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# When tense shifts presuppositions: *hani* and monstrous semantics

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## Abstract

This study shows that the Turkish expression *hani* exhibits interesting properties for the study of the semantics and pragmatics interface, because on the one hand, its function is merely pragmatic, but on the other hand, it is subject to the truth conditional effect of other constituents at LF. This notwithstanding, studies on this expression are remarkably scarce. The only attempts to describe its properties are [Akar and Öztürk \(2020\)](#); [Akar, Öztürk, Göksel, and Keleşir \(2020\)](#); [Erguvanlı-Taylan \(2000\)](#). In the present study, we introduce the first formal semantic and pragmatic treatment of clauses containing *hani*. Unlike previous accounts, we claim that *hani* can have one of the following two major pragmatic functions: making salient a proposition in the Common Ground or challenging one in a past Common Ground, therefore requiring a Common Ground revision. Despite its variety of occurrences, we argue that *hani* has a uniform interpretation, and provide a compositional analysis of the different construals that it is associated with. Furthermore, we show that a formally explicit and accurate characterization of *hani* clauses requires operating on contextual parameters, in particular the utterance time. Therefore, if our proposal is on the right track, *hani* clauses may provide indirect empirical evidence in favour of the existence of “monstrous” phenomena adding to the accumulating cross-linguistic evidence in this domain (see [Schlenker \(2003\)](#) and much work since then).\*

**Keywords:** Turkish, tense, monsters, common ground, presuppositions, semantics, pragmatics; **Word Count:** 9829

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\*The definition of monsters is intended as in [Kaplan \(1989\)](#).

# 1 The two *hani* puzzles

In this paper we distinguish the sentences in which *hani* occurs in two main types. Each type presents an interesting puzzle. We observe that the first type of *hani* clauses presupposes that speaker and addressee already believe that the assertion is true. Given this, if uttered in isolation, these sentences would be systematically uninformative and therefore inappropriate, in that they fail to update the addressee's beliefs (Stalnaker, 1978, 1999, 2002). We argue that this unusual property of *hani* is precisely what limits its distribution to linguistic contexts where these clauses are used as “stage openers” to legitimize an upcoming assertion. In (1), we provide examples of this type of clauses.<sup>1</sup>

- (1) a. *Hani burada vegan bir restoran var. #(Oraya*  
       hani here   vegan one restaurant exist   there  
       *gid-ebil-ir-iz.)*  
       go-MOD-AOR-1.PL  
       ≈ ‘As you know, there is a vegan restaurant here. #(We may go there.)’
- b. *(Hani) burada vegan bir restoran var ya. #(Oraya*  
       hani here   vegan one restaurant exist ya   there  
       *gid-ebil-ir-iz.)*  
       go-MOD-AOR-1.PL  
       ≈ ‘As you know, there is a vegan restaurant here. #(We may go there.)’

(1b) shows that these clauses may optionally contain *ya*, but *ya* does not affect their meaning or use.<sup>2</sup> Throughout our discussion, we will refer to clauses of the type we illustrate in (1) as D(eclarative)-*hani* clauses and to the proposition that *hani* combines with as the prejacent of *hani*. (1a) and (1b) have the same interpretation and distribution. Both presuppose that speaker and addressee in the conversation believe the prejacent to be true. Similarly, both

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<sup>1</sup>The translations provided in (1) and across the paper are not literal translations, nor do they fully capture the pragmatic effects of *hani*; yet they are offered to the reader in order to get as good a sense as possible of the natural uses of these Turkish clauses.

<sup>2</sup>Although the particle *ya* does not seem to contribute to the meaning of *hani* clauses, it has phonological consequences. In particular, *hani* clauses associated with the construal presented in (1) has a declarative intonation in the absence of *ya* whereas they receive polar question intonation in the presence of *ya*. In this respect, *ya* is similar to the question particle *mI* in Turkish, found in polar questions. However, let us note in passing that although *ya* triggers the same intonational pattern as *mI* in Turkish, it is not a question particle itself. In other words, it cannot be used as a polar question particle. This contrast is illustrated in the example in (2).

- (2) *Burada vegan bir restoran var mı/#ya?*  
       here   vegan one restaurant exist Q/YA  
       ‘Is there a vegan restaurant here?’

assert that there is a vegan restaurant at the location of speech. The combination of assertion and presupposition of this first type of clauses brings up the first puzzle about *hani* mentioned above. Since these sentences assert what the participants of the conversation already believe to be true, in isolation they are inappropriate assertions. Indeed, such clauses need an additional sentence associated with their content in order to legitimize their assertability. Speakers' intuitions are compatible with the idea that the very function of the *hani* clauses in cases like (1) is to make the content of the prejacent salient, because this content needs to be reminded of to the addressee in order to legitimize the continuation "we should go there". Summing up, D-*hani* clauses have felicity conditions and are associated with pragmatic functions, which we will discuss in more detail in Section 2 and 4 respectively.<sup>3</sup>

As we mentioned above, there is a second type of clauses where *hani* appears, which conveys that the speaker questions a proposition that was previously believed to be true, an effect that was never observed before to the best of our knowledge.

In this second type of occurrences, i.e. Q(uestion)-*hani* clauses henceforth, *hani* carries intonational prominence. In these sentences the main predicate obligatorily carries a past tense marker. Furthermore, interestingly these sentences do not presuppose that the participants of the conversation currently believe the prejacent to be true unlike D-*hani* ones. In (3), we provide an example of this second type of sentences. We indicate the intonational prominence on *hani* using small capitals.<sup>4</sup>

- (3) a. HANI *burada vegan bir restoran var\*(-dİ)?*  
       hani here   vegan one restaurant exist(-PST)  
       ≈ 'Wasn't there supposed to be a vegan restaurant here?'

We will argue that Q-*hani* clauses question the truth of the prejacent in light of current evidence, and we will provide evidence that they presuppose that it was at the past time that speaker and addressee believed its truth. We will propose that this is the result of the overt past tense scoping outside the prejacent and binding the context time variable. This results in a shift of the presupposition of *hani* to a time previous to the utterance, presumably the time when the prejacent was originally uttered. At the same time, the event time of the prejacent does not necessarily precede the utterance time, indicating that the past morpheme does not directly affect it. An understanding of the semantics and pragmatics of Q-*hani* clauses is the main focus of this

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<sup>3</sup>In this sense, *hani* in D-*hani* clauses appears to be similar to German *ja* (Kratzer, 1999). However, *hani* displays properties that are crucially different from German *ja* as we are about to illustrate.

<sup>4</sup>Notice again that the translation in (3) is an approximation of the meaning and pragmatic effect of these clauses. In this case, the best rendition in English that we could come up with to capture the interpretation and pragmatic function of the Turkish example in (3) might be slightly misleading as it might lead the reader to conclude that this second use of *hani* is equivalent to English negative polar questions with inner negation (in the sense of Ladd (1981)). However, we will show in Section 5 that there are very crucial differences between these two constructions.

paper, as their peculiar properties, to the best of our knowledge, have never been previously attested.

In sum, in this paper we offer a novel unified view on the peculiarities of *hani*, which addresses the two semantic puzzles we presented in this section from a fully formal semantic, pragmatic and syntactic perspective. While this is the main goal of our paper, if our analysis is on the right track, we believe that it carries more far reaching and interesting theoretical implications regarding the inventory of semantic mechanisms available to human language. Specifically, it provides indirect evidence from Turkish of the possibility of the linguistic manipulation of context variables at LF.

The structure of this paper is as follows. In Section 2, we lay out the empirical facts regarding the felicity conditions of *hani* clauses. In Section 3, we present a compositional analysis of *hani* clauses. We devote Section 4 to a discussion of how our analysis accounts for several peculiar properties associated with Q-*hani* clauses. Section 5 is a discussion of previous literature on *hani* clauses. Section 6 concludes the paper.

## 2 Presupposition and assertion of *hani*

### 2.1 D-*hani* clauses

In this section we show that, although D-*hani*-clauses receive declarative interpretation, they differ from run-of-the-mill declaratives in one important respect. In fact, these clauses are infelicitous in contexts where the addressee does not already believe the prejacent to be true. In the context in (4a), the addressee is not aware of Ali having gone abroad. In this context, although it is felicitous to utter the proposition that Ali went abroad the previous month, it is infelicitous to make it the prejacent of *hani*, as illustrated in (4b).

- (4) a. Context: You and Zeynep have a common friend, Ali, who went abroad last month for studying. However, Zeynep does not know this as she has just woken up from a two month coma. You talk to her about what she has been missing, and say:
- b. (#*Hani*) *Ali geçen ay yurtdışına git-ti* (#*ya?*). *Hala ev hani Ali last month abroad go-PST ya still house bul-a-ma-mış.*  
find-MOD-NEG-PST
- ≈ ‘(#As you know,) Ali went abroad last month. He has not been able to find a house there yet.’

*Hani* in (4b) becomes perfectly fine, if not even obligatory, in a context like (5) below, where both participants of the conversation believe the prejacent to be true.

- (5) Context: You and Zeynep have a common friend, Ali, who went abroad last month, and both you and Zeynep are aware that he did.

We take these facts as an indication that D-*hani* clauses assert the prejacent and presuppose that speaker and addressee believe the prejacent to be true. As a consequence, these clauses are inherently uninformative, and they can only act as some sort of reminders that prepare the hearer for a subsequent remark or question. In the next subsection, we turn to the second use of *hani* and lay out the conditions under which it is licensed.

## 2.2 Q-*hani* clauses

On the surface, Q-*hani* clauses differ from D-*hani* ones in two respects. In these clauses, *hani* bears an intonational prominence, and the main predicate is obligatorily marked with the past tense morpheme. In this section, we will present evidence for the noticeable differences of these clauses we mentioned above. First, we observe that they are infelicitous in typical D-*hani* contexts, where the truth of the prejacent is currently believed by the participants of the conversation. For example, in the context in (6a), it is common knowledge that Ahmet's birthday is on the following day, and it is not appropriate to utter a Q-*hani* clause such as (6c) but the corresponding D-*hani* is felicitous as expected (see (6b)).

- (6) a. Context: Ahmet's birthday is tomorrow, and his friends Emre and Mehmet are aware of this. As Mehmet is about to go out to buy a present for him, Emre inquires about his plans. Mehmet says:
- b. *Hani yarın Ahmet-in doğum gün-ü ya. Hediye*  
 hani tomorrow Ahmet-GEN birth day-POSS ya present  
*al-ma-ya gid-iyor-um.*  
 buy-NMZ-DAT go-IMPERF-1.SG  
 ≈ 'As you know, it is Ahmet's birthday tomorrow. I am going out to buy a present (for him).'
- c. #HANI *yarın Ahmet-in doğum gün-ü-y-dü?*  
 hani tomorrow Ahmet-GEN birth day-POSS-COP-PST  
 ≈ 'Was it not Ahmet's birthday tomorrow?'

Rather, Q-*hani* clauses are licensed in contexts where the speaker does not currently believe the truth of the prejacent, but did so at a past time. For example, the context in (7a) indicates that there is no vegan restaurant at the location of speech, contrary to what the addressee had claimed. In this scenario, the speaker may direct a Q-*hani* clause to her addressee felicitously.

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- (7) a. Context: Zeynep’s vegan friend Ahmet wants to go out for dinner, and she tells him that there is a vegan restaurant nearby. After looking around for it and not finding it, Ahmet calls Zeynep and says:
- b. HANI *burada vegan bir restoran var\*(-di)?*  
 hani here vegan one restaurant exist-PST  
 ≈ ‘Wasn’t there supposed to be a vegan restaurant here?’

It is quite common that speakers utter Q-*hani* clauses because they made a previous commitment to the truth of the prejacent following an utterance of the addressee, but subsequent evidence challenges the truth of the prejacent. In these cases, the speaker’s intention in asserting the Q-*hani* clause is to hold their addressee liable for such a commitment (see (7b)).<sup>5</sup> Indeed, a Q-*hani* clause is infelicitous if the addressee did not previously commit to the truth of the prejacent as shown in (8).

- (8) a. Context: Ahmet is a vegan, and he is with Zeynep and Mehmet. While discussing where to eat lunch, Mehmet says that there is a vegan restaurant in his neighbourhood. Zeynep objects, stating that there is none there, but Ahmet trusts Mehmet, for it is his neighbourhood that they are talking about. However, once they arrive there, they find no vegan restaurant around. Getting confused about who said what, Ahmet turns to Zeynep, and says:
- b. #HANI *burada vegan bir restoran var-di?*  
 hani here vegan one restaurant exist-PST  
 ≈ ‘So, wasn’t there supposed to be a vegan restaurant here?’

In the context depicted in (8a), Zeynep had not believed the truth of the prejacent. Hence, a Q-*hani* clause directed towards Zeynep is infelicitous. Needless to say, it would be felicitous if Ahmet directed it to Mehmet, who is responsible for the proposition in the prejacent being added to the CG shared by him and Mehmet.

An important note is in order here. As stated previously, a Q-*hani* clause is used to hold one’s addressee responsible for his previous commitment to the truth of a proposition. In such contexts, addressees not only are committed to the truth of the proposition, but typically are also the ones who originally uttered the proposition. When asserting a sentence, a speaker is by default committed to its truth, therefore it is possible to later make her liable for her commitment. Krifka (2017, 365) notes that “in the case of an assertion the speaker has to present evidence for  $\phi$  if asked for, and can be held liable for the truth of  $\phi$ ”. Importantly, however, the effect just described is a pragmatic inference, rather than part of the semantics of Q-*hani* clauses. This point is crucial because the intonational contour of these clauses with prominence on

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<sup>5</sup>We will return to the topic of addressee’s liability in Section 4.

*hani* is typical of Turkish wh-questions (Göksel, Keleşir, & Üntak-Tarhan, 2009). Given this and their pragmatic function we just described, one might be tempted to analyze these clauses as roughly equivalent to *why did you tell me  $\phi$  (if it is false)?*, where  $\phi$  is the prejacent. However, Q-*hani* clauses do not logically express this meaning. Although a common response to a why-question is an explanation (see (9b)), Q-*hani* clauses are incompatible with such replies, as illustrated in (10b).

- (9) a. *Bana neden ödev-im-i yap-tı-m de-di-n?*  
 me why homework-POSS.1SG-ACC do-PST-1SG tell-PST-2SG  
 ‘Why did you tell me “I did my homework.”?’
- b. *Kız-ma-ma-n için...*  
 get.angry-NMZ-NEG-POSS-2SG for  
 ‘...so that you would not get angry.’
- (10) a. HANI *ödev-in-i yap-mış-tı-n?*  
 hani homework-POSS-ACC do-PFV-PST-2SG  
 ‘Didn’t you do your homework?’
- b. # *Kız-ma-ma-n için...*  
 get.angry-NMZ-NEG-POSS-2SG for  
 ‘...so that you would not get angry.’

The examples in this section indicate that Q-*hani* clauses are licensed in contexts where the addressee committed to the truth of the prejacent along with the speaker at some past time, however the speaker does not believe it to be true anymore in light of current evidence. Therefore, these clauses strongly implicate that the speaker is sceptical about the prejacent unlike D-*hani* clauses. As the reader might have guessed already, it is not a coincidence that the past tense is obligatory in Q-*hani* clauses and these clauses imply a past commitment. In the following section, a closer look at the scope of this morpheme will indeed confirm this much.

### 2.3 *Hani* clauses and the past tense morpheme

As we previously stated, past tense morphology is obligatory in Q-*hani* clauses. However, we have not considered its contribution to the sentence thus far. This section presents evidence that the overt past tense in D-*hani* clauses affects the time of the prejacent as expected, while in Q-*hani* clauses, it manipulates the time of the presupposition. Therefore, we argue that the overt past tense makes a meaningful difference between (11a) and (11b), although they look stringwise identical, modulo intonation.

- (11) a. *Hani burada vegan bir restoran var-dı (ya).*  
 hani here vegan one restaurant exist-PST  
 ≈ ‘As you know, there was a vegan restaurant here.’
- b. *HANI burada vegan bir restoran var-dı?*  
 hani here vegan one restaurant exist-PST  
 ≈ ‘Wasn’t there supposed to be a vegan restaurant here?’

Let us first consider the case of D-*hani* clauses. The overt past tense in the D-*hani* clause in (11a) shifts the time of the eventuality to a past time interval, and therefore expresses that there is a vegan restaurant at that past time just as expected. The following example shows that the past tense in D-*hani* clauses obligatorily shifts the evaluation time of the prejacent to the past as it would be expected.

- (12) a. **Context:** Ali is enrolled in a PhD program abroad, but has been in Istanbul on a summer break for exactly three months at the moment of speech, which both Ahmet and Zeynep are aware of. Zeynep learns that he is leaving soon and says:
- b. *Hani Ali üç ay-dır İstanbul-da (ya). Hafta-ya*  
 hani Ali three month-for Istanbul-LOC ya week-DAT  
*okul-u başl[a]-ıyor-muş. Git-me-den onu bir kez*  
 school-POSS start-IMPERF-EVID go-NEG-ABL him one time  
*gör-elim.*  
 see-OPT.1.PL  
 ≈ ‘As you know, Ali has been in Istanbul for three months. His school starts next week (I heard). Let us meet him before he leaves.’
- c. # *Hani Ali üç ay-dır İstanbul-da-y-dı ya. Hafta-ya*  
 hani Ali three month-for Istanbul-LOC-COP-PST ya week-DAT  
*okul-u başl[a]-ıyor-muş. Git-me-den onu bir kez*  
 school-POSS start-IMPERF-EVID go-NEG-ABL him one time  
*gör-elim.*  
 see-OPT.1.PL  
 ≈ ‘As you know, Ali had been in Istanbul for three months. His school starts next week (I heard). Let us meet him before he leaves.’

Since in (12), Ali’s state of being in Istanbul extends to the speech time, and it is exactly for three months at the moment of speech, the past tense morpheme in the prejacent of a D-*hani* clause is not acceptable. This is because the use of the past tense in the prejacent causes the D-*hani* clause in (12b) to express that the three month stay of Ali extends to a past time, however, this would mean that even if Ali’s stay in Istanbul continues, it would exceed



the three month period at the speech time, which contradicts the contextual information.

This indicates that the past tense here receives its ordinary scope and interpretation and provides the time of evaluation for the proposition expressed by the prejacent, and this is known to both speaker and addressee. (12b) is felicitous as expected, for it presupposes that speaker and addressee believe that Ali is presently in Istanbul, and has been so for three months. We take this as an indication that the past tense in these clauses takes its ordinary scope and therefore it shifts to the past the time of evaluation of the prejacent. As a result, (12c) presupposes that speaker and addressee believe that there is a past time and there is a three-month-long state of Ali being in Istanbul that extends to this past time, and asserts that at the same past time Ali was in Istanbul. Clearly, this presupposition is not satisfied under the context provided in (12a) where where Ali's stay in Istanbul has lasted for three months up to the speech time.

(13) illustrates a potential counterexample to the claim that the past tense morpheme shifts the evaluation time of the prejacent to the past in *D-hani* clauses. Although the predicate in (13b) carries a past tense morpheme, speaker and addressee appear to believe that there currently is a vegan restaurant at the location of speech.

- (13) a. **Context:** Ahmet has a vegan friend, Zeynep, who says that she is hungry. Ahmet tells Zeynep that there is a vegan restaurant nearby. Zeynep goes to that vegan restaurant. After one month, when Ahmet and Zeynep are planning to eat dinner outside, Zeynep says to Ahmet:

- b. *Hani burada vegan bir restoran var-di (ya). Oraya*  
*hani here vegan one restaurant exist-PST (YA) there*  
*gid-ebil-ir-iz.*  
 go-MOD-AOR-1.PL

≈ As you know, there was a vegan restaurant here. We may go there.

In addition, notice that the main predicate in (13b) is an existential and therefore an individual level predicate. Given this, it might be even more surprising that there currently is a vegan restaurant at the location of speech at the utterance time, for past individual level predicates are known to trigger an inference of non-existence of their argument when uttered without any context (Kratzer, 1995). For example, in (14), Gregory is understood to be dead.

- (14) a. Gregory was from America.  
 b. Gregory had blue eyes. (Musun, 1997, p.271).

However, Musun (1997) rightly points out that the inference of non-existence (life-time effects in her terminology) disappears once sentences like (14) are parts of larger linguistic contexts, (see 15).

- (15) a. On that day, I was introduced to Gregory and Eva-Lotta. Gregory was from America, and Eva-Lotta was from Switzerland.  
 b. I had a chance to have a closer look at him. Gregory had blue eyes. (Musan, 1997, p. 272)

These contexts introduce a past encounter of the speaker with the person in question. Therefore, the past tense on the individual level predicate in the subsequent sentence seems to refer to that past experience. Informally speaking then, a sentence like (15b) conveys that there is a time  $t'$  before the speech time  $t$ , and the speaker has a chance to have a closer look at Gregory at  $t'$ , and he has blue eyes at  $t'$ . Crucially, such a statement does not provide any information with respect to the current existence of the subject in question. In other words, it says nothing in regards to whether Gregory is dead or alive now.

Noticeably, the case of (13) is fully parallel to Musan's example. In (13a), Ahmet and Zeynep had a previous experience with the vegan restaurant in question. Specifically, Ahmet tells Zeynep about the existence of a vegan restaurant in their vicinity, and Zeynep goes there to eat. Hence, the past tense in (13b) refers to the past experience of the participants of the conversation with the vegan restaurant in question. Considering that there is no evidence that the vegan restaurant is closed now, the speakers can easily infer that it still exists although this is not part of the assertion.<sup>6</sup>

An additional piece of evidence suggesting that the past tense morpheme in *D-hani* clauses like (13b) shifts the evaluation time of the proposition to a past time comes from the following observation. Recall that *D-hani* clauses presuppose the truth of their prejacent. If the past tense in (13b) were not part of the proposition expressed in the prejacent, what would be taken for granted would be the proposition that there currently is a vegan restaurant at the location of speech. Therefore, a follow-up clause asserting that it does not exist anymore would sound contradictory. To illustrate, the example in (16) is infelicitous. The clause in (16b) presupposes that there is a vegan restaurant at the location of speech. Hence, asserting that it does not exist is infelicitous, as predicted.

- (16) a. **Context:** Zeynep and Ahmet lives in the same neighbourhood, and they both know that there is a vegan restaurant there. Zeynep says to Ahmet:

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<sup>6</sup>We will not go into the formal details of how the past tense achieves the desired result in these instances, for it is orthogonal to the discussion at hand. See Musan (1997) and Sauerland and Yatsushiro (2017) for further discussion.

- b. *Hani burada vegan bir restoran var (ya). #(Artık hani here vegan one restaurant exist.PRES ya anymore yok.)*  
 not.exist.PRES  
 ≈ ‘As you know, there is a vegan restaurant here. # (It is closed now.)’

In contrast, noticeably the version of (16b) with past tense is felicitous.

- (17) a. **Context:** Ahmet has a vegan friend, Zeynep, who says that she is hungry. Ahmet tells Zeynep that there is a vegan restaurant nearby. Zeynep goes to that vegan restaurant. After one month, when Ahmet and Zeynep are planning to eat dinner outside, Zeynep says to Ahmet:
- b. *Hani burada vegan bir restoran var-dı (ya). Artık hani here vegan one restaurant exist-PST ya there yok.*  
 go-MOD-AOR-1PL  
 ≈ ‘As you know, there was a vegan restaurant here. It is closed now.’

Hence, we argue that the *hani* clause in (13b) and (17b) presuppose that there *was* a vegan restaurant at the location of speech, and it remains vague as to the current existence of the relevant vegan restaurant now. Although the past tense triggers the inference that the speaker believes that the vegan restaurant is closed now, evidently this inference is just an implicature, as it can be easily cancelled with a follow up sentence as in (13b) or reinforced as in (17b).

Turning now to Q-*hani* clauses, we observe that the obligatory past tense morpheme occurring in them does not directly shift the evaluation time of the prejacent to a past time, but it shifts the belief time of speaker and addressee in the presupposition.<sup>7</sup> Recall from Section 2.2 that Q-*hani* is infelicitous in contexts where speaker and addressee believe that the prejacent is true. Given this, we need to modify to context in (18) minimally, in order to test the status of a Q-*hani* clause with past tense to make it a context where the event under discussion is clearly present and not past. We provide an example of such a context in (18a).

- (18) a. **Context:** Zeynep tells Ahmet that Ali has been in Istanbul for three months now, and they should see him before he leaves. Ahmet calls Ali to ask when they can meet him, however, Ali tells him that he is no longer in Istanbul. Ahmet says to Zeynep:

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<sup>7</sup>We will show in Section 3 that the shift in the presupposition time has an effect on the time of the prejacent, but this is an indirect result of the shifting of the belief time.

- b. HANI *Ali İstanbul-da\*(-y-dı)?*  
 HANI Ali İstanbul-LOC-COP-PST  
 ≈ ‘Wasn’t Ali supposed to be still in İstanbul?’

Intuitively, in the context in (18), the question under discussion is whether Ali is currently in İstanbul. However, the Q-*hani* clause is only grammatical when it occurs with the past tense morpheme.

In this section, we observed a sharp contrast between D-*hani* and Q-*hani* clauses in relation to the contribution of past tense morphology in them. While the past tense is interpreted as expected in D-*hani* clauses, its contribution in Q-*hani* clauses is more puzzling. In the next section, we will provide an analysis explaining the unexpected semantics of past tense in Q-*hani* clauses, after introducing our proposal for the semantics of *hani* in D-*hani* ones.

### 3 A Compositional Analysis of *hani* clauses

#### 3.1 D-*hani* clauses

In the previous discussion, we concluded that D-*hani* clauses presuppose that speaker and addressee believe the truth of their prejacent. For convenience, we repeat the relevant facts in (19).

- (19) a. **Context:** You and Zeynep have a common friend, Ali, who went abroad last month, and both you and Zeynep are aware that he did. Talking to Zeynep today, you say:
- b. *Hani Ali geçen ay yurtdışına git-ti (ya). Hala ev bul-a-ma-mış.*  
 HANI Ali last month abroad go-PST (YA) still house  
 find-MOD-NEG-PST  
 ≈ ‘As you know, Ali went abroad last month. He has not been able to find a house there yet.’

In (19a), the participants of the conversation believe that Ali went abroad the previous month. We propose that the above-mentioned observations can be accounted for by the interpretation of *hani* in (20). According to (20), *hani* leaves the assertion unchanged, that is, a D-*hani* clause asserts the prejacent, and introduces the logical presupposition that speaker and addressee of the conversation believe the prejacent to be true.

- (20) For any quintuple  $\langle w, t, s, a, g \rangle$ ,  
 $\llbracket \text{hani} \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda p_{\langle s, t \rangle} : \forall w'' \text{ s.t. } w'' \text{ is compatible with what } s \text{ and } a \text{ believe in } w \text{ at } t, p(w'')=1. \lambda w'. p(w')=1$

We relativize the lexical entry of *hani* to the context of utterance which we represent as a quintuple consisting of the context world ( $w$ ), context time ( $t$ ),

the speaker in the context (s), the addressee in the context (a) and the assignment function (g). These variables will be used to refer to context variables throughout the paper.

Hence, the result of combining *hani* with its prejacent is defined if and only if speaker and addressee of the conversation believe the truth of the prejacent, and if defined, it returns the prejacent itself. It is easy to verify that the contexts where *hani* is felicitous satisfy its definedness conditions, and those where it is infelicitous do not.

As an illustration, we provide below an example of a semantic computation of a *hani* clause where we apply the lexical entry above. Let us start by stating our basic assumptions by considering a sentence like (21a) without *hani*. We represent the structure of (21a) as in (21b).

- (21) a. (*Dün*)     *Ali İstanbul-da-y-dı.*  
          yesterday Ali Istanbul-LOC-COP-PST  
          ‘Ali was in Istanbul (yesterday).’
- b.
- 

In the interest of keeping our derivations simple, we skip some of the details of the internal composition of the proposition expressed by the prejacent. The reader should notice, however, that we assume that intensions are functions from times to propositions. We assume the referential account of tense following Partee (1973) as shown in (22a).<sup>8</sup>

- (22) For any quintuple  $\langle w, t, s, a, g \rangle$ ,
- a.  $\llbracket \text{past}_4 \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff  $g(4) < t$ ,  
 if defined then  $\llbracket \text{past}_4 \rrbracket^{\langle w, t, s, a, g \rangle} = g(4)$
  - b.  $\llbracket \text{Ali be in Istanbul} \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda t'. \lambda w'. \text{Ali is in I at at } t' \text{ in } w'$
  - c.  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined (i) and (ii) iff<sup>9</sup>
    - i.  $\llbracket \text{past}_4 \rrbracket^{\langle w, t, s, a, g \rangle}$  and  $\llbracket \text{Ali be in Istanbul} \rrbracket^{\langle w, t, s, a, g \rangle}$  are defined
    - ii.  $\llbracket \text{past}_4 \rrbracket^{\langle w, t, s, a, g \rangle} \in \text{dom}(\llbracket \text{Ali be in Istanbul} \rrbracket^{\langle w, t, s, a, g \rangle})$
- therefore defined iff  $g(4) < t$  <sup>10</sup>
- d. If defined,  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda w'. \text{Ali is in I at } g(4) \text{ in } w'$

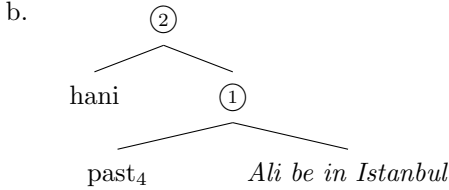
<sup>8</sup>Besides the referential anaphoric view that we adopt above, there is another main view on the semantics of past where it introduces an existential quantification with contextual domain restrictions (see Ogiwara (2007)). Our analysis is independent on the choice of the past tense semantics.

<sup>9</sup>This is by FA. See Heim and Kratzer (1998, p.76, ex.1)

<sup>10</sup>by (22a)

Now that we have laid out our basic theoretical assumptions, we can provide our analysis of D-*hani* clauses. We suggest that a D-*hani* clause minimally consists of a tensed proposition (contributed by the denotation of the prejacent), and *hani*.<sup>11</sup>

- (23) a. *Hani* (*dün*)      *Ali İstanbul-da-y-dı*      (*ya*).  
          hani yesterday Ali Istanbul-LOC-COP-PST ya  
          ‘As you know, Ali was in Istanbul (yesterday).’



In (24), we provide a sample derivation of the assertion and presuppositions for (23).

- (24) For any quintuple  $\langle w, t, s, a, g \rangle$ ,
- a.  $\llbracket \textcircled{2} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff (i) and (ii)
  - i.  $\llbracket \text{hani} \rrbracket^{\langle w, t, s, a, g \rangle}$  and  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle}$  are defined i
  - ii.  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle} \in \text{dom}(\llbracket \text{hani} \rrbracket^{\langle w, t, s, a, g \rangle})$

therefore defined iff  $g(4) < t$ <sup>12</sup> and  $\forall w''$  s.t.  $w''$  is compatible with what  $s$  and  $a$  believe in  $w$  at  $t$ , Ali is in  $I$  at  $g(4)$  in  $w'$

- b. If defined,  $\llbracket \textcircled{2} \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda w'. \text{Ali is in Istanbul at } g(4) \text{ in } w'$

According to (24), a D-*hani* clause is true only if the prejacent is true and carries the presupposition that speaker and addressee of the context already believe at the time of utterance that the prejacent is true; it is undefined otherwise. Therefore, the meaning that we ascribe to *hani* captures the restrictions on D-*hani* clauses. First, *hani* is acceptable only in contexts where speaker and addressee believe the prejacent to be true (see the discussion in Section 2). Second, considering that the speaker chooses an item expressing the presupposition that the interlocutors of the conversation already believe the prejacent to be true, the assertion of the latter is *per se* uninformative. Given this, it can never be uttered in isolation without sounding awkward.

In fact, the speaker of a *hani* clause intentionally fails to be informative in uttering the first sentence, and indicates this much via the presupposition of *hani*. A speaker can make such an unorthodox move, which is also a violation of

<sup>11</sup> Given that the particle *ya* is optional, we will not include it in our structural representation. One might treat it as an identity function over propositions.

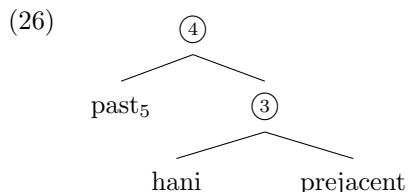
<sup>12</sup> from (22c)

Grice (1975)’s Maxim of Manner ‘be brief’, only if she has good reasons to do so. We suggest that what justifies this violation is the intention of the speaker to convey that an already existing shared belief is related and relevant to a more general point she is making (e.g., a suggestion or an advice). It follows that *hani* in these contexts is obligatory as the assertion of the prejacent alone would fail to achieve the pragmatic effect just described.<sup>13</sup>

- (25) a. **Context:** Ayşe and Ahmet went to a vegan restaurant in their neighbourhood last week. Discussing what to eat tonight, Ahmet says:
- b. *Hani burada vegan bir restoran var (ya). Oraya gid-elim.*  
 hani here vegan one restaurant exist ya there let’s.go  
 ≈‘As you know, there is a vegan restaurant here. Let’s go there.’
- c. *#Burada vegan bir restoran var. Oraya gid-elim.*  
 here vegan one restaurant exist there let’s.go  
 ≈‘There is a vegan restaurant here. Let’s go there.’

### 3.2 Q-*hani* clauses

We are now in the position to turn to our second puzzle, which regards Q-*hani* clauses. In this subsection, we are going to briefly illustrate our main assumptions in the analysis of these clauses. Their application to an example is in Section 3.3. As we pointed out in Section 1 and Section 2.3, in Q-*hani* clauses, the past tense manipulates the time within the presupposition of *hani* rather than the time of eventuality in the prejacent. That is, the belief of speaker and addressee that the prejacent is true is presupposed to have held at the past time that the past tense refers to. We claim that this follows from the structural position of the overt past tense morpheme at the LF of these clauses.



Our assumptions in regards to the interpretation of *hani* and the interpretation of the past tense are the same as introduced in the previous section. Specifically, the denotation of ③ is a proposition  $\langle\langle s, t \rangle\rangle$  whereas the past morpheme denotes a contextually salient time (of type  $i$ ). This alone would

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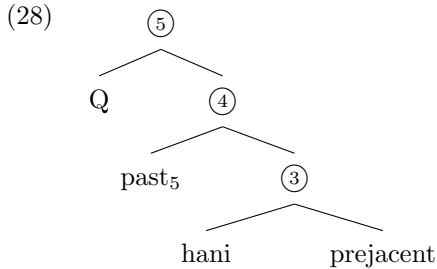
<sup>13</sup>See Döring (2016); Döring et al. (2019) for a similar description of the function of the German *ja*.

generate a type mismatch in the structure in (26). We suggest that the mismatch is resolved by a semantic rule, given in (27), which has two purposes: (i) It generates from ③ a predicate abstract over the contextual time variable of ③, and (ii) The presupposition of the preajcent and past tense is carried on to the resulting combination (See Santorio (2010) for a similar monstrous function application rule abstracting over  $g$ ).

(27) **Monstrous Function Application**

If  $\alpha$  is a branching node and  $\{\beta, \gamma\}$  the set of its daughters, and for any context  $\langle w, t, s, a, g \rangle$ ,  $\llbracket \gamma \rrbracket^{\langle w, t, s, a, g \rangle} \in \text{dom}(\lambda t': \beta \in \text{dom}(\llbracket \cdot \rrbracket^{\langle w, t', s, a, g \rangle} . \llbracket \beta \rrbracket^{\langle w, t', s, a, g \rangle}))$ , then  $\llbracket \alpha \rrbracket^{\langle w, t, s, a, g \rangle} = [\lambda t': \gamma \in \text{dom}(\llbracket \cdot \rrbracket^{\langle w, t, s, a, g \rangle}) \wedge \beta \in \text{dom}(\llbracket \cdot \rrbracket^{\langle w, t', s, a, g \rangle}) . \llbracket \beta \rrbracket^{\langle w, t', s, a, g \rangle}] (\llbracket \gamma \rrbracket^{\langle w, t, s, a, g \rangle})$

Our last assumption concerns the second part of the puzzle presented by Q-hani clauses, which unlike *D*-hani clauses, do not assert the preajcent. In fact, they appear to question it (see 2.2). Our proposal is to account for this effect by analyzing these cases as yes-no questions. Given this, our third and last assumption is that a silent *whether or not*, which we will abbreviate as *Q*, is also present in the structure of these clauses. Given this, *Q*-hani clauses will always have the following LF.



### 3.3 Formal Implementation

In this subsection, we illustrate how the assumptions that we have just introduced apply to a particular example. A brief discussion of the internal semantics of the preajcent is at stake here. Our claim that the overt past morpheme scopes above *hani* is not intended to imply that the preajcent is tenseless. Let us consider again the following example.

- (29) HANI *Ali İstanbul-da-y-dı?*  
 hani Ali İstanbul-LOC-COP-PST

As we discussed in Section 3.2, this example can be interpreted with the preajcent describing a present eventuality. This is unsurprising as the present tense in Turkish is not overtly marked as shown in the example in (30).



- (30) *Ali İstanbul-da-∅.*  
 Ali İstanbul-LOC-PRES  
 ‘Ali is in İstanbul.’

Therefore, (29) can receive the same interpretation as (31).

- (31) HANI *Ali İstanbul-da-∅-y-di.*  
 hani Ali İstanbul-LOC-PRESENT-COP-PST  
 ≈ ‘Wasn’t Ali supposed to be in İstanbul?’

There is, however, a second possible interpretation of (29) where the event in the prejacent is intended as past. According to our proposal, this amounts to having a second past morpheme that is not pronounced. As stipulative as this might sound, the fact that a past tense morpheme is deleted at PF is not uncommon in Turkish. One example of this comes from sentences involving evidential markers. Consider the example below and its potential interpretations.<sup>14</sup>

- (32) *Ali (dün/şimdi) gel-iyor-muş.*  
 Ali yesterday/now come-IMPERF-EVID  
 ≈ ‘Ali was/is coming (yesterday/now) as I heard.’

Crucially, under its past tense interpretation, Turkish cannot overtly mark the past tense morphology on the verb when it cooccurs with the evidential morpheme as shown in (33b).

- (33) a. *Ali (dün) gel-iyor-du.*  
 Ali yesterday come-IMPERF-PST  
 ≈ ‘Ali was coming (yesterday).’  
 b. \**Ali (dün)*  
 Ali yesterday  
*gel-iyor-du-muş/gel-iyor-du-y-muş.*  
 come-IMPERF-PST-EVID/come-IMPERF-PST-COP-EVID  
 Int: ‘Ali was coming (yesterday) as I heard.’

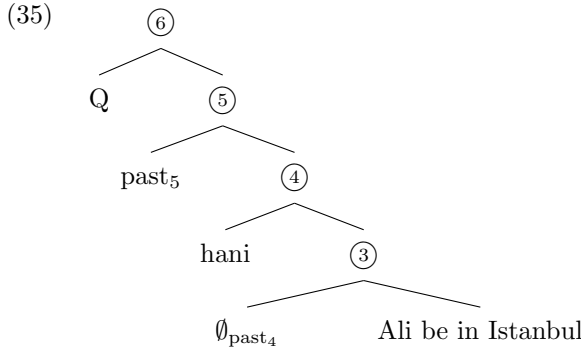
We claim that past tense may also be unpronounced in the scope of another tense morpheme. Given this, the sentence in (29) might also be reglossed as in the following example.

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<sup>14</sup> *-miş* exhibits a curious behavior in Turkish. When it follows non-verbal predicates and aspectually marked verbs, it is an evidential marker as shown in (32) whereas it marks anterior aspect when it precedes a tense morpheme. This is orthogonal to our purposes. For the latter use of *-miş*, see the example in Footnote 16. We remain agnostic on whether the two meanings of *-miş* should be related or are independent entries in the lexicon.

- (34) HANI *Ali İstanbul-da-∅-y-di.*  
 hani Ali İstanbul-LOC-PAST-COP-PST  
 ≈ ‘Wasn’t Ali supposed to be in İstanbul?’

The formal implementation that we illustrate in this section focuses on this second interpretation. We will return to the implications of the present tense interpretation later. The example that we are going to analyze is the one in (34). In (35), we provide the LF for (34).



Notice that the constituent labelled with number ④ is identical to the one labelled as ② in the section on D-*hani* clauses, modulo the pronunciation of the past tense morpheme. Given this, its denotation is repeated below.

- (36) For any quintuple  $\langle w, t, s, a, g \rangle$ ,
- a.  $\llbracket \textcircled{2} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff (i) and (ii)
  - i.  $\llbracket \text{hani} \rrbracket^{\langle w, t, s, a, g \rangle}$  and  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle}$  are defined
  - ii.  $\llbracket \textcircled{1} \rrbracket^{\langle w, t, s, a, g \rangle} \in \text{dom}(\llbracket \text{hani} \rrbracket^{\langle w, t, s, a, g \rangle})$   
 therefore defined iff  $g(4) < t$  (from (22c)) and  $\forall w''$  s.t.  $w''$  is compatible with what  $s$  and  $a$  believe in  $w$  at  $t$ , Ali is in I at  $g(4)$  in  $w'$  (from step (24ii))
  - b. If defined,  $\lambda w'. \text{Ali is in İstanbul at } g(4) \text{ in } w'$

Due to the type mismatch mentioned above, the denotation of ⑤ is derived by the Monstrous Function Application proposed in (27), as shown in (38). The past tense denotation is given in (37).

- (37)  $\llbracket \text{past}_5 \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff  $g(5) < t$ ,  
 if defined then  $\llbracket \text{past}_5 \rrbracket^{\langle w, t, s, a, g \rangle} = g(5)$

- (38) a.  $\llbracket \textcircled{5} \rrbracket^{\langle w, t, s, a, g \rangle} = [\lambda t': \text{past}_5 \in \text{dom}(\llbracket \textcircled{5} \rrbracket^{\langle w, t, s, a, g \rangle}) \wedge \textcircled{4} \in \text{dom}(\llbracket \textcircled{5} \rrbracket^{\langle w, t', s, a, g \rangle})] (\llbracket \text{past}_5 \rrbracket^{\langle w, t, s, a, g \rangle})$  (by MFA)
- b.  $\llbracket \textcircled{5} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff
- i.  $\text{past}_5 \in \text{dom}(\llbracket \textcircled{5} \rrbracket^{\langle w, t, s, a, g \rangle})$  and  $\textcircled{4} \in \text{dom}(\llbracket \textcircled{5} \rrbracket^{\langle w, g(5), s, a, g \rangle})$   
iff  $g(5) < t$  and  $g(4) < g(5)$  and  $\forall w''$  s.t  $w''$  is compatible with what  $s$  and  $a$  believe in  $w$  at  $\mathbf{g(5)}$ , Ali is in Istanbul at  $g(4)$
- c. If defined,  $\llbracket \textcircled{5} \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda w'. \text{Ali is in I at } g(4) \text{ in } w'.$

As we clarified above, we assume that Q-*hani* clauses have a silent *whether or not* (Q henceforth) with the meaning in (39). We assume for the purposes of simplification that its function is to take a proposition and return a set of propositions including the argument and its negation.

$$(39) \quad \llbracket Q \rrbracket^{\langle w, t, s, a, g \rangle} = \lambda p. \lambda q. q = p \vee q = \lambda w'''. p(w''') = 0$$

Hence, applying (39) to the denotation of  $\textcircled{5}$  results in the meaning of  $\textcircled{6}$ , which is a set of the propositions that Ali was in Istanbul and that Ali was not in Istanbul as shown in (40).

- (40) a.  $\llbracket \textcircled{6} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff  $\forall w''$  s.t  $w''$  is compatible with what  $s$  and  $a$  believe in  $w$  at  $\mathbf{g(5)}$  and  $g(5) < t$ , Ali is in Istanbul at  $g(4)$  in  $w''$  and  $g(4) < \mathbf{g(5)}$
- b. If defined,  $\llbracket \textcircled{6} \rrbracket^{\langle w, t, s, a, g \rangle} = \{\lambda w'. \text{Ali is in Istanbul at } g(4) \text{ in } w', \lambda w'. \text{Ali is not in Istanbul at } g(4) \text{ in } w'\}$

$\textcircled{6}$  carries the definedness condition that at a time previous to the utterance time ( $g(5)$ ), speaker and addressee believed that Ali was in Istanbul at a time previous to those beliefs ( $g(4)$ ). When defined, it is equivalent to the yes-no question ‘Was Ali in Istanbul?’. Noticeably, the context time parameter of the *hani* presupposition is locally shifted to the past by the past tense morpheme scoping over *hani*. The following example more explicitly supports the above analysis where the time of the prejacent precedes the time at which speaker and addressee believed its truth, and current evidence triggers the speaker’s scepticism about it.

- (41) a. **Context:** Last week, Ali and Zeynep were studying history together. They were focusing on the period of the Roman Empire, and Ali claimed that the Colosseum at that time was used as a swimming pool, which Zeynep added to her notes. At the exam, she indicated this function of the Colosseum and lost 20 points from the exam score.
- $g(4)$  = the time of Roman Empire  
 $g(5)$  = the week preceding the utterance (belief’s time)

$g(4) < g(5)$

It would be natural for Zeynep to confront Ali as follows.

- b. HANI *Kolezyum yüzme havuzu-y-du?*  
 hani Colosseum swimming pool-COP-PST  
 $\approx$  ‘Wasn’t the Colosseum a swimming pool?’

We can now turn to the other possible interpretation of the sentence in (29) given in (31), that is the interpretation where the unpronounced tense in the prejacent is intended to be the present tense.<sup>15</sup> This reading only differs from (40) in the relation between  $g(4)$  and  $g(5)$  as shown below.

- (42) a.  $\llbracket \textcircled{6} \rrbracket^{\langle w, t, s, a, g \rangle}$  is defined iff  $\forall w''$  s.t.  $w''$  is compatible with what  $s$  and  $a$  believe in  $w$  at  $g(5)$  and  $g(5) < t$ , Ali is in Istanbul at  $g(4)$  in  $w''$  and  $g(4) \circ g(5)$
- b. If defined,  $\llbracket \textcircled{6} \rrbracket^{\langle w, t, s, a, g \rangle} = \{\lambda w'. \text{Ali is in Istanbul at } g(4) \text{ in } w', \lambda w'. \text{Ali is not in Istanbul at } g(4) \text{ in } w'\}$

The predicted difference between the two cases (past prejacent and present prejacent) is not straightforward. According to our analysis, the time of the eventuality in the prejacent (i.e.,  $g(4)$ ) is related to a context time  $g(5)$  that is shifted to the past by the higher past in both cases. It is prior to it if the tense in the prejacent is past ( $g(4) < g(5)$ , see (40)) and overlapping with it if it is present ( $g(4) \circ g(5)$ , see (42)). Given this, in both cases the prejacent eventuality is past relative to the utterance time  $t$ . However, the two readings make distinct predictions in adequately construed scenarios such as the following one.

- (43) a. **Context:** Zeynep is hiding around the corner of Ali’s office, intending to surprise him there. She calls him to double check that he is sitting there working, and Ali indeed confirms that he is. A few seconds later, as she opens the office door, she finds it empty and calls him again saying the following.
- b. HANI *ofis-te-∅<sub>present</sub>/#past-y-di-n?*  
 hani office-LOC-PRES/#PST-COP-PST-2SG  
 Weren’t you supposed to be in the office?

Crucially, in the context in (43), the empty tense morpheme cannot be past. If it was, the speaker would have no grounds to expect Ali to be in the office at the utterance time. However, if it is interpreted as present relative to the phone call time, she can reasonably still believe to find him there, given how shortly after the call she opens the office door. Since the sentence with *hani* in (43b) can be used by the speaker to express her surprise in not finding Ali in

<sup>15</sup>  $\textcircled{6}$  indicates the logical form in (35), except that the lower past is replaced with the present tense.

the office at the utterance time, this example provides sufficient evidence that the tense in the prejacent can be interpreted as present tense.<sup>16</sup>

## 4 Deriving the properties of Q-*hani* clauses

Having introduced the details of our analysis, in this section, we discuss how it accounts for some of the peculiar properties of Q-*hani* clauses.

### 4.1 Distribution of Q-*hani* clauses

Recall that Q-*hani* clauses are infelicitous in contexts like the one below.

- (45) a. **Context:** Ahmet is a vegan, and he is with Zeynep and Mehmet. While discussing where to eat lunch, Mehmet says that there is a vegan restaurant in his neighbourhood. Zeynep objects, stating that there is none there, but Ahmet trusts Mehmet, for it is his neighbourhood that they are talking about. However, once they arrive there, they find no vegan restaurant around. Getting confused about who said what, turning to Zeynep, Ahmet says:
- b. # HANI *burada vegan bir restoran var-di?*  
       HANI here     vegan one restaurant exist-PST  
       ≈ ‘So, wasn’t there supposed to be a vegan restaurant here?’

Our analysis predicts this because in this context, the definedness condition that speaker and addressee both previously believed that there is a vegan restaurant in their surrounding is not satisfied. This results in a presupposition failure.

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<sup>16</sup> Given that we are dealing with two tense morphemes contributing to the interpretation in Q-*hani* clauses, we intentionally stayed away from examples where the prejacent predicate is a verbal one. Using non-verbal predicates allowed us to put aside the contribution of the aspect morphemes in Q-*hani* clauses. This was done merely for ease of exposition, but for the sake of completeness, we illustrate how aspect is integrated in Q-*hani* examples. Observe that when a verbal predicate is used in the prejacent, an aspect marker is required, disallowing strings where the verb is immediately followed by the higher obligatory past tense marker (See (44a) and (44b) respectively).

- (44) a. \*HANI *Ali ofis-e gel-di?*  
       HANI Ali office-DAT come-PST  
       Intended: ‘Wasn’t Ali supposed to have come to the office?’
- b. HANI *Ali ofis-e gel-miş/-iyor/-ecek-ti?*  
       HANI Ali office-DAT come-ANT/IMPERF/PROSP-PST  
       ≈ ‘Wasn’t Ali supposed to have come/to be coming/to come to the office?’

Although we do not compute the meanings of these examples, our analysis of Q-*hani* clauses are compatible with the standard meanings ascribed to aspect morphemes.

## 4.2 Must the prejacent of Q-*hani* be false?

In this section, we discuss the common intuition that Turkish informants report that Q-*hani* clauses imply in some way the falsity of the prejacent. As we will see below, our analysis instead makes the weaker prediction that these clauses trigger the implicature that the speaker no longer believes the prejacent to be true. Before turning to this, let us consider the source of the informants' intuition of a stronger negative implication. We argue here that this is an effect of the aspects of the most typical contexts where those clauses are found, but it is neither an entailment nor an implicature of these clauses. In the above discussion, the reader might have noticed that the trigger of the Q-*hani* clause was a situation where the speaker was exposed to evidence falsifying the prejacent. One more instance of this kind of context is illustrated in the example below.

- (46) a. **Context:** Zeynep is on the phone with Ahmet, who claims to be in the office. However, at the same time Zeynep sees Ahmet at a pool party on an Instagram live broadcast, and says:
- b. HANI *ofis-te-y-di-n?*  
 HANI office-LOC-COP-PST-2SG  
 ≈'Weren't you supposed to be in the office?  
**Apparent implication:** you are not in the office.

We observe, however, that Q-*hani* clauses are perfectly natural also in contexts where it is evident that the speaker has no intention to imply the falsity of the prejacent. An example of this context is one where the addressee already asserted the negation of the prejacent, and therefore where the speaker would have no need to further imply it.

- (47) a. **Context:** On Sunday, Zeynep informs Ahmet that Dr. Çetin will be visiting patients in the clinic on Monday. However, on Monday, she learns that Dr. Çetin's clinic day is on Wednesday.
- b. **Ahmet:** Çetin Bey ofise geldi mi?  
 Has Dr. Çetin arrived at the clinic?  
**Zeynep:** Bugün ofise değil. İki gün sonra ofiste olacak.  
 He is not here today. He will be the day after tomorrow.  
**Ahmet:** HANI bugün ofisteydi?  
 Wasn't he supposed to be in the office today?

Since the addressee (Zeynep) explicitly asserted the falsity of the prejacent, the speaker of the Q-*hani* clause clearly has no reason to convey the implicature that it is false. Instead, his utterance is intended to express his state of confusion due to the previous belief that the prejacent was true, and the current evidence that it is not (i.e., Zeynep's utterance).

The features of this example are incompatible with the hypothesis above that Q-*hani* clauses convey at any level (semantic or pragmatic as it may be) the negation of the prejacent. In fact, the analysis that we proposed predicts that these clauses trigger only an ignorance implicature, and this is reconcilable with both types of uses in (46) and (47).

The ignorance implicature that the speaker currently fails to believe that the prejacent is true is generated by the past tense in the presupposition of these clauses, which entails that the speaker used to believe that the prejacent was true.<sup>17</sup> As in all cases of past sentences, this generates the implicature that the speaker no longer believes this. By presupposing the past belief and implying a present lack thereof, the speaker expresses her state of confusion relative to the truth of the prejacent and demands a clarification from the addressee.

### 4.3 Considerations on liability

One of the pragmatic functions of Q-*hani* clauses is to hold one's addressee responsible for the speaker's belief that the prejacent is true. Indeed, they oftentimes provide the inference that the addressee previously lied to the speaker regarding its truth. Does the question analysis of Q-*hani* clauses account for this inference? We argue that it does in the following way.

Generally speaking, a proposition *p* can be added to the CG of the interlocutors *a* and *b* if *a* asserted *p*, and *b* accepted it; or if *b* asserted *p*, and *a* accepted it; or if a third person *c* asserted *p*, and both *a* and *b* accepted it. Now, imagine a scenario where *a* asserts *p*, and *b* accepts it, but *a* later learns that *p* is not true. Can *a* utter a Q-*hani* clause to hold herself liable for the truth of *p*? The question analysis predicts that she cannot. The reason is that if *a* learned that *p* is actually not true, it would be inappropriate for *a* to ask the addressee whether *p* is true. Furthermore, since it was *a* that asserted *p* in the first place, it would be odd for her to request an answer from her addressee with respect to the truth of *p*. This prediction is borne out as illustrated in (48).

- (48) a. **Context:** Ahmet tells Ayşe that Ali is in the office all day today. Five minutes after telling Ayşe that Ali is in the office, Ahmet drops by Ali's office, and does not find him there. Ahmet calls Ayşe and says:
- b. #HANI *Ali bugün tüm gün ofis-te-y-di?*  
       HANI Ali today all day office-LOC-COP-PST  
       ≈'Wasn't Ali supposed to be in the office all day today?

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<sup>17</sup>The idea that an implicature can derive from the presuppositional component of an utterance is not novel. See Ippolito (2003).

However, if it were *b* that asserted *p* in the first place, and *a* simply accepted it, then based on *a*'s current evidence against *p*, she could utter a *Q-hani* clause as to express that she considers *b* liable for mistakenly asserting *p*.

- (49) a. **Context:** Ahmet tells Ayşe that Ali is in the office all day today. Five minutes after Ahmet told her that Ali is in the office all day today, Ayşe drops by Ali's office, and does not find him there. Ayşe calls Ahmet and says:
- b. HANI *Ali bugün tüm gün ofis-te-y-di?*  
 HANI Ali today all day office-LOC-COP-PST  
 ≈ 'Wasn't Ali supposed to be in the office all day today?

Here is how *b*'s liability in (49) derived. In this example, the speaker asks a question which presupposes that she and her addressee had believed that Ali would be in the office all day today while asking whether this is actually true. Crucially, in our context, the addition of the information that Ali is in the office all day today was believed to be true by the speaker because of the addressee's assertion. Recall that in order to ask such a question, the speaker must have later encountered evidence challenging the truth of the prejacent contrary to what her addressee asserted. Hence, the speaker thinks that that her addressee lied. This causes the addressee to be held liable for *p*, and to be expected to provide an explanation.

Importantly, the above inference of liability is contextually derived, and therefore not a necessary component of *Q-hani* clauses. One can easily find uses of *Q-hani* clauses where the addressee is not responsible at all of her and speaker's belief that *p* is true. These are cases where a speaker and addressee come to believe that *p* is true because of an utterance of a third party. Our analysis predicts that in those cases, *Q-hani* clauses would simply question the truth of *p* without an inference of liability as illustrated in (50).

- (50) a. **Context:** The manager of Ahmet's office informs everyone by email that they are given the afternoon off. As Ahmet is leaving the office, the secretary delivers to him a pile of documents to be processed and submitted by 5 pm today. Ahmet says to the secretary:
- b. HANI *bugün öğle-den sonra tatil-di?*  
 hani today noon-ABL after holiday-PST  
 ≈ 'Weren't we supposed to be free in the afternoon today?

As it is the case in other contexts, uttering a *Q-hani* in the context provided in (50a), comes with the implicature that the speaker ceases to believe *p* (=that it is an afternoon off), which is reasonable given the secretary's behaviour. However, the speaker obviously does not hold his addressee liable for *p*, for it was not the secretary that was responsible for Ahmet previously believing *p*. (50b) simply implies that the speaker does not believe *p* anymore, and asks for confirmation of this implicature.



## 5 Previous Approaches and their shortcomings

This section is a brief critical review of the only previous approach to *hani*, that is, Akar and Öztürk (2020); Akar et al. (2020). These authors point out that *hani* clauses are similar in meaning and use to English negative polar questions (NPQs).

According to Ladd (1981), these questions are systematically ambiguous between a reading where negation applies to the proposition in the proto-question (inner negation) and a reading where it takes a wider scope (outer negation). Accordingly, a question like (51a) below may have either of the two different pragmatic functions in (51b) and (51c), depending on whether the negation is interpreted as “outer negation” or “inner negation” respectively.

- (51) a. *Isn't there a vegetarian restaurant around here?* (Krifka, 2017, p. 360)
- b. Speaker wants confirmation that there is a vegetarian restaurant here.
- c. Speaker wants confirmation that there is no vegetarian restaurant here.

Subsequent work argues that English negative polar questions are biased either towards the positive or negative answer (Krifka, 2017; Ladd, 1981; Reese, 2005; Romero & Han, 2004; Van Rooy & Safarova, 2003). Specifically, when negation is outer negation, the speaker is biased towards the positive answer, but wants confirmation for it. Conversely, with inner negation, the speaker tends towards the negative answer, but wants confirmation for it (Krifka, 2015, 2017).<sup>18</sup>

Akar and Öztürk (2020); Akar et al. (2020) draw a parallelism between D-*hani* clauses and polar questions with outer negation, and between Q-*hani* clauses and polar questions with inner negation. However, we observe that *hani* clauses display crucial distributional differences from negative polar questions, and the similarities are limited to their pragmatic functions in the very contexts and scenarios where negative questions and *hani* clauses are both acceptable. In fact, there are contexts where a D-*hani* clause is not felicitous whereas a negative question with outer negation is.

- (52) a. Ahmet mistakenly believes that Ayşe already read *Harry Potter and the Order of Phoenix* whereas she has not. In catching her reading it, he says:
- b. ‘Didn’t you read this book before? Are you reading it again?’

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<sup>18</sup>We will not go into the details of the issue of bias in negative polar questions, but see the cited references for more on bias in NPQs.

- c. #*Hani bu kitab-ı daha önce oku-muş-tun (ya). Tekrar mı*  
*hani* this book-ACC more before read-ASP-PST (ya) again Q  
*oku-yor-sun?*  
 read-IMPERF-2.SG

≈ ‘As you know, you read this book before. Are you reading it again?’

Whereas Akar and Öztürk (2020); Akar et al. (2020) fail to predict the contrast in (52), the latter finds a straightforward explanation in the account presented in this paper. Since D-*hani* clauses carry the presupposition that both speaker and addressee believe the prejacent to be true, the addressee in (52c) cannot possibly believe that she read it if she actually did not, hence the presupposition failure and the infelicity of (52c).

Similarly, there are contexts where NPQs with inner negation are natural and acceptable, but Q-*hani* clauses are not.

- (53) a. **Context:** Ahmet is new to town. He previously lived in Manhattan, where one can find restaurants of all likings in every neighbourhood. Ayşe is very well aware that he is a vegan, but in the following dialogue, she tries to warn him he will have to take a long trip on the bus to find a vegan restaurant, and the following conversation takes place.
- b. Ayşe: You need to take a long bus ride.
- c. Ahmet: Oh, really, isn’t there any vegan restaurant around here?
- d. *Ahmet: #Gerçekten mi? Hani burada vegan bir restoran*  
 really Q hani here vegan one restaurant  
*var-dı?*  
 exist-PST

≈ ‘Really? Wasn’t there supposed to be a vegan restaurant here?’

Since in (53c), Ahmet seeks for a confirmation that there is no vegan restaurant nearby, the negation in it is interpreted as inner negation. The infelicity of (53d) follows from our analysis because Ahmet’s uttering a Q-*hani* clause in this context results in a presupposition failure, for Ayşe’s statement by itself denies her belief that the prejacent of (53d) is true.

The facts discussed in this section shows that *hani* clauses are not fully parallel to NPQs, and therefore a unified semantics analysis of the two would be misleading. This being said, we do not deny that they sometimes naturally overlap in their uses (see Akar and Öztürk 2020; Akar et al. 2020), and this is why in many cases it is natural to translate *hani* clauses as NPQs. We are not going to discuss in detail why in certain contexts both *hani* clauses and NPQs are licensed. Possibly, this is so because they both generate an effect of speaker’s bias towards a proposition. *Hani* clauses additionally require the addressee’s belief towards it, whereas NPQs do not appear to. We leave a

formal investigation of the relationship between NPQs and *hani* clauses for future research.

## 6 Conclusion

In conclusion, this paper proposes the first unified compositional analysis of *hani* clauses that accounts for their different pragmatic functions and distributional restrictions. These differences are derived from structural differences whereas the contribution of *hani* is taken to be non-ambiguous. The analysis relies on the assumption that contextual parameters may be available for further manipulation in the truth conditional composition of meaning, and we take this to reflect a cross-linguistic variation, where these type semantic mechanisms may or may not be available in a given language.

One main issue we are leaving to further research is the obligatory presence of the past tense morpheme in what we dubbed Q-*hani* clauses. At this stage we can only offer some general speculations as to why this should be the case. In the absence of the past shift of the presupposition of *hani* in those interrogative clauses, they would end up presupposing that s and a believe the prejacent to be true at the utterance time and ask whether it is. This itself might be unacceptable as the negative answer would generate a contradiction with the presupposition, while the positive answer left to the addressee as the only option would be equivalent to the corresponding D-*hani* clause. From the viewpoint of the questioner we find that requesting the answerer to assert a D-*hani* clause with the same prejacent as the question is not pragmatically a legitimate move.

One more issue that still needs to be addressed concerns the phonological prominence on *hani* in Q-*hani* clauses (but not in D-*hani* clauses). Previous researchers have likened this to the phonological behavior of wh-words in Turkish matrix constituent questions (see Göksel et al. (2009)), citing the intriguing fact that *hani* is historically a wh-word (Akar & Öztürk, 2020; Akar et al., 2020). Although in general LF-PF mismatches are predicted in the Y models of grammar (Chomsky, 1995), our analysis of Q-*hani* clauses as yes-no questions may seem at odds with the observation that Q-*hani* clauses appear to have a wh-question like contour with *hani* bearing phonological prominence. We speculate that *hani* bearing phonological prominence can be explained by the additional piece in the syntax of Q-*hani* clauses, namely the Q morpheme. It could well be that the phonologically prominent *hani*, i.e. HANI is a portmanteau exponent that realizes both *hani* and the Q morpheme. While the Q morpheme is normally realized by the *mI* particle in matrix questions, realizational theories of morphology easily predict that a portmanteau form will bleed a competing bi-morphemic realization. In other words, the fact that Q-*hani* clauses not featuring *mI* is on a par with the portmanteau form *went* in English bleeding the bi-morphemic form \**go-ed*.

## Statements and Declarations

The authors have no competing interests to declare that are relevant to the content of this article.

## Appendix A

Not Applicable

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