Covert  $\forall$ -closure
- III. Exhaustivity:** Interrogative semantics of antecedent

#### 4 Unconditional antecedents in Yucatec Maya

- How do the components in YM, (11a), produce these properties compositionally?

- (11) a.  $\overset{\textcircled{1}}{\text{ak}}$ - $\emptyset$  Juan  $\overset{\textcircled{2}}{\text{wa}}$  Daniel- $\overset{\textcircled{3}}{\text{e}'}$  yan in ki'imak-óol-tal.  
 come-SUBJ-B3 Juan or Daniel-TOP will A1 happy-soul-become  
 'Whether Juan comes or Daniel does, I will be happy.'
- b. **Components in YM:**
- ① Subjunctive (-ak)
  - ② Disjunction (wa)
  - ③ Clausal Topic (-e')

**Proposal for Yucatec Maya:**

- I. Set of conditionals:** Inquisitive semantics of disjunction
- II. Distribution:** Viability implication of topic
- III. Exhaustivity:** Subjunctive + contrast induced by disjunction

## 4.1 Disjunctions are inquisitive

- Following Simons (2005) and Alonso-Ovalle (2006), many recent works have held that the semantic contribution of disjunction is to introduce a set of alternatives.
- Here, we adopt the framework of inquisitive semantics (Groenendijk & Roelofsen (2009), AnderBois (2012b) *inter alia*) where the meaning assigned to a disjunction simply *is* a set of question-like alternatives:

(12) T-u yuk'-aj le ja'-o' Juan wa Daniel  
 PFV-A.3 drink-STAT DEF water-DISTAL Juan OR Daniel  
 'Juan or Daniel drank the water.'

(13) **Inquisitive Semantics:**

$$\llbracket (12) \rrbracket = \left\{ \begin{array}{l} \lambda w'.drink_w'(Juan, water), \\ \lambda w'.drink_w'(Daniel, water) \end{array} \right\}$$

- This meaning is intended to capture the idea that the context change potential of a sentence like (12) includes two components:

**Informative:** there is some alternative(s) in the set which holds.

**Inquisitive:** highlights issue of which alternative(s) hold as a potential Question Under Discussion (QUD).

- One additional complication is that disjunctions of various constituents are possible:

(14) a. **VP-Disjunction**

Xímbal-nak wa áalkab-nak Maribel-e' k-u k'uchul t-u yoorá'-il  
 walk-SUBJ or run-SUBJ Maribel-TOP IMP-A3 arrive PREP-A3 time-REL  
 'Whether Maribel walks or runs, she will arrive on time.'

b. **DP-Disjunction**

Taal-ak Juan wa Daniel-e' yan u ki'imak-tal in wóol.  
 come-SUBJ Jorge or Daniel-TOP will A3 happy-become A1 soul  
 'Whether Jorge comes or Daniel does, I will be happy'

c. **Clausal Disjunction**

K'aax-ak ja' wa p'il-ik k'iin-e' layli' ki'imak in wóol  
 fall-SUBJ water or shine-SUBJ sun-TOP always happy A1 soul  
 'Whether it rains or the sun shines, I will still be happy.'

d. **Clausal Disjunction (polarity)**

Taal-ak Jorge wa ma (taal-ak)-e' yan u ki'imak-tal in wóol.  
 come-SUBJ Jorge or NEG come-SUBJ-TOP will A3 happy-become A1 soul  
 'Whether Jorge comes or not, I will be happy.'

These non-clausal disjunctions must compose in some way to become clausal.<sup>3</sup>

<sup>3</sup>Various ways of achieving this are possible. Perhaps the most obvious is to incorporate Hamblin-style Pointwise Function Application into the inquisitive semantic framework (see Roelofsen & van Gool (2010)

## 4.2 Subjunctive indicates background alternatives

- Building on insights of Stalnaker’s, Heim (1992) proposes that to *want*  $p$  is to prefer it to  $\neg p$ , all else being equal:

$$(15) \quad \llbracket \textit{want} \rrbracket(p)(a)(w) = 1 \text{ iff} \\ \forall w' \in \text{Dox}_a(w) : \text{Sim}_{w'}(\text{Dox}_a(w) \cap p) >_{a,w} \text{Sim}_{w'}(\text{Dox}_a(w) \cap \neg p)$$

- Villalta (2008) generalizes this, proposing that to *want*  $p$  is to prefer it to contextually-salient *background alternatives* to  $p$ :

$$(16) \quad \llbracket \textit{want}_C \rrbracket^g(p)(a)(w) = 1 \text{ iff} \\ \forall q \neq p \ \& \ q \in g(C) : \forall w' \in \text{Dox}_a(w) : \text{Sim}_{w'}(\text{Dox}_a(w) \cap p) >_{a,w} \text{Sim}_{w'}(\text{Dox}_a(w) \cap q)$$

- Turning to the Spanish subjunctive, then, Villalta (2008) claims that:
  - (i) Predicates that select for subjunctive complements introduce an ordering relation (e.g. preference) between the complement,  $p$ , and background alternatives,  $g(C)$ .<sup>4</sup>
  - (ii) Background alternatives *can* be influenced by focus among other factors.
- Operating within a Rooth (1992)-style focus semantics, Villalta proposes that subjunctive is responsible for ensuring the presence of contextual alternatives:

- (17) **Focus and Ordinary semantic values for Subj:**
- a.  $\llbracket [\text{SUBJ}_C \text{ IP}] \rrbracket_O^g$  is only defined if  $g(C) \subseteq \llbracket [\text{IP}]_F^g \rrbracket$  &  $\text{CARD}(g(C)) > 1$ ,  
when defined  $\llbracket [\text{SUBJ}_C \text{ IP}] \rrbracket_O^g = \llbracket [\text{IP}]_O^g \rrbracket$
  - b.  $\llbracket [\text{SUBJ}_C \text{ IP}] \rrbracket_F^g = \{ \llbracket [\text{IP}]_O^g \rrbracket \}$

We return now to the role of subjunctive in alternative unconditionals, as in (18):

- (18) Xímbal-nak wa áalkab-nak Maribel-e’ k-u k’uch-ul t-u yoorá’-il  
walk-SUBJ or run-SUBJ Maribel-TOP IMP-A3 arrive-STAT PREP-A3 time-REL  
‘Whether Maribel walks or runs, she will arrive on time.’

- The subjunctive on each predicate presupposes a set of background alternatives to *xímbal* ‘walk’ and one for *áalkab* ‘run’.
- Since these predicates occur in a disjunction, they are naturally construed *contrastively*.
- As in contrastive focus, (19), contrast in (18) limits the set of background alternatives to the two stated ones:

- (19) a. An American<sub>F</sub> farmer was talking to a Canadian<sub>F</sub> farmer. Rooth (1992)

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such an approach). Since alternatives in inquisitive semantics arise only in the metalanguage interpretation, other classical solutions are available too, such as the flexible types approach of Rooth & Partee (1982).

<sup>4</sup>See Farkas (2003) and others cited therein for earlier accounts which relate subjunctive to ordering relations on worlds.

- b. John was (either) talking to Fred<sub>F</sub> or Mary<sub>F</sub>.
- For (18), then, we predict the background alternative set {walk, run}
- Given this background, the inquisitive alternatives of the disjunction are *exhaustive*.

Supporting evidence for the connection between focus and subjunctive in YM comes from certain focus constructions which use the subjunctive:

(20) **Perfective agent focus:**

leti' jats'-en  
 he hit.SUBJ-B1

'It is he who hit me.'

Bricker (1979)

(21) **Perfective time focus:**

Teen-e' domiingo-ak in jats'-∅ jun p'éel jit  
 me-TOP Sunday-last A1 beat.SUBJ-B3 one CL hit

'Me, it was last Sunday that I beat a hit.'

Bohnmeyer (2002), p. 225

## 5 Topics are “anti-inquisitive”

- While their internal composition is quite different, alternative unconditional antecedents in both YM and English have a purely *inquisitive* semantics.
- That is, they highlight a potential QUD, but do not contribute any new information.

In this section, we explore the interaction of this meaning with the third component: the clausal topic construction, indicated by the clause-final clitic *-e'*.

- While disjunctions introduce alternatives compositionally, they do not always impact the discourse context in which the sentence is uttered.
- One clear case is when a disjunction is interpreted within the scope another operator such as negation.

(22) John didn't talk to Mary or Bill.

**(No issue raised)**

- Based on English appositive relative clauses, AnderBois (submitted) and AnderBois et al. (2011) argue that non-at-issue content is “anti-inquisitive”.
- That is, non-at-issue content of this sort makes a contribution which is **(i)** purely informational, and **(ii)** orthogonal to the Question Under Discussion (QUD).

**Proposal:** Topics in Yucatec Maya contribute non-at-issue content of roughly the same sort as appositive relative clauses.



## 5.1 Independent evidence for non-at-issueness of topics in YM

### Parenthetical propositional attitudes:

In YM attitude reports, the topic marker *-e'* is optionally present on the attitude predicate.

- When present, (23), the attitude itself must be orthogonal to the QUD.

(23) K-in tukl-ik-e' yan u k'áax-al ja'.  
IMP-A1 think-STAT-TOP will A3 fall-STAT water  
'It's going to rain, I think.'

- a. QUD: ✓ 'Is it going to rain?'
- b. QUD: #? 'Do you think it's going to rain?'

- The presence of *-e'* on the attitude predicate marks the attitude itself as orthogonal to the QUD, much like English Slifting.

### Individual topics:

- An individual topics like (24) cannot readily answer the QUD 'Who drank the water?':

(24) Juan-e' t-u yuk'-aj le ja'-o'  
Juan-TOP PFV-A3 drink-STAT DEF water-DISTAL  
'As for Juan, he drank the water.'

### Translations of appositive relative clauses:

- The topic construction is a natural translation of an appositive relative clauses:

(25) *U beeta'al mantats' le cha'an tu k'aaba' u kili'ich yuumsilil máax kalaantik kaaj wáa chan k'íiwike' jach ku beetik u yantal u kuxtal Yucatan*  
'The traditional parties celebrated in honor of the patron saint, **who protects the towns and cities**, are manifestations of the life of the Yucatán. Jalal #3

(26) Juan k-u báaxt-ik beisbol-e' k-u báaxt-ik (xan) futbol.  
Juan IMP-A3 play-STAT baseball-TOP IMP-A3 play-STAT (too) soccer  
'Juan, who plays baseball, plays football (too).'

Again, (26) is odd as a response to the QUD 'Does Juan play baseball?'

## 5.2 All alternatives are live options

- In order to capture the anti-inquisitive nature of such non-at-issue content, we adopt AnderBois (submitted)’s COMMA operator:

$$(27) \quad \llbracket \text{COMMA}(\varphi) \rrbracket = \{w \mid \text{there is some alternative } \alpha \in \llbracket \varphi \rrbracket \text{ s.t. } w \in \alpha \}$$

- In addition, we follow recent literature on Free Choice *any* (e.g. Dayal (forthcoming)) and Free Relatives (Condoravdi (2005), Lauer (2009)) in proposing the following *viability implication*<sup>5</sup>:

(28) **Viability implication:**

If  $c \cap \text{COMMA}(\varphi) \neq \emptyset$ , then  $\forall \alpha \in \llbracket \varphi \rrbracket. [c \cap \text{COMMA}(\varphi) \cap \alpha \neq \emptyset]$

Recalling that the denotation of the antecedent (prior to the COMMA operator) will be a set of alternatives, this requirement says that each alternative is a live option.

- The conditionalized formulation is not necessary for unconditionals, but makes the connection with other free choice constructions clearer.

Updating the context with this condition directly captures the distribution requirement.

$$(29) \quad \begin{array}{l} \text{Xímbal-nak wáa áalkab-nak Maribel-e' k-u k'uchul t-u yora'-ij} \\ \text{walk-SUBJ or run-SUBJ Maribel-TOP IMP-A3 arrive PREP-A3 time-REL} \\ \text{'Whether Maribel walks or runs, she will arrive on time.'} \end{array}$$

- The idea that the antecedent issue is orthogonal to the QUD is also reflected in one of the primary functions of unconditionals – ‘deflecting’ issues.

$$(30) \quad \begin{array}{l} \text{A: Alfonso is really great at his job.} \\ \text{B: Whether or not hes great at his job, we have to fire him.} \end{array} \quad \text{Rawlins (2008), p. 16}$$

- Speaker B indicates that both options are live options, but that deciding between them is not relevant to the (immediate) QUD.

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<sup>5</sup>The name is taken from Dayal (forthcoming)’s account of free-choice *any*, though the alternatives in question are fairly different. The formulation itself is more closely related to what Condoravdi (2005) proposes for free relatives (see also Lauer (2009) for a more recent proposal regarding FRs building on Condoravdi (2005)). We leave a detailed comparison to future work, but the core intuition behind all of these proposals seems quite similar.

## 6 Conclusion

- We have argued that unconditionals in general arise from a conflict posed by a *purely inquisitive* antecedent in an ‘anti-inquisitive’ environment.
- More specifically, we have argued for the following compositional picture for YM:

### Proposal for Yucatec Maya:

**I. Set of conditionals:** Inquisitive semantics of disjunction

**II. Distribution:** Viability implication of topic

**III. Exhaustivity:** Subjunctive + contrast induced by disjunction

### Two Further Directions:

1. Extend this basic framework to other types of unconditionals in Yucatec Maya (see AnderBois (2012a) for description).
2. Use unconditionals to provide new perspective on their components (e.g. subjunctive).

### Acknowledgements:

First of all, my heartfelt thanks to the native speaker consultants for this project from the Universidad de Oriente in Valladolid, Yucatán for their hard work and generosity: Lourdes Chan Caamal, Sergio Freddy Cocom May, Teodoro Pomol Be, and Veronica Uch Balam. Thanks also to Gerónimo Can Tec and Marta Po’ot Nahuat for their hospitality and support during my visit to UnO. In addition, I am grateful to Grant Armstrong, Jürgen Bohnemeyer, Fidencio Briceño Chel, Kathryn Davidson, Anastasia Giannakidou, Tim Grinsell, Malte Willer, Christian Lehmann, and Malte Willer for comments on the data and/or analysis presented here. Finally, thanks to reviewers and audiences at ICYL I in Mexico City, FAMLi II in Patzún, Guatemala, and the Workshop in Semantics and Philosophy of Language at the University of Chicago.

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