

Counting events in Turkish

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This presentations proposes a semantic analysis of sentences that require counting denotations of events. Quantifiers are typically understood as relations between sets of objects (e.g. every(A)(B) $\Leftrightarrow A \subseteq B$, Barwise & Cooper, 1981). However, it has been observed that in natural languages, events can also be counted (Krifka, 1990) in addition to objects. For example, the sentence in (1) can be used to express that both that 1.000.000 different tourists visited Cappadocia and that there were 1.000.000 tourist visits to Cappadocia.

(1) Bu yıl Kapadokya'yı 1.000.000 turist ziyaret_etti.

This year Cappadocia-ACC 1.000.000 tourist visit.PAST

In the event reading of this sentence, it is not necessary for the total number of tourists to be 1.000.000 as the same tourist can make more than one visit. The position of the quantifying expression in the sentence affects whether the thing being counted is an object or an event. For example, it can be seen that object reading is more prominent in a sentence such as (2), where the quantification expression is at the beginning of the sentence.

(2) 1.000.000 turist bu yıl Kapadokya'yı ziyaret etti.

This distinction becomes even more detectible under the negation operator. While quantifiers at the beginning of the sentence are interpreted as object counters (3), event reading becomes easier to access when the quantifier is adjacent to the verb (4).

(3) 1.000.000 turist bu yıl Kapadokya'yı ziyaret_et-me-di.

1.000.000 tourist this year Cappadocia-ACC visit-NEG-PAST

(4) Bu yıl Kapadokya'yı 1.000.000 turist ziyaret etmedi

In (4), the negation operator negates the claim that there were one million touristic visits to Cappadocia, which is the negation of the event reading rather than the count reading. (3), on the other hand, tells us about one million distinct tourists who failed to visit Cappadocia.

When we look at the standard analysis of counting in Turkish, we see that the object reading we find in (2) can be expressed with the truth conditions given in (5):

$$(5) \Leftrightarrow \exists X. \text{tourist}(X) \wedge \text{visited}(X, \text{Cappadocia}) \wedge |\text{atom}(X)| = 1.000.000, \text{ where } \text{atom}(t_1+t_2+t_3) = \{t_1, t_2, t_3\}$$

In order to analyze readings that involve counting event, the event argument must be added to the denotation of the verbal predicate (Coppock & Champollion, 2022). In this analysis, the semantic value of the predicate *ziyaret_etti* “visited” is as follows.

$$(6) [[\text{ziyaret etti/visited}]] = \lambda x . \lambda y. \lambda e. \text{visit}(e) \wedge \text{theme}(e) = x \wedge \text{agent}(e) = y$$

Given this denotation for the predicate, we obtain the truth conditions in (7) as the semantic representation of the sentence in (1) (Liao, 2018):

$$(7) \exists X. \text{tourist}(X) \wedge |\{e: \text{Cappadocia-visit}(e) \wedge \text{minimal}(e) \wedge \text{agent}(e) = x \wedge \text{theme}(e) = \text{Cappadocia}\}| = 1.000.000,$$

where $x \in \text{atom}(X)$ and an event e is a minimal p-event iff there is no e' such that $e' < e$ and e' is a p-event.

In this way, we end up counting the minimal Cappadocia-visiting events the sum of whose agents is a plural tourist individual. The question to be answered now is how come objects readings are more prominent when the quantificational subject has a sentence-initial position. We suggest that such readings arise due to the DP movement of the subject to the specifier of TP, which induces lambda abstraction over individual variables.

$$(8) [\text{TP} [\text{DP } 1.000.000 \text{ tourist}]_1 [\text{T} [\text{VP} [t_1 \text{ visited Cappadocia this year}]]]]$$

The details of this derivation will be presented at the talk.

Keywords: semantics, event reading, event.

References

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