

# An Investigation of Subject Attachment in Adjunct Clauses in Turkish

Ege Aydaş

Nazik Dinçtopal Deniz

Boğaziçi University

**Keywords:** sentence processing, syntax, Turkish, adjunct clauses

This study investigates the processing of subject attachment in adjunct clauses in Turkish, particularly focusing on instances with the *-(y)ken* converbial.

(1) *pro* *doktor*<sub>j</sub>-u [ *PRO*<sub>i</sub>/*j* *koş*-ar-ken] *gör*-dü-mi.

Doctor-Acc run-AOR-CV see-Past-1SG.

‘I saw the doctor while I/ the doctor was running’

There are two potential noun phrases (NP/DP) that can serve as the subject of the embedded verb *koşarken*: the local NP *doktoru*, and the non-local subject *pro*. I first show that this attachment ambiguity is related to logophoric control constructions. Then I review the relevant processing accounts to explain the attachment preference. Lastly, I discuss the primacy of syntax over other sources of information such as prosody, context, and semantics.

## 1. Background

Judging from (1), I assume a PRO control either by the local NP *doktoru* or the non-local null subject, both of which c-command the unergative embedded verb. The minimal distance principle (Rosenbaum, 1967) maintains that the closest antecedent be a controller. The non-local NP control, however, is also syntactically permissible, leading to the premise that such control operations may be informed by discourse and information structure rather than purely syntactic considerations, as in Landau’s (1999) example for logophoric control:

(2) [*PRO*<sub>i</sub> storming out of the room that way after losing the game] convinced everyone that *John*<sub>i</sub> is very immature.

In this example of long-distance control, John cannot syntactically control the adjunct clause, yet it can be interpreted as the controller thanks to discourse.

As for psycholinguistic accounts, heuristics such as late closure would predict a local attachment. Since the focal point is saturating the EPP requirement of an adjunct clause, a non-argument, the parser is likely to compute it fast without paying much attention, as in good enough processing (Ferreira et al., 2002). Likewise, the construal account maintains that non-primary relations (e.g., adjuncts) are affected more by non-syntactic factors such as thematic information, as opposed to primary relations, i.e., arguments, for which syntax is more prominent. (Frazier & Clifton, 1996). I specifically address this in methodology, conflicting syntax with other sources of information. Lastly, from a cue-based memory retrieval account

(Lewis & Vasishth, 2005), considering the activation with the recent local NP by the time pro is understood, there is no need for reanalysis (i.e., a non-local attachment preference, which is subject to decay due to activation of the local NP).

## 2. Methodology

In line with my research question, whether local or non-local attachment is preferred, I manipulate the prosody, and discourse/semantics to see if syntax primacy (i.e., locality) rules out other types of information, or vice versa. To this end, I designed an offline Likert scale survey (1-7 with 1 representing the local NP and 7 representing the non-local) on Qualtrics, using random sampling where participants are assigned to either the prosody survey or the discourse/semantics survey. The experimental items consisted of 12 sentences mixed with 6 control sentences, where counterbalancing was employed. The results are gathered from 30 Turkish speakers. Example sentences from prosodic manipulation (3), accomplished via comma on the survey, discourse (4), and semantic (5):

(3) <i>Doktoru    koşarken gördüm.</i>	'I saw the doctor while I/ the doctor was running.'
(4) <i>Köyün doktoru sağlığına çok dikkat eder. Bu sabah koşarken doktoru gördüm.</i>	'The doctor of the village is most careful about his/her health. I saw the doctor while I/ the doctor was running today.'
(5) <i>Ahmet uçarken kuşu gördü.</i>	'Ahmet saw the bird while Ahmet/ the bird was flying.'

## 3. Discussion

While data collection is ongoing, the data hitherto show that syntax primacy will hold for all conditions, thereby selecting local attachment, except for (3). While both the logophoric control and construal account underscore the weight of non-syntactic cues for adjunct clauses, syntax (locality) will precede these cues and will interact at later stages (Friederici, 2002). In sentence (1), both syntax and memory opt for the local attachment, in line with the default prosody. In (3), the prosodic boundary after the local NP (*Doktoru*) clearly disambiguates for non-local attachment, pro. In (4), the construal account opts for a non-local (*doktoru*) attachment, which is prominent in the discourse; on the other hand, the syntax shows a pro attachment as it is more local to the embedded verb. Likewise, in (5), the semantic association establishes a non-local attachment as it would be semantically weird for Ahmet to fly though my informants justified the latter by providing context (i.e., he could be on a plane), suggesting that locality may be the initial preference. On balance, the underlying parsing mechanism in all conditions seems to

comply with accounts such as the immediacy principle — doing as much interpretation as possible without waiting for the complete input (Traxler, 2011) — or Minimal Everything, which mainly argues for a least effort parsing principle (Fodor & Inoue, 1995).

## References

Frazier, L., & Clifton, C. (1996). *Construal*. MIT Press.

Ferreira, F., Bailey, K. G., & Ferraro, V. (2002). Good-enough representations in language comprehension. *Current directions in psychological science*, 11(1), 11-15.

Friederici, A. D. (2002). Towards a neural basis of auditory sentence processing. *Trends in cognitive sciences*, 6(2), 78-84.

Inoue, A., & Fodor, J. D. (1995). Information-paced parsing of Japanese. In R. Mazuka & N. Nagai (Eds.), *Japanese sentence processing*. Hillsdale, NJ: Erlbaum.

Landau, I. (1999) *Elements of Control*. PhD. Dissertation, MIT, Cambridge.

Lewis, R. L., & Vasishth, S. (2005). An activation-based model of sentence processing as skilled memory retrieval. In *Dictionary of World Philosophy* (pp. 375-419). Routledge.

Rosenbaum, Peter S., 1967. *The grammar of English predicated complement constructions*. Cambridge, MA: MIT Press.

Traxler, M. J. (2011). *Introduction to psycholinguistics: Understanding language science*.