Syntactic alternatives in Turkish polar questions

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Overview. Focus alternatives may be computed as semantic objects (Rooth, 1985, 1992) or as syntactic objects (e.g. Fox & Katzir, 2011). We provide evidence that syntax plays a role based on polar questions in Turkish. There is morphological evidence that the Hamblin set for the polar question is formed via focus alternatives (e.g Atlamaz, 2023). Computing alternatives as semantic objects would *over-generate* answers in the Hamblin set. On the other hand, the target Hamblin set can be naturally predicted in the syntactic approach, provided that alternatives involve replacing the focus with constituents of the same *syntactic category*.

Composing polar questions. Polar questions are commonly analyzed as denoting a set of positive and negative answers. In Karttunen (1977), the question denotation is formed by the C head, as in (2b). With the LF in (2a), C returns the characteristic function for the set $\{\ slept(a), \neg slept(a)\ \}$. Yet, polar questions in Turkish argue for a different composition, based on focus.

(1) Did Ali sleep?

(2) a. $[_{\text{CP}}$ C $[_{\text{TP}}$ Ali slept]] b. $[\![\text{C}]\!] = \lambda p\ .\ \lambda q\ .\ q = p \vee q = \neg p$

In Turkish, polar questions are obligatorily produced with a clitic *=mI*, whose placement is sensitive to focus. By default, *=mI* appears rightmost, as in (3a), which has a similar meaning to (1). But, when a constituent is transparently focused, *=mI* must attach to that. In (4a), the subject is focused, and the question has a cleft-like meaning. In addition to the clitic, the placement of focus in (4a) is signaled by prosodic stress on the subject (Kamali, 2011).

(3) a. Ali uyu-du=mu?
Ali sleep-PST=Q
'Did Ali sleep?'

b. $\{slept(a),\ \neg slept(a)\}$

(4) a. Ali=mi uyu-du?
Ali=Q sleep-PST
'Was it Ali who slept?'

b. $\{slept(Ali),\ slept(Bill),\ \ldots\}$

(5) a. $[_{\text{CP}}$ C $[_{\text{TP}}$ Ali slept Σ_{F}]]

b. $[\![\text{C TP}]\!]^o = [\![\text{TP}]\!]^f$

Atlamaz (2023) proposes that polar questions in Turkish are always computed via focus (see also Kamali, 2011; Kamali & Krifka, 2020). In (4a), *=mI* attaches to the subject *Ali*, tracking the F-mark, which introduces salient alternatives like *Ali*, *Bill*, and so on. In the basic case in (3a), *=mI* is argued to attach to a covert polarity head (Σ), as shown in (5a) (Laka, 1990). The polarity head is F-marked, and alternatives are introduced on the focus dimension. Those alternatives would propagate up to C, which we take to to convert the focus value to an ordinary value, as in (5b) (Kotek, 2014, 2016). Atlamaz (2023) assumes that only affirmative and negative morphemes are possible replacements of Σ in forming alternatives, yielding (3b).

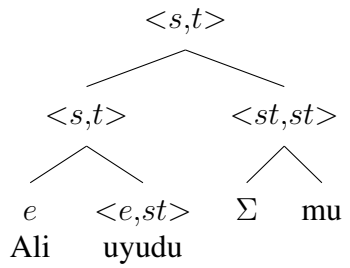
Type-theoretic predictions. We consider what focus alternatives are predicted in (3a) by independent theories of focus semantics. Rooth (1985, 1992) proposed that, in general, alternatives are formed by replacing the focus with any meaning of the semantic type. Assuming that the polarity head encodes a propositional operator (see the structure in (6)) alternatives could be formed by replacing Σ with any meaning of type $<st,st>$. In addition to negation, replacements could include possibility

or necessity operators of any flavor (e.g. epistemic deontic), among other operators, and the Hamblin set should be closed under Boolean operations. Thus, based on type, a set of possible answers like the one in (7) for the sentence in (3a) would be possible.

(7) $\{slept(a),\ \neg slept(a),\ \Box_{deontic} slept(a),\ slept(a) \wedge \Box_{deontic} slept(a),\ \ldots\}$

Restraining order. The type-theoretic approach over-generates alternatives, since the Hamblin set in (7) is not a possible denotation for (3a). The Hamblin set assumed in (3b) predicts that one should only be able to answer the basic polar question in (3a) with affirmative or negative responses. Yet, the Hamblin set in (7) would predict other patterns in certain circumstances. To assess the predictions, we assume that the complete answer to a question is determined by an answerhood operator (Ans). Dayal (1996) defined Ans as (8). Ans applies to the Hamblin set, and picks out the *maximally informative* (i.e. strongest) true answer.

(6)



(8) $[\![Ans]\!]$(Q) = λw . ιp ∈ Q [p(w) ∧ ∀p' ∈ Q [p(w) → p ⊆ p']]

Consider the context in (9), where there is a deontic requirement of Ali, and he does what is required. Focusing just on the answers made explicit in (7), the Hamblin set would contain three true answers: $slept(a)$, $\Box_{deontic} slept(a)$, and $slept(a) \wedge \Box_{deontic} slept(a)$. The strongest is the conjunctive answer, and that would be selected by Ans. As such, the prediction would be that the speaker must answer the question in (3a) with (10b) to resolve the question. (10a) would only be a partial answer. In fact, the intuition is that (10a) is a complete answer, while (10b) is over-informative (indicated as infelicitous on that basis). It bears note that the problem is not contingent on the presence of the conjunctive answer in the set. Without that answer, the true answers in (7) would be $slept(a)$ and $\Box_{deontic} slept(a)$. Since these are logically independent, neither would count as maximally informative, and so the question would be unanswerable, contrary to fact. Moreover, the problem is not contingent on the particular answerhood function in (8). With the Hamblin set in (7), it is unclear that an answerhood function could single out $slept(a)$ relative to the other true answers. Other theories of Ans make similar off-target predictions to (8) in combination with (7) (e.g. Fox, 2013, 2018; Heim, 1994; Xiang, 2016).

(9) CONTEXT: His mom told Ali that he had to sleep, and Ali did sleep. We ask (3a).

(10) a. Evet, Ali uyu-du.
yes ali sleep-PST.3SG
'Yes, Ali slept.'

b. # Evet, Ali uyu-mak zorunda-ydı ve uyu-du.
yes ali sleep-INF obligation-PST.3SG and sleep-PST.3SG
'Yes, Ali had to sleep and he slept.'

The data in (10) would be captured if the question denotation were restricted to just { $slept(a)$, $\neg slept(a)$ }, as assumed in previous work. With that Hamblin set, $slept(a)$ would be the *only* true answer, and so would be output by Ans. We aim to derive that restriction.

Proposal: syntactic category. Following Fox and Katzir (2011), we take it that focus alternatives are computed as *syntactic* objects, and suggest that the focus is replaced with other elements of the same *syntactic category*. Assuming only affirmative and negative morphemes are of category Σ, the alternatives in (3a) would be { $slept(a)$, $\neg slept(a)$ }. With Σ focused, alternatives based

on modals or conjunction are not derived. In their analysis, Fox and Katzir (2011) propose that alternatives are restricted to be at most as *structurally complex* as the prejacent. That constraint has been questioned in recent work, which observes that complex alternatives are attested in some cases (e.g. Hirsch & Schwarz, 2022; Schwarz & Wagner, 2024). In response, these works propose to return to a semantic algorithm for alternative computation. To account for (3), we do make appeal to a syntactic constraint, but without dependence on a complexity restriction. The crucial constraint is a category match between the focus and its replacements.

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