

Overview

The **perfect aspect** (PERF) introduces a temporal relation between the reference time (RT) from tense and a past RT [1–2].

Although *-mİş* is often analyzed as an unrestricted perfect marker [3–6, a.o.], its distribution does not support this characterization [see 7–8, for a similar view].

- ★ *-mİş* is a **resultative perfect**, not an unrestricted PERF morpheme.
- ★ **Universal- and experiential-like** readings are derived compositionally through the interaction of **viewpoint aspect** and **temporal adverbials**.

Turkish lacks an unrestricted PERF morpheme

The syntactic distribution of *-mİş*

The morpheme *-mİş* can occupy more than one structural position within the clausal spine [4,9–10].

- High *-mİş*: [_{EvidP} [_{AuxP} [_{AspP} [_{ModP} [_{VoiceP} . . .] Mod] Asp] Aux] [_{Evid}]] as in (1a).
- Low *-mİş*: [_{TP} [_{AuxP} [_{AspP} [_{ModP} [_{VoiceP} . . .] Mod] [_{Asp}]] Aux] T] as in (1b).

- (1) a. Çayan ağlı-yor-muş.
Çayan cry-IMPF-MIS
‘Çayan is crying, apparently.’

b. Çayan ağla-(*yor)-miş-tı.
Çayan cry-IMPF-MIS-PST
‘Çayan had cried/*had been crying’

The difference between high and low *-mİş* has been taken to be a structural ambiguity between a PERF or PRFV and an evidential marker [4, 9].

-mİş ≠ An unrestricted PERF

- When *-mİş* appears **above overt aspectual morphology** (1a), its interpretation is **uniformly evidential** [see 11–12].
 - In configurations where no independent diagnostics for syntactic height are available, the indirect evidential contribution of *-mİş* is **not cancelable** (2).
- (2) Çayan önce-den Almanya’yı ziyaret et-miş. #Ben de
Çayan before-ABL Germany.ACC visit do-MIS 1sg too
o-nun-la-y-dı-m.
3SG-GEN-COM-AUX-PST-1SG
‘Çayan visited Germany before, I hear/infer. #I was also there with him.’
- In participial positions, *-mİş* is **restricted to telic events** (3), unlike experiential or universal PERFs [e.g., 13].
- (3) a. bit-miş roman
finish-MIS novel
‘the finished novel’

b. #gül-müş çocuk
laugh-MIS child
Lit.: ‘the laughed child’
- mİş* leads to an inference that the **result** of an eventuality holds at **the RT introduced by a *when*-clause** (4).

- (4) Kerim oday-a gir-diğ-in-de, Çayan saat-i-ni
Kerim room-DAT enter-NMLZ-3POSS-LOC Çayan watch-3POSS-ACC
kaybet-miş-ti.
lose-MIS-PST
‘When Kerim entered the room, Çayan had lost his watch.’
↪ *Çayan’s watch was still missing.*

We propose that aspectual *-mİş* encodes a more-specified **resultative perfect semantics** [pace 14; see 13, for English resultative perfects].

Universal- and experiential-like readings in Turkish

If *-mİş* only expresses a resultative perfect meaning, how do other perfect(-like) readings arise in Turkish?

No covert PERF morpheme in Turkish:

- Predictions of a covert PERF analysis: Experiential reading of (5a) should be available (e.g., the being-married eventuality is over).
 - However, an E-reading is only possible with the past tense *-dİ* (5b).
- (5) a. #Eylül (önce-den) evli-Ø.
Eylül before-ABL married-AUX
Int.: ‘Eylül has been married
(before).’

b. Eylül (önce-den) evli-y-di.
Eylül before-ABL married-AUX-PST
‘Eylül was married before.’

In Turkish, readings which are similar to universal/experiential perfects in English arise via two semantic components [e.g., 1–2]:

- **Viewpoint aspect** (e.g., PRFV, IMPF)
- **Temporal adverbials** (e.g., *beri* ‘since’, *önce* ‘before’, *n kere* ‘n times’)

Universal perfect-like readings

Readings similar to English U-perfects (6):

Licensed by the **imperfective marker *-(İ)yor*** + **durative temporal adverbials**, like *beri* ‘since’.

- **Durative adverbials**: Require predicates that possess the subinterval property [e.g., 1].
- (6) Yeliz bu sabah-tan **beri** ağl-ıyor #ama artık ağla-mı-yor.
Yeliz this morning-ABL since cry-IMPF but anymore cry-NEG-IMPF
‘Yeliz has been crying since this morning, #but she isn’t crying anymore.’
- Like an English U-perfect, the universal inference in (6) is **entailed**.
 - Unlike English, *beri* ‘since’ in Turkish does not require PERF [cf. 1, 15].

Formal analysis of U-like readings

U-like readings stem from the interaction between:

- A **durative temporal adverbial**, like *beri* ‘since’ (7)

(7) $\llbracket \textit{beri bu sabah } \phi \rrbracket^{\mathcal{S}^c} = \llbracket \text{since}_{\text{TUR}} \text{ this morning } \phi \rrbracket^{\mathcal{S}^c} =$
 $\lambda t. \exists t' [\text{LB}(t', \text{ this morning}) \ \& \ \text{RB}(t', t) \ \& \ \llbracket \phi \rrbracket^{\mathcal{S}^c}(t')]$

- An **imperfective aspect** (8)

(8) $\llbracket \text{IMPF} \rrbracket^{\mathcal{S}^c} = \lambda P. \lambda t. \exists e [t \subset \tau(e) \ \& \ P(e)]$

Because *beri* is felicitous in the absence of PERF, we propose that it introduces a time interval *t'* whose left and right boundaries are specified (7).

- The left boundary of *t'* is the complement of *beri* [see 15], and its right boundary is the RT from tense (9).

(9) $\llbracket \text{PRS} \rrbracket^{\mathcal{S}^c} = \lambda p. \exists t' [t' = t_c \ \& \ p(t')]$

(10) $\llbracket (6) \rrbracket^{\mathcal{S}^c} = \llbracket \text{Yeliz since}_{\text{TUR}} \text{ this morning cry-IMPF} \rrbracket^{\mathcal{S}^c} = \exists t' [t' = t_c \ \& \ \exists t'' [\text{LB}(t'', \text{ this morning}) \ \& \ \text{RB}(t'', t') \ \& \ \exists e [t'' \subset \tau(e) \ \& \ \text{cry}(e, \text{ Yeliz})]]]$

Experiential perfect-like readings

Readings similar to English E-perfects (11):

Expressed via **past tense morphology** + **inclusive temporal adverbials**, like *önce* ‘before’ or *n kere* ‘n times’.

- **Inclusive adverbials**: No subinterval property requirement [e.g., 1].
- (11) Kerim (önce-den) **üç kere** Almanya’yı ziyaret et-tİ ama şu
Kerim before-ABL three time Germany.ACC visit do-PST but that
an-da Fransa’da-Ø.
moment-LOC france.LOC-AUX
‘Kerim has visited Germany three times (before), but he is in France right now.’
- Continuations expressing the eventuality’s completion are felicitous.
 - Thus, (11) mirrors an English E-perfect.

Formal analysis of E-like readings

E-like readings stem from the interaction between:

- An **inclusive temporal adverbial**, like *önce* ‘before’ (12)

(12) $\llbracket \phi \textit{ önce} \rrbracket^{\mathcal{S}^c} = \llbracket \phi \text{ before} \rrbracket^{\mathcal{S}^c} =$
 $\lambda t. \exists t' [t' < t \ \& \ \llbracket \phi \rrbracket^{\mathcal{S}^c}(t')]$

- **PRFV** (13) under the **past tense** (14)

(13) $\llbracket \text{PRFV} \rrbracket^{\mathcal{S}^c} = \lambda P. \lambda t. \exists e [\tau(e) \subseteq t \ \& \ P(e)]$

We adopt our semantics for *önce/before* from [16].

- *önce* encodes precedence between a past time and the RT from PST (14).

(14) $\llbracket \text{PST} \rrbracket^{\mathcal{S}^c} = \lambda p. \exists t' [t' < t_c \ \& \ p(t')]$

(15) $\llbracket (11) \rrbracket^{\mathcal{S}^c} = \llbracket \text{Kerim before Germany visit-PST} \rrbracket^{\mathcal{S}^c} = \exists t' [t' < t_c \ \& \ \exists t'' [t'' < t' \ \& \ \exists e [\tau(e) \subseteq t'' \ \& \ \text{visit}(e, \text{ Kerim, Germany})]]]$

Theoretical implications and future directions

Though not encoded by *-mİş*, readings that resemble U-/E-perfects can arise via:

- **Temporal adverbials (e.g., *beri* ‘since’ in Turkish)**: Independently introduce times with specified boundaries, akin to an XN-theoretic PERF [1–2, 17].
- **Viewpoint aspect**: Determines how eventualities are related to those times.

Future directions: How does cross-linguistic variation in PERF-like meanings reflect differences in the division of labor b/w aspect and temporal modification?

Acknowledgments & References

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