

# Inquisitive and Non-Inquisitive Disjunctions\*

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## 1 Introduction

•Haspelmath (2007) describes languages that have *interrogative* and *standard disjunctions*, such as Basque, demonstrated below.

- (1) Te-a **ala** kafe-a nahi duzu?  
 tea-ART or coffee-ART want you.it  
*Do you want tea, or coffee?* =Alternative Question (INT-V)
  
- (2) Te-a **edo** kafe-a nahi duzu?  
 tea-ART or coffee-ART want you.it  
*Do you want tea or coffee?* =Polar Question(STD-V)

Table 1: Haspelmath's generalizations

	interrogative clauses		declarative clauses
(INT-V)	✓	Alternative Q	*
(STD-V)	✓	Polar Q	✓

•Languages such as Chinese (Li and Thomson (1981)), Finnish (Haspelmath (2007)), Basque (Saltarelli (1988)), and Malagasy (Keenan, p.c.), among others have been described as having disjunctions that behave in this way.

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◇ **Questions I aim to answer:**

1. How do these markers behave in other environments?
2. Why does the cross linguistic data pattern this way?

•The Egyptian Arabic (EA) the disjuncts *wallaa* and *aw* conform to Haspelmath’s description of interrogative and standard disjunctions, shown below.

**Alternative Question (with wallaa)**

- (3) Eind-i-k            kalb **wallaa**    oṭṭa?  
 have-sg.masc-2 dog or(INT-∨) cat  
*Do you have a dog or a cat?*  
 a. #Iowa (yes)  
 b. #La? (no) *meaning neither*  
 c. ✓kalb

**Polar Question (with aw)**

- (4) Eind-i-k            kalb **aw**            oṭṭa?  
 have-sg.masc-2 dog or(STD-∨) cat  
*Do you have a dog or a cat?*  
 a. ✓Iowa (yes)  
 b. ✓La? (no) *meaning neither*

## 2 Inquisitive Semantics

•I develop my analysis within Inquisitive Semantics (Groenendijk and Roelofsen (2009), Ciardelli and Roelofsen (2011), Ciardelli et al. (2012), *inter alia*) which takes the role of disjunction to both introducing alternatives and also of raising issues.

In inquisitive semantics asserting a proposition proposes an update on the information state.

- (5) John has a dog.

Questions on the other hand, are propositions that propose multiple updates and the addressee is asked to choose between those possible updates.

- (6) Do you have a dog↑ or a cat↓? **=Alternative Question**

$$(7) \quad \llbracket (6) \rrbracket = \left\{ \begin{array}{l} \lambda w. \text{addressee has a dog in } w, \\ \lambda w. \text{addressee has a cat in } w \end{array} \right\}$$

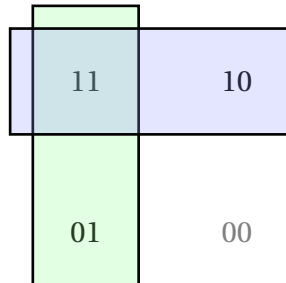
- (8) Do you have a-dog-or-a-cat? **=Polar Question**

$$(9) \quad \llbracket (8) \rrbracket = \left\{ \begin{array}{l} \lambda w. \text{addressee has a dog or a cat in } w, \\ \lambda w. \neg \text{addressee has a dog or a cat in } w \end{array} \right\}$$

◦ In the pictures below, each quadrant represents a possible world, the top left quadrant is where both propositions are true, and the bottom left where both are false, and so one.

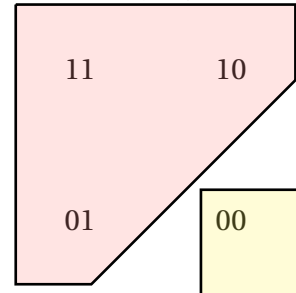
(10) **a. Alternative Question:**

$(\varphi \vee \psi)$



**b. Polar question:**

$?(!(\varphi \vee \psi))$



### 2.1 Inquisitive and Informative Propositions

- A proposition is **inquisitive** if it contains two or more possibilities.
- A proposition is **informative** if it eliminates worlds from the common ground.
- In inquisitive semantics, disjunction is a source of inquisitiveness. However, utterances that contain disjunction are not always inquisitive.

(11)  $!p = \neg\neg p = \cup p$

**Non-inquisitive Closure**

(12)  $?p = p \vee \neg p$

**Non-informative Closure**

## 3 Analysis

- The disjuncts of *wallaa* are always independent alternatives or possibilities in discourse.
- The disjuncts of *aw* always constitute a single alternative or possibility in the discourse.

#### Alternative Question (with wallaa)

- (4) Eind-i-k          kalb **wallaa**    oṭṭa?  
 have-sg.masc-2 dog or(INT-V) cat  
*Do you have a dog or a cat?*  
 a. #Iowa (yes)  
 b. #La? (no) *meaning neither*  
 c. ✓kalb

#### Polar Question (with aw)

- (5) Eind-i-k          kalb **aw**          oṭṭa?  
 have-sg.masc-2 dog or(STD-V) cat  
*Do you have a dog or a cat?*  
 a. ✓Iowa (yes)  
 b. ✓La? (no) *meaning neither*

•I formalize the difference as presuppositions. That is, a precondition on the relationship between the disjuncts in the common ground.

◦ A presupposition for two reasons:

- ↪ The Dynamic Hurford’s Constraint shows that what differs between *wallaa* and *aw* is discourse dependent.
- ↪ It doesn’t seem to be directly challengeable and violating it in an answer seems to get a response on par with presuppositional failure.

### 3.1 Aw (Standard Disjunction)

•*Aw* has a presupposition requiring that it cannot be the source of inquisitiveness.

◦ (13) states that there there must be a possibility that contains all the states that support  $\alpha$  and all the states that support  $\beta$ .

$$(13) \quad \text{For any type } \tau, \text{ for any } \llbracket \alpha \rrbracket, \llbracket \beta \rrbracket \subseteq D_\tau, \llbracket \alpha \text{ aw } \beta \rrbracket := \exists P[\forall s [ s \models \alpha \rightarrow s \subseteq P ] \ \& \ \forall s' [ s' \models \beta \rightarrow s' \subseteq P ]]. \llbracket \alpha \rrbracket \cup \llbracket \beta \rrbracket$$

◦ *Aw* must always be in the scope of an operator (say non-inquisitive closure or existential closure) that takes the union of the worlds that support its disjuncts.

•How can *aw* ever occur in questions?

◦ In Egyptian Arabic, polar questions are formed (solely) with a rise in intonation clause finally.

<p>(14)    Eind-ik kalb↑?                   have-2sg.fem dog                   <i>Do you have a dog?</i></p>	<p>(15)    Eind-ik kalb↓.                   have-2sg.fem dog                   <i>You have a dog.</i></p>
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◦ This intonation is found on questions with *aw*. However, questions with *wallaa* do not have this intonation. These are schematized in (16).

$$(16) \quad \begin{array}{l} \text{a. } A\text{-aw-B}\uparrow? \\ \text{b. } A\downarrow \text{ wallaa B}\uparrow? \end{array}$$

◦ I claim that the polar question intonation contributes a *non-informative* ‘?’ operator (defined in (12)).

### 3.2 Wallaa (Interrogative Disjunction)

•There must be a way of updating the common ground with one disjunct but not the other. *Wallaa* must be a source of inquisitiveness.

$$(17) \quad \text{For any type } \tau, \text{ for any } \llbracket \alpha \rrbracket, \llbracket \beta \rrbracket \subseteq D_\tau, \llbracket \alpha \text{ wallaa } \beta \rrbracket := \exists P [ \exists s [ s \models \alpha \ \& \ s \subseteq P ] \ \& \ \exists s' [ s' \models \beta \ \& \ s' \not\subseteq P ] ] \ \& \ \exists P' [ \exists s [ s \models \alpha \ \& \ s \not\subseteq P' ] \ \& \ \exists s' [ s' \models \beta \ \& \ s' \subseteq P' ] ]. \llbracket \alpha \rrbracket \cup \llbracket \beta \rrbracket$$

The restriction in (17) insures that there is state that supports  $\alpha$  that is in a possibility  $P$  and that there is a state that supports  $\beta$  that is not in that possibility  $P$ , and vice versa.

•While English ‘or’ can occur under closure operations, making it non-inquisitive (as in assertions and polar questions), *aw* must always undergo this operation (taking the union of the possibilities it proposes) and *wallaa* can never undergo such an operation.

## 4 Data

### 4.1 Distribution

•Previous descriptions have only looked at how standard and interrogative disjunctions behave in alternative and polar questions. Using EA, I look at their behavior in other environments.

DISTRIBUTION OF *wallaa* AND *aw*

	wallaa (INT-V)	aw (STD-V)
Alternative Qs	✓	*
Polar Qs	*	✓
Polar-Alternative Qs	✓	*
Disjoining interrogatives	✓	*
Wh-questions	*	✓
Positive/negative declaratives	*	✓

• ***Wallaa* (INT-V) is grammatical in Polar-Alternative Questions, while *aw* (STD-V) is not.**

- (18) Hoda min Amrika wallaa/\*aw laa/eh?  
 Hoda from America or(INT-V/\*STD-V) not/what  
*Is Hoda from America (United States) or not/what?*
- a. ✓ Iowa (yes)
  - b. ✓ Laa (no)
  - c. #Amrika (America)

(19)  $\llbracket \text{Is Hoda from America or not} \rrbracket = \left\{ \begin{array}{l} \lambda w.\text{from-america}_w(\text{Hoda}), \\ \lambda w.\neg\text{from-America}_w(\text{Hoda}) \end{array} \right\}$

↪ Since the disjuncts of *aw* are always one possibility in the common ground, the possibility contributed by the disjuncts of *aw* in polar alternative questions would contain all possible worlds.

• ***Aw* (STD-V) is grammatical in Wh-Questions, while *wallaa* (INT-V) is not.**

- (20) Miin eind-u kalb \*wallaa/aw oṭṭa?  
 who have-3sg.masc dog or(\*INT-V/STD-V) cat  
*Who has a dog or a cat?*

◦ In English, disjunction cannot be inquisitive in wh-questions.

- (21) Who has a dog or a cat?
- a. Sally → Sally has a dog or a cat.
  - b. #A cat.
  - c. #Sally, a cat
  - d. Sally, and she has a cat.

◦ The pairwise reading is available for questions with multiple wh-items.

- (22) Who ate what?
- a. John, pizza...Sally, cupcakes...

•Following AnderBois (2011), I assume that wh-questions are similar to indefinites in that they are a set of alternatives.

- Wh-items and indefinites propose as many alternatives as there are values for the wh-item in the assignment function.
- So if John and Sally are the only individuals in the discourse, the semantics will be of (23).

$$(23) \quad \llbracket \text{Who has a dog or cat} \rrbracket = \left\{ \begin{array}{l} \lambda w. \text{John has a cat or a dog in } w, \\ \lambda w. \text{Sally has a cat or a dog in } w \end{array} \right\}$$

↪ If disjunctions cannot be inquisitive in the scope of a wh-operator, we predict that *wallaa* be ungrammatical and *aw* be grammatical.

## 4.2 Possible disjuncts

•*Wallaa* and *aw* also differ in the semantic properties of the disjuncts they can disjoin.

- (24) Eind-ik      awlad      aw/??wallaa      ahfed?  
 have-2sg.ma children or(STD-V/??INT-V) grandchildren  
*Do you have children or grandchildren?*

- (25) Eind-ik      gowez      sufir aw/??wallaa      ekama?  
 have-2sg.ma marriage travel or(STD-V/??INT-V) visa  
*Do you have a passport or a visa?*

◦ This contrast is also present in English, between polar questions and closed alternative questions.

- (26) a. ✓ Do you have children-or-grandchildren? POLAR QUESTION  
 b. ??Do you have children↑ or grandchilren↓? CLOSED ALT QUESTION



inquisitive within a discourse. I believe that this is an empirical question that can be addressed using the sort of data found in Alonso-Ovalle (2006).

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## 6 Appendix

### 6.1 Aw and wallaa in the same question

- Both *wallaa* and *aw* can occur in the same clause, as in (29).

(29) ?ayz-a        biira aw bibiit wallaa ?ahwa aw shai?  
 want-fem.sg beer or wine or     coffee or tea  
*Do you want beer or wine or coffee or tea?*



•(29) offers two possibilities in the common ground: (i) addressee wants beer or wine and (ii) addressee wants coffee or tea.

•This grouping of disjuncts is expected under the inquisitiveness account. The disjuncts of the *aw* disjunctions constitute one possibility in the common ground, while the disjuncts of *wallaa* comprise two possibilities.

## 6.2 Disjoining Interrogatives

•Both *wallaa* and *aw* can disjoin full clauses. However, when *aw* disjoins two clauses, it can no longer be interpreted as a question (polar or otherwise).

(30) Baaʔ il-ʔarabiyya aw rahan il-beet.  
 sold the-car or mortgaged the-house  
*He had sold the car or mortgaged the house.*  
 Adapted from Abdel-Massih et al. (1981)

(31) Baaʔ il-ʔarabiyya walla rahan il-beet?  
 sold the-car or mortgaged the-house  
*Did he sell the car or did he mortgaged the house?*  
 Adapted from Abdel-Massih et al. (1981)

•Roelofsen and van Gool (2010) claims that all *wide scope disjunctions* (or the disjunction of interrogatives) are interpreted as alternative questions. Moreover, Pruitt and Roelofsen (2011) proposes that interrogative disjunctions may always disjoin interrogatives (and involve ellipsis).

## 6.3 Declaratives

•In (32), an addressee responding to an assertion with *aw* can negate *aw* only by using *wallaa*.

(32) Omar eind-ik aribiya aw/\*wallaa bait.  
 Omar have-2sg.ma car or house  
*Omar has a car or a house.*

*Omar overhears from across the room and shouts:*

(33) Ma.ein-ii.sh aribiya wallaa/\*aw bait, eind-ii el etnain.  
 NEG.have-1sg car or house, have-1sg the two  
*I don't have a car **or** a house, I have both!*

◦ It has been suggested that the examples in (32) contain metalinguistic negation.

*Scenario: Mother tells son that he is finally old enough to get a pet. One day they are walking down the street and they see puppies and kittens for sale. The mother suggestively points to the boxes of furry animals.*

- (34) ʔana miš ʔaiyz kalb wallaa oTTa, ʔaiyz farr.  
I NEG want.sg.m dog or cat, want.sg.m mouse  
I don't want a dog or a cat, I want a mouse!

•In (32), the addressee negates the use of *aw/or* in favor of *wi* 'and' / *and*. However, this is clearly not the case in (34). Rather, it seems that the addressee is negating the choice between the two items.