Factivity and prosody in Turkish attitude reports

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1. Setting the stage

- This talk is centered around a puzzle that makes it seem like there are two.

  Puzzle #1—Presupposed to given:
  The presence of a factive presupposition conditions an attitude report's prosodic structure, in particular the position of its nuclear pitch accent (NPA).

  (1) Out of the blue:
  a. Dilara [Aybike'nin SIGARA ictigi] kanisinda.
  D. A. cigarette smoke.NMZ is of the opinion
  Dilara is of the opinion that Aybike smokes.
  b. Dilara [Aybike'nin sigara ictiginin] FARKINDA.
  D. A. cigarette smoke.NMZ is aware
  Dilara is aware that Aybike smokes.

– When the report is non-factive, the NPA falls on a default position in the embedded clause.
– When the report is factive, the NPA falls on the matrix verb.

⇒ Presupposed material behaves as if it were discourse given, which shifts the NPA.

There is mixed evidence as to whether this is supposed to happen.

∗ Kallulli [2006]: Yes. If presupposed, then given.
∗ Wagner [2012], Rochemont [2016], Büring [2016]: No. Presupposition and givenness are independent dimensions of meaning.

- Some Turkish attitude reports alternate between a factive reading and a non-factive one.

  It *might seem* like their prosodic structure (indirectly) *triggers* the factive inference.

  (2) a. Dilara [Aybike'nin sigara ictigini] BILIYOR.
  D. A. cigarette smoke.NMZ knows
  Dilara knows that Aybike smokes. ⇝ Aybike smokes. Mat. NPA: factive
  b. Dilara [Aybike'nin SIGARA ictigini] biliyor.
  D. A. cigarette smoke.NMZ knows
  Dilara believes that Aybike smokes. ⇝̸ Aybike smokes. Emb. NPA: non-factive

  But rather, some attitude reports are ambiguous between a factive semantic representation and a non-factive one.

  I try to derive this compositionally.

⇒ The two semantic representations map onto different prosodic structures—but how?

- This gets us back to Puzzle #1

  I discuss two hypotheses about how to account for the interaction between presupposition and prosody.

H1 Syntax-prosody mapping:
Factive attitude reports have a different syntactic representation from non-factive ones, and these map onto distinct prosodic structures.

(3) a. Syntax: S [$_{VP}$ CP V]
Semantics: Non-factive
Regular prosody mapping: S [CP$_{NPA}$ V] (embedded NPA)

b. Syntax: S CP [$_{VP}$ ___ V]
Semantics: Factive
Regular prosody mapping: S CP [$_{VP}$ ___ V$_{NPA}$] (matrix verb NPA)

H2 Assumptions about the Common Ground:
A principle states:

(4) If a proposition p is Common Ground, clauses denoting p can be treated as given.

Being given, embedded clauses in factive attitude reports 'repel' the NPA.

2. The factive presupposition interacts with default nuclear pitch accent position

2.1. Non-factives

- Out of the blue, non-factive attitude reports are most natural with embedded NPA.

(5) What's up?
Well, I just talked to Dilara and...
a. [Aybike'nin SIGARA ictigini] dusunuyormus.
A. cigarette smoke.NMZ thinks
She thinks that Aybike smokes cigarettes.
b. # [Aybike'nin sigara ictigini] DUSUNUYORMUS.
A. cigarette smoke.NMZ thinks
Cf. #She does think that Aybike does smoke cigarettes.

- The position of the NPA in 5a is the general default for transitives: Within the direct object of 'think,' and on the direct object of 'smoke.'
- Producing matrix verb NPA gives rise to an inference that can be paraphrased as "we have discussed whether or not Dilara thinks p."

This intuition is consistent with the matrix verb bearing verum focus and the embedded clause being (con)textually given.

(6) What did you do today?
a. ✓ İŞE gittim.
to work I went
I went to work. (No particular inference.)
b. # işe GİTTİM
to work I went
I went to work. ($\rightsquigarrow$ I haven't been going to work lately.)

- Other non-factive verbs pattern like *düşün-*.

2.2. Factives

- Out of the blue, factive attitude reports are natural with matrix verb NPA.

(7) What's up?
Well, I just talked to Tunc and...

a. # [Bugun Nahide'nin DOGUM gunu oldugunu] unutmus.
today N.'s birth day be.NMZ forgot
He forgot that it's Nahide's birthday today.

b. [Bugun Nahide'nin dogum gunu oldugunu] UNUTMUS.
today N.'s birth day be.NMZ forgot
He forgot that it's Nahide's birthday today.[1]

- Exactly how odd 7a is, my judgments fluctuate. But:

– Matrix verb NPA in 7b is not odd at all:
So the difference between factives and non-factives might be that, with factives, matrix NPA is licensed (rather than obligatory).

– Embedded NPA seems to induce a narrow focus interpretation.
An utterance of 7a is a good answer to:

(8) a. "What is it that Tunc forgot?"
b. "What is x such that Tunc forgot that today is x?"
c. "What is x such that Tunc forgot that today is N's x day?"

And a narrow focus interpretation is not licensed out of the blue.

⇒ That 7a is felt to involve narrow focus suggests that 7b is indeed the default.

- We should consider and set aside a reasonable hypothesis about what is going on in 7.

(9) **Hypothesis**:
Some verbs are lexically specified to bear the NPA by default.
The verb *unut-* is one such verb.

As a result, matrix verb NPA would be the default, embedded verb NPA is marked.

When *unut-* takes a DP, the complement bears the NPA in out of the blue contexts.

(10) I just talked to Tunc and...

a. Nahide'nin DOGUM gununu unutmus.
N.'s birth day forgot
He forgot Nahide's birthday.

b. # Nahide'nin dogum gununu UNUTMUS.
N.'s birth day forgot
He forgot Nahide's birthday.

⇒ This does not seem to be on the right track.

- Other factives largely pattern like *unut-*.

[1] Mirror image of English?

2.3. Conclusions

- Interaction between factivity and NPA position

(11) **Generalization**:

a. For non-factives, the default position of the NPA is in the embedded clause.

b. For factives, the default position of the NPA is (or may be) on the matrix verb.

- The difference between factives and non-factives is in the presence of a presupposition.
- Givenness is able to shift the NPA out of its default position.

⇒ Perhaps presupposition triggers givenness.

3. Background on Turkish prosody

3.1. Regular intonation

The prosodic structure of a Turkish sentence looks like the following:

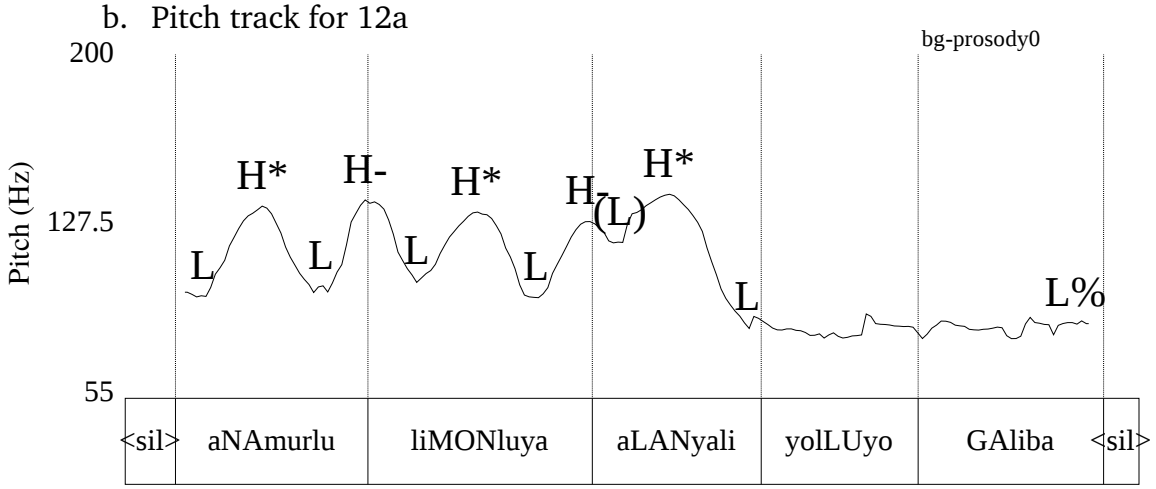
(12) What's going on?

a. (( )$_{iP}$ ( )$_{iP}$ ( )$_{iP}$)$_{IP}$

anámurlu	limónluya	ALÁNYALI	yollúyor	gáliba
anamur.DMN	limonlu.DAT	alanya.DMN	send	ADV

The person from Anamur is sending people from Alanya to Limonlu, I think.[2]

b. Pitch track for 12a



- Prosodic structures [Nespor and Vogel, 2007, a.o.]
  - Prosodic words: H* → Stressed syllable
  - intermediate phrases: H- → Right boundary
    'Wraps' around syntactic constituents. [İpek and Jun, 2013, Güneş, 2015]
  - Intonational phrase: L% → Right boundary (for declaratives)
  - What to group the Ls with—unclear, as far as I can tell:
    LH*? H*L? LH-? ...

[2] DMN: suffix for deriving demonyms. Words have all sonorants to the greatest extent. The sentence final adverb keeps the verb from being utterance final and ensures that we are able to see pitch movements on it.

- Three 'fields'
  - The pre-nuclear field: 'regular' prosodic structure.
  - The nucleus: preceded by ip boundary, its PA is followed by a L sustained until IP boundary May 'break into' a syntactic constituent.
  - The post-nuclear field: deaccenting/dephrasing or compression.
- The NPA has a default position, but it shifts around, e.g., with question answer congruence:

(13) a. Anamurlu nereye Alanyali yolluyor?
Anamur.DMN where Alanya.DMN send
Where is the person from Anamur sending people from Alanya to?

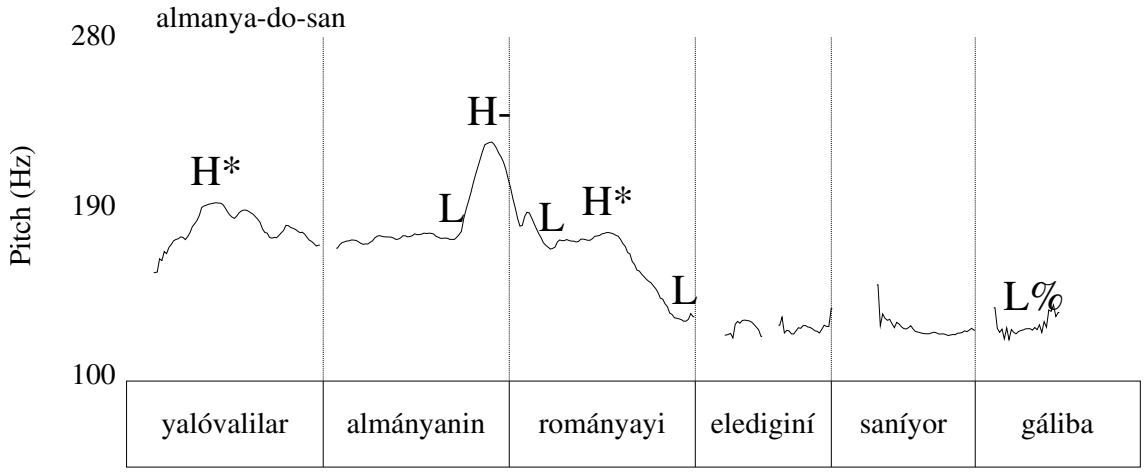
b. anamurlu LIMONLUYA alanyali yolluyor galiba
Anamur.DMN limonlu.DAT Alanya.DMN send
The person from Anamur is sending people from Alanya to Limonlu, I think.

c. # anamurlu limonluya ALANYALI yolluyor galiba (default NPA position)

- See Kan [2009], Kamali [2011], İpek [2015], Güneş [2015] for a more extensive description and technical details.

3.2. Non-factives with embedded Nuclear Pitch Accent

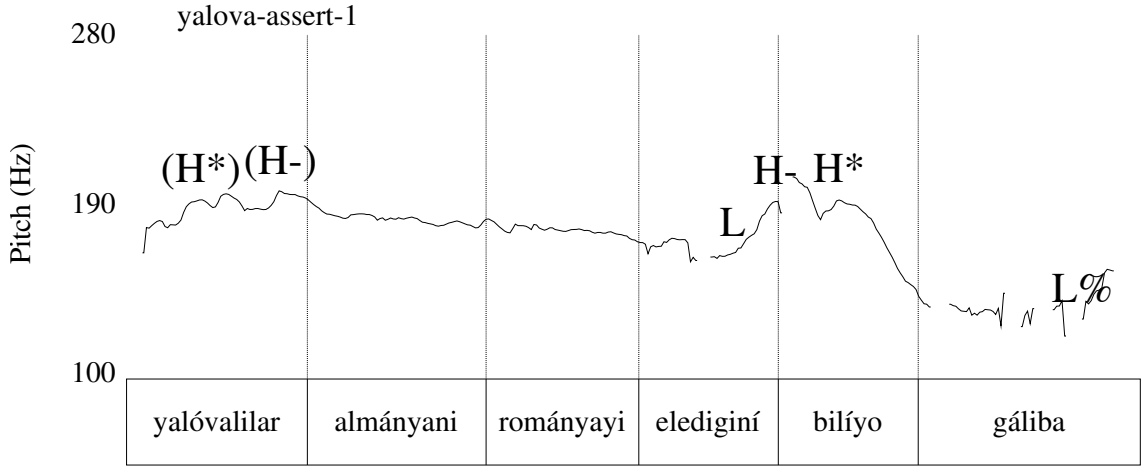
(14) (( ) ( ) ( ))
yalóvalilar almányanin ROMÁNYAYI elediginí saníyor gáliba
yalova.DMN germany.GEN romania.ACC defeat.NMZ believe ADV
The people of Yalova believe that Germany defeated Romania, I think.



- Non-factive attitude report: Embedded NPA on 'Romania.'
- There is some variability in accenting and phrasing in the pre-nuclear field.
  This is perhaps caused by elicitation contexts.

3.3. Factives with matrix Nuclear Pitch Accent

(15) (( ) ( ) ( ))
yalóvalilar almányanin románayi elediginí BILÍYOR gáliba
yalova.DMN germany.GEN romania.ACC defeat.NMZ know ADV
The people of Yalova know that Germany defeated Romania, I think.



- Factive attitude report: Matrix verb NPA on 'know.'
- The embedded clause might be parsed as an intermediate phrase.[3]

3.4. Interim conclusion

- The prosodic structure of factive attitude reports is distinct from that of non-factives.
- We have no evidence that what is involved is not the NPA.

4. The 'prosodic' factivity alternation

The apparent puzzle raised by the interaction of factivity and prosodic structure in Turkish.

4.1. Background on factivity alternations

- A 'factivity alternation' occurs when a given attitude verb introduces attitude reports that are factive under one set of circumstances, and non-factive in another.
- The syntax of the embedded clause is often the conditioning factor:

(16) a. *bil-* and a nominalized clause: can be factive
Dilara [Aybike'nin sigara ictigini] biliyor.
D. A. cigarette smoke.NMZ knows
Dilara {knows, believes} that Aybike smokes.

b. *bil-* and a tensed clause: must be non-factive
Dilara [Aybike sigara iciyor diye] biliyor.
D. A. cigarette smoke.PRES DIYE knows
Dilara believes that Aybike smokes.

[3] based on evidence not directly visible on the pitch track.

- Similar data are reported for other Turkic languages (ongoing work with Travis Major), Hungarian, Greek & Catalan (Abrusán [2011], Dóra Takács and Júlia Keresztes, p.c.), Korean (Moulton [2009], Chungmin Lee, p.c.), etc.
- Raises interesting questions: How do we model attitudes? How do we model the factive inference? What remains when a factive verb is 'defactivized'? [Özyıldız, 2016]

4.2. The core phenomenon

- **Novel data** suggests that factivity alternations are even more pervasive.
- In 2, the two attitudes are string identical. Only the position of the sentences' Nuclear Pitch Accent (NPA) is manipulated.

  Manipulating the position of sentence's nuclear pitch accent correlates with the availability of the FI.

  (2) a. Dilara [Aybike'nin sigara ictigini] BILIYOR.
  D. A. cigarette smoke.NMZ knows
  Dilara knows that Aybike smokes.
  $\rightsquigarrow$ Aybike smokes.

  b. Dilara [Aybike'nin SIGARA ictigini] biliyor.
  D. A. cigarette smoke.NMZ knows
  Dilara believes that Aybike smokes.
  $\not\rightsquigarrow$ Aybike smokes.

- The following generalization seems to be an adequate description of the facts:

  (17) Verbs like *bil-*, when they embed a nominalized clause, give rise to a factive attitude report iff they host the NPA/are focused.

- Some predicates pattern like *bil-* in participating in the alternation.

  Others do not and are uniformly non-factive or uniformly factive.

4.3. Evidence for the readings

- **Uncontextualized judgment**:
  Native speakers report the inference in sentences like 2a but not in ones like 2b.

  A pilot judgment task ran in June 2017 (n=38) involved auditory presentation of sentences like 2a and 2b and revealed 97% 'factive' responses vs. 66%.
  'Factive' response: "Yes, the embedded proposition is true."
  'Non-factive' responses: "No, the embedded proposition is not true."
- **Denial**: It is contradictory to deny the embedded proposition after 2a, not after 2b

  (18) a. # Dilara [Aybike'nin sigara ictigini] BILIYOR ama ic**mi**yor.
  D. A. cigarette smoke.NMZ knows but smoke.NEG
  Dilara knows that Aybike smokes, #but she doesn't.

  b. ✓ Dilara [Aybike'nin SIGARA ictigini] biliyor ama sigara icmiyor.
  D. A. cigarette smoke.NMZ knows but smoke.NEG
  Dilara believes that Aybike smokes, ✓ but she doesn't.

- **Anti-presupposition**: Attitude reports with *bil-* are perfectly felicitous in contexts where the embedded proposition is true. Attitude reports with *düşün-* are somewhat odd.

  (19) Aybike sigara iciyor ve...
  Aybike smokes and...
  a. ✓ Dilara [Aybike'nin sigara ictigini] BILIYOR.
  Dilara knows that Aybike smokes.
  b. # Dilara [Aybike'nin sigara ictigini] DUSUNUYOR.
  # Dilara thinks that Aybike smokes.

  Traditional accounts of this contrast rely on the existence of pairs of attitude reports s.t.
  – both members have contextually equivalent assertions,
  – one member of the pair is presuppositional. [Percus, 2006, a.o.]

  Unless the explanation is rejected, we have to conclude that *bil-* can be presuppositional, *düşün-* cannot.

- **Projection**:

  (20) Dilara [Aybike'nin sigara ictigini] bil-m-iyor.
  D. A. cigarette smoke.NMZ know-NEG-PRES
  Dilara doesn't know that Aybike smokes. ⇝ Aybike smokes.

  To capture projection, one needs semantic presupposition or veridicality+backgrounding.

  (See Simons et al. [to appear] for a way of doing projection without presupposition or veridicality. But my understanding is that the account would face other problems.)

5. Towards an account...

5.1. Looking for a trigger

- When we observe a presupposition, we usually observe a trigger. And vice versa, assuming that the trigger is not embedded under any 'plug.'
- Yet, in 2a there is no obvious candidate for a trigger.

  (2) a. Dilara [Aybike'nin sigara ictigini] BILIYOR.
  D. A. cigarette smoke.NMZ knows
  Dilara knows that Aybike smokes.
  ⇝ Aybike smokes.
  b. Dilara [Aybike'nin SIGARA ictigini] biliyor.
  D. A. cigarette smoke.NMZ knows
  Dilara believes that Aybike smokes.
  ⇝̸ Aybike smokes.

- **Assumption**: There is a trigger.

  (At least Hazlett [2010, 2012] argues that the factive presupposition is 'entirely' pragmatic. Issues: Contrast between 'know' and 'think,' and the availability of the inference seems to be conditioned by grammatical factors.)

5.1.1. The attitude verb is neither veridical nor semantically presuppositional

- One option is to encode the inference in the semantics of the attitude verb.

(21) **Hypotheses**: The factive inference is encoded in the verb (to be set aside)

a. Veridical *bil-*:
$[\![$*bil-*$]\!](w)(p)(x)$ is true iff p is true and x believes p at w

b. Presuppositional *bil-*:
$[\![$*bil-*$]\!](w)(p)(x)$ is defined iff p is true, and
true iff x believes p at w

- According to either of these hypotheses, we expect 2b to be factive—contrary to fact.
- Unless there is:

– accidental homophony: *bil-*$_{\text{F}}$ and *bil-*$_{\text{NF}}$, or

– a covert 'plug' in the structure.

$\Rightarrow$ The inference is not encoded in the semantics of the attitude verb.

5.1.2. The embedded clause is not obviously a trigger

- A second option is to encode the inference in the semantics of the embedded clause.
- There are various implementation options: Silent 'the fact that p,' factive operators, reference to actual world situations... [Kiparsky and Kiparsky, 1970, Kratzer, 2006, Moulton, 2009, Kastner, 2015, a.o.]
- The objection to this view is that nominalizations occur in non-factive attitude reports too.
  In particular, if this were (uniformly) true, we would expect both 2a and 2b to be factive.
- The response is that there might be clauses with different structures/semantics, although this is not immediately visible on the surface.

5.2. In quest for a trigger... II

Example 2 seemed to show: The factive inference is available iff we have matrix focus.

5.2.1. Is the inference pragmatically triggered?

- Matrix verb NPA might be taken to introduce a set of alternatives.
  Can we derive the factive inference from those alternatives?
  The best we can do, I think, is to make the embedded clause given.

(22) Hypothetical sets of alternatives

a. Alt(Dilara *bil-* that Aybike smokes)
={Dilara *bil-* that Aybike smokes, ¬[Dilara *bil-* that Aybike smokes}

b. Alt(Dilara *bil-* that Aybike smokes)
={Dilara *bil-* that Aybike smokes, Dilara thinks that Aybike smokes, ...}

But, we cannot get from 'given' to presupposed.

- Many derive projection based on ordinary entailment. But they all do have entailment.

(23) $[\![know]\!](p)(x)$ is true iff p and x believes p

- What is interesting is that these accounts have something to say about focus.

(24) a. If the TA discovers$_F$ that your work is plagiarized, I'll tell the Dean.
$\rightsquigarrow$ Your work is plagiarized.

b. If the TA discovers that your work is plagiarized$_F$, I'll tell the Dean.
$\not\rightsquigarrow$ Your work is plagiarized. Beaver [2010]

It is in some sense a 'logical step' to take this further and to try to do everything without veridicality.

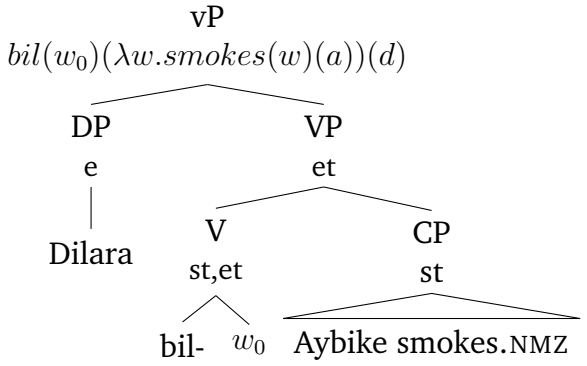
However, I do not know of a way of doing this.

- Kajsa Djärv [2017] proposes to derive the truth inference from the attribution of justified belief.

5.2.2. The inference is delivered by the semantics

So... we need to assign sentences like 2 two distinct semantic representations: One factive, one not.
The question is not *whether* we can do this, it's whether we can do it elegantly.

- I propose one way here that:
  - seems to get the semantics right, and
  - that can interface with the prosody.
- Assumptions:
  - Attitude verbs like *bil-* are not factive.
  - Nominalizations denote regular propositions.
- **Getting the non-factive reading**:

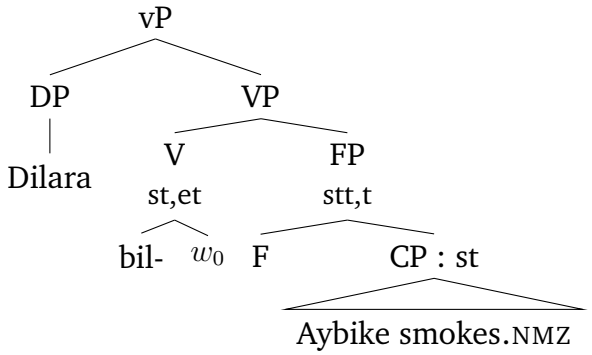


- **Getting the factive reading**:
  There is a functional item F with the semantics in 25

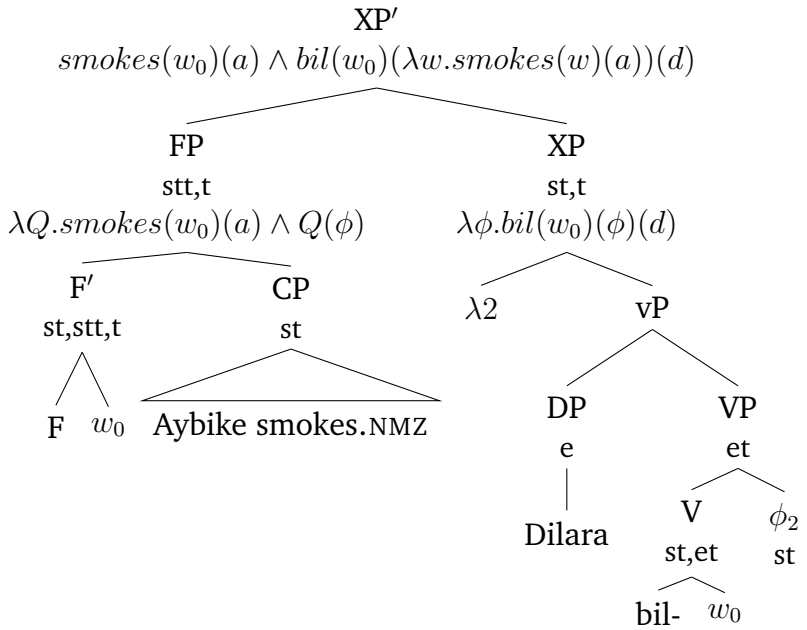
  (25) $[\![\text{F}]\!] = \lambda w_s.\lambda p_{st}.\lambda Q_{st,t}.p(w) \wedge Q(p)$

  F composes with a proposition and a predicate of propositions, asserts the proposition and feeds it into the predicate.

  First, merge the FP as the complement of V.
  This creates a **type mismatch**.



  To resolve the mismatch, raise the FP, leaving behind a trace of type st.[4]
  The rest of the computation proceeds standardly.



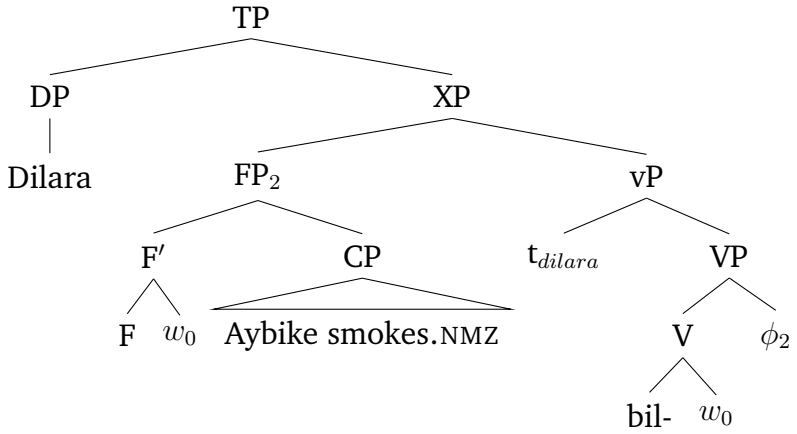
  $[\![\text{XP}']\!]$ is true iff Aybike smokes and Dilara believes that Aybike smokes.

  This derives a factive *entailment*.

  I assume that presupposition can be derived from the entailment [Abrusán, 2011, a.o.].

[4] Although I do not do this here, one could think of F as a quantifier.

To get the word order right, assume that the subject raises as well.



6. Accounting for the second puzzle

Now that we have a way of generating factive and non-factive attitude reports, we need to think about how to map these representations onto different prosodic structures.

6.1. Hypothesis I

- Default NPA placement rules state:
  - Place the NPA within the vP,[5]
  - Avoid placing the NPA on the V.
- In non-factive attitude reports, the embedded clause remains in situ.

  [S [$_{vP}$ CP V]]

  NPA remains within the vP+We avoid stressing the V: NPA falls on the CP.

  [S [$_{vP}$ CP$_{NPA}$ V]]
- In factive attitude reports, the embedded clause has raised.

  [S CP [$_{vP}$ ___ V]]

  NPA remains within the vP: NPA falls on the V.

  [S CP [$_{vP}$ ___ V$_{NPA}$]]
- Main issues with this kind of account:
  - The movement mechanism that derives the factive reading has to be visible to the phonology, so happen in the syntax. (Cannot be a covert operation.)
  - If it is found that factive vs. non-factive attitude reports have different prosodic structures cross-linguistically, we would need to think about whether or how to export the account.

[5] I am not commited to this being the vP—rather, 'some relevant domain.'

6.2. Hypothesis II

Disregard the specifics of the mechanism that derives factive and non-factive semantic representations. What matters is that there is presupposition.
The intuition behind Hypothesis II is that what is presupposed can be treated as given.

(26) **Hypothesis**: Presupposed to given
If a proposition p is semantically presupposed, clauses C that denote p are given.[6]

(27) **Hypothesis**: Linking givenness and NPA position
If a linguistic expression l is given, it cannot host the NPA.

6.3. Mixed evidence for hypothesis II

- Does 'presupposed to given' apply to other kinds of presuppositions within Turkish?
  We need to find a specific type of presupposition. This is not going to work:

(28) John$_i$ smokes too$_i$.
Presupposition: Someone other than John smokes.

Even if 'presupposed to given' makes the denotans of this proposition given, the original utterance does not include it.

This might work:

(29) John has stopped <u>smoking</u>.
Presupposition: '<u>John smoked</u> in the past.'

There is a clause that denotes part of the presupposition. We might expect it to be given.

'Stop' in Turkish can bear the NPA, in contrast to 'start.'

(30) a. i. # Muzaffer [SIGARA icmeyi] birakmis.
ii. ✓ Muzaffer [sigara icmeyi] BIRAKMIS.
M. cigarette smoke started
Muzaffer stopped smoking.
b. i. ✓ Muzaffer [SIGARA icmeye] baslamis.
ii. # Muzaffer [sigara icmeye] BASLAMIS.
M. cigarette smoke started
Muzaffer started smoking.

- Other places to look at: Relative clauses, definites, ...
  The presupposition 'the speaker has a (unique) mom,' does not suffice to deaccent:

(31) What's up?
a. ✓ ANNEM geliyo
my mom is coming
My mom is coming.

What's up?
b. # annem GELİYO
my mom is coming
My mom is coming.

[6] 'Presupposition' is a property of propositions; 'Givenness' is not obviously so.

- Cross-linguistically

– Evidence in favor of 'presupposed to given' comes from Kallulli [2006].

  Clitic doubling is only licensed if the antecedent is topical or 'given.' When doubling a clause, the clause is presupposed.

  (32) (E) besova se Beni shkoi.
  it believed.1s that Ben left
  a. Without 'e': I believed that Ben left (✓but in fact he didn't).
  b. With 'e': I believed it that Ben left (# but in fact he didn't).
  [Kallulli, 2006, ex. 6]

  The expression of the clitic, however, might not be innocent in that it might *independently* require a referent. The existence of the referent would account for the factivity.

– Evidence against 'presupposed to given' comes from Wagner [2012], among others.

  Givenness is not a sufficient condition for presupposition.

  (33) Contrary to the facts, they told Mary that the lake was too cold and it was impossible to swim in it.
  a. # She never believed that [it was too COLD]$_G$.
  b. She never BELIEVED that [it was too cold]$_G$. [Wagner, 2012, ex. 13]

  Presupposition is not a sufficient condition for givenness.

  (34) Mary wanted to go swimming in the lake.
  a. She didn't realize that it was too COLD.
  b. # She didn't REALIZE that it was too cold. [Wagner, 2012, ex. 11]

  (35) Although it was way too cold, Mary wanted to go swimming in the lake.
  a. # She didn't realize that it was too COLD.
  b. She didn't REALIZE that it was too cold. [Wagner, 2012, ex. 12]

∗ The relevant examples seem to involve focus sensitive operators: negation here [Beaver and Clark, 2008], 'just' and the question operator in Büring [2016].

∗ Or, the accent pattern of Turkish might be slightly different from that of English.

7. Food for thought

Hearer belief is a necessary condition for deaccenting the embedded clause.
The following contexts differ in whether the hearer believes that they are healthy.
The attitude reports are uniformly factive.

(36) a. Context: The doctor walks in, starts unplugging John from the machine. John says "Hey, what's up with that?"

i. ✓ SAGLIKLI oldugunu farkettik.
healthy be.NMZ we realized
We realized that you were healthy.

ii. # saglikli oldugunu FARKETTIK.

b. Context: The doctor walks in, starts unplugging John from the machine. John had been faking. And the doctors noticed this. John says "Hey, what's up with that?"

i. ✓ saglikli oldugunu FARKETTIK.
healthy be.NMZ we realized
We realized that you were healthy.

ii. (#) SAGLIKLI oldugunu farkettik.

References

Márta Abrusán. Predicting the presuppositions of soft triggers. *Linguistics and Philosophy*, 34(6):491–535, 2011.

David Beaver. Have you noticed that your belly button lint color is related to the color of your clothing? In R. Bauerle, U. Reyle, and T. E. Zimmermann, editors, *Presuppositions and discourse: Essays offered to Hans Kamp*, pages 65–99. Elsevier, 2010.

David I. Beaver and Brady Z. Clark. *Sense and Sensitivity: How Focus Determines Meaning*. Wiley-Blackwell, 2008.

Daniel Büring. *Intonation and Meaning*. Oxford University Press, 2016.

Kajsa Djärv. Factivity, Truth and Justification, 2017. Meaning in Flux slides, Yale, Oct. 14 2017.

Güliz Güneş. *Deriving prosodic structures*. PhD thesis, University of Groningen, 2015.

Allan Hazlett. The myth of factive verbs. *Philosophy and Phenomenological Research*, 80 (3):497–522, 2010.

Allan Hazlett. Factive presupposition and the truth condition on knowledge. *Acta Analytica*, 27(4):461–478, 2012.

Canan İpek. *The phonology and phonetics of Turkish intonation*. PhD thesis, USC, 2015.

Canan İpek and Sun-Ah Jun. Towards a model of intonational phonology of Turkish: neutral intonation. In *Proceedings of meetings on acoustics*, volume 19, 2013. doi: 10.1121/1.4799755.

Dalina Kallulli. Triggering factivity: Prosodic evidence for syntactic structure. In *Proceedings of 25th West Coast Conference on Formal Linguistics*, pages 211–219, 2006.

Beste Kamali. *Topics at the PF interface of Turkish*. PhD thesis, Harvard University, 2011.

Seda Kan. Prosodic domains and the syntax-prosody mapping in Turkish. MA thesis, Boğazçi University, İstanbul, 2009.

Itamar Kastner. Factivity mirrors interpretation: The selectional requirements of presuppositional verbs. *Lingua*, 164:156–188, 2015.

Paul Kiparsky and Carol Kiparsky. Fact. In Manfred Bierwisch and Karl E. Heidolph, editors, *Progress in Linguistics*. The Hague: Mouton, 1970.

Angelika Kratzer. Decomposing attitude verbs. *Talk given at The Hebrew University of Jerusalem*, 2006.

Keir Moulton. Natural selection and the syntax of clausal complementation. *Open Access Dissertations*, page 99, 2009.

Marina Nespor and Irene Vogel. *Prosodic phonology: with a new foreword*. Mouton de Gruyter, 2007.

Deniz Özyıldız. Knowledge reports without truth. In Köllner Marisa and Ziai Ramon, editors, *Proceedings of the ESSLLI 2016 student session*, pages 184–196, 2016.

Orin Percus. Antipresuppositions. In A. Ueyama, editor, *Theoretical and empirical studies of reference and anaphora: Toward the establishment of generative grammar as an empirical science*. Japan Society for the promotion of science, 2006.

Michael Rochemont. Givenness. In *The Oxford Handbook of Information Structure*. Oxford University Press, 2016.

Mandy Simons, David Beaver, Craige Roberts, and Judith Tonhauser. The Best Question: Explaining the Projection Behavior of Factives. *Discourse Processes*, to appear.

Michael Wagner. Focus and givenness: A unified approach. *Contrasts and positions in information structure*, pages 102–147, 2012.