Embedded clauses in Turkish: Both argumenthood and modification are paths to composition

1.1 Proposal Turkish clauses compose with nouns (*the belief that...*) and verbs (*Elif believes that...*) in two ways: argumenthood and modification.

1.2 Background and contribution Recent work on clausal embedding agrees that clauses do not necessarily saturate argument slots, syntactic or semantic (Kratzer 2006, 2016; Moulton 2015; Elliott 2017; cf. Hintikka 1969). With nouns, they are treated as modifiers. With verbs, proposals vary across authors or verb classes, though modification remains crucial. E.g., transitives (*believe*) might involve argumenthood, and intransitives (*scream*), modification. I argue here that both strategies must exist, both with nouns and verbs (though perhaps not in all languages).

2. Turkish has clauses nominalized with the morpheme *-DI(k)* and non-nominalized clauses introduced by the "*say*-derived complementizer" *diye*. Both specify propositional content associated with nouns and verbs, and, in many contexts, translate indicative *that* clauses.

2.1 Nouns Nominalizations obligatorily trigger the morpheme *-(s)I(n)* on the head noun, in (1); *diye* clauses require its absence, in (4). The absence of this morpheme indicates intersective modification, like with relative clauses and adjectives, in (5). Hence, intersection is the proposed analysis for *diye* clauses, in (6). The morpheme -(s)I(n) occurs on possessed nouns and heads of noun-noun compounds, in (2). The relation here cannot be intersective. Rather, the morpheme increases the valency of the head, and introduces a contextually determined relation R (Öztürk & Erguvanlı Taylan 2016, Saxon & Wilhelm 2016, a.o.). A potential value of R specifies propositional content, which nominalizations feed into as arguments, in (3).

(1) Kar-ın gel-diğ-i düşünce*(-si)
     Kar-GEN come-NMZ-3S thought-SIN
     the thought that Kar came

(2) tahta(-nın) masa*(-sı)
     wood-GEN   table-SIN
     table of the wood (GEN), table for wood (w/o GEN)
     no: $\lambda x_e.\text{wood}(x) \wedge \text{table}(x)$

(3) a. $[\![\text{-SIN}]\!] = \lambda f_{\langle e,t\rangle}\lambda p_{\langle s,t\rangle}\lambda x_e.f(x) \wedge \text{content}(x) = p$
     b. $[\![\text{Kar'ın geldiği}]\!] = \lambda w_s.\text{come}(\text{kar}, w)$
     c. $[\![\text{düşünce}]\!] = \lambda x_e.\text{thought}(x)$
     d. $[\![(1)]\!] =_{\text{FuncApp}\times 2} [\![\text{-SIN}]\!]([\![\text{düşünce}]\!])([\![\text{Kar'ın geldiği}]\!])$
        $= \lambda x_e.\text{thought}(x) \wedge \text{content}(x) = \lambda w_s.\text{come}(\text{kar}, w)$

(4) Kar gel-di   diye bir düşünce(*-si)
     Kar come-PST.3S DIYE a thought-SIN
     the thought that Kar came

(5) {tahta, it-tiğ-im,   sarı} masa
     yellow push-REL-1S yellow table
     wooden/yellow table, table that I pushed
     yes: $\lambda x_e.\text{wood}(x)/\text{yellow}(x)/\text{push}(x, a) \wedge \text{table}(x)$

(6) a. $[\![\text{diye}]\!] = \lambda p_{\langle s,t\rangle}\lambda x_e.\text{content}(x) = p$
     b. $[\![\text{Kar geldi diye}]\!] =_{\text{FA}} \lambda x_e.\text{content}(x) = \ldots$
        $\ldots \lambda w_s.\text{come}(\text{kar}, w)$
     c. $[\![(4)]\!] =_{\text{PredConj}} \lambda x_e.\text{thought}(x) \wedge \ldots$
        $\ldots \text{content}(x) = \lambda w_s.\text{come}(\text{kar}, w)$

2.2 Verbs and copular predicates Ex. (7) shows that nominalizations display overt case morphology, while *diye* clauses do not. Ex. (8), that the former cannot compose with predicates with all saturated argument slots, while the latter can. This suggests that nominalizations must be syntactic arguments, and that *diye* clauses may be modifiers.

(7) a. Kar-ın gel-diğ-in-i   düşünüyorum.
        Kar-GEN come-NMZ-3S-ACC I think
     b. Kar gel-di   diye düşünüyorum.
        Kar come-PST.3S DIYE I think
        I think that Kar came.

(8) Soru-yu   {Kar geldi diye, *Kar'ın geldiğini} cevapladım.
     question-ACC Kar came DIYE Kar   come.NMZ I answered
     I answered the question saying Kar came.

What if *diye* clauses were sometimes arguments, e.g., in (7), and sometimes modifiers, e.g., in (8)? That *diye* clauses must be modifiers is motivated on the following basis: Assume that when a diye clause occurs with a passivized attitude predicate, in (9), it is an object (argument) promoted to subject. This implies that diye clauses should be able to be subjects across the board. Contrary to fact: They cannot be subjects of copular constructions, in (10), but nominalizations can. Alternative analyses of this negative result may exist, but a modification based analysis is uniform, and without any ad hoc assumptions.

(9) {Kar geldi diye, Kar'ın geldiği} düşün-ül-üyor.
     Kar came DIYE Kar   come.NMZ think-PASS-PRES.3S
     It is thought that Kar came.

(10) {Kar'ın geldiği,   *Kar geldi diye} doğru.
     Kar   come.NMZ Kar came DIYE true.COP
     It's true that Kar came.

I assume a Kratzerian analysis for nominalizations. Syntactic complements, they restrict the internal argument of the attitude verb. *Diye* clauses, however, must compose via intersection.

(11) a. $[\![\text{düşün}]\!] = \lambda x_e\lambda e_v.\text{think}(x, e)$
     b. $[\![(7a)]\!] = \text{Restrict}(\lambda x_e\lambda e_v.\text{think}(x, e), \lambda x_e.\text{content}(x) = \lambda w_s.\text{come}(\text{kar}, w))$
     c. $[\![(7b)]\!] = \text{Predicate Conjunction}(\lambda e_v.\text{think}(x, e), \lambda e_v.\text{content}(e) = \lambda w_s.\text{come}(\text{kar}, w))$

3. Outlook The choice of a nominalization vs. a *diye* clause makes semantic differences. One example is that the former give rise to factive attitude reports with certain verbs, while the latter never do (Özyıldız, 2017). The present proposal provides a handle on such facts provided that verbs impose idiosyncratic restrictions on their internal arguments (e.g., factivity), but not on their modifiers.

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