Non-interrogative Questions in Yukatek Maya

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The puzzle: Yukatek Maya has three types of sentences, (1)-(3), which, despite a lack of interrogative morphosyntax, are used as questions. While (2)-(3) can only be used as questions, (1) is ambiguous between this reading, in (1-a), and an assertive reading, (1-b).

(1) a. Juan wáa Daniel uk' le sa'-o'
Juan OR Daniel drink.AGENT.FOCUS the atole-DISTAL
Question Reading: 'Did Juan drink the atole or did Daniel?'
b. Assertion Reading: 'Juan or Daniel drank the atole.'

(2) Juan-wáah uk' le sa'-o'
Juan-OR drink.AGENT.FOCUS the atole-DISTAL
'Did JUAN drink the atole?'

(3) táan-wáah a beetik in hanal
PROG-OR ERG.2 make ERG.1 food
'Are you making my food?'

We provide a semantic/pragmatic account for (1)-(3) which derives their use as questions and its optionality in (1) based on the interaction of properties of ordinary disjunctions and the existential presupposition of the focus/cleft construction in which the disjunction in (1) occurs.

Focused disjunctions: The recent application of Hamblin semantics to disjunction (Alonso-Ovalle (2006), Simons (2005)) has forcefully argued for a tight connection between the semantics of disjunctions and questions. One approach to this connection, inquisitive semantics (Groenendijk (2007), Mascarenhas (2008)), treats a sentence as denoting a set of *pairs* of possible worlds (or equivalently, a set of *sets* of worlds), rather than a set of worlds. The inclusion of a pair of worlds indicates that the difference between them "is not an issue", what Mascarenhas (2008) terms a "relation of indifference". Questions and assertions are defined in terms of two properties: *informativity* and *inquisitivity*. Informativity is defined in a standard way: P is informative iff P eliminates worlds (technically, identity pairs of worlds) from the context set. P is inquisitive iff it removes a (non-identity) pair of worlds from the relation of indifference. Disjunctions, then, are special: they are both informative and inquisitive. Non-focused disjunctions such as (4) are informative since they eliminate at least worlds where no one drank the atole. The disjunction in (1), however, occurs in the focus/cleft construction (indicated by its preverbal position and the "Agent Focus" verb form) which bears the existential presupposition in (5).

(4) t-u yuk'ah le sa'o' Juan wáa Daniel
PFV-ERG.3 drink the atole-DISTAL Juan OR Daniel
Assertion Reading: 'Juan or Daniel drank the atole.'

(5) Existential Presupposition of the Focus/Cleft for (1): $\exists x$:drink-atole(x)

Since the context set is presupposed not to contain worlds where no one drank the atole, (1) will only reduce the context set if it contains worlds where an individual other than Juan and Daniel drank the atole. If, however, the context set already consists only of worlds where Juan drank the atole and ones where Daniel did, (1) will be uninformative in that context and interpreted as a question following what we term the *Inquisitive Principle* in (6).

(6) *Inquisitive Principle:* Given a context c, a sentence S is interpreted as a question if and only if (i) $[\![S]\!]^c$ is inquistive and (ii) it is not the case that $[\![S]\!]^c$ is informative.

Polar questions with focus: One class of polar question in Yukatek Maya, in (2), involves the same elements central to the analysis of (1): the disjunctive coordinator *wáa* and the focus/cleft construction. We analyze (2) as an elliptical version of (1) with the second (elided) disjunct interpreted roughly as 'someone/anyone else'. This follows directly from independently attested properties of disjunctions. In particular, 'someone/anyone else' is the *exhaustive* set of individuals who are *mutually disjoint* from the denotation of the overt disjunct. We derive the fact that (2) (unlike (1)) can *only* be interpreted as a question since no world in the context set will meet the presupposition in (5), but fail to satisfy 'Juan or someone/anyone else drank the atole'. Since (2) can never be informative and disjunction is always inquisitive, both clauses of (6) are met and (2) must be interpreted as a question.

Polar questions without focus: Unlike (1)-(2), the second type of polar/alternative question in Yukatek Maya, (3), has no focused element. Instead, we argue that the polarity itself is disjoined. Following Laka (1990), we take polarity to be expressed by a functional head Σ_0. When Σ_0 is phonologically overt (sentential negation), *wáa* occurs to its right as in (7). In positive questions, where Σ_0 is phonologically null, *wáa* attaches to the edge of the leftmost prosodic word, either to T_0 as in (3) or to the main predicate itself if T_0 is prosodically light or absent as in non-verbal predication.

(7) ma'-wáah tuun xinbal-i' k bin?
NEG-OR then walk-IRREAL ERG.1.PL go
'We will not be walking then?'

In such cases, the unpronounced disjunct is interpreted again as the set complement of the overt disjunct. Since the overt disjunct in this case is either negation ($\lambda P_{st}.\neg P$) or positive polarity ($\lambda P_{st}.P$), the exhaustive set disjoint from it will be the negation of the overt disjunct. Since ($P \vee \neg P$) is tautologous, sentences like (3) meet both conditions of (6) and are obligatorily interpreted as questions. As in English, tautologies of this sort can be grammatically asserted, but require a more marked syntactic form.

Conclusion: Our analysis derives the fact that (1)-(3) are (or can be) questions without positing covert interrogative morphemes. For focused disjunctions like (1), for example, a covert Q approach would need to posit an optionally present silent morpheme in this construction and fail to derive the informativity facts. More generally, our account develops a novel conception of the role of focus in questions, a topic of much recent discussion (Cable (2007), Beck (2006) a.o.).

References: Alonso-Ovalle, L. (2006) *Disjunction in Alternative Semantics.* PhD Thesis, UMass; **Beck, S. (2006)** "Intervention effects follow from focus interpretation" *NLS*; **Cable, S. (2007)** *The Grammar of Q.* PhD Thesis, MIT; **Groenendijk, J. (2007)** "Inquisitive Semantics: Two Possibilities for Disjunction" *Tbilisi 2007: 7th International Tbilisi Symposium on Language, Logic, and Communication*; **Laka, I. (1990)** *Negation in Syntax: on the nature of functional categories and projections.* PhD Thesis, MIT; **Mascarenhas, S. (2008)** "Inquisitive Semantics and logic" ms. Amsterdam: ILLC; **Simons, M. (2005)** "Dividing things up" *NLS 13.*