

Hypothetical Comparison in Turkish*

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Overview

- We investigate Turkish sentences which feature $MİŞ+CASINA$, which we label *hypothetical comparison marker* (HCM) (Kasper, 2011), ignoring its internal complexity.
- As shown in (1), HCM introduces hypothetical comparison —similar to *as if* in English.

- (1) Can arka-sın-dan biri koval[a]-ıyor-**muşcasına** hızlı yür-üyor-du.
Can behind-POSS.3SG somebody chase-IMPF-HCM fast walk-IMPF-PST
'Can was walking fast as if somebody was chasing him.'

- Our basic idea in a nutshell: hypothetical comparison with HCM involves comparison of degrees.

- (2) Hiç deprem ol-ma-yacak-**muşcasına** deprem-e hazırlıksız-ız.
(n)ever earthquake happen-NEG-FUT-HCM earthquake-DAT unprepared-1PL
Lit: 'We are unprepared for an earthquake as if there is never gonna be one.'

- In particular, we propose that a more transparent translation/paraphrase for (2) is (3), which makes it evident that sentences with HCM involve degree comparison.

- (3) We are as unprepared for an earthquake as we would have been
if there was never gonna be an earthquake.

- After we flesh out our compositional analysis for sentences with HCM, time-permitting, we may also comment on existing analyses of hypothetical comparison and how *as if* in English might be different from HCM in Turkish.

1 Observations on Turkish hcm

- Sentences that feature HCM, typically¹, contain an element denoting a gradable property, e.g. an adjectival predicate or an adverbial modifier.

- (4) Can arka-sın-dan biri koval[a]-ıyor-**muşcasına** **hızlı** yür-üyor-du.
Can behind-POSS.3SG somebody chase-IMPF-HCM fast walk-IMPF-PST
Lit: 'Can was walking fast as if somebody was chasing him.'

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Abbreviations: 1 = first person, 2 = second person, 3 = third person, ABL = ablative, ACC = accusative, DAT = dative, FUT = future, HCM = hypothetical comparative marker, IMPF = imperfective, LOC = locative, NEG = negative, PASS = passive, PL = plural, POSS = possessive, PST = past, SG = singular.

¹We will come back to this point.

- (5) Hiç deprem ol-ma-yacak-mışcasına deprem-e hazırlıksız-1Z.
 (n)ever earthquake happen-NEG-FUT-HCM earthquake-DAT unprepared-1PL
 Lit: ‘We are unprepared for an earthquake as if there is never gonna be one.’

- That said, there is evidence that HCM-clauses are sentential modifiers. e.g. not adverbial modifiers of adjectives. For example, the sentence in (6) is very hard to understand as commenting on the length of the book.

- (6) ?*Şu [Tolstoy yaz-mışcasına uzun] roman-ı uzat lütfen!
 That [Tolstoy write-HCM long] novel-ACC pass.IMP please
 Intended: ‘Pass me that long book which looks like Tolstoy wrote it!’

- HCM-clauses can modify sentences whose predicates denote gradable properties —regardless of what their syntactic category might be.

- (7) Hiç destek al-ma-mışcasına yıkık bir hal-de-ydi.
 n(ever) support receive-NEG-HCM devastated a situation-LOC-PST
 Lit: ‘They (sg.) were devastated as if they never had help.’

- (8) Öykü büyük ikramiye-yi kazan-mışcasına mutlu-ydu.
 Öykü grand.prize-ACC win-HCM happy-PST.
 Lit: ‘Öykü was happy as if she hit the jackpot.’

- But they systematically fail to modify sentences whose predicates are absolutive (non-gradable) adjectives.

- (9) #Cevab-ı soru-yu duy-ma-mışcasına yanlış-tı.
 answer-POSS-3SG question-ACC hear-NEG-HCM wrong-PST
 Lit: ‘His answer was wrong as if he did not hear the question.’
 (# to the extent that nothing can be more/less ‘yanlış’).

2 Our Proposal in a nutshell

- Consider the following sentence again.

- (10) Can arka-sın-dan biri koval[a]-ıyor-muşcasına **hızlı** yür-üyor-du.
 Can behind-POSS.3SG somebody chase-IMPF-HCM fast walk-IMPF-PST
 ‘Can was walking fast as if somebody was chasing him.’

- The contribution of **miş+casına**

— It makes a comparison between degrees of *hızlı*

→ $\lambda d. \llbracket \dots d\text{-}hızlı \dots \rrbracket^@$ (\approx the pace of Can’s **actual** walking)

→ $\lambda d'. \llbracket \dots d'\text{-}hızlı \dots \rrbracket^{w'}$ (\approx the pace of Can’s **hypothetical** walkings)

versus

— The HCM-clause tells us which of Can’s hypothetical walkings to consider!

→ Can’s hypothetical walkings where he is chased by someone.

- Therefore, HCM compares a degree in the actual world against degrees from possible worlds which the HCM-clause points to:

\rightsquigarrow The (approximate) truth conditions for (10) is stated in (11).

- (11) the degree of speed at which Can was walking *in the actual world* is greater than or equal to the degree of speed at which Can would be walking in *hypothetical* worlds where somebody is chasing him.

- Notice that this intuition is captured by the kind of translation/paraphrase that we provided in the beginning.

- (12) Can was walking as fast as he would have been (walking) if somebody was chasing him.

3 A compositional implementation

- Since the comparison HCM makes involves degrees in **hypothetical worlds**, it needs to make use of a function from degrees to sets of possible worlds
- Moreover, it needs to know **which** hypothetical worlds the comparison concerns.
- Therefore, $\text{-MIŞCASINA}(p)(Q)$ will take two arguments

p. a proposition

$\langle s, t \rangle$

Q. a function from degrees to propositions

$\langle d, \langle s, t \rangle \rangle$

- The structure in (14) formalizes our intuitions and provides a simplified LF structure for (13).

- (13) Can arka-sın-dan biri koval[a]-ıyor-muşcasına **hızlı** yür-üyor-du.
 Can behind-POSS.3SG somebody chase-IMPF-HCM fast walk-IMPF-PST
 ‘Can was walking fast as if somebody was chasing him.’

- (14)
-
- ```

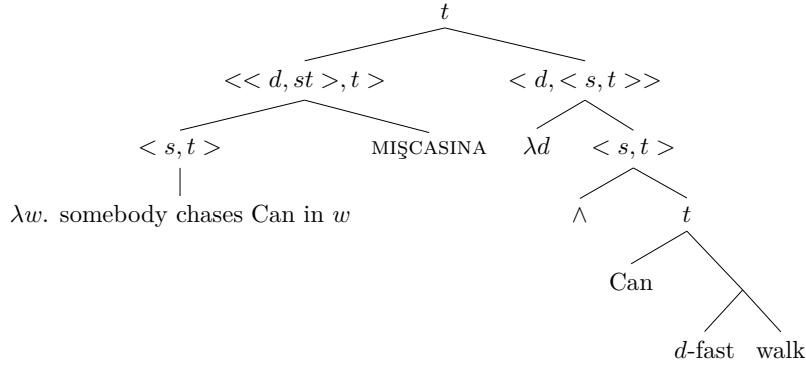
graph TD
 Root[] --- Node1[]
 Node1 --- proposition
 Node1 --- Node2[function from degrees to propositions]
 proposition --- Node3[]
 Node3 --- lambda_w["λw. somebody chases Can in w"]
 Node3 --- minus_mis_casina["-MIŞCASINA"]
 Node2 --- lambda_d_w["λd. λw. Can walks d-fast in w"]
 Node2 --- hizli_yur_uyor_du["hızlı yür-üyor-du"]

```

- We assume that the function from degrees to propositions is derived by  $\lambda$ -abstracting over the degree variable of the gradable property in the main clause.

( $\wedge$  is taken from Keshet (2010):  $\llbracket \wedge \alpha \rrbracket^w = \lambda w'. \llbracket \alpha \rrbracket^{w'}$  )

(15)



- To implement the semantics we are defending here, we adopt proposals from Rett (2020), Schwarzschild (2008), and Stechow (1984), a.o. on the semantics of degrees and equatives.
- Combining all pieces together, the meaning we give to -MIŞCASINA is in (16). See in (17) the truth conditions we derive for (13).

$$(16) \quad \llbracket \text{-MIŞCASINA} \rrbracket^w = \lambda p_{\langle s, t \rangle} \cdot \lambda Q_{\langle d, st \rangle} \cdot \forall w': p(w') \rightarrow \text{the max } d \text{ such that } Q(d)(w) = 1 \geq \text{the max } d' \text{ such that } Q(d')(w')=1 \quad (\text{to be revised slightly})$$

$$(17) \quad \llbracket (13) \rrbracket^w = 1 \text{ iff for all possible worlds } w' \text{ such that somebody chases Can in } w' \\ \text{the maximal degree } d \text{ such that Can walks } d\text{-fast in } w \geq \\ \text{the maximal degree } d' \text{ such that Can walks } d'\text{-fast in } w'$$

## 4 Refinements

### 4.1 When the degree variable is already bound

- As we have seen, our analysis based on degree-comparison is not without its challenges. But it *does* make correct predictions for a highly informative set of cases.
- We predict that when there is a degree variable but it is already bound— hence unavailable for HCM, HCM will not be licensed.
- Indeed, when degree variables are bound by other operators such as comparative or superlative, HCM structures are ungrammatical:

- (18) a. Mecidiyeköy cehennem-**mişcesine** kalabalık bir ilçe-miz-dır.  
M hell-HCM crowded a district-POSS.1PL-PST.  
Lit: ‘Mecidiyeköy is an crowded district as if it was hell.’  
Our paraphrase = ‘Mecidiyeköy is as crowded a district as it would be if it were hell.’
- b. \*Mecidiyeköy cehennem-**mişcesine** *en* kalabalık ilçe-miz-dır.  
M hell-HCM most crowded district-POSS.1PL-PST.  
Intended: ‘Mecidiyeköy is the most crowded district as if it was hell.’
- c. \*Mecidiyeköy cehennem-**mişcesine** Kadıköy-den *daha*  
M hell-HCM K-ABL more  
kalabalık bir ilçe-miz-dır.  
crowded a district-POSS.1PL-PST.

Intended: ‘Mecidiyeköy is more crowded a district than Kadıköy as if it was hell.’

- Here we provide some refinements needed in our original semantics and point to some further issues and predictions

## 4.2 Which possible worlds?

- The first issue is that the current denotation of HCM takes a set of worlds and asserts that for each world in that set, the comparison, i.e.  $\geq$ , goes through.

$$(19) \quad \llbracket \text{-MIŞCASINA} \rrbracket^w(p)(Q) = 1 \text{ iff} \\ \underline{\forall w': p(w') \rightarrow \text{the max } d \text{ such that } Q(d)(w) = 1 \geq \text{the max } d' \text{ such that } Q(d')(w') = 1}$$

- But this is way too strong! There are crazy possible worlds ...
- Imagine possible (albeit far away) worlds where people being chased become invisible if they just stop walking! Or worlds where people can only crawl, they cannot walk or run.
- We don’t even need to go that far. There are possible worlds where people being chased typically want to get caught - so they reduce their speed.
- We need to exclude such worlds from the comparison set.
- A sentence like (20) means what it intuitively means if we only include possible worlds that are most similar to ours, the actual world.

(20) Can arka-sın-dan biri koval[a]-ıyor-muşcasına **hızlı** yürüyor-du.  
 Can behind-POSS.3SG somebody chase-IMPF-HCM fast walk-IMPF-PST  
 ‘Can was walking fast as if somebody was chasing him.’

- To implement this intuition, we make use of Bledin and Srinivas (2019)’s suggestion, that is the Kratzerian (Kratzer, 1981, 1991) ordering approach to order the worlds from most stereotypical to least stereotypical.

(21)  $\llbracket (20) \rrbracket^w = 1$  iff for all possible worlds  $w'$  most **stereo-typically** similar to  $w$  such that somebody chases Can in  $w'$ , the maximal degree  $d$  such that Can walks  $d$ -fast in  $w \geq$  the maximal degree  $d'$  such that Can walks  $d'$ -fast in  $w'$ .

- This adjustment correctly predicts that a hearer, if they grew up in a society where **the typical reaction to be chased is running away**, can infer that a speaker who utters (20) is conveying that Can was walking really fast.

## 4.3 What is the standard of comparison?

- The adverb “hızlı” may be contributing more than just a scale for *fastness*. In addition, the adverb itself may be providing a standard for comparison. Consider (22).

(22) Ali onu salyangoz koval-ıyor-**muşcasına** hızlı yürü-dü.  
 Ali he-ACC snail chase-IMPF-HCM fast walk-PST

Intended: ‘Ali walked as fast as he would walk if a snail was chasing him.’

- If the adverb were not to provide a standard of comparison, (22) would approximately “Ali walked faster than snail,” and the sentence would not feel ironic or funny.
  - We believe that triviality comes from the fact that whenever the “hızlı yürüdü” part is correct, the first conjunct is also trivially correct.
  - To accommodate this fact, we modify our analysis and include the positive use of the gradable element as in (23).
- (23)  $\llbracket \text{-MIŞCASINA} \rrbracket^w = \lambda p_{<s, t>}. \lambda Q_{<d, st>}. \forall w': p(w') \rightarrow \text{the max } d \text{ such that } Q(d)(w) = 1 \geq \text{the max } d' \text{ such that } Q(d')(w')=1 \text{ \& \underline{the max } d \text{ such that } Q(d)(w) = 1 > s}$

#### 4.4 Counterfactual inferences from hcm-clauses?

- It appears that a sentence like (24) gives rise to an inference that the HCM-clause is **false in the actual world**.

(24) Hiç deprem ol-ma-yacak-**mişcasına** deprem-e hazırlıksız-ız.  
 (n)ever earthquake happen-NEG-FUT-HCM earthquake-DAT unprepared-1PL  
 Lit: ‘We are unprepared for an earthquake as if there is never gonna be one.’  
 $\rightsquigarrow$  There is going to be an earthquake.

- A reasonable hypothesis, then, is that the HCM-clause is presupposed to be false in the actual world.
- This predicts that a speaker can utter a sentence of the form ‘p-MIŞCASINA q’ if and only if she believes that p is false in the world of utterance.
- This appears to be an incorrect prediction, as a sentence like (25) sounds **felicitous in a context of ignorance**, i.e. if the speaker has no belief about the proposition that the HCM-clause denotes.

(25) Ali destek al-ma-mışcasına yıkık bir hal-de-ydi.  
 Ali support receive-NEG-HCM devastated a situation-LOC-PST  
 Lit: ‘Ali was devastated as if he never had help.’  
 ‘e.g. “But I don’t know if he had any help” is a fine continuation of (25)’

- Then, perhaps ‘p-MIŞCASINA q’ brings in a weaker requirement that **the speaker has no belief that the p is true**.
- Although further investigation of this is needed, this weaker requirement seems to us to be correct. Indeed, it is very difficult to imagine someone uttering (25) if they know Ali did get help. Here is our best attempt:

(26) Ali hiç destek almadı. Tam olarak da bu sebeple (#hiç destek almamışcasına) yıkık bir haldeydi.  
 Ali never got help. That’s exactly why he was devastated (#as if he never had any help).

## 5 Challenge: Is there always a degree variable?

- Our main assumption for the meaning of HCM is that it compares degrees. A big challenge against our analysis is that there are sentences where there is no overt element that can provide a degree:

(27) Yarın      sınav-ın      yok-**muşcasına**      otur-uyor-sun!  
 tomorrow   exam-POSS.2SG   exist.NEG-HCM   sit-IMPF-2SG  
 ‘You are sitting as if you didn’t have an exam tomorrow.’

- To maintain a uniform semantics, we propose that in sentences like (27), speakers retrieve a suitable adverb from the context, e.g. *rahat* ‘relaxed’ for (27).

(28) Yarın      sınav-ın      yok-**muşcasına**      **rahat**      otur-uyor-sun!  
 tomorrow   exam-POSS.2SG   exist.NEG-HCM   relaxed   sit-IMPF-2SG  
 ‘You are sitting [as **relaxed as you would be sitting**] if you didn’t have an exam tomorrow.’

- This correctly predicts that when there is no suitable adverb that our world knowledge or context allows us to retrieve, the sentence sounds odd.

(29) Yarın      meteor      yağ-acak-**muşcasına**      dans ed-iyor-sun  
 tomorrow   meteor   rain-FUT-HCM   dance-IMPF-2SG  
 ‘You are dancing as [??] as you would be if there were gonna be a meteor shower tomorrow.’

- A more serious challenge comes from sentences where neither there is an overt gradable property, nor does it seem necessary to posit one.

(30) %Cemre   ev-i      yok-**muşcasına**      orman-da      yaş[a]-iyor  
 Cemre   house-POSS.2SG   exist.NEG-HCM   forest-LOC   live-IMPF  
 ‘Cemre lives in a forest as if she doesn’t have a home.’

- Notably, some speakers dis-prefer such sentences and prefer to use another hypothetical comparison construction. As it stands, (30) remains as a puzzle under our analysis.

(31) Cemre   ev-i      yok-**muş**      **gibi**      orman-da      yaş[a]-iyor  
 Cemre   house-POSS.2SG   exist.NEG-EVID like   forest-LOC   live-IMPF  
 ‘Lit: Cemre lives in a forest like she doesn’t have a home.’

- For some speakers, though, (30) is perfectly normal. Here, we entertain an analysis in which HCM may have an additional interpretations.
- Let’s talk about English HCM and Bledin and Srinivas (2019) study.
- Both HCMs in English (Bledin & Srinivas, 2019) and German (Bücking, 2017) have been given an analysis that incorporates the modified function of similarity in Umbach and Gust (2014) — initially introduced for similarity demonstratives like *böyle* or *such*.<sup>2</sup>

<sup>2</sup>While Bücking (2017) uses the equivalence terminology, Bledin and Srinivas (2019) uses the resemblance terminology.

**Similarity:**  $R(s)(s')$  iff  $s'$  resembles  $s$ . The relation  $R$  encodes the respect(s) of comparison and how ‘close’  $s$  and  $s'$  need to be in the relevant respect(s) to count as resembling.

- Instead of comparing degrees, in their analysis HCM structures compare eventualities and the manner in which an event is carried out.
- They use sentences as in (32a) and argue that they can convey the meaning in (32a’).

(32) a. Pedro danced as if he was possessed by the demons.

a’. Pedro’s actual dancing resembles his dancing in possible situations where he was possessed by demons.

- While we do not take issue with the judgments or the analysis in Bledin and Srinivas (2019); we would like to point out that the facts they provide do not seem to be complete.

what’s missing: All examples provided have verbal predicates.

- HCM structures with nominals/adjectivals are marginally acceptable in English.
- However, speakers find sentences like (33a) acceptable with a pause as in (33b).

(33) a. The bananas were fresh as if they’d been recently picked.  
b. The bananas were fresh | as if they’d been recently picked.

- A possible analysis: A site for adjunction of As-if phrases is different. This difference can also be detected in verbal predicates. Consider (34a) and (34b).

(34) a. Pedro danced as if he was possessed by the demons.  
b. Pedro danced | as if he was possessed by the demons.

- We agree with Bledin and Srinivas (2019) that (34a) may mean Pedro was dancing wildly — as a comment on the manner of dancing. However, (34b) with a pause has a different reading. The sentence states the fact that Pedro *did* dance, and apparently adds: it was surprising that he did.
- Similarly, a sentence like “*He passed the math test as if he’d been possessed by demons*” seems to emphasize the passing itself, not its manner.

## 6 Final Remarks

- We have shown that a hypothetical comparison construction in Turkish similar to English *as if* is licensed with gradable adjectives but not with non-gradable ones. We took this to suggest that its semantics involves comparison of degrees.
- Instead of following previous work which focuses on event semantics and the notion of *similarity* between events (Bledin & Srinivas, 2019; Bücking, 2017), we pursued a previously uncharted route:

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Nevertheless, Bledin and Srinivas (2019) also accepts that their analyses are quite similar.



HCM constructions in Turkish compare degrees, not eventualities.

- Using an independently motivated semantics for DEGREES and EQUATIVE constructions (Rett, 2020; Schwarzschild, 2008; Stechow, 1984), we were able to derive the intuitively correct truth conditions of sentences with HCM and resolve the puzzle with non-gradable (CLOSE) adjectives.
- Our analysis is sensitive to the semantic difference between OPEN and CLOSE scale adjectives proposed by Kennedy and McNally (2005).

- (35) a. #Kolye düğün-de tak-ıl-**mişcasına** altın(dan)-dı.  
 necklace wedding-LOC gift-PASS-HCM gold(en)-PST  
 ‘The necklace was as golden as it would be if it was gifted at a wedding.’
- b. Kolye dün al-ın-**mişcasına** yeni-ydi.  
 necklace yesterday buy-PASS-HCM new-PST  
 ‘The necklace was as new as it would be if it was bought yesterday.’

↗ While OPEN scale adjectives like *yeni* are acceptable with HCM structures, CLOSE scale adjectives like *altın* are not licensed with HCM structures.

- In future research, we will take a look into the possibility of having two different kinds of HCM in Turkish: one comparing degrees and the other having a more concessive-like semantics, focusing on sentences like (36).

- (36) %Cemre ev-i yok-**muşcasına** orman-da yaş[a]-ıyor  
 Cemre house-POSS.2SG exist.NEG-HCM forest-LOC live-IMPF  
 Lit: ‘Cemre lives in the forest as if she doesn’t have a home.’  
 ↗ Although Cemre has a house, she lives in the forest’

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(37) ornekleme

a. denemeler burada bitmiyor

Teknisyen-{ler/ $\emptyset$ }-in eđitmen-i olađanüstü hızlı koř-tu-{lar/ $\emptyset$ }.

technician-{PL/SG}-GEN instructor-POSS extraordinarily fast run-PST-{PL/SG}

‘The technician’s/technicians’ instructor ran{PL/SG} extraordinarily fast.’

b. denemeler