

- **embedded**

- the morphemes “diye, dep, to, ko,” are used to subordinate clauses under attitude verbs,
- the exx. in (1) are declaratives: they do not have matrix question force,
- the sentences in (1) imply the presence of an attitude, e.g., the matrix subject is *thinking about*, *wondering* or *wants to know* what the answer is.
- grammatical dependencies are possible across the question boundary: binding, *wh*- extraction, . . .

- **unselected**¹

the question constituents in (1) seem to have. . .

- no place in the syntax:

the argument slots of the transitive predicates “open,” “peek,” etc., are already saturated by DPs.

Note: It is usual for “diye” to introduce unselected clauses.

- (4) a. Ali yalan söyledi.
 Ali lie told
 Ali lied.
- b. *Ali [annesinin gel-diğ-in-i] yalan söyledi.
 Ali his mother arrive-NMZ-3S-ACC lie told
 *Ali lied that his mother arrived.
- c. Ali [annesi geldi diye] yalan söyledi.
 Ali his mother arrived DIYE lie told
 *Ali lied that his mother arrived.

- no place in the semantics:

predicates like open the door do not semantically compose with propositions or questions.

- Three questions:

A How is the question incorporated into the syntax and the semantics?

B Where is (are) the attitude(s) coming from?

C What is the link between the unselected question and the matrix event?

- Two possible approaches:

- **The selection approach:** The question constituent is licensed by the matrix predicate

⇒ Kim & Tomioka’s approach to “Agent Oriented Embedded Interrogatives” in Japanese and Korean (Kim and Tomioka, 2014; Tomioka and Kim, 2016).²

- (5) A type-shifting operation:

Certain *v'* level constituents that do not semantically select for questions can be type shifted into question taking objects.

$[[v']] \mapsto \lambda Q. [[v']] \wedge \dots \text{want-to-know-the-answer-to}(Q) \dots$

- **The adjunction approach:** The question constituent adjoins to the matrix predicate

⇒ Kim’s approach to “Bare Quotatives” in Japanese and Korean (Kim, 2018).

- (6) The question constituents in (1) are event modifiers:

As event modifiers, they can compose with

a. $[[Q \text{ diye}]] = \lambda x. \lambda e. e$ is an asking *Q* event performed by *x*

b. $[[v \text{ open the door}]] = \lambda y. \lambda e'. e'$ is an opening the door event performed by *y*

¹It is an open question whether *diye* clauses are ever selected (Yıldırım-Gündoğdu, 2017).

²I have recast Kim and Tomioka’s proposal in my own terms for presentation purposes. Any potential errors or shortcomings in the adaptation are my responsibility only.

- c. $[[Q \text{ diye}]] + [[v \text{ open the door}]] =$
- i. $\lambda y. \lambda e'. e'$ is an opening the door event performed by y
 - ii. and there is an event e such that e is an asking Q event performed by y
 - iii. and e and e' are cotermporal

I pursue the second approach: Action for *diye*, which is a morpheme made up of *de-*, ‘to say,’ and *-yA*, a conjunctive morpheme.

- *diye* Q data from Turkish suggest some flexibility that comes from. . .
- The range of possible individual anchors for the *diye* Q .
- Scopal interactions between time frequency adverbs and modal adverbs and the *diye* Q , These data are used to argue in favor of the adjunction approach.
- I present independent evidence for this account based on indexical shifting behavior under reception reports and on complementizers from Laz (Özyıldız et al., 2018; Demirok et al., 2018).

2 There is an attitude

2.1 *Diye* introduces the attitude

- *diye* Q s create an *intensional context*:

(7) **De dicto** belief ascription

- a. Ali bir tekboynuz gördü.
Ali a unicorn saw
Ali saw a unicorn.
The speaker is committed to the existence of unicorns.
- b. Ali [bir tekboynuz gördü diye] düşünüyor.
Ali a unicorn saw DIYE thinks
Ali thinks that he saw a unicorn.
The speaker is not committed to the existence of unicorns. Ali is.
- c. Ali [bir tekboynuz mu gördü diye] kapıyı açtı.
Ali a unicorn POLQ saw DIYE door opened
Ali opened the door wondering whether he saw a unicorn.
The speaker is not committed to the existence of unicorns. Ali is.

- It is possible to quote the embedded clause.³ In this case, the belief inference can be suspended:

- (8) Ali “A-aa! bir tekboynuz mu gördü-**m**?” diye kapıyı açtı.
Ali INTERJ a unicorn POLQ saw-1S DIYE door opened
Ali opened the door, saying “Wow! Did I see a unicorn?”
Ali is not necessarily committed to the existence of unicorns.

– There is a naturally accessible reading of (8) that attributes to Ali an utterance of “Did I see a unicorn?” which does not commit Ali to the belief that there exist any.

– This reading is not available in (7c), where the embedded question is not quoted.

- The embedded question is not necessarily quoted:

(9) a. Variable binding

- Herkes₁ [[x_1 annesi] geldi mi diye] kapıyı açtı.
everyone *pro* mother.3S.POSS arrived POLQ DIYE door.ACC opened
Everyone₁ opened the door wondering whether his₁ mother had arrived.

³The quote reading is sometimes brought out by mimicking the quoted person’s voice, see Major and Mayer (2018).

b. *Wh*- extraction

Ali [kim geldi mi diye] kapıyı açtı?

Ali who arrived POLQ DIYE door.ACC opened

Who is x s.t. Ali opened the door wondering whether x had arrived?

- Where is the attitude coming from?

Hypothesis: From the morpheme *diye*, which is built off of the root *de-*, “say.”

- How is *diye* able to introduce speech content and belief content? Some attempts to address the question are found in Demirok et al. (2018), Kim (2018), Özyıldız et al. (2018).

2.2 What kind of attitude(s)?

- **The rogative inference:** *Diye* Qs entail that the individual anchor is entertaining the question.⁴
- **A consequence of the rogative inference:** The individual anchor is agnostic about the answer to the embedded question.

(10) Ali annesinin gelip gelmediğini bilmesine rağmen. . .

Despite the fact that Ali knew whether his mother had arrived or not. . .

a. \perp [Annesi mi geldi diye] kapıyı açtı.

mother.3S.POSS POLQ arrived DIYE door.ACC opened

\perp Ali opened the door wondering whether his mother had arrived. [contradictory]

b. “Annem mi geldi?” diye kapıyı açtı.

mother.1S.POSS POLQ arrived DIYE door.ACC opened

He opened the door saying “Did my mother arrive?” [not contradictory]

⇒ Here again, quotation lifts these inferences, (10b). When quotation is ruled out, the inference patterns like an entailment, (10a).

- **The purposefulness inference** (Tomioka and Kim, 2016; Kim, 2018)
In performing the matrix event, the individual anchor wants to figure out the answer to the Q.

(11) a. Ali [annesi geldi mi diye] kapıyı açtı. . .

Ali mother.3S.POSS POLQ arrived DIYE door.ACC opened

Ali opened the door wondering whether his mother had arrived. . .

\perp . . . ama kapıyı açmasının sebebi annesinin gelip gelmediğini öğrenmek değildi.

. . . but his purpose in opening the door was not to figure out whether his mother had arrived.

b. # Ali [annesi Mars'ta su buldu mu diye] kapıyı açtı.

Ali mother.3S.POSS on Mars POLQ water found DIYE door.ACC opened

Ali opened the door wondering whether his mother had found water on Mars.

OK in a context where opening the door would potentially answer the question.

⁴Throughout, I assume a Hamblin/Karttunen semantics for questions (Hamblin, 1973; Karttunen, 1977): Questions denote sets of propositions, which are answers to the question. For example,

$\llbracket \text{Did Ali's mother come?} \rrbracket = \{p : p = \lambda w. \text{come}(\text{ali's mom}, w), \lambda w. \neg \text{come}(\text{ali's mom}, w)\}$.

The question “Dis Ali’s mother come?” denotes the set of its two potential answers, the propositions expressed by “Ali’s mother came,” and “Ali’s mother didn’t come.”

It is not relevant for present purposes to go into details about whether the answers have to be true or merely potential, or how exhaustive they should be.

3 Whose attitude?

3.1 Intentionality with a *t*

Saying that *diye* Qs are unselected might suggest that they are absolutely free in their distribution. There are restrictions on their distribution based on the aspectual class of the matrix predicate and the status of the individual anchor.

- *Diye* Qs and aspectual classes
- The examples in (12) show that *diye* Qs are acceptable with accomplishment, activity and semelfactive predicates.

(12) a. **Accomplishments**

Ali [anne-si gel-di mi diye] kapı-yı aç-tı.
Ali mother-3S.POSS arrive-PST.3S POLQ DIYE door-ACC open-PST.3S
Ali opened the door wondering whether his mother had arrived.

b. **Activities**

Ali [anne-si gel-di mi diye] garın etrafında yürüdü.
Ali mother-3S.POSS arrive-PST.3S POLQ DIYE station.GEN around walked
Ali walked around the station wondering whether his mother had arrived.

c. **Semelfactives**

Ali [arkadaşı gülecek mi/hapşırarak mı diye] güldü/hapşırdı.
Ali his friend will laugh POLQ/will sneeze POLQ DIYE laughed/sneeze
Ali laughed/sneezed wondering whether his friend would laugh/sneeze.
Coercion: Ali laughed/sneezed *intentionally*, forced himself to laugh/sneeze.

- *Diye* Qs are usually infelicitous with statives and achievements.

(13) a. **Statives**

i. **Verbal statives**

#Ali [arkadaşı onu beğenecek mi diye] İtalyanca biliyor.
Ali his friend him will like POLQ DIYE Italian knows
Ali knows Italian wondering whether his friend will like him.

ii. **Copular statives**

#Ali [hasta olmak nasıl bir duygu diye] hasta.
Ali sick be.INF how a feeling.COP.3S DIYE sick.COP.3S
Ali is sick wondering what kind of a feeling it is to be sick.

b. **Achievements**

Ali [arkadaşı ne ses çıkaracak diye] camı kırdı.
Ali his friend what sound will make DIYE window.ACC broke
Ali broke the window wondering what noise his friend would make.

Coercion: Ali broke the window *intentionally*. [Interpreted as an accomplishment.]

- The class of predicates that are acceptable with *diye* Qs correspond to **agentive predicates**.
Additional support:
- *Diye* Qs are unacceptable in impersonal constructions, and with inanimate subjects—even though the predicate might be one that is otherwise acceptable with *diye* Qs.

(14) a. Ali [kırılacak mı diye] cama vurdu.
Ali break POLQ DIYE window.DAT hit
Ali hit the window wondering whether it would break.

b. # Top [kırılacak mı diye] cama vurdu.
 ball break POLQ DIYE window.DAT hit
 The ball hit the window wondering whether it would break.

c. # [Yerler ıslanacak mı diye] yağmur yağıyor.
 ground will be wet POLQ DIYE rain precipitate
 *It's raining wondering will the ground become wet.
 No natural reading available.

[cf. Kim & Tomioka's "Speaker Oriented Embedded Interrogatives," impossible in Turkish.]

- **Agentive coercion:** Some predicates become acceptable with *diye* Qs under the condition that they are interpreted as 'agentive.' (pretty degraded/weird overall)

(15) # Ali [daha çekici olacak mı diye] sarışın.
 Ali more attractive will be POLQ DIYE blonde
 #Ali is blonde wondering whether he'll be more attractive.
Perhaps: He's dyed his hair blonde to see if that will make him more attractive.

- **Speaker/experimenter coercion:** When the sentence does not provide any suitable individual anchor, one can be sought in the context.

(16) # [Yerler ıslanacak mı diye] yağmur yağıyor.
 ground will be wet POLQ DIYE rain precipitate
 *It's raining wondering will the ground become wet.
Perhaps OK in context: An experimenter is making it rain to study its properties. Someone asks, "so, why is it raining today?"

⇒ *diye* Qs must be anchored to an intentional agent.

3.2 A range of possible anchors

- **Impossible anchors**

- Inanimates—unless personified (previous subsection).
- Internal arguments

(17) a. # Ali Bill'e [zevk alacak mı(-y-ım) diye] vurdu.
 Ali Bill.DAT pleasure will take POLQ-COP-1S DIYE hit
Intended, unavailable: Ali hit Bill and Bill was wondering whether he would take pleasure from it.
Available: ... Ali was wondering whether he would take pleasure from it.

b. # Ali kitabı Ayşe'ye [beğenir mi(-y-ım) diye] verdi.
 Ali book.ACC Ayşe.DAT like POLQ-COP-1S DIYE gave
Intended, unavailable: Ali gave the book to Ayşe and Ayşe was wondering whether she would like it.
Available: Ali was wondering whether she would like the book.

- **Possible anchors**

- Agents of (di)transitive verbs (previous subsection). [Possible in Korean]

– Implicit agents of passives

[Possible in Korean]

(18) Ali'ye [can-ı yan-acak mı diye] vur-ul-du.
 Ali-DAT life-3S.POSS burn-FUT POLQ.COP.3S DIYE hit-PASS-PST.3S

- a. **Available:** Ali was hit by someone, they were wondering whether it would hurt him (lit. whether his life would burn).
 b. **Unavailable:** Ali was hit because he (=Ali) wanted to see if it would hurt him.

– Causers and intermediate agents

[Intermediate agents reported to be impossible in Korean, causers possible (Kim, 2018, ex. 2.42)]

Test used in (19): Inanimates cannot be anchors.

(19) a. Ali yazıcı-ya [makale-si nasıl gözükyor diye]
 Ali printer-DAT paper-3S.POSS how looks DIYE
 ilk sayfa-sın-ı bas-tır-dı.
 first page-3S.POSS-ACC print-CAUS-PST.3S
 Wondering how his paper would look, Ali had the printer print its first page.

- b. Bu durum Ali'ye [makale-si nasıl gözükyor diye]
 this situation Ali-DAT paper-3S.POSS how looks DIYE
 ilk sayfa-sın-ı bas-tır-dı.
 first page-3S.POSS-ACC print-CAUS-PST.3S
 This situation made Ali print its first page, wondering how his paper would look.

(20) **Korean:**

Yumi-nun Mina-eykey [kyewul-ey taypiha-yaha-n-ta-ko] ttaylkam-ul
 Yumi-NOM Mina-DAT winter-DAT prepare-have.to-PRES-DECL-QUOT
 mantul-key ha-yss-ta.
 log-ACC make-PUR do-PAST-DECL

- a. **Available:** Yumi made Mina make logs, thinking/saying that she has to prepare for the winter. (Yumi, the causer, is the thinker/sayer.)
 b. **Unavailable:** Mina (the intermediate agent) is the thinker/speaker.

– The speaker and the addressee

[Korean?]

(21) a. Ali'ye [can-ı yan-acak mı diye] vur!
 Ali-DAT life-3S.POSS burn-FUT POLQ.COP.3S DIYE hit.IMP
 Hit Ali, I'm wondering whether it will hurt him.
 b. Benim umrumda değil ama...
 I don't care but...
 sen Ali'ye [can-ı yan-acak mı diye] vur!
 you Ali-DAT life-3S.POSS burn-FUT POLQ.COP.3S DIYE hit.IMP
 I don't care, but you hit Ali wondering whether it will hurt him.

– The 'experimenters'

[Korean?]

(22) ? Ali [ne kadar acıya dayanacak diye] öldü.
 Ali how much pain stand DIYE died
 Ali died because the experimenters wanted to know how much pain he could stand.

How is the individual anchor fixed?

- Previous section: The *de-* in *diye* introduces an attitude.
- To account for the data in this section. . .

Hypothesis: The *de-* in *diye* introduces a pronominal subject that comes with an agentive restriction (Kim, 2018; Özyıldız et al., 2018).

Possible alternatives to the agentivity restriction: Logophoricity, perspectival centers.

Further research: Testing whether all and only possible individual anchors are good logophoric/perspectival antecedents.

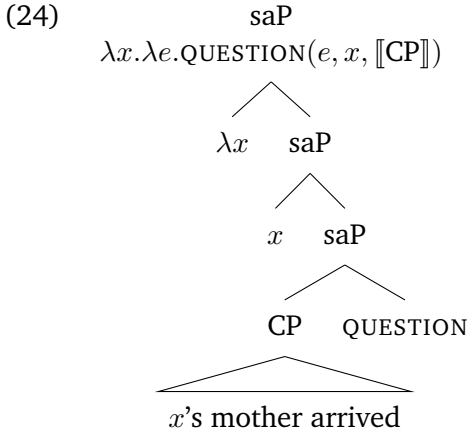
4 Adapting Kim’s proposal to account for the Turkish facts

Our running example:

- (23) Ali [anne-si gel-di mi diye] kapı-yı aç-tı.
 Ali mother-3S.POSS arrive-PST.3S POLQ DIYE door-ACC open-PST.3S
 Ali opened the door wondering whether his mother had arrived.

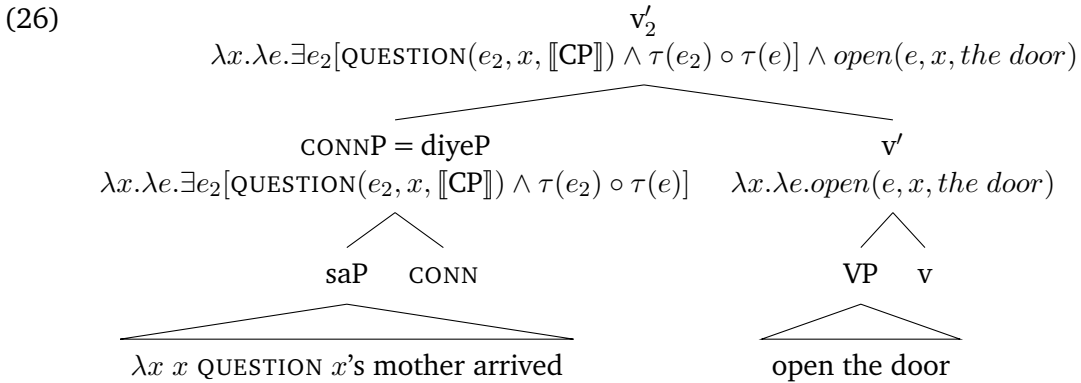
4.1 Kim’s proposal

- To account for Korean unselected clause data, Kim (2018) proposes that certain unselected constituents introduce a speech act phrase (saP).



- This phrase may be connected with non-attitude predicates, at the level of v' .

(25) $[\text{CONN}] = \lambda S_{e,vt}.\lambda x.\lambda e.\exists e_2[S(e_2, x) \wedge \tau(e_2) \circ \tau(e)]$



- The rest of the derivation proceeds as usual:

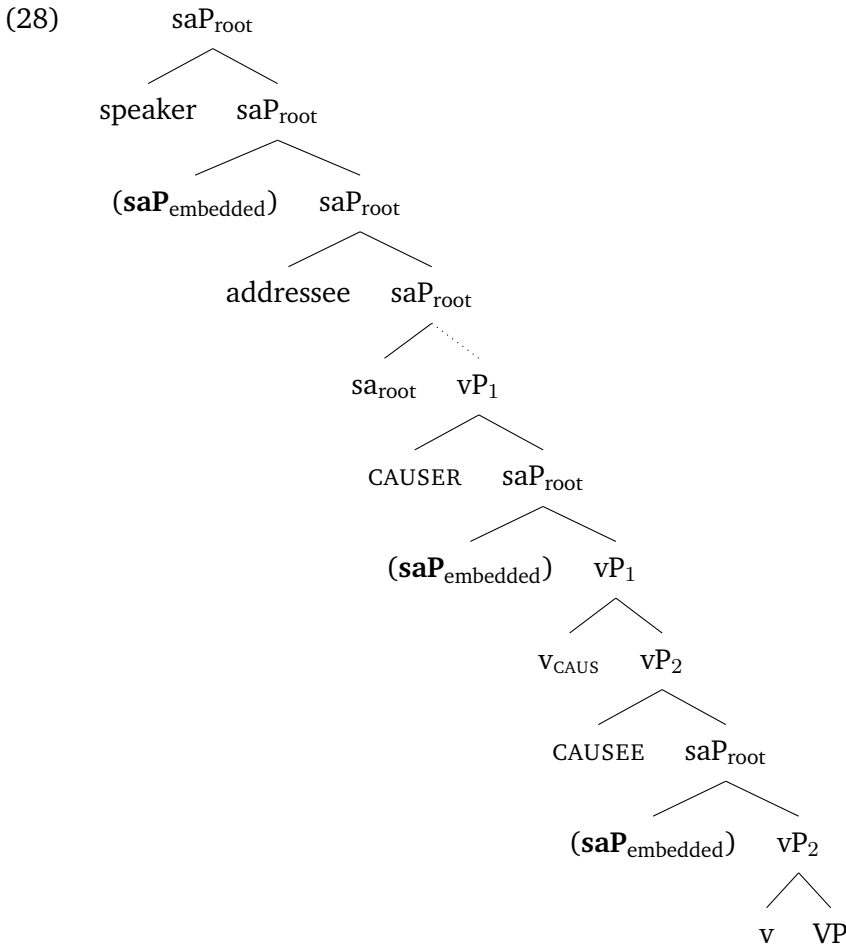
(27) $[\text{VP}] = [\text{v}'_2](ali) = \lambda e.\exists e_2[\text{QUESTION}(e_2, ali, [\text{CP}]) \wedge \tau(e_2) \circ \tau(e)] \wedge \text{open}(e, ali, \text{the door})$

- a. “ e is an event of Ali opening the door,
- b. and there is an e_2 that is an event of Ali asking the question of whether his mother arrived that Ali asks
- c. and e and e_2 overlap”

- In Kim’s system, the saP contains a subject controlled PRO, and it must attach to the matrix v' . This derives the restrictions observed in Korean on possible individual anchors: Only intentional matrix agents.

4.2 A possible extension to Turkish

- The range of possible anchors for the question is freer in Turkish—the agentivity restriction remains:
 - Agents of passives, transitives, & ditransitives,
 - Intermediate agents in causative constructions,
 - The speaker,
 - Perhaps also: Contextually determined.
- One option is to allow saPs to merge freely at any node of type e, vt .
 - Captures possible individual anchors,
 - The independent agentivity restriction on individual anchors rules out unwanted ones. E.g., the V node is also of type e, vt , but internal arguments are not always good individual anchors. This is because they are not always good intentional agents.



- **Further research:**

- **Unbound individual anchors?**

If the experimenter examples are real, we might sometimes need to find individual anchors in the context → the pronominal subject introduced in the embedded must at least sometimes be unbound so that it can be valued by the assignment function.

- (29) # [Yerler ıslanacak mı diye] yağmur yağıyor.
 ground will be wet POLQ DIYE rain precipitate
 *It's raining wondering will the ground become wet.

Perhaps: An experimenter is making it rain to study its properties. Someone asks, “so, why is it raining today?”

- **Movement of the saP?**

The attitude introduced by the saP seems to interact with high adverbs. In (30), we seem to observe the adverb muhtemelen taking wide scope wrt the diye Q, in (30a), or narrow scope, (30b).

- (30) a. **probably > Q diye**

Ali muhtemelen [annesi geldi mi diye] kapıyı açtı.
 Ali probably his mother arrived POLQ DIYE door.ACC opened
 Ali probably opened the door wondering whether his mother came.

Muhtemelen targets a constituent containing the embedded question:
 LF: probably(Q diye and open the door)

- b. **Q diye > probably**

Ali [annesi geldi mi diye] muhtemelen kapıyı açtı.
 Ali his mother arrived POLQ DIYE probably door.ACC opened
 Wondering whether his mother came, Ali probably opened the door.

Muhtemelen does not target a constituent containing the embedded question:
 LF: Q diye and probably(open the door)

* Modal adverbs are typically taken to operate at the propositional level, that is, *after existential closure* of the event introduced by the main predicate.

- (31) $[[\text{probably}]] = \lambda w_s. \lambda p_{st}. \exists w' \in \text{ACC}(w)[p(w') = 1]$

* Given our semantics for saPs, however, they are currently only able to compose with objects of type e, vt —that is, *before existential closure* has applied.

5 Independent support for contentful ‘complementizers’

5.1 Indexical shifting under reception reports (Özyıldız, Major & Maier 2018)

- Turkish is an ‘indexical shifting’ language (Şener and Şener, 2011; Özyıldız, 2012).

- (32) **Indexical shifting under emission predicates**

Ali Ayşe’ye [nereye ata-n-dı-m] de-di?

Ali Ayşe-DAT where-DAT appoint-PASS-PST-1S say-PST.3S

Where did Ali_i tell Ayşe_j that {he_{i/*j}, I} was appointed. 1s → Actual or reported speaker.

cf. Where did Ali_i tell Ayşe_j that I_{*i/*j} was appointed? 1s → Actual speaker.

- Under predicates of communicative reception like *duy-*, ‘hear,’ an interesting pattern emerges: **First person indexicals have the option of shifting to the hearer, or to the source.**⁵

⁵Speakers who have a hard time getting the reading where the indexical shifts to Ayşe in (33) might wish to try

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