

How reportatives become attitudinal:

Turkish “double evidential” in diachronic and cross-linguistic view

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Introduction

Introduction

- Turkish suffix *-miş* marks indirect evidentiality (Şener 2011, Meriçli 2016)

(1) Okullar yakında aç-ıl-acak-**miş**.

schools soon open-PASS-PRSP-EVID

a) 'The schools are going to be reopened soon (**I infer**).'

b) 'The schools are going to be reopened soon (**I hear**).'

- The indirect evidential suffix can be “doubled”:

(2) Okul Pazartesi günü aç-ıl-acak-**miş-miş**.

school Monday open-PASS-PRSP-EVID-EVID

a) 'The school is going to reopen on Monday (**I heard from someone who heard it from someone**).'

b) 'The school is going to reopen on Monday (**I heard, but it's ridiculous**).'

Roadmap

- Today: the semantics, syntax and diachrony of the “double evidential”.
- Proposal in a nutshell: two distinct *-ml̥ʂ*'s, diachronically connected
 - Reportative (REP)
 - Incredulity attitude (INCRED)

Compositionally derive the two interpretations of *-ml̥ʂ-ml̥ʂ*:

 - a) 3rd-hand report
 - b) incredulity over 2nd-hand report
- §2: Key empirical properties
 - Different discourse commitment
 - Different point-of-view anchoring in interrogatives
- §3: Analysis: semantics & syntax
- §4: Diachrony
 - Reportative-to-attitudinal as syntactic-semantic reanalysis
 - Cross-linguistic parallels & generalization

Key empirical properties

Two interpretations of *-miş-miş*

- 3rd-hand reportative

(3) Context:
The principal told **Gökçen** that the school is going to reopen on Monday.
Gökçen then told **Merve**.

Now Merve says to her mother: I just talked to Gökçen, who spoke with the principal...

Okul Pazartesi günü aç-ıl-acak-mış-miş.

school Monday open-PASS-PRSP-REP-3REP

‘The school is going to reopen on Monday (I heard from someone who heard it from someone).’

Two interpretations of *-miş-miş*

- Incredulity over 2nd-hand report

(4) Context:

Gökçen told **Merve** that the school is going to reopen on Monday.

Merve thinks that this information is ridiculous.

Merve says to her mother: I just talked to Gökçen...

Okul Pazartesi günü aç-ıl-acak-mış-miş.

school Monday open-PASS-PRSP-**REP-INCRED**

‘The school is going to reopen on Monday (I heard, but it’s ridiculous).’

Discourse commitments

- **3rd-hand reportative -*miş-miş***

- Evokes variable SPKR commitment to the at-issue p
- Patterns with reportatives cross-linguistically (AnderBois 2014)

(5) Okul Pazartesi günü aç-ıl-acak-**miş-miş**.
school Monday open-PASS-PRSP-**REP-3REP**

‘The school is going to reopen on Monday (I heard from someone who heard it from someone).’

✓ ...I believe this.

✓ ...I don't believe this.

Discourse commitments

- **Incredulity attitude over 2nd-hand report *-miş-miş***
 - Commits SPKR to the incredulity attitude
 - Only compatible with lack of SPKR commitment

(6) Okul Pazartesi günü aç-ıl-acak-**miş-miş**.
school Monday open-PASS-PRSP-**REP-INCRED**
'The school is going to reopen on Monday (I heard, but it's ridiculous).'

...I believe this.

✓ ...I don't believe this.

3REP *-miş-miş* displays Interrogative Flip

- **Interrogative Flip:**

- The evidence holder “flips” from SPKR to ADDR in information-seeking questions (Garrett 2001, Korotkova 2018, Bhadra 2020)
- It is possible for evidentials to be non-flipping if the interrogative force is non-canonical (Dayal 2016), e.g. quiz questions, self-directed questions, etc. (Bhadra 2020)

- **3rd-hand reportative *-miş-miş* displays Interrogative Flip**

- (7) **The principal** told **Gökçen** that the school is going to reopen on Monday.
Gökçen then told **Merve**.

Merve’s brother overheard Merve’s conversation, but misses the date. He asks Merve:

Okul ne zaman aç-ıl-acak-**miş-miş**?
school what time open-PASS-PRSP-**REP-3REP**

‘**(According to your 3rd-hand report)** When is the school is going to reopen?’

SPKR = Merve’s brother

ADDR = Merve, holds 3rd-hand reportative evidence
the principal —> **Gökçen**
Gökçen —> **Merve**

INCRED *-miş-miş* does not display Interrogative flip (1)

- **Incredulity attitude over 2nd-hand report**
 - The evidence holder is flipped
 - **The incredulity attitude is rigidly anchored to the speaker**

(8) **Gökçen** told **Merve** that the school is going to reopen on Monday.
Merve's brother overheard Merve's conversation, but misses the date.
Merve's brother thinks that Gökçen is a liar. He asks Merve:

Okul ne zaman aç-ıl-acak-**miş-miş**?
school what time open-PASS-PRSP-REP-INCRED

‘(**According to YOUR second-hand report**) When is the school going to reopen
—**and I would find whatever your report says to my question to be ridiculous?**’

SPKR (Merve's brother)

ADDR (Merve) holds 2nd-hand reportative evidence

Gökçen → Merve

holds **Incredulity attitude**

INCRED does not display Interrogative flip (2)

- **Incredulity attitude over 2nd-hand report**

- The evidence holder is flipped
- **The incredulity cannot be flipped to the addressee**

(9) **Gökçen** told **Merve** that the school is going to reopen on Monday.
Merve's brother overheard Merve's conversation, but misses the date.
He knows that Merve does not believe whatever Gökçen says. He thinks Gökçen is reliable.
He asks Merve:

Okul ne zaman aç-ıl-acak-mış-mış?
school what time open-PASS-PRSP-REP-INCRED

‘(**According to YOUR second-hand report**) When is the school going to reopen
— **and YOU would find whatever your report says to be ridiculous?**’

SPKR (Merve's brother)

ADDR (Merve)

has 2nd-hand reportative evidence **Gökçen → Merve**

holds **incredulity attitude**

- Such questions with INCRED **have canonical interrogative force:**

- **They are unbiased:** The SPKR can harbor the INCRED attitude over the at-issue p on grounds independent of their own or the ADDR's commitment to any of the alternatives
- **They are information-seeking questions** that demand an answer

Interim summary

- Two distinct *-miş-miş*'s: 3REP, INCRED

(10) Okul Pazartesi günü aç-ıl-acak-**miş-miş**.

School Monday open-PASS-PRSP-**REP-3REP/INCRED**

a) 'The school is going to reopen on Monday (I heard from someone who heard it from someone).'

b) 'The school is going to reopen on Monday (I heard, but it's ridiculous).'

	3REP	INCRED
Discourse commitments	Variable commitment	Lack of SPRK commitment
Interrogative flip	Evidence holder: ADDR	Evidence holder: ADDR Attitude holder: SPKR

- Any adequate theory of double-*miş* must capture these key empirical properties

Analysis

Semantics

A tale of two *-mlş's*

A tale of two $-ml\zeta$'s

- $-ml\zeta_{\text{REP}}$ encodes reportative evidence
 - Genuine evidential; identical to single $-ml\zeta_{\text{REP}}$
 - Compositionally derives 3rd-hand reportative $-ml\zeta-m\zeta$
- $-ml\zeta_{\text{INCRED}}$ encodes a SPKR-oriented subjective attitude over the at-issue p

Reportative *-mlş*

$$\llbracket mI\dot{s}_{\text{REP}} \rrbracket^{c, \langle a, h, w, t, j \rangle} = \lambda p \lambda t \lambda x (x \notin \{a, h\}). \left\langle \begin{array}{c} p \\ \forall w', t', j' \in \text{EPIST}_{w,t,x} [p(w')(t')(j')] \end{array} \right\rangle$$

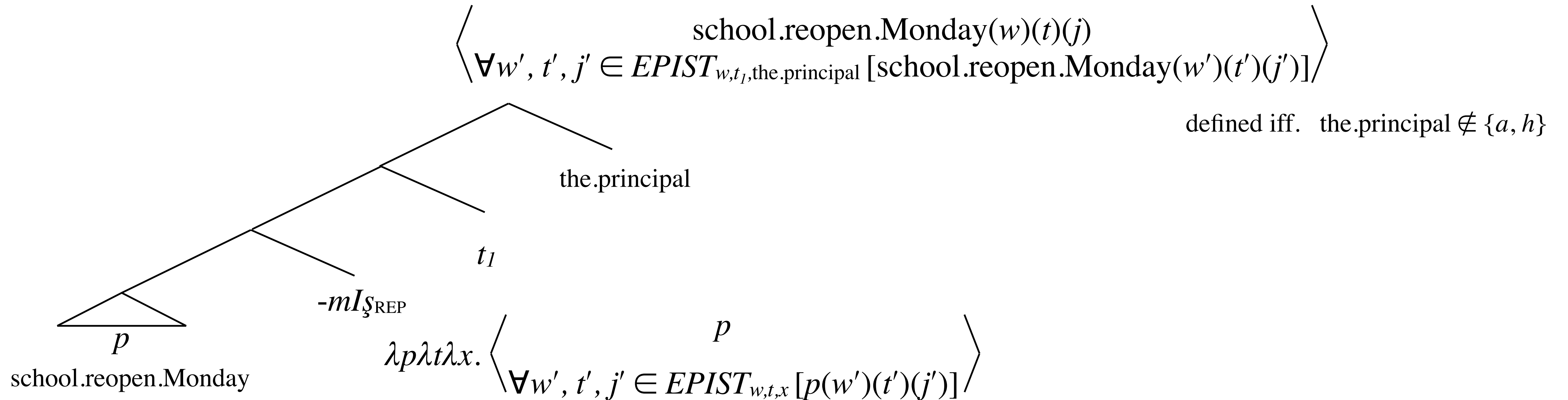
where $\text{EPIST}_{w,t,x} = \{ \langle w', t', j' \rangle \mid \text{it is compatible with what } j \text{ knows in } w \text{ at } t \text{ for } j \text{ to be } j' \text{ in } w' \text{ at } t' \}$
(Stephenson 2007)

- *-mlş*_{REP} encodes reportative evidence
- We adopt an epistemic attitude analysis of evidential semantics (e.g. Korotkova 2016)
 - In particular: we analyze REP evidentiality as *attitude ascription to a 3rd person* (Bhadra 2020)
 - Distinguish an at-issue dimension (*p*) and a not-at-issue dimension (*p-according-to-x*) (following Potts 2005, Bary & Maier 2021)

Reportative -miş

(11) *Okul Pazartesi günü aç-ıl-acak-mış.*

‘The school is going to reopen on Monday (**I heard from the principal**).’

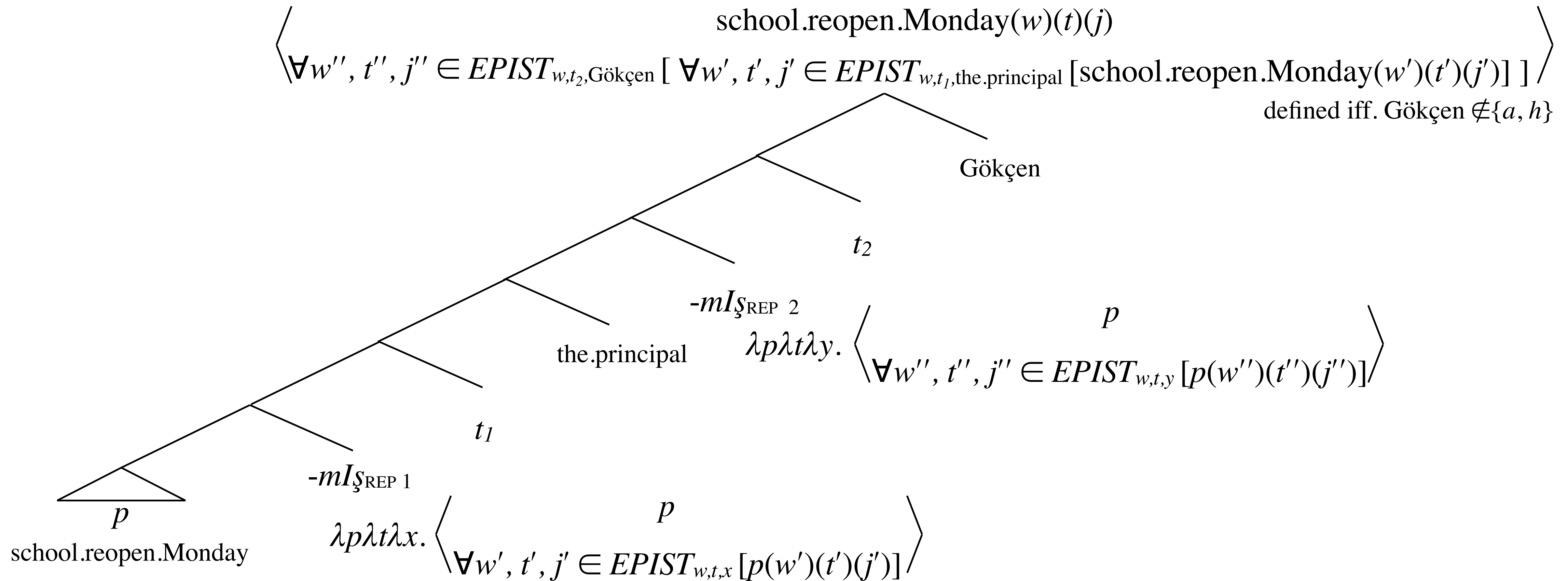


“For all that the principal knows in w at t_1 , the school is going to reopen on Monday.”

Composing 3rd-hand reportative *-miş-miş*

(12) *Okul Pazartesi günü aç-ıl-acak-miş-miş.*

‘The school is going to reopen on Monday (I heard from Gökçen who heard from the principal).’

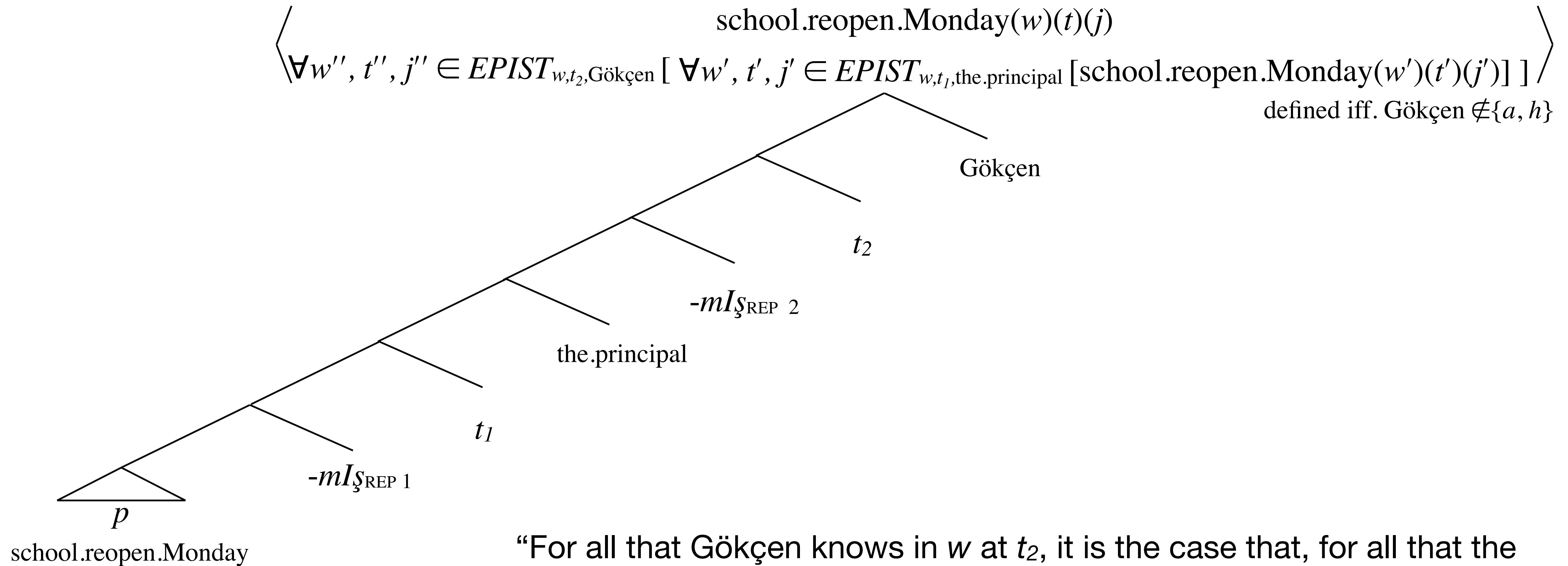


- 3rd-hand reportative *-miş-miş* is compositionally derived from two *-miş_{REP}*'s

Composing 3rd-hand reportative *-miş-miş*

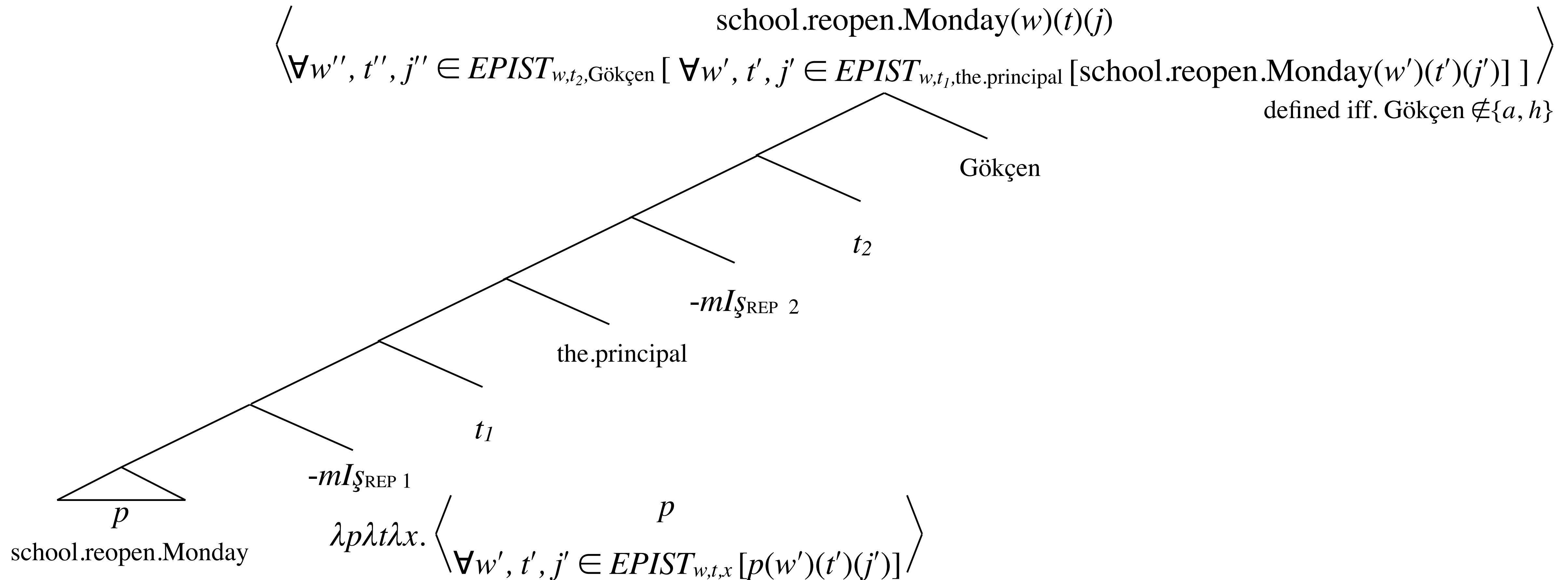
(12) *Okul Pazartesi günü aç-ıl-acak-mış-miş.*

‘The school is going to reopen on Monday (I heard from Gökçen who heard from the principal).’



“For all that Gökçen knows in w at t_2 , it is the case that, for all that the principal knows in w at t_1 , the school is going to reopen on Monday.”

Composing 3rd-hand reportative *-mlş-mlş*



- REP evidential meaning is analyzed as NAI content ascribing p to a series of 3rd-persons
— captures variable SPKR discourse commitment

Incredulity attitudinal $-mI\zeta$

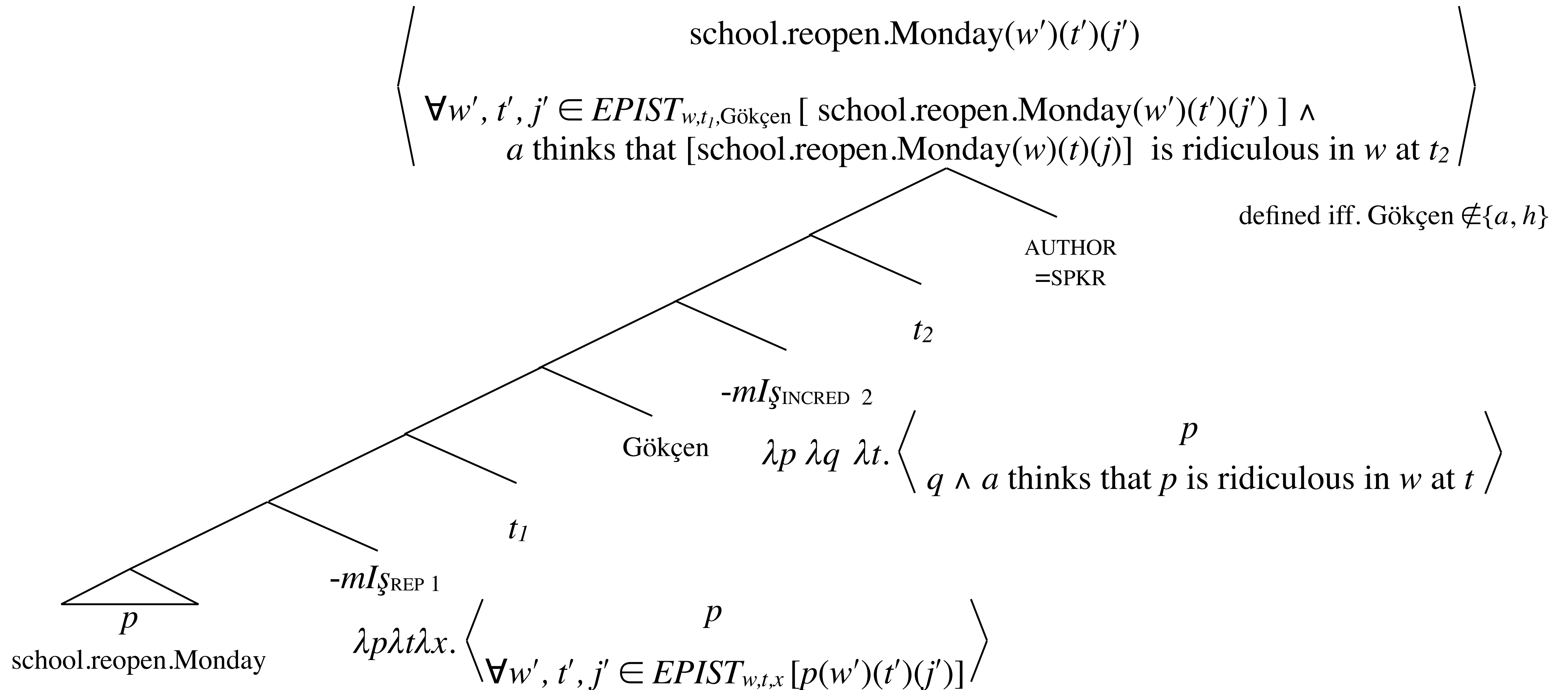
$$\llbracket -mI\zeta_{\text{INCRED}} \rrbracket_{c, \langle a, h, w, t, j \rangle} = \lambda p_{\langle k^a, t^a \rangle} \lambda q_{\langle k^a, t^c \rangle} \lambda t. \left\langle \begin{array}{c} p \\ q \wedge a \text{ thinks that } p \text{ is ridiculous in } w \end{array} \right\rangle$$

- $-mI\zeta_{\text{INCRED}}$ encodes a SPKR-oriented subjective attitude over the at-issue p
- Attitude holder is fixed by a first-person indexical a (=AUTHOR)

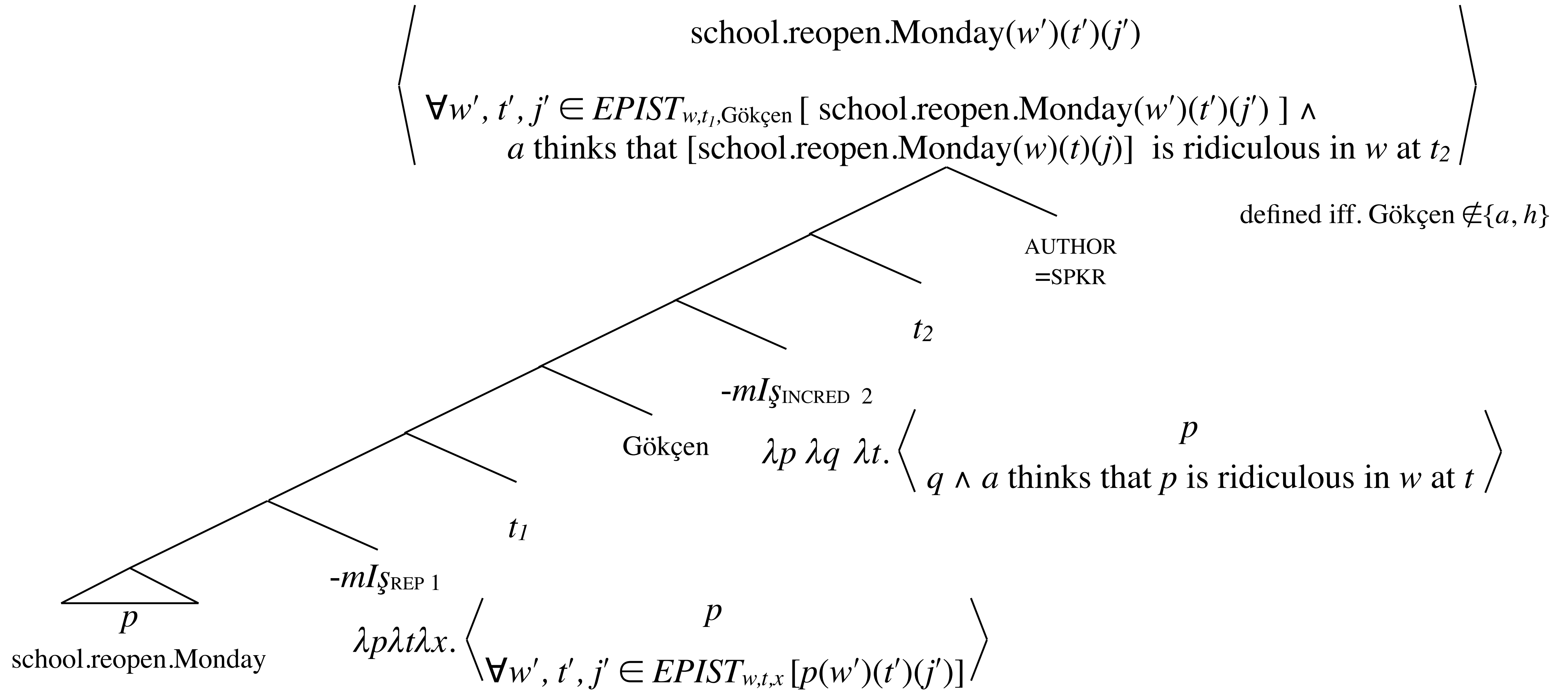
Incredulity attitudinal *-mİş*

(13) *Okul Pazartesi günü aç-ıl-acak-mış-mış.*

‘The school is going to reopen on Monday (**I heard from Gökçen, but it’s ridiculous**).’

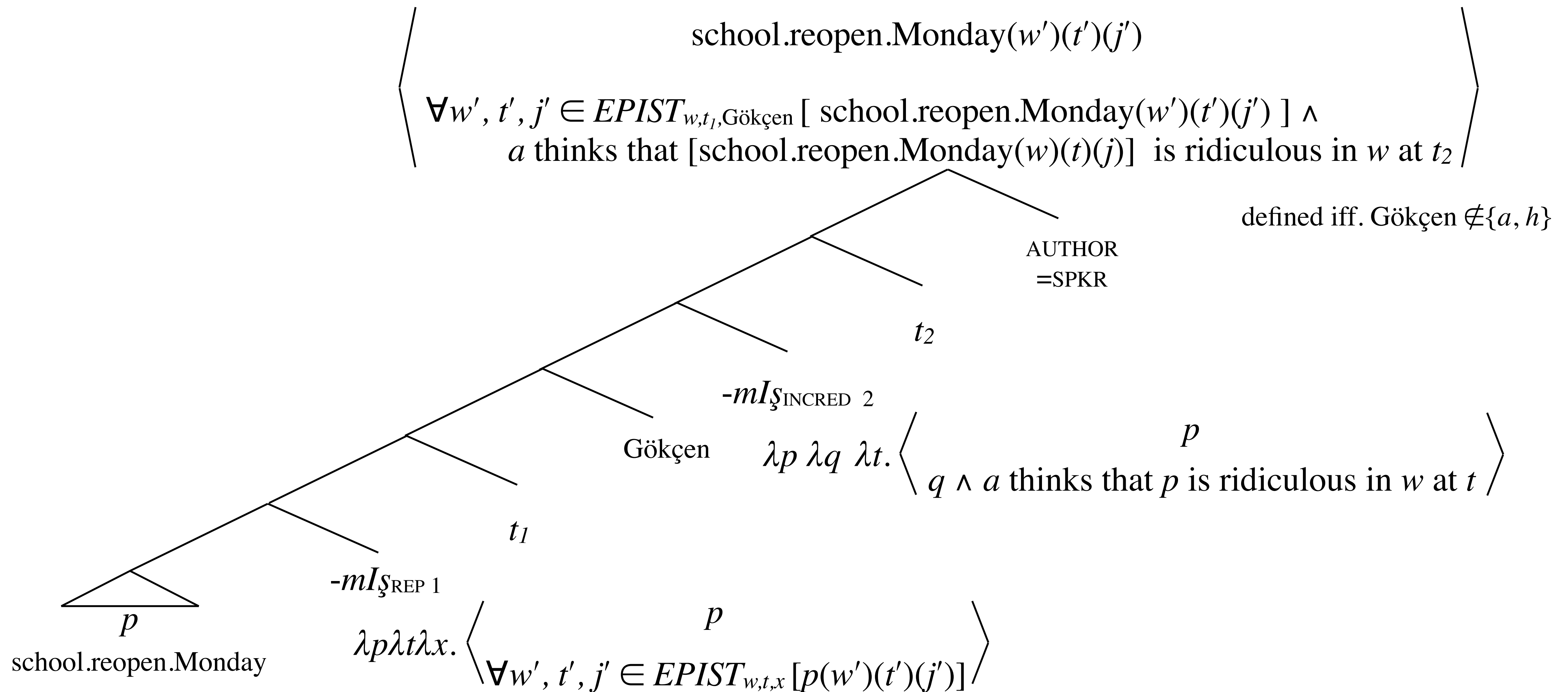


Incredulity attitudinal *-mlş*



“For all that Gökçen knows in w at t_1 , the school is going to reopen on Monday, and I think in w at t_2 that it is ridiculous that the school is going to reopen on Monday.”

Incredulity attitudinal -*mlş*



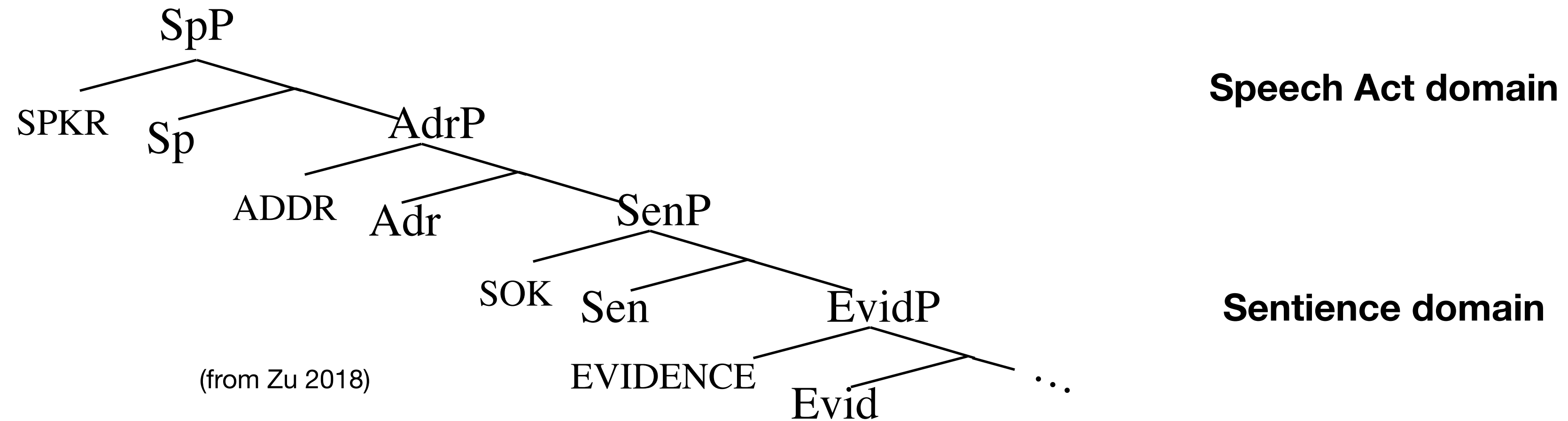
- NAI content explicitly encodes a SPKR-oriented attitude over p

— captures SPKR's commitment to a specific attitude over p

Syntax interface

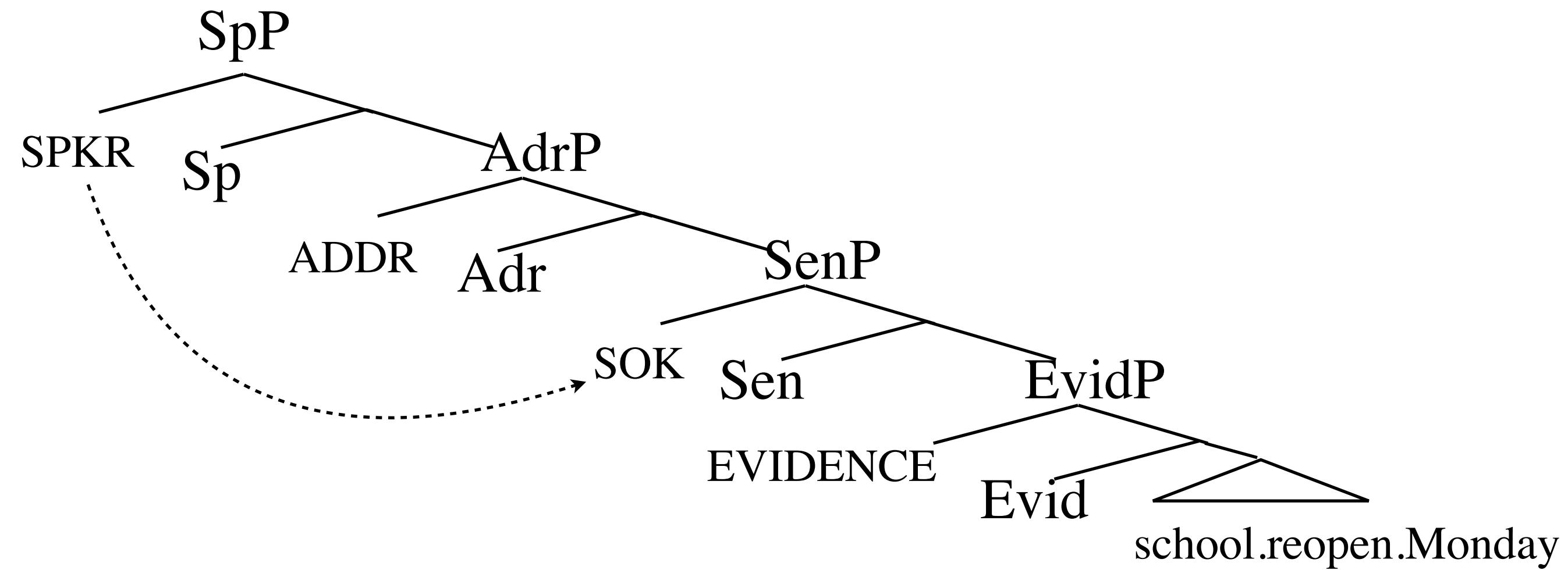
Sentience domain vs. Speech Act domain

Sentience domain vs. Speech Act domain



- **Pragmatic force and discourse roles have syntactic representations** (Speas & Tenny 2003, Haegeman & Hill 2013, Witschko & Heim 2016, Zu 2018)
- **Sentience-domain projections hosts point-of-view phenomena & their anchors**
 - EvidP hosts the evidence for a clause
 - SenP introduces the Seat-of-Knowledge (SOK)—evidence holder
- **Speech Act-domain projections introduces discourse participants (SPKR, ADDR)**

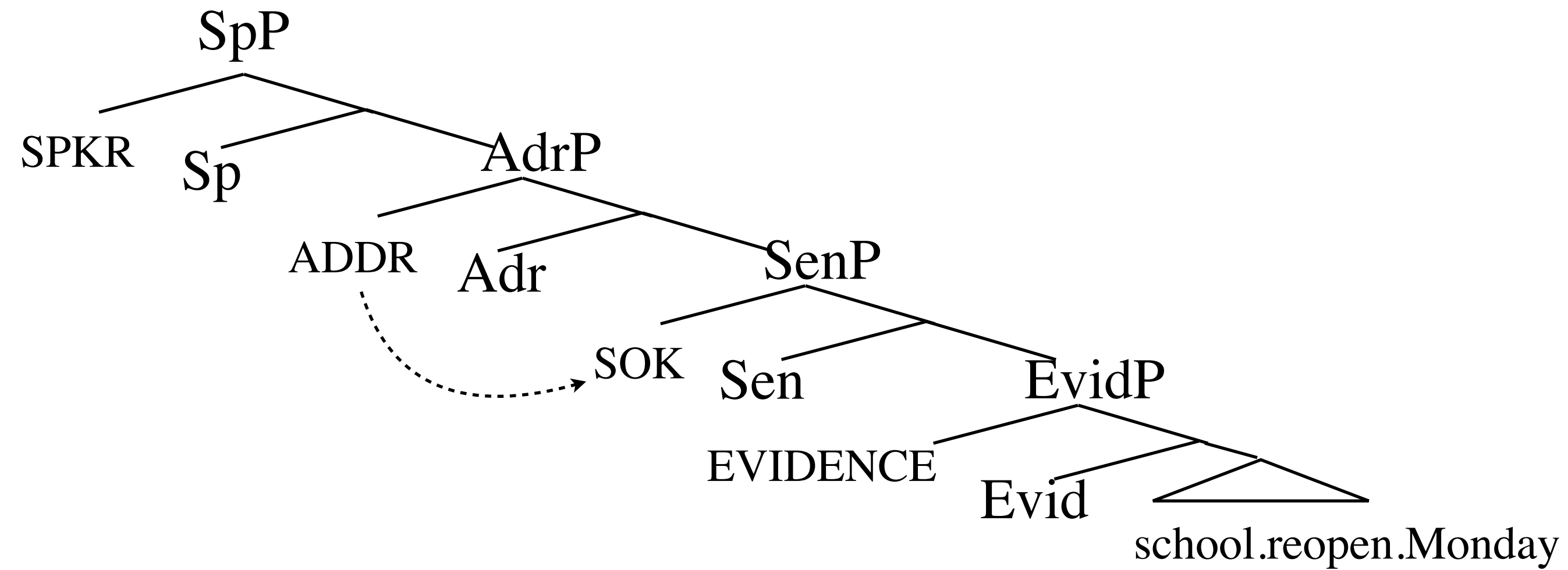
Sentence domain vs. Speech Act domain



“School will reopen on Monday (according to me).” (SPKR is the SOK)

- Point-of-view shift phenomena have configurational explanations
 - Interrogative Flip: differential binding of root SOK by ADDR instead of SPKR

Sentence domain vs. Speech Act domain



“Will school reopen on Monday (according to you)?” (ADDR is the SOK)

- Point-of-view shift phenomena have configurational explanations
 - Interrogative Flip: differential binding of root SOK by ADDR instead of SPKR

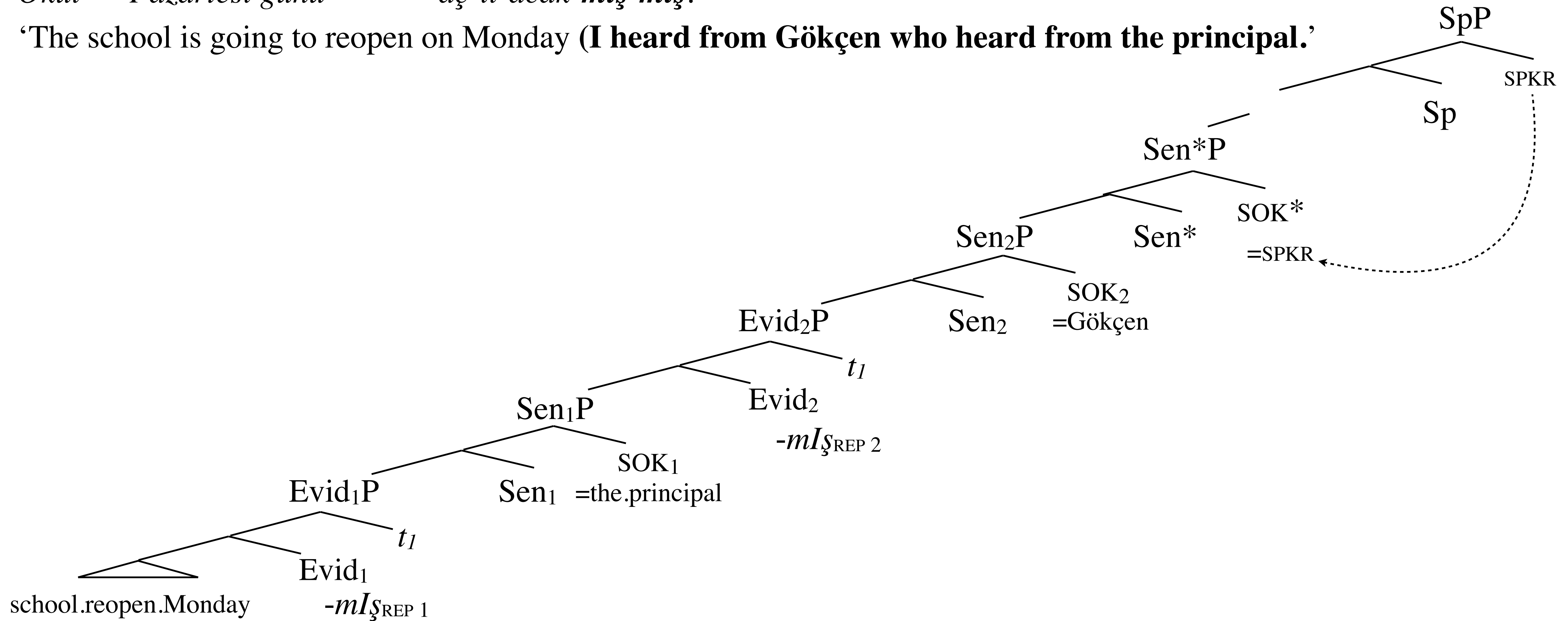
Two $-mI\zeta$'s, two syntactic domains

- $-mI\zeta_{\text{REP}}$ heads an EvidP projection in the Sentience domain
- $-mI\zeta_{\text{INCRED}}$ heads the SpP projection in the Speech Act domain

Two *-miş*'s, two syntactic domains

(14) *Okul Pazartesi günü aç-ıl-acak-mış-mış.*

‘The school is going to reopen on Monday (I heard from Gökçen who heard from the principal.)’

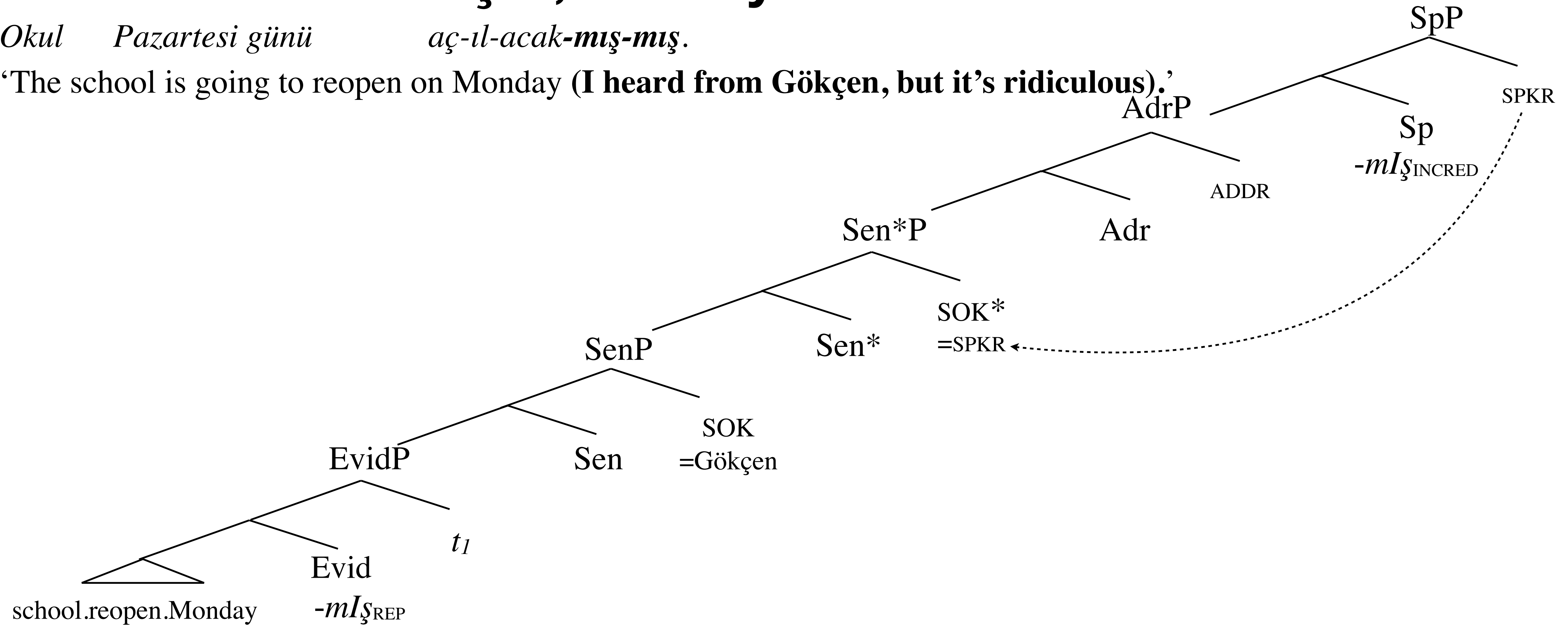


- 3rd-hand reportative *-miş-miş* is straightforwardly analyzed as recursive embedding of two Sentence-domain projections SenP-EvidP.

Two *-miş*'s, two syntactic domains

(15) *Okul Pazartesi günü aç-ıl-acak-mış-mış.*

‘The school is going to reopen on Monday (I heard from Gökçen, but it’s ridiculous).’

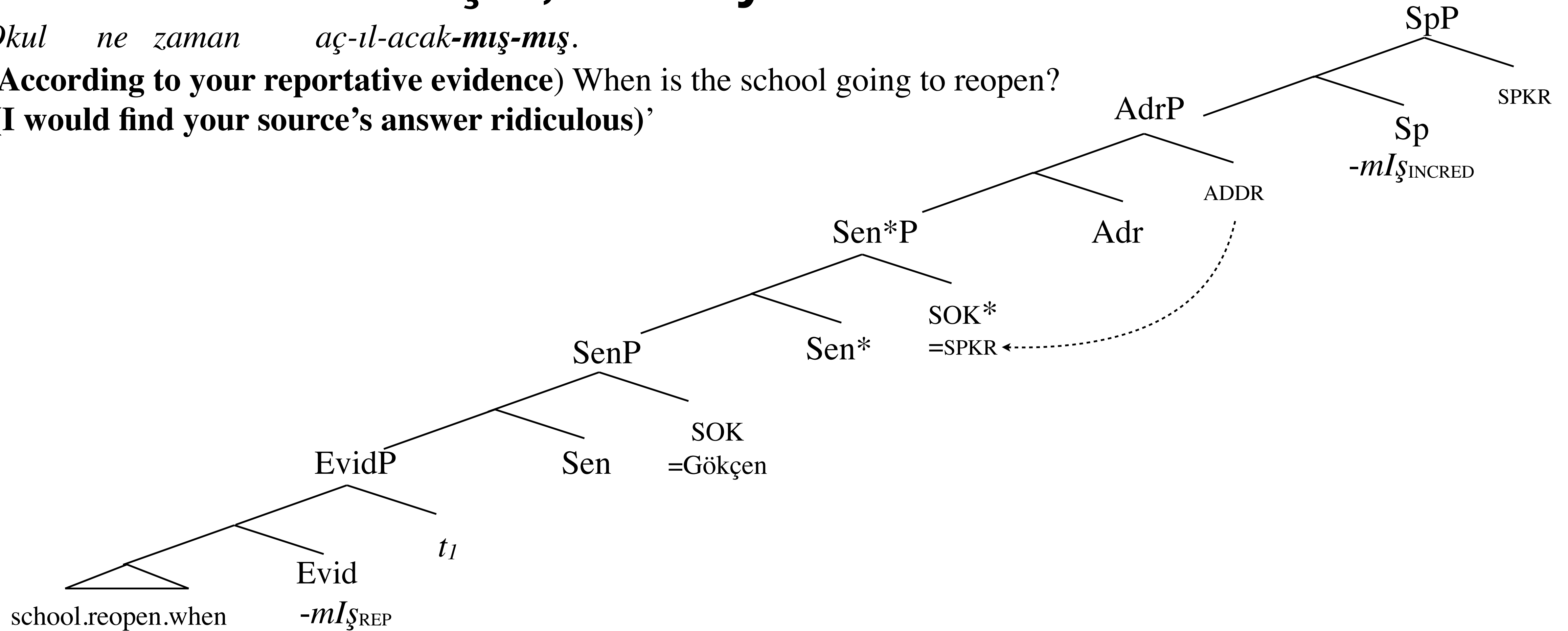


- In contrast, *-miş_{INCREDED}* heads the SpP projection in the Speech Act domain
- Structurally above root SOK binding — captures rigid SPKR-orientation

Two *-miş*'s, two syntactic domains

(16) *Okul ne zaman aç-ıl-acak-mış-mış.*

‘(According to your reportative evidence) When is the school going to reopen?
(I would find your source’s answer ridiculous)’



- In contrast, *-miş_{INCR}* heads the *SpP* projection in the Speech Act domain
 - Structurally above root *SOK* binding — captures rigid *SPKR*-orientation

Interim summary II: a tale of two *-mlş*'s

- *-mlş*_{REP} is a reportative evidential
 - Can be recursively embedded to derive the 3rd-hand reportative *-mlş-mlş*
 - Analyzed as epistemic attitude ascription to a 3rd person, thus evoking variable discourse commitment to the at-issue *p*
 - Heads an EvidP projection root Sen*P, thus displays *Interrogative Flip*
- *-mlş*_{INCRED} lexically encodes an incredulity attitude, thus evoking commitment to a specific attitude over the at-issue *p*
 - Heads the higher SpP projection, hence remains rigidly SPKR-oriented regardless of sentence type.

Diachrony

How reportatives become attitudinal

How reportatives become attitudinal

Why is there homophony between $-ml\zeta_{\text{REP}}$ and $-ml\zeta_{\text{INCREC}}$?

A. Coincidence

B. Connection

- Synchronic?

- Diachronic?

How reportatives become attitudinal

Why is there homophony between $-ml\zeta_{\text{REP}}$ and $-ml\zeta_{\text{INCRED}}$?

- $-ml\zeta_{\text{INCRED}}$ is a diachronic development from $-ml\zeta_{\text{REP}}$
 - We characterize it as a “conspiracy” of syntactic and semantic **reanalysis**

Reportatives *do* become attitudinal

(16) Shanghai Wu (Sinitic) (Zhuang in prep)

a. *lahlah loh yu, ghi kaon.*
PROG fall rain 3SG say

‘It’s raining, s/he says.’

(speech report parenthetical)

b. *lahlah loh yu ghikaon*
PROG fall rain MIR

‘Gosh, it’s raining [**I did not expect that**].’

(*p* is counterexpectational to SPKR)

- Reanalysis of markers of reportativity to markers of SPKR-oriented attitude is cross-linguistically attested.

Reportatives *do* become attitudinal

(17) Cantonese (Sinitic) (Luke 1990, Li 1995, Matthews 1998, Leung 2010, a.o.)

a. *baa4baa1 giu3 nei5 zik1hak1 heoi3 wo5*
father ask 2SG immediately go HEARSAY

‘Father asked you to go immediately, **I heard.**’

(hearsay evidential)

b. *baa4baa1 giu3 nei5 zik1hak1 heoi3 wo3*
father ask 2SG immediately go NOTEWORTHY

‘Father asked you to go immediately, **it turns out!**’

(*p* is new/noteworthy to SPKR)

(18) Bulgarian (South Slavic, Balkan *Sprachbund*) (Simeonova 2020, cf. Sauerland & Schenner 2007)

Ali bi-l proč-e-l kniga

A. COP-ATT read-REP book

‘Ali read a book, I heard from Burak — **as if!**’

(SPKR is dismissive about *p*)

- Reanalysis of markers of reportativity to markers of SPKR-oriented attitude is cross-linguistically attested.

How reportatives become attitudinal: semantic reanalysis

- Work on the discourse properties of REP-marked declaratives has largely focused on *SPKR*'s commitment, in *belief* terms
- However, in naturally-occurring, richly-contextual speech, the ADDR may be able to draw a much richer set of inferences (Traugott & Dasher 2002) about the *SPKR*'s *evaluative/emotive attitude* about *p* (see e.g. Rett 2021 for an explicit theoretical account)
 - dismissive-about-*p*, did-not-expect-*p*, noteworthy-that-*p*, ridiculous-that-*p*...
- Semantic reanalysis:
attitudinal conversational implicature > lexically encoded meaning

How reportatives become attitudinal: semantic reanalysis

(19) *'My mother was telling me about my son... That day she was trying to get him to eat...*

He didn't like the food, she said. +> *I wasn't expecting this.*

And because he didn't want to eat it, he just vomited it all out, she said.

+> *I definitely wasn't expecting this behavior!*

In fact, he was not really throwing up; he just didn't want to eat, so he behaves like this!'

— Translation of a Shanghai Wu corpus example (Zhuang in prep)

- Pre-reanalysis stage: REP meaning lexically encoded, attitudinal meaning conversationally implicated
- Condition for reanalysis: attitudinal meaning *more salient more often* than the literal REP-evidential meaning in context
- Lexical transparency drives towards conventionalization of contextual meaning

How reportatives become attitudinal: semantic reanalysis

‘My mother was telling me about my son... That day she was trying to get him to eat...

He didn’t like the food, she said. **+> I wasn’t expecting this.**

And because he didn’t want to eat it, he just vomited it all out, she said.

+> I definitely wasn’t expecting this behavior!

In fact, he was not really throwing up; he just didn’t want to eat, so he behaves like this!’

— Translation of a Shanghai Wu corpus example (Zhuang in prep)

- Pre-reanalysis stage: REP meaning lexically encoded, attitudinal meaning conversationally implicated
- Condition for reanalysis: attitudinal meaning **more salient more often** than the literal REP-evidential meaning in context
- Hearer-side: lexical transparency drives towards reanalyzing contextual meaning as conventionalized meaning

How reportatives become attitudinal: semantic reanalysis

‘My mother was telling me about my son... That day she was trying to get him to eat...

He didn’t like the food, ~~she said~~ I wasn’t expecting this.

And because he didn’t want to eat it, he just vomited it all out, ~~she said~~ I wasn’t expecting this.

In fact, he was not really throwing up; he just didn’t want to eat, so he behaves like this!’

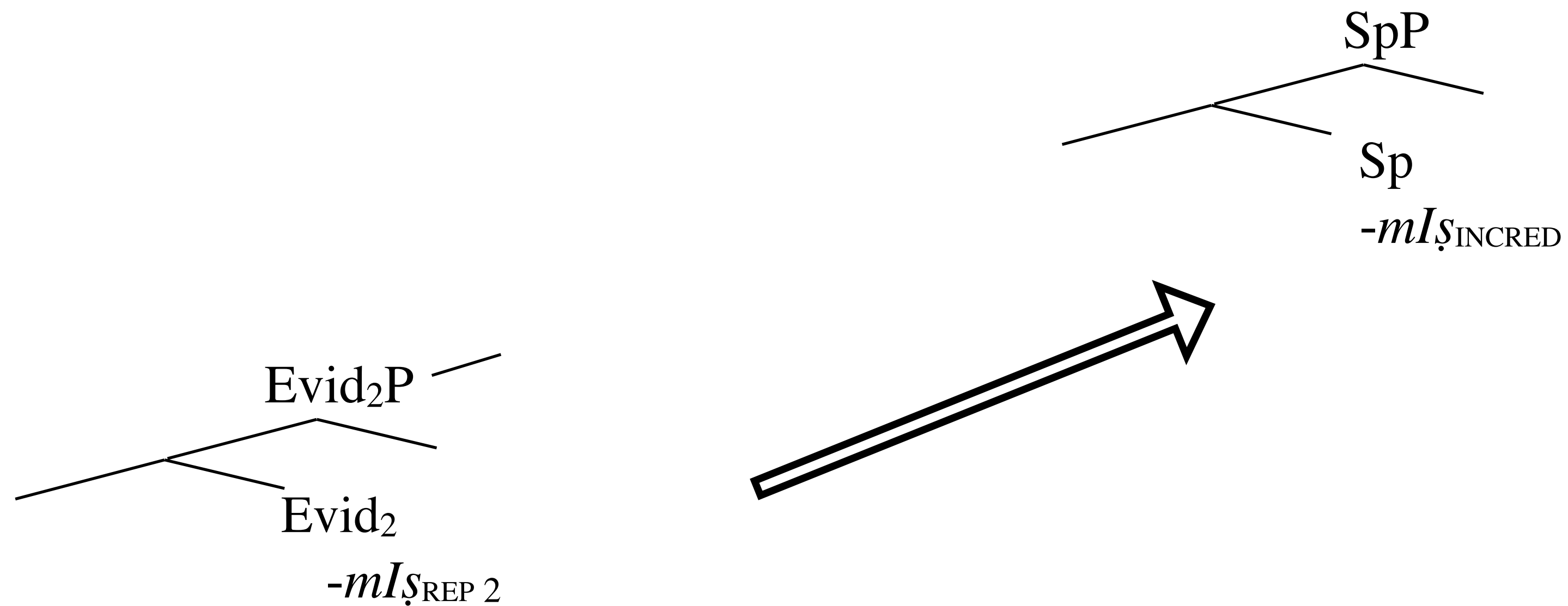
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How reportatives become attitudinal: semantic reanalysis

- Evidence of completion: hearer, acting as speaker, extends the new **rigidly SPKR-oriented** attitudinal meaning to other clause types, viz. canonical interrogatives
(Heine, Claudi & Hühnemeyer 1991)
 - Crucial point of departure from the original evidential
 - If the attitudinal meaning in questions were still a pragmatic offshoot of the original evidential meaning, one would expect an **Interrogative-Flipped** attitudinal: *“according to **your** evidence which **you** find ridiculous”*

How reportatives become attitudinal: syntactic reanalysis



- Syntactic reanalysis of [$Evid$ - $mI\mathcal{S}$] to [Sp - $mI\mathcal{S}$] conspires to precipitate the innovation of the attitudinal marker (Roberts & Roussou 2002)

How reportatives become attitudinal: conclusions

- A conspiracy of semantic reanalysis ($C/ >$ lexicon) and syntactic reanalysis (up-the-tree reanalysis of functional heads) captures the development of reportativity markers to attitudinal markers, both in Turkish and cross-linguistically.
- Our account correctly predicts three common features of this pathway:
 - **Evidential neutralization**
 - **Rigid SPKR-perspective orientation**, if attested in canonical interrogatives
 - **Diversity of attitudinal flavor**
- More detailed work is needed to test these predictions across other languages.

Thank you.

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