

# OBLIGATORY INDEXICAL SHIFT IN TURKISH\*

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## 1. Introduction

Indexicals, (e.g. *I, tomorrow, here*), are expressions which get their semantic meaning from the context in which they are used. For example, (1) illustrates that the English indexical *I* gets its reference from the actual speaker of the utterance.

- (1) Situation to be reported:  
John says: ‘I am a hero.’      I = Speaker, I ≠ Subject  
a. \* John<sub>i</sub> says that I<sub>i</sub> am a hero.  
b. John<sub>i</sub> says that he<sub>i</sub> is a hero.

(Şener and Şener 2011: p. 269)

It is seen in (1) that *I* can only refer to the actual speaker. To refer to subject “John”, the third person pronoun *he* must be used. Indexical Shift, however, is a situation in which an indexical (usually embedded) gets its meaning from a reported speech act, instead of the context of utterance. Even though Turkish has been repeatedly described as a language that allows indexical shifting (Şener and Şener 2011, Özyıldız 2012, Akkuş, 2019), the analyses are quite different. (2) is an example of indexical shifting in Turkish.

- (2) Cenk      bana      [**ben**      Melis’-i      sev-iyorum]      de-di.  
Cenk.NOM    1SG.DAT [1SG.NOM    Melis-ACC love-PRES.1SG]    say-PST  
‘Cenk said to me that **he** loves Melis.’

The indexical *ben* ‘I’ in (2) cannot refer to actual speaker of the utterance, but in contrast, it refers to the subject of the reported context, Cenk. This kind of shift is named obligatory indexical shift, in which the unshifted meaning is unavailable. In addition to this, there are instances in which the referent of the indexical is ambiguous. Such instances are described as optional indexical shift, where the meaning from either the reported or the actual context is available.

The existing literature agrees that Turkish is a language in which indexical shift is observed. However, Şener and Şener (2011) suggests that the availability of indexical shift depends on the form of first person indexical. They propose that null first person *pro* can shift, while overt first person *ben* cannot. In contrast, Özyıldız (2012) and Akkuş

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\* Thanks to the CLA reviewers and virtual audience for their helpful comments and feedback. We would also like to thank the patient consultants who have verified some occasionally very subtle judgements. All errors are our own

(2019) propose that shifted reading is available for overt first person *ben* under the verb *demek* ‘to say’.

In this paper, we introduce a novel set of data related to indexical shift in Turkish, which problematizes Şener and Şener’s (2011) proposal, and we adopt Deal’s (2019) implicational hierarchy of shifting predicates, which suggests that different predicates can select for structures containing different shifting operators.

We provide a background on indexical shift in Turkish in section 2, and introduce novel data in section 3. This is followed by an explanation of Deal’s (2019) proposal and its application on Turkish data in section 4. Additionally in section 4, using traditional diagnostics, we show that clauses that contain indexicals are not instances of quotation, and indexicals under scrutiny are not examples of logophoricity. Section 5 extends the analysis to emphatic elements and the final section concludes the paper by summarizing our findings and proposals.

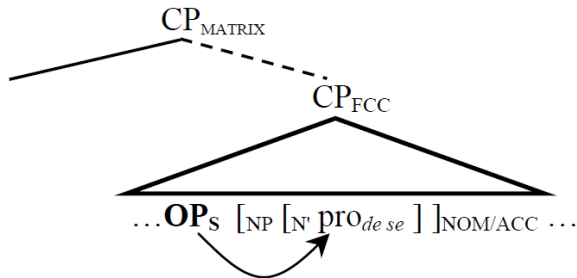
## 2. Background

As mentioned in the previous section, Turkish has been argued to exhibit indexical shifting. However, the sources draw different conclusions with respect to the regulation of indexical shift and the type of shifting observed in Turkish. To begin with, Şener and Şener, first, claim that indexical shift is confined to finite complement clauses (FCC) in Turkish, which means that this phenomenon is not observed in nominalized complement clauses (NCC), similar to Uyghur (Shklovsky and Sudo 2009). To illustrate the contrast, they provide the following examples of NCC as in (3) and FCC as in (4):

- (3) a. Seda [ben-im sınıf-ta kal-dıĝım-ı] san-ıyor.  
 Seda-NOM I-GEN class-LOC flunk-NOML.1SG.POSS-ACC believe-PRES  
 ‘Seda believes that x flunked.’ Shifted Reading: NO  
 Non-Shifted Reading: YES
- b. Seda [pro sınıf-ta kal-dıĝ-ım-ı] san-ıyor.  
 Seda-NOM class-LOC flunk-NOML-1SG.POSS-ACC believe-PRES  
 ‘Seda believes that x flunked.’ Shifted Reading: NO  
 Non-Shifted Reading: YES
- (4) a. Seda [ben sınıf-ta kal-dım] san-ıyor.  
 Seda-NOM I.NOM class-LOC flunk-PST.1SG believe-PRES  
 ‘Seda believes that x flunked.’ Shifted Reading: NO  
 Non-Shifted Reading: YES
- b. Seda [pro sınıf-ta kal-dım] san-ıyor.  
 Seda-NOM class-LOC flunk-PST.1SG believe-PRES  
 ‘Seda believes that x flunked.’ Shifted Reading: YES  
 Non-Shifted Reading: YES  
 (Şener and Şener 2011 : p.272-273)

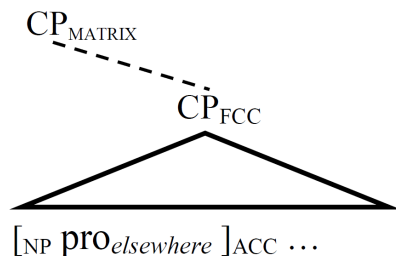
As the example in (3) illustrates, 1<sup>st</sup> person pronominal subjects of NCCs, overt or not, are always interpreted relative to the actual utterance context, while the pronouns in FCCs (4) may receive their value from the reported speech act. Crucially, the examples in (4) reveal that shifting behavior is not just determined by the complement type: both pronouns, *ben* and *pro* in (4), occur in the same type of clause, namely in FCC, however, shifted reading is only available for *pro* in (4b), while it is not for *ben* in (4a). To account for this contrast in (4), they propose that null 1<sup>st</sup> person pronominal subjects of FCC may represent the agent's 1<sup>st</sup> person thought, and they refer to these types of null pronouns as “*pro<sub>de se</sub>*”, which are always phonologically null. According to them, *pro<sub>de se</sub>* is in the scope of context-shifting operator (OPs), therefore OPs “restricts the interpretation of *pro<sub>de se</sub>* to the reported speech act” (p. 279), as depicted in (5) below.

(5)



However, recall from the examples in (3) that not all null pronouns shift in Turkish. Therefore, they propose a new type of pronoun, namely “*pro<sub>elsewhere</sub>*”, which can be either overt or null. *Pro<sub>elsewhere</sub>* is used when the subject pronouns do not represent the agent's thought, and importantly, it cannot be manipulated by the shifting operator (6), which forces it to get its semantic value from the context to which the author of an utterance belongs.

(6)



Given that different pronouns exhibit different characteristics, they claim that what regulates indexical shift in Turkish is the form of the pronoun. On the other hand,

Özyıldız (2012) and Akkuş (2019) claim that 1<sup>st</sup> person pronouns, overt or null, may allow indexical shift, providing the following examples:

(7) Doktor [nasıl hasta-*lan-* *dim* (ben)] *de-di?*  
 Doctor how sick- PASS-PST.1SG (1SG.[NOM]) say-PST.[3SG]  
 ‘How did the doctor<sub>i</sub> say that I/he<sub>i</sub> got sick?’

(8) İnan [ben-*i* nere-*ye* ata-*dılar*] *de-di?*  
 İnan 1SG-ACC where-DAT appoint-PST.3PL say-PST.[3SG]  
 ‘Where did İnan<sub>i</sub> say that they appointed me/him<sub>i</sub>?’

(Özyıldız 2012: p.6)

(9) Tunç Ayşe-’*ye* [patron ben-*i* san-*a* nere-*de* tanış-*tır-acak*] *de-miş?*  
 Tunç Ayşe-DAT [boss I-ACC you-DAT where-LOC meet-CAUS-FUT] say-PST  
 ‘Where did Tunç<sub>i</sub> say to Ayşe<sub>j</sub> that the boss would introduce i. me to you?’

ii. him<sub>i</sub> to her<sub>j</sub>?’

(Akkuş 2019: p.17)

In the examples above, 1<sup>st</sup> person pronouns are claimed to be referentially ambiguous between the speaker of the actual utterance context and the subject of the embedded clause. Therefore, according to these authors, there is no interpretational contrast between null and overt pronouns in Turkish in terms of indexical shift.

In this paper, we attribute this inconsistency in the analyses to the type of matrix verbs under which clauses including indexicals are embedded. For example, Şener and Şener’s (2011) entire account of indexical shift is built on under the verb *sanmak* ‘to think’. Under this verb, different forms behave differently, therefore they generalize this pattern and argue that null subjects in FCC optionally shift. Özyıldız (2012) and Akkuş (2019), on the other hand, investigate indexical shift under the verb *demek* ‘to say’, and based on the examples given above, they claim that indexicals may receive their semantic value from the context of the actual speech or from the reported speech act, regardless of the form. To account for these different predictions, we adopt the proposal from Deal (2019) that different predicates can select structures containing different indexical shift operators. In the next section, we will provide a novel set of data and show how indexicals behave differently depending on the matrix verb used. Additionally, we will demonstrate that locatives and temporals may also shift in Turkish, and crucially, their shifting behavior, together with the pronouns, is in line with Deal’s hierarchy.

### 3. Turkish data

As mentioned in the previous section, we assume that indexical shift depends on the verb type, as the pronouns behave differently depending on the matrix verb. More interestingly, we find that even non-literal usage of the verbs may change the interpretation of the indexicals in Turkish. Consider the following example:

- (10) Sena da [(ben) master yap-ıyorum] san-ıyor.  
 Sena also 1SG master do-PROG.1SG think-PRES.3SG  
 ‘And Sena thinks that she is/ I am having a master’s degree.’

In (10), the verb *sanmak* does not mean ‘to think’ like in the examples in (3) and (4); instead, it means ‘to fool oneself’. Under this non-literal usage, a 1<sup>st</sup> person pronominal subject, overt or null, may be interpreted relative to either the actual context of utterance or the reported speech act. Recall that Şener and Şener (2011) claim that (1) under the very same verb, overt 1<sup>st</sup> person pronouns do not shift, (2) overt *ben* cannot represent the agent’s 1<sup>st</sup> person thought – it is always *pro*<sub>elsewhere</sub> – therefore cannot receive its semantic value from the reported speech act in any case. However, the sentence in (10) indicates that shifted reading is available even though the verb is *sanmak* and the pronoun is overt. Another evidence for our claim comes from the verb *demek*. In the following example, the verb *demek* is used in its non-literal meaning, namely ‘to claim’. Within this sense, a 1<sup>st</sup> person pronoun may optionally undergo shift.

- (11) Ahmet [(ben) kahraman-ım] de-di.  
 Ahmet (1SG) hero-1SG say-PST.3SG  
 ‘Ahmet<sub>j</sub> said I am/ he<sub>j</sub> is hero.’

However, when it is used to mean ‘to say’, which is its literal meaning, again the interpretation of the indexical changes, and the shift becomes obligatory, as shown in (12):

- (12) Ali Aysu’ya [ben sen-i sev-iyorum] de-di.  
 Ali Aysu-DAT I you-ACC love-PROG.1SG say-PST-[3SG]  
 ‘Ali<sub>j</sub> told Aysu<sub>k</sub> that i. he<sub>j</sub> loves her<sub>k</sub>.  
 ii. \*I love you

The pronoun *ben* in (12) cannot refer to the speaker of the context of utterance but has to get its semantic value from the reported speech act. This is surprising, as Özyıldız and Akkuş claim that indexicals optionally shift in Turkish, however, under the literal usage, we observe an obligatory shift.

Not before reported to our knowledge, we find that Turkish *istemek* ‘to want’ also selects an embedded clause with an indexical shift operator. 1<sup>st</sup> person pronominal subjects, overt or null, can receive a shifted meaning under this verb, as shown in (13).

- (13) a. Ali hep [ben kazanay-ım] ist-iyor.  
 Ali always 1SG win-1SG want-PROG.3SG  
 ‘Ali always wants {Ali/me} to win.’  
 b. Ali hep [*pro* kazanay-ım] ist-iyor.  
 Ali always 1SG win-1SG want-PROG.3SG  
 ‘Ali always wants {Ali/me} to win.’

In addition to the pronominals, adverbial indexicals may also be subject to shift in Turkish. In the following sentence, for example, locative indexical *burada* ‘here’ in the embedded clause is ambiguous (assume that the sentence is uttered in Ankara): Ali could be born in either Bursa or Ankara.

- (14) Ali Bursa-da-yken [ben burada doğ-du-m] de-di.  
 Ali Bursa-at-while 1SG here born-PST-1SG say-PST  
 ‘Ali said, in Bursa, that he was born there (in Bursa)/ here (in Ankara).’

In (Table 1), we provide an overall picture of the behaviours of the indexicals in Turkish under various verb types, based on our consultation and judgements.

**Table 1.** Summary of Turkish indexical shifts based on our sample

√!: obligatory √: optional X: no shifted reading

Pronoun type	Predicate				
	‘to say’ <i>demek</i> (literal)	‘to claim’ <i>demek</i> (non-literal)	‘to want’ <i>istemek</i>	‘to think’ <i>sanmak</i> (literal)	‘to fool oneself’ <i>sanmak</i> (non-literal)
Overt 1st person	√!	√	√	X	√
Null 1st person	√!	√	√	√	√
2nd person	√	√	X	X	X
Locative	√	√	√	X	√
Temporal	√	√	√	√	√

While space prevents us from presenting examples for all cases, we see that there is a range of shifting possibilities, where the verb used in the reported speech act determines what can shift in the embedded context. In the next section, we compare these findings to the predictions made by Deal’s (2019) typological analysis, after first applying some common diagnostics to diagnose indexical shift.

#### 4. Analyzing indexical shift

In this section, we present the formal mechanics of our indexical shift analysis. We begin by first presenting evidence that such an analysis is warranted, using well-established diagnostics to show that the sentences we examine are not instances of quoted speech, and neither do they show hallmarks of logophoricity. Then, we introduce the formal mechanisms for analyzing indexical shift developed in Deal (2019). Applying these mechanisms to the data introduced in the earlier sections, we see that while the observed

patterns of shifting are correctly captured, there is some conflict with the predicted availability of *de se* readings.

#### 4.1 Diagnosing indexical shift

Instances of indexical shift are often confusable with quoted speech. This can be shown using the English examples in (15):

- (15) a. The teacher said I assigned a lot of homework  
 b. The teacher said “I assigned a lot of homework”

The meaning difference for English here is clear; in (15a), the pronoun *I* refers uniquely to the speaker of the sentence. In (15b), where the pronoun is in a piece of quoted speech, the pronoun refers to the subject of the higher clause, *the teacher*.

Building on the fact that quotations are islands for *wh*-extraction, Anand and Nevins (2004) propose that *wh*-extraction can be used to diagnose indexical shift. If it is possible to extract from a clause containing an indexical whose meaning does not align with context, then that indexical has shifted in the syntax, and is not part of a quotation. The islandhood of quotation is easily shown with English again:

- (16) \*What did the teacher say “I assigned a lot of”?

Attempting to move out of a quotation, as in (16), is ungrammatical. Applying the same test in Turkish is a bit more delicate, as the language does not have overt *wh*-movement. The closest approximation to the extraction test for Turkish is exemplified in (17):

- (17) Cenk [ben kim-i gör-düm] de-di?  
 Cenk 1SG who-ACC see-PST.1SG say-PST.3SG  
 ‘Who did Cenk<sub>i</sub> say he<sub>i</sub> saw?’

Crucially here, we find that the *wh*-element *kim* has matrix scope, making the sentence interpretable as a direct question about Cenk’s utterance, rather than a declarative statement reporting Cenk’s utterance of a question. Note also from the gloss that the first person pronoun *ben* here is taken to refer to Cenk, another example of obligatory shifting.

Another test for quotations comes in the form of Negative Polarity Item (NPI) licensing. An NPI inside a quotation cannot be licensed by higher clause negation:

- (18) \*The teacher did not say “Jack likes anyone”

(18) shows that quotations are opaque to NPI licensing in English; in (19) we see an example of NPI licensing into a Turkish embedded clause containing a shifted indexical:

- (19) Cenk [ben kimse-yi gör-düm] de-me-di  
 Cenk 1SG anyone-ACC see-PST.1SG say-NEG-PST.3SG  
 ‘Cenk<sub>i</sub> didn’t say that he<sub>i</sub> saw anyone.’

Based on the examples in (17) and (19), we can confidently say that these examples of indexical shift are not quoted speech.

The other possibility to account for is determining whether or not these apparent examples of indexical shift are in fact examples of logophoricity. While the technical implementations of logophoricity can vary (see, for example, Anand (2006) or Charnavel (2019) for options), there is a common set of factors. First, for intra-sentential cases, the logophoric antecedent generally needs to be an attitude holder, and the attitude verb selects an embedded clause headed by a logophoric operator which provides the necessary binding to the logophor. In the examples above, we would need to consider whether the first person pronoun has a dual identity as a bindable logophor. One test for logophoricity, building on the analysis proposed in Anand (2006), relies on the locality of the logophoric binding. Put simply, locality constraints can be imposed on logophoric binding which Deal (2017) proposes as an account for unavailable shifted readings for a null first person *pro* in Misha Tatar. Akkuş (2019) replicates the test for a null *pro* in Turkish, finding that the reading is not blocked:

- (20) Alsu Kemal’e [*pro* [*pro* sen-i sev-iyor-um] diye inan-ıyor-lar]  
 Alsu Kemal-DAT 3PL 1SG 2SG-ACC love-PROG-1SG C believe-PROG-3PL  
 de-di  
 say-PST.3SG  
 ‘Alsu<sub>i</sub> said to Kemal that they believe that she<sub>i</sub> loves you.’ (Akkuş 2019: p.26)

Akkuş reports that the sentence in (20) has a reading where the embedded first person *pro*, detectable by agreement morphology on the most embedded verb, refers to Alsu, across the intervening clause with its own attitude predicate and *pro* subject. We agree with this aspect of Akkuş’ report of the data, along with his other arguments that indexicals with non-contextual readings are not logophors. However, (20) gives us room to go further. Not only do we find the shift of the null *pro* to be obligatory, but we also find the same for the embedded second person pronoun *sen*: this can only refer to Kemal from the highest clause. Not only does this show another example of shifting across multiple clauses, but is an example of Shift Together (Anand and Nevins 2004), a known property of indexical shift that does not have an analogue in logophoricity. Thus, with the elimination of the possibilities of treating the data as either quotations or logophors, we proceed with a formal analysis of these facts in a theory of indexical shift.

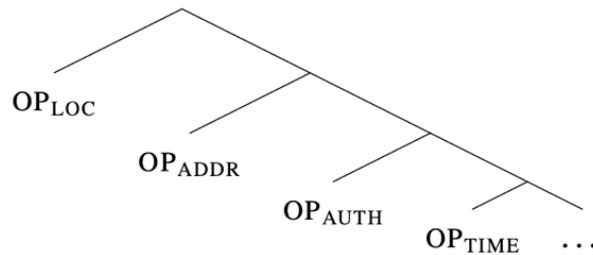


## 4.2 Deal's operator analysis

The formal framework we adopt is that developed in Deal (2019). Before examining the Turkish data in detail, we first outline the key components of Deal's analysis.

As discussed above, different indexicals can undergo shifts in different environments. This has been observed both within and between languages, leading Deal to propose a series of operators which can define a typology of possible and impossible indexical shifting languages. These operators reside at the left periphery of the clause in a fixed hierarchy, shown in (21):

(21)

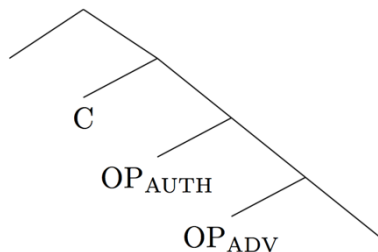


We refer readers to Deal for a full discussion of the semantics of these operators. Informally, these can be understood to overwrite some feature of the contextual evaluation of the material below with some value introduced in the clause selecting these operators. For example,  $OP_{LOC}$  would have the effect of rendering the value of an indexical such as *here* to be the location in which the selecting verb is reported to take place, rather than the location at which the sentence is uttered. This is, in fact, illustrated in example (14). In that sentence, *burada* in the embedded clause is ambiguous. Its contextually-defined reading is that it refers to Ankara, the location of utterance. This is the un-shifted reading. The shifted reading, optionally available, has *burada* referring to Bursa, the reported location of saying in the matrix clause. Under Deal's analysis, this would be the result of an  $OP_{LOC}$  in the CP domain of the lower clause, replacing the contextually-defined location variable's value of Ankara with Bursa; any locative indexicals under the operator would take Bursa as the location index.

The operators are predicted to occur in this fixed hierarchy, such that if any operator in (21) is present, all operators below are also present. This yields the initial prediction that temporal indexicals are the ones most likely to shift, as the  $OP_{TIME}$  can be present without any of the other operators. Next is the  $OP_{AUTH}$  which targets first person pronouns, followed by  $OP_{ADDR}$ , targeting second person pronouns, and lastly  $OP_{LOC}$ , which shifts locative indexicals. However, there are some situations in which only the temporal and locative indexicals shift, and still others where perhaps only first person indexicals shift. To account for this, Deal introduces a fifth operator,  $OP_{ADV}$ , which bundles  $OP_{LOC}$  and  $OP_{TIME}$ .  $OP_{ADV}$  can either appear at the very top or the very bottom of the operator stack. An example of bundling is given in (22), where  $OP_{ADV}$  appears at the bottom of the stack of shifting operators, and  $OP_{ADDR}$  is not projected. This would thus describe a

situation in which first person, temporal, and locative indexicals all shift, but the second person pronoun does not:

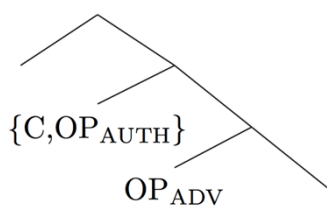
(22)



The bundling of multiple operators into a single head can also account for Shift Together effects, where all indexicals within a given domain are forced to shift to the same reported context (Anand and Nevins 2004).

In (22), the C head of the embedded clause is also shown. The complementizer interacts with the shifting operators in two ways. First, operators may bundle with C:

(23)



As C is considered to be obligatory in the left periphery, such a bundling would make shifting of any first person pronouns in the scope of this operator obligatory. Temporal and locative shifting would remain optional, as would all the shifts enabled in (22). Secondly, the relative positioning of C and the operators predicts the distribution of *de se* (or equivalent for other indexicals) readings. A *de se* reading of a shifted first person indexical is obligatory if the  $OP_{AUTH}$  is at or below C. The equivalent would hold for the temporal and locative indexicals in both structures above. This obligatoriness is only avoided if the relevant operator is above C. Lastly, Deal also proposes a hierarchy of verbs which can select shifting clauses with shifting operators: *speech* > *thought* > *knowledge*. This functions as any implicational hierarchy, where if shifting is observed for any given verb type, one would expect to find shifting for all verbs of types further to the left in the hierarchy. With this in place, we now turn to see how well Turkish fits these predictions.

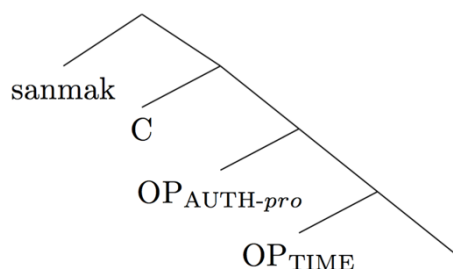
### 4.3 Applying the operator hierarchy

We begin this section with the simplest case, the verb *istemek* ‘to want’, for which we observed optional shifting of all first person, temporal, and locative indexicals. Further,

we note that the shifted first person has a *de se* reading. This suggests that *istemek* selects exactly the structure in (22).

Complications are introduced when we consider the verb *sanmak* ‘to think’. Recall first of all that we found two different patterns depending on the interpretation of the verb. When used in its literal sense of ‘to think’, we observe that only null first person pronouns shift, along with only temporal adverbials. When used in a non-literal sense conveying the meaning of ‘to fool oneself’, the shifting pattern is the same as what was observed for *istemek*, again allowing all adverbials and all first person pronouns to shift, regardless of whether they are null or overt. In all of these cases, the shifting is optional, and the relevant *de se* readings obtain. Thus, perhaps capturing the notion that fooling oneself is closer to a state of wanting, this non-literal use of *sanmak* can also be captured in the structure from (22). The literal use is more complex though. Recall that Şener and Şener (2011) had reported that only null first person pronouns shift based on examples with this verb. In one sense, we do replicate this finding, but the limitation to null forms does not extend to the non-literal sense of the verb, and certainly not to other verbs. To account for the observations with literal *sanmak*, we propose the structure in (24):

(24)

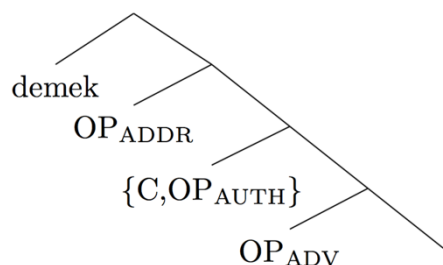


Here, the adverbial operators are not bundled, and only  $OP_{TIME}$  appears at the lowest position. We provisionally propose that  $OP_{AUTH}$  can be augmented with specification for a particular type of pronoun; in this case  $OP_{AUTH-pro}$  will only shift null elements in its scope. A discussion on the implementation of this proposal is held over until Section 6 of the paper. This new development aside though, we see that the range of possible shifts under *sanmak* is easily captured within Deal’s operator hierarchy, and as a verb of thought, it makes sense that literal *sanmak* has more limited shifting, appearing further to the right on the hierarchy of shifting verbs.

Lastly, we turn to the verb *demek* ‘to say’. According to Deal, this is the verb that is most likely to allow indexical shift in its scope, and we do correspondingly find that this verb allows the most elements to shift. In its non-literal use ‘to claim’ we observe that all indexicals can optionally shift. This is consistent either with bundling of the temporal and locative operators into an  $OP_{ADV}$ , or with the unbundled base structure in (21) above. The literal use of *demek* also allows all indexicals to shift, but we find further that first person indexicals, be they null or overt, shift obligatorily under this verb. As discussed above, obligatory shifting is captured through bundling the shifting operator

with the C head. Implementing this, while retaining the fact that shifting of the second person indexicals is optional, yields the structure in (25):

(25)



Here, the low bundle of  $OP_{ADV}$  is proposed partially out of consistency with the other structures, but also because all of the shifting has a *de se* (or equivalent) requirement; a low  $OP_{ADV}$  best captures this. What is most problematic is that in a sentence where a second person pronoun is shifted, a *de te* reading is still required. As shown in (26), when there is a shifted second pronoun taking its value to be the addressee in a higher clause, the situation cannot hold if the coreference is accidental:

(26) Cenk Kemal'e [sen hasta-sın] de-di.  
 Cenk Kemal-DAT you sick-be.PRES say-PST  
 'Cenk said to Kemal<sub>j</sub> that he<sub>j</sub> was sick.'

Here, where Cenk is the reported speaker and Kemal is the reported addressee, the sentence is only felicitous in a context where Cenk is aware that he is speaking to Kemal about Kemal himself, and not under the mistaken impression that he is speaking to Kemal's twin, but referring to Kemal, for example. Unlike in (20), the shift of *sen* here is optional though. So while (20) suggests that the bundling of  $OP_{AUTH}$  seems to include  $OP_{ADDR}$  when both pronouns are present, the second person pronoun only shifts optionally when in isolation. For this reason, we treat them as unbundled.

Given the necessity of separating the  $OP_{AUTH}$  and  $OP_{ADDR}$  operators because of the difference in obligatoriness of shift, the operator hierarchy makes an incorrect prediction. Discussing a similar configuration of operators for Uyghur, Deal (2019) predicts that *de te* should be optional when  $OP_{ADDR}$  is above C. As this is the only piece of evidence where we find a direct challenge to Deal's analysis (setting aside the issue of null versus overt, to which we return in Section 6), we do not find this to be strong enough evidence to discount Deal's theory. Rather, we suggest that it might be the case that a refinement of the exact delineation of the boundary between obligatory and optional *de se* could be explored within Deal's proposed operator hierarchy. It is common to assume that the CP domain is composed of multiple projections, so further exploration of these cases might reveal that the operators interact with a finer structure. Assuming, for example, a Rizzi (1997)-style hierarchy, the obligatoriness of shift could be captured by bundling with the FinP which provides information to the lower clause T head, while the boundary for

obligatory *de se* could be a higher head such as ForceP, where larger discourse properties of the embedded clause are determined. This is speculative at this point, but we believe this could be a fruitful avenue to explore. In the next section, we turn our attention to a form which has received no discussion in prior Turkish indexical shift literature, to our knowledge.

## 5. Emphatic *ben kendim*

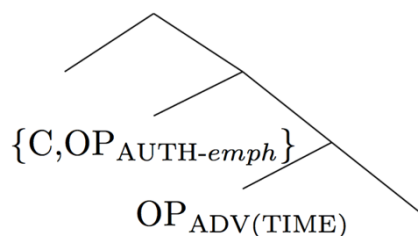
The set of facts from the previous sections have shown that Turkish is a language that allows obligatory and optional shifting. Interestingly, use of emphatic *ben kendim* with the predicates that normally exhibit optional shifting turns the shifting into obligatory shifting.

- (27) a. Ali hep [ **ben** kazanay-ım] ist-iyor.  
 Ali always 1SG win-1SG want-PROG.3SG  
 ‘Ali always wants {**Ali/me**} to win.’  
 b. Ali hep [ *pro* kazanay-ım] ist-iyor.  
 Ali always 1SG win-1SG want-PROG.3SG  
 ‘Ali always wants {**Ali/me**} to win.’
- (28) Ali hep [ **ben kendi-m** kazanay-ım] ist-iyor.  
 Ali always 1SG REFL-1.SG win-1SG want-PROG.3SG  
 ‘Ali always wants {**Ali/\*me**} to win.’

The optionality of the shifted reading with the predicate *istemek* ‘to want’ is shown in (27). The sentences are ambiguous in that the first person indexical, overt (27a) or null (27b), can get its meaning from either the actual speech context or the reported speech act. However, as seen in (28), when emphatic first person *ben kendim* is used with the same predicate, the shifting is obligatory, so, the referent must be from the reported speech act. It is observed that this behavior is not predicate-specific. Addition of emphatic *ben kendim* makes the shifted reading obligatory for all predicates that otherwise have optionally shifted reading. While the addition of *ben kendim* forces a shifted reading, it still obligatorily holds a *de se* reading.

The fact that this specific form of indexical shows a different behavior from others suggest another form-specific operator,  $OP_{AUTH-emph}$ , which only shifts the meaning of emphatic first person indexical. Here, we have more evidence for the idea of having form-specific operators like  $OP_{AUTH-pro}$ , the operator that shifts only *pro* first person indexical. Obligatoriness of the shift suggests that the  $OP_{AUTH-emph}$  is bundled with C. Still supporting Deal’s hierarchy, the structure for  $OP_{AUTH-emph}$  is illustrated in (29).

(29)



## 6. Conclusion

In this paper, we have shown that indexical shift in Turkish is more nuanced than has been discussed in previous literature. Two key conclusions should be taken from our investigations: firstly, it is important to test multiple embedding verbs when diagnosing indexical shift. It's worth noting that we have confirmed some aspects of both Şener and Şener (2011) and Özyıldız (2012), even though those authors seem to reach contradictory conclusions about indexical shift in Turkish. The differences emerge in the fact that each investigates a different embedding verb. Secondly, where our findings depart from both is in our observation that shifting possibilities change depending on the senses of the relevant verbs, *sanmak* and *demek*. Care should be taken when considering this kind of ambiguity. We have also not considered the issues raised in Akkuş (2019) regarding Shift Together patterns. In his paper, he describes the data as coming from a dialect of Turkish, and in many cases, our judgements differ. Isolating the dialectal differences remains for future work.

We have also shown that the operator hierarchy proposed in Deal (2019) is largely compatible with the observed facts, based on the dialect shared by the first two authors of this paper. The largest departure from Deal's analysis is that we are forced to propose form-specific versions of  $OP_{AUTH}$  to account for different behaviours of null first person pronouns, overt *ben*, and the emphatic *ben kendim*. There are two possible implementations of this that we can see, though space limits their possible development. The first is that the operators are literally form-specific in that they somehow selectively impact first person pronouns with certain morphosyntactic features. Assuming the operators c-command the relevant pronouns, it would not be difficult to define some ad hoc feature agreement constraint. A more promising approach would be to exploit the informational differences between the three forms. Null pronouns are generally reserved for topical reference, and in *pro*-drop languages, overt forms tend to take on focal meaning. Augmentation of the pronoun with a reflexive adds an additional layer of emphasis. As we have already proposed that the indexical shift operators may need to interact with a finer CP domain than Deal proposes, it may be possible that there are different information-structural constraints on shifting operators, compatible only with environments that license certain pronominal forms in the clause below. It may also emerge that within a finer CP domain, different operator bundling possibilities would arise, broadening the typology of available optional vs. obligatory shifts, and possible Shift Together combinations. However, while we have found need to make refinements

to the system, there is no data in the observed dialect directly contradicting Deal's implicational hierarchies.

### References

- Akkus, Faruk. 2019. *Un-shifting indexicals*. Unpublished Manuscript.
- Anand, Pranav. 2006. *De De Se*. Doctoral dissertation, Massachusetts Institute of Technology.
- Anand, Pranav and Andrew Nevins. 2004. Shifty operators in changing contexts. In *Proceedings from Semantics and Linguistic Theory 14*, ed. R. Young, 20–37.
- Charnavel, Isabelle. 2019. *Locality and logophoricity: A theory of exempt anaphora*. New York: Oxford University Press.
- Deal, Amy Rose. 2017. Shifty asymmetries: universals and variation in shift indexicality. *Invited talk at Sinn und Bedeutung 22* URL: <http://linguistics.berkeley.edu/~ardeal/papers/Deal-indexicals-2017.pdf>
- Deal, Amy Rose. 2019. *A theory of indexical shift: Meaning, grammar, and crosslinguistic variation*. Cambridge, MA: MIT Press.
- Özyıldız, Deniz. 2012. When I is not me: A preliminary case study of shifted indexicals in Turkish. *Ms, École Normale Supérieure*, 1–11.
- Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. In *Elements of Grammar: Handbook of Generative Syntax*, ed. Liliane Haegeman, 281–337, Kluwer, Dordrecht.
- Sener, Nilufer Gultekin, and Serkan Sener. 2011. Null subject, indexicality in Turkish and Uyghur. In *Proceedings of the 7th Workshop on Altaic Formal Linguistics (WAFL7)*, ed. Andrew Simpson. Cambridge, MA: MIT Working Papers in Linguistics.
- Shklovsky, Kirill, and Yasutada Sudo. 2014. The syntax of monsters. *Linguistic Inquiry* 45:381–402.