

# *Inquisitive Logical Triviality and Questions in Yucatec Maya*

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## Outline

- *Yucatec Maya* (Mexico, Belize; approx. 800 000 speakers) is a language with very sparse interrogative-specific morphosyntax: all interrogatives are formed with (combinations of) quexistentials, disjunctions, and focus.

**Quexistentials:** Words used both as indefinite and as interrogative pronouns.

Iatridou, Hengeveld, and Roelofsen (2018)

- This makes the language interesting from the perspective of Inquisitive Semantics. Assuming quexistentials involve (inquisitive) existential quantification, the two words used to form questions are precisely those which generate *inquisitiveness*.
- Work on Yucatec Maya within Inquisitive Semantics was pioneered by Scott AnderBois, who used an early version of the framework to propose certain semantic/pragmatic principles underlying the Yucatec Maya system of question formation. AnderBois (2011, 2012)
- AnderBois' work is highly insightful, but has some plotoles, causing it to both under- and over-generate question readings.
- **The aim of this talk** is to propose an alternative Inquisitive Semantics account of question formation in Yucatec Maya. This new account will capture the data which AnderBois' missed out on, through making more updated assumptions about the structure and (inquisitive) semantics of sentences in the language, together with the assumption that sentences which are *Inquisitively logically trivial* – *IL-trivial* – are perceived as ungrammatical/unacceptable.

## The plan

I will present:

- Relevant data from Yucatec Maya *Section 1*
- Key features of AnderBois' proposal and its limitations *Section 2*
- Presuppositional Inquisitive Semantics and IL-triviality *Section 3*
- A new account of questions in Yucatec Maya *Section 4*
- Conclusion *Section 5*

## 1 The data

Interrogatives in Yucatec Maya always feature one or more of the following elements: *quexistentials*, *disjunction*, and *focus*.

### The focus construction

- The canonical word order of transitive clauses in Yucatec Maya is SVO:<sup>1</sup>

(1)  $\overbrace{\text{Le máak-o'}}^{\text{S}}$  t-u  $\overbrace{\text{poch'-aj-}\emptyset}^{\text{V}}$   $\overbrace{\text{le ko'olel-o'}}^{\text{O}}$   
 DM person-CL PFV-A3 insult-MOD-B3 DM woman-CL  
*The man insulted the woman.*

Gutiérrez-Bravo and Monforte (2010)

- Narrow focus is signalled by **fronting**: the focussed constituent moves to the left periphery, and in case it is the subject of a transitive verb, the verb appears in agent-focus (AF) form (the TAM + person marker is dropped).<sup>2</sup>

(2)  $\overbrace{\text{òon}}^{\text{O}}$  t-u  $\overbrace{\text{hàant-ah}}^{\text{V}}$   $\overbrace{\text{Pedro}}^{\text{S}}$   
 avocado PFV-A3 eat-CP Pedro  
*Pedro ate (an) [avocado]<sub>F</sub>.*

Verhoeven and Skopeteas (2015)

(3)  $\overbrace{\text{Pedro}}^{\text{S}}$   $\overbrace{\text{hàant}}^{\text{V}}$   $\overbrace{\text{òon}}^{\text{O}}$   
 Pedro eat.AF avocado  
*[Pedro]<sub>F</sub> ate (an) avocado.*

- The semantic contribution of focus is an **existential presupposition**:

AnderBois (2012)

(4) Juan uk' le sa-o'  
 Juan drink.AF DEF atole-DISTAL  
*[Juan]<sub>F</sub> drank the atole.*

**Presupposes:** *Someone drank the atole.*

<sup>1</sup>It has standardly been assumed to be VOS (also in later sources s.a. Verhoeven and Skopeteas (2015)). However, Gutiérrez-Bravo and Monforte (2010) has convincingly argued that this is mistaken: SVO is the most common unmarked choice, and makes optimality theoretic sense.

<sup>2</sup>This is to be distinguished from the YM *cleft* construction, which also involves fronting, but additionally the definite article *le*:

(i) Pedro le t-u hàant-ah òon-e'  
 Pedro DEF PFV-A3 eat.AF avocado=D3  
*It is Pedro who ate (an) avocado.*

Although not always recognized (e.g., Tonhauser (2003), Möller Kalpak (2018)), the constructions are semantically distinct: clefts trigger an existential and an exhaustive presupposition; focus triggers an existential presupposition, but only an exhaustive *implicature* (AnderBois, 2012; Verhoeven & Skopeteas, 2015).

## Quexistentials

- In Yucatec Maya, most words functioning as interrogative pronouns can also function as indefinites: that is, they are quexistentials. Tonhauser (2003)

	Interrogative	Indefinite
<i>máax</i>	who	someone
<i>báax</i>	what	something
<i>táax</i>	where	someplace

Table 1: Examples of quexistentials in Yucatec Maya

- **Wh-questions** are formed through focussing a quexistential:

(5) *máax hàant-ik òon?*  
 QUEX eat.AF-INCMPL avocado  
*Who is eating (an) avocado?*

Verhoeven and  
 Skopeteas (2015)

(6) *máax uk' le sa'-o'*  
 QUEX drink.AF the atole-DISTAL  
*Who drank the atole?*

AnderBois (2012)

- Without focus, the quexistential reads as an indefinite pronoun:

(7) *yan máax t-u yuk'-aj le sa'-o'*  
 exists QUEX PFV-A3 drink.STATUS DEF atole-DISTAL  
*Someone drank the atole.*

## Disjunction

- A similarly dual role is played by the disjunction *wáa(j)*. This element occurs in disjunctive declaratives like (8):

(8) *t-u yuk'-aj le sa'-o' Juan wáa Daniel*  
 PFV-A3 drink-STATUS DEF atole-DISTAL Juan or Daniel  
*Juan or Daniel drank the atole.*

AnderBois (2012)

- Disjunction is likewise used to form **alternative questions**, in which the disjunctive constituent occurs in focus position:

(9) *Juan wáa Daniel uk' le sa'-o'*  
 Juan or Daniel drink.AF DEF atole-DISTAL  
*Did [*Juan*]<sub>F</sub> or [*Daniel*]<sub>F</sub> drink the atole?*

AnderBois (2012)

As noted by AnderBois, the interpretation of the resulting construction as an alternative question is context-dependent:

- Context JD: Addressee and speaker both agree that Juan or Daniel drank the atole.  
(9) = *Did [Juan]<sub>F</sub> or [Daniel]<sub>F</sub> drink the atole?*
- Context JDM: Addressee and speaker both agree that Juan, Daniel, or Maribel drank the atole.  
(9) = *[Juan]<sub>F</sub> or [Daniel]<sub>F</sub> drank the atole.*

- The general pattern: A sentence with a focussed disjunction reads as an interrogative whenever the contextually available alternatives *exhaust* the alternatives of the disjunction.
- When this is not the case, and some relevant alternative not included among the disjuncts is assumed possible, the sentence always reads as a declarative.
- Disjunction is also a mandatory component of **polar questions**. There, it occurs cliticized to the first phonological word (10):<sup>3</sup>

(10) táan-wáaj u yuk'-ik le sa'-o' Juan  
 PROG-OR A3 drink-STATUS DEF atole-DISTAL Juan  
*Is Juan drinking the atole?*

- Disjunction in polar questions seems to take only one (overt) argument: here, the clause corresponding to *Juan is drinking the atole*.

## 2 AnderBois' proposal

- **Main claim:** Yucatec Maya distinguishes between *sentences which are used as questions* and *sentences which are used as assertions* through the *Inquisitive principle*:

	Inquisitive	Non-inquisitive
Informative	Assertion	Assertion
Non-informative	Question	Assertion

Table 2: Inquisitive principle

- The version of Inquisitive Semantics used by AnderBois does not use interrogative/declarative complementizers to introduce/eliminate inquisitiveness: inquisitiveness is always generated by *disjunction* or inquisitive *existential quantification*, and is only eliminated by overt negation. Groenendijk and Roelofsen (2009)

<sup>3</sup>If there is a focussed constituent, *wáa* occurs immediately following it, as in (i):

(i) Juan wáa uk' le sa'-o'  
 Juan or drink.AF DEF atole-DISTAL  
*Did [Juan]<sub>F</sub> drink the atole?*

Due to lack of spacetime, I will not discuss such polar questions here. Rest assured that the analysis to be proposed extends straightforwardly to these.

- **Example.** Assuming that Yucatec Mayan *quexistentials* expresses inquisitive existential quantification, AnderBois gets that both (11) and (12) are inquisitive:

(11) máax uk' le sa'-o'  
 QUEX drink.AF the atole-DISTAL  
*Who drank the atole?*

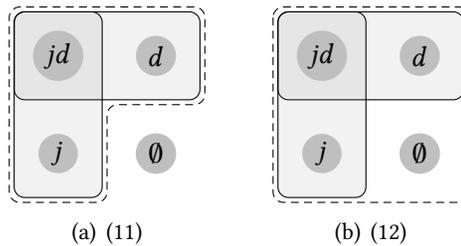
**Formalization:**  $\exists x.DRANK(a)(x)$

Underlining indicates focus marking.

(12) yan máax t-u yuk'-aj le sa'-o'  
 exists QUEX PFV-A3 drink.STATUS DEF atole-DISTAL  
*Someone drank the atole.*

**Formalization:**  $\exists x.DRANK(a)(x)$

- The only semantic distinction: The *wh*-question (11) presupposes that *someone drank the atole*, due to the existential presupposition of the focus marking. Where presuppositions are the fields with dashed borders:



- The Inquisitive Principle traces the difference in use between these two sentences to the fact that, while both are inquisitive, only (12) is *informative* relative to its presupposition: its informative content ( $= \bigcup \llbracket (12) \rrbracket$ ) is smaller than its presuppositional content.
- Therefore, (12) is classified as an *assertion*, and (11) is classified as a *question*.

### Limitations of AnderBois' account

**Issue #1: PolQs are overgenerated/AltQs are undergenerated.** On AnderBois' framework, tautologous disjunctions, like the Yucatec Maya equivalent of (13), are classified as questions:

(13) Juan drank or did not drink the atole.  $\rightsquigarrow DRANK(a)(j) \vee \neg DRANK(a)(j)$

He proposes a solution to this, with the upshot that only disjunctions generated from the “unary” disjunction can read as questions.

But this in turn undergenerates AltQs like (14), which feature an overtly binary disjunction.

(14) Juan wáa Daniel uk' le sa'-o'  
 Juan or Daniel drink.AGF DEF atole-DISTAL  
 Context JD: *Did [Juan]<sub>F</sub> or [Daniel]<sub>F</sub> drink the atole?*

**Issue #2: Quexistentials can occur in PolQs.** AnderBois’ account give inaccurate predictions for cases where a quexistential occurs in a polar question:

- (15) Yan waa máak t-aw il-ah-Ø?  
exists or QUEx PFV-A2SG see-CP-B3SG  
*Did somebody see you?*

Tonhauser (2003)

With AnderBois’ assumptions, this would translate as

$$\exists x.SAW(y)(x) \vee \neg \exists x.SAW(y)(x)$$

(where ‘y’ is the addressee), which does not express the intended PolQ-reading.

**Issue #3: Not all *wh*-questions feature focus on the quexistential.** In *negated wh-questions* – e.g., “*Who didn’t do his job?*” – the quexistential moves to the left periphery, but *beyond* the focus position. Gutiérrez-Bravo and Monforte (2011)

- (16) Máax ma’ t-u beet-aj-Ø u meyaj-i’?  
QUEx NEG CP-A3 do-MOD-B3 A3 work-CL  
*Who didn’t do his job/chores?*

There are two indicators of the lack of focus in (16):

1. the verb lacks Agent Focus morphology, which otherwise is obligatory with focussed transitive subjects;
2. the negation occurs to the *right* of the quexistential, while sentential negation otherwise always occurs to the *left* of the focus position.

Unless we can find another source of an obligatory existential presupposition in negated *wh*-questions, AnderBois’ account does not predict these to read as questions: they can be informative, by excluding the non-existence possibilities.

### 3 Presuppositional Inquisitive Semantics and IL-Triviality

- The alternative analysis to be proposed here aims to account for the data captured by AnderBois’ account in a way allowing us to resolve issues #1-3.
- The semantic framework used is a version of *Presuppositional Inquisitive Semantics*. Roelofsen (2015)

#### Presuppositional Inquisitive Semantics

- Presuppositional Inquisitive Semantics defines a semantics for the language  $\mathcal{L}$ : a standard first-order language plus two *projection operators* ‘!’, ‘?’.

- Each sentence in  $\mathcal{L}$  is assigned a *presuppositional meaning*  $\langle \pi, A \rangle$ , where
  - $\pi$  is the *presupposition* of  $\varphi$  (an information state)
  - $A$  is the *proposition* expressed by  $\varphi$ : a non-empty, downward closed set of information states, restricted to  $\pi$ .

**Restricting a proposition.** If  $A$  is a set of information states and  $s$  an information state, then the restriction of  $A$  to  $s$ , denoted  $A \upharpoonright s$ , is the set  $\{t \in A \mid t \subseteq s\}$ .

**Propositions.** The *proposition* expressed by a sentence  $\varphi$ , denoted  $[\varphi]$ , is just like in InqB, but restricted to the presupposition of  $\varphi$ .

We define  $[\cdot]$  recursively as follows:

$$\begin{aligned} [P(t_1, \dots, t_n)]_g &:= \wp(\{w \mid \langle I_w(t_1), \dots, I_w(t_n) \rangle \in I_w(P)\}) \\ [\neg\varphi]_g &:= [\varphi]_g^* \upharpoonright \text{presup}_g(\neg\varphi) \\ [\varphi \vee \psi]_g &:= ([\varphi]_g \cup [\psi]_g) \upharpoonright \text{presup}_g(\varphi \vee \psi) \\ [\exists x.\varphi]_g &:= \bigcup_{d \in D} [\varphi]_{g[x/d]} \upharpoonright \text{presup}_g(\exists x.\varphi) \end{aligned}$$

**Presuppositions.** The presupposition of a sentence  $\varphi \in \mathcal{L} - \{!, ?\}$ , denoted  $\text{presup}_g(\varphi)$ , is the information state  $\bigcup \{s \mid s \Vdash_g \varphi\}$ .

We define  $\Vdash$  recursively as follows:

$$\begin{aligned} s \Vdash_g P(t_1, \dots, t_n) &\text{ always} \\ s \Vdash_g \neg\varphi &\text{ iff } s \Vdash_g \varphi \\ s \Vdash_g \varphi \vee \psi &\text{ iff } s \Vdash_g \varphi \text{ and } s - \text{info}_g(\varphi) \Vdash_g \psi \\ s \Vdash_g \exists x.\varphi &\text{ iff } s \Vdash_{g[x/d]} \varphi \text{ for some } d \in D \end{aligned}$$

- For the current purposes: presuppositions *project* from under negation, disjunction, and quantification.
- We define *informativity* and *inquisitiveness* relative to the presuppositions of a sentence:

**Informativity.** A sentence  $\varphi$  is *informative* just in case  $\text{info}(\varphi) \neq \text{presup}(\varphi)$ .

**Inquisitiveness.** A sentence  $\varphi$  is *inquisitive* just in case  $\text{info}(\varphi) \notin [\varphi]$ .

- As usual, the *projection operators* each affects the informativity or the inquisitiveness of a sentence: ‘!’ eliminates inquisitiveness, ‘?’ introduces it (if its argument is informative).

**Projection operators**  $g$

$$\begin{aligned} - \llbracket !\varphi \rrbracket &:= \langle \text{presup}(\varphi), \wp(\text{info}(\varphi)) \rangle \\ - \llbracket ?\varphi \rrbracket &:= \langle \text{presup}(\varphi), [\varphi] \cup \wp(\text{presup}(\varphi) - \text{info}(\varphi)) \rangle \end{aligned}$$

- I will also make use of the conditional operator ‘ $\langle ? \rangle$ ’, which applies ‘?’ to its argument iff the argument is not inquisitive.

## Inquisitive logical triviality

- I will assume that a reason why e.g. focussed quexistentials in Yucatec Maya must read as interrogative pronouns is that the alternative reading yields a particularly defective meaning: an I(nquisitively)L(ogically)-trivial meaning. Cf. Gajewski (2009)

- Informally, this is a property of sentences which are *neither informative nor inquisitive* purely in virtue of their logical, invariant elements.

**Logical elements** include the boolean operators, quantifiers, projection operators, presuppositional focus.

**Nonlogical elements** include things like *Juan, happy, atole, drink*.

- More formally: we define the **logical skeleton** of a sentence  $\varphi$  as the result of *non-uniformly* substituting the maximal non-logical elements for variables of the appropriate type.

(17) Juan is happy or Juan is not happy.

**Formalization:**  $!(\text{HAPPY}(j) \vee \neg\text{HAPPY}(j))$

**Logical skeleton:**  $!(P \vee \neg Q)$

(18) Is Juan happy?

**Formalization:**  $?\text{HAPPY}(j)$

**Logical skeleton:**  $?P$

- We say that a formula has **trivial informative content** just in case it is non-informative (as defined above) or its informative content is the inconsistent state.
- We say that a sentence has **trivial inquisitive content** just in case it is non-inquisitive (as defined above).
- The logical skeleton (17) has trivial inquisitive, but not trivial informative, content.
- The logical skeleton of (18) has trivial informative, but not trivial inquisitive, content. (Since  $?P = P \vee \neg P$ .)

**IL-triviality.** A sentence  $\varphi$  is *IL-trivial* if and only if, for all interpretations in which it is defined, the *logical skeleton* of  $\varphi$  has trivial informative content and trivial inquisitive content.

- The assumption is that IL-trivial sentences have such a defective meaning that they are perceived as ungrammatical/unacceptable, despite being syntactically well-formed. This assumption will have a crucial role to play in our analysis of clause structure disambiguation in Yucatec Maya.

## 4 A new account of questions in Yucatec Maya

### Key assumptions: Interrogative vocabulary

- **Quexistentials** are assumed to always be inquisitive existential quantifiers, regardless of whether they are used as an indefinite or interrogative pronoun.

(19)  $máax$  (“*who*”/“*someone*”)  $\rightsquigarrow \lambda P.\exists x.Px$

- The difference between the two readings is purely structural: quexistentials have an optionally active [+wh] feature, allowing them to agree with an interrogative complementizer in certain circumstances (to be outlined).
- **Disjunction** is the  $n$ -ary operator defined in (20), where  $P_i$  is a proposition-type variable.<sup>4</sup>

(20)  $\lambda P_1 \dots \lambda P_n. \langle ? \rangle . P_1 \vee \dots \vee P_n$

English *or* requires  $n = 2$ , so that the conditional ‘?’-operator is vacuous.

The Yucatec Mayan *wáa* requires  $n \in \{1, 2\}$ , and in case its one argument is non-inquisitive, applies ‘?’ to it.

- **Focus** in Yucatec Maya triggers an existential presupposition, corresponding to the informative content the *existential focus closure* of the sentence in which it occurs: the result of replacing focussed constituents with variables of the appropriate type, and existentially quantifying over the result.<sup>5</sup>
- **Example.** The existential focus closure of  $[\textit{Juan}]_F$  is *happy* is the sentence *Someone is happy*.
- We assume that this contribution is made by a covert *focus operator* FOC, occurring between CP and TP in constructions with marked focus.

Cf. Schwarzschild (1999)

### Key assumptions: Clause structure

- Sentences in Yucatec Maya can be represented as *list structures*:

Ciardelli, Groenendijk, and Roelofsen (2017)

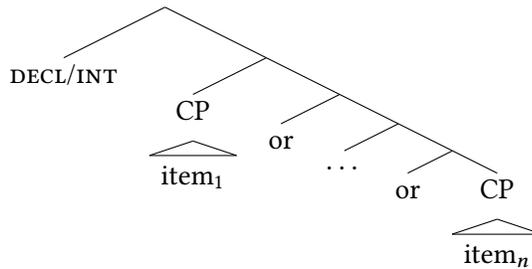


Figure 1: The logical form of a list with  $n$  items.

<sup>4</sup>Thanks to Floris for suggesting this.

<sup>5</sup>From Möller Kalpak (2018):

**Existential focus closure.** The *existential focus closure* of an expression  $\varphi$ , denoted by  $\text{EFC}(\varphi)$ , is the result of substituting any focus marked constituents  $\alpha_1, \dots, \alpha_n : \alpha_1, \dots, \alpha_n \in D_e \cup D_{\langle\langle e, T \rangle, T \rangle}$  in  $\varphi$  for  $\alpha'_1, \dots, \alpha'_n$ , and applying  $!\exists u_1 \dots !\exists u_n$  to the result, where  $u_1, \dots, u_n \in D_e$  and do not occur free in  $\varphi$ . We define  $\alpha'_i$  as

- $u_i$  if  $\alpha_i \in D_e$
- $\lambda P.P(u_i)$  if  $\alpha_i \in D_{\langle\langle e, T \rangle, T \rangle}$ .

- The **list classifiers** DECL and INT are translated as ! and as ?, respectively.
- The **list disjunctions** are translated as  $\lambda P_1 \dots \lambda P_n. \langle ? \rangle. P_1 \vee \dots \vee P_n$ , where  $n \in \{1, 2\}$ .
- The **list items** (CPs) have the internal structure in Figure 2.

Cf. Aissen (2017)

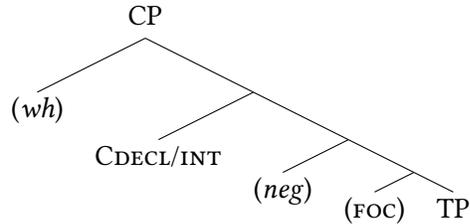


Figure 2: The (sloppy) internal structure of a list item.

- The **complementizers**  $C_{DECL}$  and  $C_{INT}$  both translate as !, but  $C_{INT}$  makes the additional structural contribution of probing for [+wh] elements in its c-command domain, and attracting those it finds to SpecC.
- An overt occurrence of a quexistential in SpecC disambiguates a construction.
- Otherwise, I will generalize from the worst case – sentences with focussed disjunctions – and assume that all sentences in Yucatec Maya are surface structurally ambiguous between declarative and interrogative.
- I suggest that they are *systematically disambiguated* as follows: the DECL reading is default, but an INT reading is forced iff:
  1. The DECL reading is IL-trivial, or
  2. The DECL reading is *contextually trivial*, and the INT-reading is not contextually trivial.

**Contextually trivial:** neither informative nor inquisitive in the given context of communication.

- In addition, quexistentials are ambiguous between being [+wh] and [-wh]. I will assume that the [-wh] reading is default, and that the [+wh] reading is forced if and only if (i) the quexistential occurs in an INT list, and (ii) the [-wh] reading is IL-trivial.

## Wh-questions

- **Basic pattern:** Constructions with *in situ* quexistentials read as declaratives, while constructions with focussed quexistentials read as *wh*-questions.

(21) yan máax t-u yuk'-aj le sa'-o'  
 exists QUEX PFV-A3 drink.STATUS DEF atole-SISTAL  
*Someone drank the atole.*

(22) máax uk' le sa'-o'  
 QUEX drink.AF the atole-DISTAL  
*Who drank the atole?*

- We want to explain why this pattern occurs; e.g., why the focussed quexistential cannot read as an indefinite.
- Note first that (21) gets the intended declarative reading: according to our syntactic assumptions, it is represented as

$$(D21) \quad !\exists x.DRANK(a)(x) \quad \text{DECL, [-wh]}$$

on the default declarative reading, which is equivalent to the English declarative *Someone drank the atole*. Thus, it is not IL-trivial.

- (D21) is *contextually trivial* just in case the context entails that *Someone drank the atole*. But in such a context, the optional interrogative reading

$$(I21) \quad ?!\exists x.DRANK(a)(x) \quad \text{INT, [-wh]}$$

is likewise contextually trivial (it corresponds to *Did someone drink the atole?*, which is neither inquisitive nor informative wrt. the presupposition.)

→ **Upshot:** (21) always gets the declarative reading (D21).

- We now show that (22) gets the intended interrogative reading. Its declarative reading

$$(D22) \quad !\text{FOC}(!\exists x.DRANK(a)(\underline{x})) \quad \text{DECL, [-wh]}$$

always has both trivial informative and inquisitive content: for any  $M, g$ ,

$$(23) \quad \llbracket !\text{FOC}(!\exists x.DRANK(a)(\underline{x})) \rrbracket_{M,g} = \langle \pi, A \rangle, \text{ where}$$

- $\pi = \{w \mid \text{Someone drank the atole in } w\}$ ,
- $A = \downarrow \{\{w \mid \text{Someone drank the atole in } w\}\}$ .

- It is easy to show that this holds also for the logical skeleton of this formula ( $!\text{FOC}(!\exists x.P(x))$ ), meaning that (22) is IL-trivial.
- We can then see that the interrogative reading

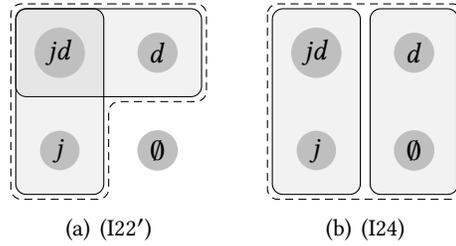
$$(I22) \quad ?\text{FOC}(!\exists x.DRANK(a)(\underline{x})) \quad \text{INT, [-wh]}$$

is IL-trivial simply by noting that ‘?’ (contributed by the list classifier) is redundant when its argument is not informative.

- In contrast, the interrogative reading

$$(I22') \quad ?\exists x.!\text{FOC}(DRANK(a)(\underline{x})) \quad \text{INT, [+wh]}$$

is not inquisitively trivial (so, not IL-trivial). In a context with two possible atole drinkers, it expresses the *wh*-question (next page):



→ **Upshot:** (22) always gets the *wh*-interrogative reading (I22').

! **Note:** We also predict that negated *wh*-questions in Yucatec Maya read as such. In these cases, the quexistential overtly occurs in SpecC, which eliminates the ambiguity.

### Polar questions

- **Basic pattern:** Polar questions are formed with the disjunction *wáa*:

(24) táan-wáaj u yuk'-ik le sa'-o' Juan  
 PROG-or A3 drink-STATUS DEF atole-DISTAL Juan  
*Is Juan drinking the atole?*

- I assume that *wáa*(*j*) is the biclausal disjunction, so that (24) is formalized as

(D24)  $!\langle ? \rangle . \text{DRINK}(a)(j)$  DECL Full form:  
 $!\langle ? \rangle ! . \text{DRINK}(a)(j)$ .

on a declarative reading (with removal of redundant projection operators). This reading always has both trivial informative and inquisitive content: for any  $M, g$ ,

(25)  $\llbracket !\langle ? \rangle . \text{DRINK}(a)(j) \rrbracket_{M, g} = \langle \pi, A \rangle$ , where  
 –  $\pi = \{w \mid \text{Juan is drinking the atole or is not drinking the atole in } w\}$ ,  
 –  $A = \downarrow \{\{w \mid \text{Juan is drinking the atole or is not drinking the atole in } w\}\}$ .

- It is easy to show that this holds also for the the logical skeleton of this reading ( $!\langle ? \rangle . P$ ), meaning that (D24) is IL-trivial.
- In contrast, the interrogative reading

(I24)  $\langle ? \rangle . \text{DRINK}(a)(j)$  INT Full form:  
 $? \langle ? \rangle ! . \text{DRINK}(a)(j)$ .

is not inquisitively trivial: in a context with two possible atole drinkers, it expresses the polar question depicted above, equivalent to *Did Juan drink the atole?*

→ **Upshot:** (24) always gets the PolQ reading (I24).

! **Note:** The same reasoning allows us to predict the correct polar question readings of PolQs featuring quexistentials.

(26) Yan waa máak t-aw il-ah-Ø?  
exists or QUEx PFV-A2SG see-CP-B3SG  
*Did somebody see you?*

- The reading of (26) as

(I26)  $?!\exists x.SAW(y)(x)$  INT, [-wh] Full form:  
 $?(?)!\exists x.SAW(y)(x)$

is inquisitive, expressing exactly *Did somebody see you?*. Consequently, the [+wh] reading of the quexistential is not considered.

### Alternative questions

- **Basic pattern:** Constructions with focussed disjunctions can function both as alternative questions and as declaratives, depending on context.

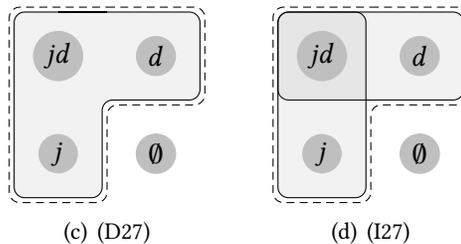
(27) Juan wáa Daniel uk' le sa'-o'  
Juan or Daniel drink.AF DEF atole-DISTAL  
Context JD: *Did [Juan]<sub>F</sub> or [Daniel]<sub>F</sub> drink the atole?*  
Context JDM: *[Juan]<sub>F</sub> or [Daniel]<sub>F</sub> drank the atole.*

- Assuming again that the disjunction is biclausal, this construction has the two readings:

(D27)  $!(\underline{!DRANK}(a)(j) \vee \underline{!DRANK}(a)(d))$  DECL

(I27)  $?(\underline{!DRANK}(a)(j) \vee \underline{!DRANK}(a)(d))$  INT

- We first show that reading (I27) is forced in Context JD.
- In this context, (D27) is *contextually trivial*, while (I27) is not: it is inquisitive.

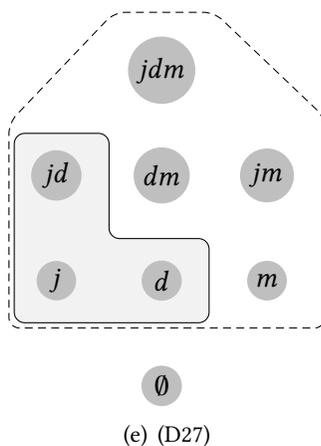


→ **Upshot:** (27) reads as an interrogative (I27) in Context JD.

! **Note:** This does not capture the exhaustivity associated with AltQs. Like AnderBois, I assume that the exhaustivity of (at least Yucatec Mayan) AltQs is an implicature, and that the computation of contextual triviality is insensitive to this type of *cancellable* context-dependent

content. Alternatively, the exhaustivity may be a *presupposition* triggered e.g. contrastive focus marking. This would not interfere with our prediction that reading (I27) is forced in Context JD.

- We now show that reading (27) survives in Context JDM.
- In this context, the *informative content* of the declarative reading is not trivial: it excludes the possibility that *Maribel drank the atole*.



→ **Upshot:** (27) read as a declarative (D27) in Context JDM.

## 5 Conclusion

- We have seen that the proposed key assumptions about interrogative vocabulary, syntax, and disambiguation delivers the right predictions for the data considered by AnderBois, as well as the data not captured by his account.
- The proposal crucially differed from AnderBois (2012, 2014)’s proposal by analyzing interrogatives and declaratives as syntactically and semantically distinct.
- However, it maintained AnderBois’ assumption that most constructions are surface-structurally ambiguous between interrogative and declarative, and that *uninformativity* – in particular, the type of uninformativity deriving from IL- or contextual triviality – is a key factor in disambiguation.
- While there are still some plotoles (see below), the proposal presented here still shows that the given data from Yucatec Maya can be accounted for within newer versions of Inquisitive Semantics.
- It also provides (indirect) support for the assumption that IL-triviality is a source of meaning-driven unacceptability, to compare with the more established notion of *L-triviality*. Gajewski (2009)

**Some plotoles:** What about *wáa(j)* occurring in conditionals? (See e.g., Tonhauser (2003).) Is it really necessary to generalize to the worst case? Can we find independent motivation for the assumption that “contextual triviality” is insensitive to implicatures?

## References

- Aissen, J. (2017). Complement clauses. In J. Aissen, N. C. England, & R. Zavala Maldonado (Eds.), *The mayan languages*. London: Routledge.
- AnderBois, S. (2011). *Issues and alternatives* (Unpublished doctoral dissertation). University of California, Santa Cruz.
- AnderBois, S. (2012). Focus and uninformativity in Yucatec Maya questions. *Natural language semantics*, 20(4), 349–390.
- AnderBois, S. (2014). The semantics of sluicing: Beyond truth conditions. *Language*, 90(4), 887–926.
- Ciardelli, I., Groenendijk, J., & Roelofsen, F. (2017). *Inquisitive semantics*. Lecture notes, available here.
- Gajewski, J. (2009). *L-triviality and grammar*. Handout of a talk delivered at the UConn Logic Group, available here.
- Groenendijk, J., & Roelofsen, F. (2009). Inquisitive semantics and pragmatics. In J. Larrzabal & L. Zubelida (Eds.), *Proceedings of the ilcli international workshop on semantics, pragmatics, and rhetoric* (pp. 41–72). Leioa: University of the Basque Country Publication Service.
- Gutiérrez-Bravo, R., & Monforte, J. (2010). On the nature of word order in yucatec maya. *Information structure in indigenous languages of the Americas*, 139–170.
- Gutiérrez-Bravo, R., & Monforte, J. (2011). Focus, agent focus, and relative clauses in Yucatec Maya. *New perspectives in Mayan linguistics*.
- Iatridou, S., Hengeveld, K., & Roelofsen, F. (2018). *Quexistentials i*. Slides presented at MIT, available here.
- Möller Kalpak, H. (2018). *Inquisitive logical triviality and grammar*. Universiteit van Amsterdam Msc Thesis.
- Roelofsen, F. (2015). The semantics of declarative and interrogative lists. *Manuscript, ILLC, University of Amsterdam*.
- Schwarzschild, R. (1999). GIVENness, AvoidF and other constraints on the placement of accent. *Natural language semantics*, 7(2), 141–177.
- Tonhauser, J. (2003). On the syntax and semantics of content questions in Yucatec Maya. In *Proceedings of the 6th workshop on american indian languages (wail)* (Vol. 14, pp. 106–121).
- Verhoeven, E., & Skopeteas, S. (2015). Licensing focus constructions in Yucatec Maya. *International Journal of American Linguistics*, 81(1), 1–40.