

# REVISITING VERBAL REFLEXIVITY: ON THE MORPHOSYNTAX AND ARGUMENT STRUCTURE OF IN DERIVED VERBS IN TURKISH

**Zeynep ERDEMİR**

Res. Asst. Istanbul Medeniyet University, Department of Linguistics,  
Graduate Student, Boğaziçi University, Department of Linguistics, [zeynepferdemir@gmail.com](mailto:zeynepferdemir@gmail.com), ORCID:  
0009-0000-5704-9444

**Ümit ATLAMAZ**

Asst. Prof., Boğaziçi University, Department of Linguistics, [umit.atlamaz@bogazici.edu.tr](mailto:umit.atlamaz@bogazici.edu.tr), ORCID: 0000-  
0003-1657-9654

**Ömer DEMİROK**

Asst. Prof., Boğaziçi University, Department of Linguistics [omerfaruk.demirok@bogazici.edu.tr](mailto:omerfaruk.demirok@bogazici.edu.tr), ORCID:  
0000-0002-2536-5247

Erdemir, Z., Atlamaz, Ü. & Demirok, Ö. (2025). Revisiting verbal reflexivity: On the morphosyntax and argument structure of IN derived verbs in Turkish. In O. Çınar, F. Başbuğ & H. Aydemir (Eds.), *Contemporary studies in linguistics I: IMU Linguistics 15th anniversary commemorative volume* (pp. 117–146). Artsürem. <https://doi.org/10.7816/imuling-15-2025-01X006>

## ABSTRACT

In Turkish, verbal reflexives are formed with two different suffixes, *-İl* and *-In*, as observed in the literature. It has been argued that of these verbs, those derived with the suffix *-İl* express only figure reflexivity; while reflexives derived with the suffix *-In* express ground reflexivity (Key, 2021, 2025). We observe that the *-In* suffix appears in two additional contexts: (i) in building figure reflexivity and (ii) in some unergative verbs that do not express any reflexivity. Based on these observations, we propose that the *-In* suffix is essentially a realization of a verbal head that does not introduce arguments. These non-argument-introducing verbal heads emerge within the context of a head, which we call Ref and propose to be subject to contextual allosemy.

**Keywords:** Verbal reflexivity, Voice, Turkish

## ÖZ

Türkçe’de dönüşlü fiillerin *-Il* ve *-In* olmak üzere iki farklı ek ile türetildiği alanyazında gözlemlenmiştir. Bu fiillerden *-Il* ekiye türetilenlerin yalnızca figür dönüşlülüğü ifade ettiği, *-In* ekiyle türetilen dönüşlülerin ise zemin dönüşlülüğü ifade ettiği savunulmuştur (Key, 2021, 2025). Biz bu çalışmada *-In* ekinin iki ayrı durumda daha görüldüğünü gösteriyoruz: (i) figür dönüşlülüğünün üretiminde ve (ii) dönüşlülük ifade etmeyen bazı özneli geçişsiz eylemlerde. Bu gözlemlerimize dayanarak, *-In* ekinin özünde, argüman getirmeyen fiil başların sesletimi olduğunu ileri sürüyoruz. Bu argüman getirmeyen fiil başlarının, Ref adını verdiğimiz ve bağlamdan anlam koşullanmasına tabi olan başın bulunduğu yapılarda ortaya çıktığını savunuyoruz.

**Anahtar Sözcükler:** Dönüşlü eylemler, Eylem çatısı, Türkçe

## Introduction

This paper examines the verbal reflexive structures in Turkish. There are two primary ways to express reflexive meaning in Turkish. The first one is pronominal reflexives, which involve the Turkish self-anaphor *kendi* as exemplified in (1a)-(2a). The second is verbal reflexives, which derive the relevant argument structure within the verbal domain. Verbal reflexives in Turkish feature the suffixes *-In* or *-Il*<sup>1</sup>.

Although the pronominal and verbal reflexives are often thought to be truth-conditionally equivalent and can indeed be used interchangeably, they have been shown to have different syntactic structures and semantic interpretations (e.g. Akkuş & Paparounas, 2024). The present study sets aside pronominal reflexives and focuses on the syntactic and semantic properties of verbal reflexives in Turkish, as illustrated in (1b) and (2b).

- (1) a. Ayça kendin-i çok öv-dü.  
Ayça self-ACC much praise-PST.3SG  
‘Ayça praised herself too much.’
- b. Ayça çok öv-ün-dü.  
Ayça much praise-**In**-PST.3SG  
‘Ayça praised (herself) too much.’
- (2) a. Ali kendin-i yol-dan çekti.  
Ali self-ACC road-ABL pull.back-PST.3SG  
‘Ali pulled himself back from the road.’
- b. Ali yol-dan çek-**il**-di.  
Ali road-ABL pull.back-**Il**-PST.3SG  
‘Ali pulled himself back from the road.’

---

<sup>1</sup> In this paper, we work within the framework of Distributed Morphology, where affixes are the surface realizations of abstract morphemes, which are syntactic terminals. Throughout, we use *-Il* and *-In* to represent the suffixes and IL and IN to represent the abstract morphemes.

Previous studies on Turkish verbal reflexives observed the intransitive nature of reflexive verbs (Akkuş & Paparounas, 2024) and even argued that reflexive verbs can be distinguished by the suffix that marks them, with *-In* and *-Il* reflexives corresponding to different argument structures (Key, 2021).

The *-Il* suffix, which appears in (2b), has been characterized as the realization of the non-active Voice morpheme IL because it is able to derive reflexive verbs within the verbal domain alongside passive, impersonal, and anti-causative verbs (Taneri, 1993; Göksel, 1993; Nakipoğlu, 1998; Zeyrek, 2006; Gündoğdu, 2017; Key, 2021, 2025). This type of distribution is commonly described as a syncretism, referred to as *u-syncretism* (Embick, 2004), which arises from similar structural properties of the non-active Voice head. This account, also supported by cross-linguistic observations (Spathas et al., 2015; Alexiadou & Schäfer, 2013), offers an explanation for the ambiguities observed among reflexive-passive (3), passive-anticausative (4), and even reflexive-anticausative (5) constructions marked by the morpheme in question.

- (3) Sporcu yarışma-dan çek-**il**-di.  
Athlete competition-ABL pull-**II**-PST.3SG  
Reflexive: ‘The athlete withdrew(oneself) from the competition.’  
Passive: ‘The athlete was withdrawn from the competition.’

- (4) Kapı aç-**ıl**-dı.  
Door open-**II**-PST.3SG  
Passive: ‘The door was opened (by someone).’  
Anti-causative: ‘The door opened (by itself).’

(From Göksel, 1993)

- (5) Adam koyunlar-a tak-**ıl**-dı.  
Man sheep-DAT attach-**II**-PST.3SG  
Reflexive: ‘The man attached himself after a flock of sheep.’  
Anti-causative: ‘The man stumbled over a flock of sheep.’

- (6) Deniz hızlıca giy-**in**-di.  
Deniz quickly wear-In-PST.3SG  
Reflexive: ‘Deniz dressed herself up quickly.’

Although, the analyses in accord with the *u-syncretism* account considers the suffix *-In* an allomorph of the non-active Voice morpheme IL, it has also been observed that verbs marked with the suffix *-In* show no ambiguity, as illustrated in (6), which only has the reflexive interpretation. Thus, most studies consider it as the realization of an independent morpheme responsible for deriving reflexive verbs (Lewis, 2000; Göksel, 1993; Kornfilt, 2013). Lastly, the most recent studies have proposed that the morpheme IN functions as an Applicative-head deriving a specific type of reflexivity called *ground-reflexivity* (Key, 2021, 2025).

The main objective of this study is to present a new set of data that previous proposals for IN derived reflexive verbs fail to capture and show that these data constitute counterevidence to the aforementioned analyses. We then propose an analysis for IN derived verbs that aims to account for the complete set of data in an exhaustive and consistent manner. It is worth noting, though, that IL derived reflexives will remain outside the scope of this work.

More concretely, we make two proposals regarding verbal reflexives, particularly the derivation of IN derived verbs in Turkish. First, contrary to the previous proposals which associated the meaning of reflexivity with a certain morpheme, we argue that reflexivity in verbal structure is derived through a separate reflexivizing head, which we will call Ref-head in this study. Second, the suffix *-In* is in fact the realization of these verbal heads, introducing theta roles within the verbal domain. We argue that while theta-role introducing verbal heads in Turkish are generally null, they are realized by the suffix *-In* when they do not project a specifier, i.e., when they do not introduce any argument in the structure.

This paper is structured as follows: Section 2 introduces how Turkish verbal reflexives are analyzed in the literature. Section 3 presents our observations regarding the IN derived reflexive verbs and discusses their argument structure, guiding us towards an analysis. Section 4 fleshes out the analysis while Section 5 discusses further data, along with the predictions that the proposed analysis makes. Section 6 is the conclusion.

## 2. Previous Approaches to Turkish Verbal Reflexives

### 2.1 Argument structure to Turkish verbal reflexives

It is possible to express reflexivity through various methods, such as accidental coreference (7), pronominal reflexive structures (8) and verbal reflexives (9). While the first two methods observably constitute a transitive structure, verbal reflexives in Turkish have been shown to be syntactically intransitive and semantically monadic (Akkuş & Paparounas, 2024).

- (7) Aristoteles Büyük İskender-in hoca-sın-ı çok  
Aristotle Great Alexander-GEN tutor-POSS.3SG-ACC much  
öv-dü.  
praise-PST.3SG  
'Aristotle praised Alexander the Great's tutor a lot.'

Aristotle = Alexander the Great's tutor

- (8) Aristoteles kendin-i çok öv-dü.  
Aristotle self-ACC much praise-PST.3SG  
'Aristotle praised himself a lot.' Aristotle = himself

- (9) Aristoteles çok öv-ün-dü.  
Aristotle much praise-REFL-PST.3.SG  
'Aristotle praised himself a lot.' Aristotle = AGENT = THEME

This observation is significant because it tells us both types of analysis are possible for verbal reflexive structures. Although these verbs are intuitively perceived as intransitive, crosslinguistic research on verbal reflexive verbs has shown that they can also be analyzed as syntactically transitive and semantically dyadic. In this approach, the derivation usually involves DP-movement and binding between the DP and a reflexive pronoun (Heim & Kratzer, 1998).

Akkuş and Paparounas (2024) demonstrate the intransitive nature of Turkish verbal reflexives through several diagnostics, including proxy readings, ellipsis ambiguities, focus-bound readings, *de dicto* interpretations, and indirect causative structures. Their analysis of intransitive verbs puts forward no binding relation and treats the internal argument as the sole argument of the verb. For transitive reflexives, the DP argument and the reflexive pronoun are distinct entities, and it is possible to manipulate one of the arguments, leaving the other one unaffected.

For reasons of space, we will illustrate the differences between overt anaphors and verbal reflexives, drawing from the examples discussed in Akkuş and Paparounas (2024). Consider the sentences (10a) and (10b) in the given context. In (10a) the embedded clause has a pronominal reflexivity while (10b) features a reflexive verb, lacking an overt pronominal object. The observation is that while (10b) is not judged as true in the given context, (10a) is judged true. This shows that reflexive verbs only permit *de se* construal while pronominal reflexives allow *de re* readings as well.

(10) *Context*: Ali, the leader of a religious cult, must once a year ceremonially wash the oldest member of the community. He hasn't realized that, as of this year, he himself is the oldest member. On the day, he announces: 'I must now wash the oldest member of the community!'

- a. Ali kendini yıka-mak isti-yor.  
Ali self.ACC wash-INF want-PROG  
'Ali wants to wash himself.'
- b. Ali yıka-n-mak isti-yor.  
Ali wash-REF-INF want-PROG  
'Ali wants to wash himself.'

(From Akkuş & Paparounas, 2024)

In the analysis proposed in Akkuş and Paparounas (2024), reflexive verbs are assumed to be unaccusative in their base, underived form, which means that they have only an internal argument as their sole argument. They propose a reflexive variant of the Voice head which they call Voice<sub>REFL</sub>. This head does not introduce an external argument to the structure, but it does assign an AGENT role. The sole DP of the reflexive verb is interpreted in its base position as the internal argument, which naturally carries the THEME role.

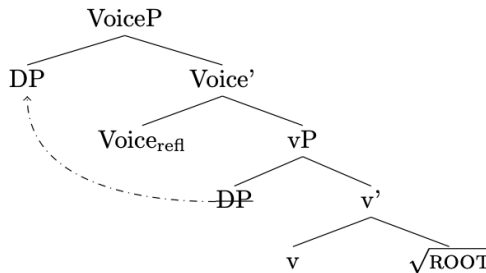
This assumption accounts for the unaccusative-like behavior and intransitivity of Turkish verbal reflexives.

Reflexive meaning arises through the movement of the internal argument to the external argument position. In this way, the single argument of the verb comes to bear both the THEME and the AGENT roles. This movement analysis, although it remains unclear how to interpret the resulting logical form as desired, intends to capture two main points:

- (i) how reflexive meaning is derived compositionally, and
- (ii) how the Turkish verbal reflexives display both unaccusative and unergative behavior under different syntactic diagnostics.

The details of the proposal can be observed more clearly in the syntactic tree illustrated in (11).

(11)



(From Akkuş & Paparounas 2024)

It is also important to note that Akkuş and Paparounas (2024) do not distinguish between IL and IN derived reflexives in terms of the argument structures they are licensed in, applying all their tests uniformly to both types of verbs. The present study, however, will focus on the distinction between IL and IN morphemes, focusing on IN derived verbs.

## 2.2 Reflexive morphology

The reflexive morphemes IL and IN in Turkish have either been analyzed as uniformly with the passive and anti-causative morphemes under the *u-syncretism* account (Embick, 2004) or they have been taken to be distinct morphemes. Key (2021) was the first to argue that Turkish uses these morphemes to build distinct types of reflexivity. He observed that the two suffixes are in fact not entirely in complementary distribution (with respect to the phonological contexts they appear in), as they reveal their underlying forms in post-voiceless context (Table 1). Rather, it appears that there are indeed two distinct suffixes *-Il* and *-In*, whose phonological contrast is neutralized along with {-l}-final and V-final stems.

**Table 1.** Phonological environment of -Il and -In suffixes

Post Vowel		Other	
<i>tka-n</i> (unaccusative)	‘to get clogged’	<i>çek-in</i> (reflexive)	‘to hold oneself
<i>koru-n</i> (reflexive)	‘to protect oneself’	<i>çek-il</i> (reflexive)	back’
		<i>tık-in</i> (reflexive)	‘to pull oneself
		<i>tık-ıl</i> (reflexive)	back’
			‘to get oneself
			stuffed’
			‘to get oneself
			tucked in’
Post /-l/ Phoneme			
<i>del-in</i> (unaccusative)	‘to get pierced’		
<i>sal-in</i> (reflexive)	‘to oscillate’ (lit: to release oneself)		

Building on this observation, Key further identified different argument structures that seem to be dependent on the morpheme that we observe on the verb. Even when the verb stems are identical, the two morphemes can derive reflexive verbs with distinct argument structures. Some of the minimal pairs Key reported are illustrated in (12)-(13).

(12)a. Ahmet ağac-a sar-**ıl**-dı.  
 Ahmet tree-DAT wrap-**REF**-PST.3SG  
 ‘Ahmet hugged (‘wrapped himself around’) a tree.’

b. Ahmet havlu-yu sar-**ın**-dı  
 Ahmet towel-ACC wrap-**REF**-PST.3SG  
 ‘Ahmet wrapped the towel wound himself.’

(13)a. Küçük yatağ-a tık-**ıl**-dım.  
 Small-DIM bed-DAT stuff-**REF**-PST.1SG  
 ‘I stuffed myself into the tiny bed.’

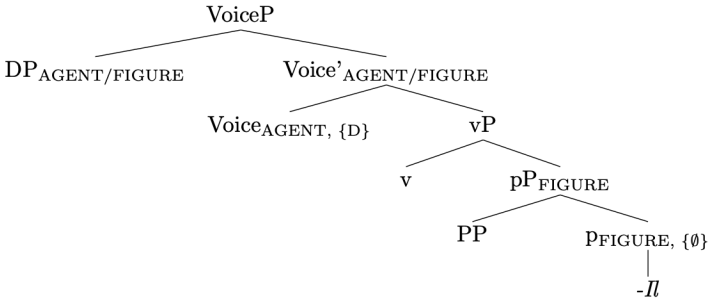
b. Bir şey-ler tık-**ın**-dım.  
 A think-PL stuff-**REF**-PST.1SG  
 ‘I stuffed myself (eating) this-and-that’

(adapted from Key, 2021)

Key’s (2021) analysis draws on the figure-ground distinction (Talmy, 1978). He argues that the IL derived reflexives encode the co-reference between the agent and the figure within the argument structure of the verb. Consequently, the sole argument of such verbs bears both AGENT and THEME roles. In his examples, the reflexive meaning is established between these two roles referring to the same entity *Ahmet* in (12a) and first-person singular in (13a). Following previous works, he referred to this class as *figure reflexives* (Wood, 2023). These verbs are derived from transitive bases and

become de-transitivized once the IL morpheme is attached. The derivation of the figure reflexive verbs can be seen in (14).

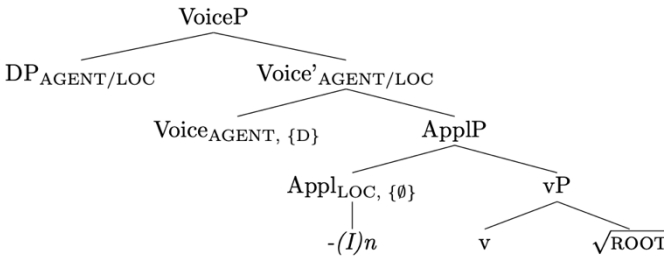
(14) Delayed Gratification for Turkish Figure Reflexives



(From Key, 2021)

In contrast, IN derived reflexives express a co-reference between the agent and the ground on which the motion of the figure applies. The presence of the IN morpheme indicates that an applied argument is introduced to the structure by a specifier-less Appl<sub>[-D, +GROUND]</sub> head bearing a GROUND<sup>2</sup> role (Key, 2025). In this way the GROUND role is assigned to the external argument through a process called Delayed Gratification (15). Thus, the agent and the applied argument end up referring to the same entity. Since reflexivity does not target the THEME in ground reflexives, some IN derived reflexive verbs may also appear as transitive, licensing objects with the THEME role.

(15) Delayed Gratification for Turkish Ground Reflexives/Applicatives



(From Key 2021, 2025)

The Delayed Gratification analysis by Key (2021) successfully captures the distinct behavior of the IN derived reflexives in Turkish, which

<sup>2</sup> Here, the term *ground* serves as an umbrella term for the thematic roles BENEFACTIVE, MALEFACTIVE, and LOCATION (Key, 2025).

the previous accounts could not capture. However, this analysis makes two key predictions regarding IN derived verbs:

- (i) that the Applicative-head in Turkish is realized by an overt morpheme, implying that all IN derived verbs in Turkish should express applied meanings.
- (ii) that the IN reflexives only express ground reflexives but never figure reflexives.

In the following section, we present counterexamples to both predictions and motivate a new analysis to be fleshed out in section 4.

### 3. Against the Analysis of IN as the Exclusive Marker of Ground Reflexivity

Both of the two recent studies on Turkish reflexives reviewed in the previous section agree that reflexive verbs derived with the morpheme IL express *figure reflexivity*, while those derived with the morpheme IN express *ground reflexivity*. While Akkuş and Paparounas (2024) propose to account for this distribution through DP-movement, Key (2021, 2025) introduces a separate Applicative-head to capture the GROUND role expressed in IN reflexives.

In what follows we show that once we look beyond the data that has already been reported, we find patterns that existing analyses fail to account for.

#### 3.1 IN can build figure reflexives

We show that IN derived reflexive verbs do not always express ground reflexivity. In some cases, they can display figure reflexivity (*pace* Key 2021, 2025). In other words, IN derived reflexive verbs in general can encode both agent-ground (16) and agent-theme coreference (17). This can be illustrated by the verb *sürün-* ‘to apply on’ where a single form is ambiguous between a figure and a ground reflexive.

- (16) a. Misafir kendin-e kolonya sür-dü.  
Guest self-DAT cologne apply-PST.3SG  
‘The guest applied cologne on herself.’

- b. Misafir kolonya sür-ün-dü.  
Guest cologne apply-REF-PST.3SG  
‘The guest applied cologne on herself.’

The guest = AGENT = GROUND

- (17) a. Çocuk kendin-i yer-e sür-dü.  
Child self-ACC ground-DAT apply-PST.3SG  
‘The child dragged herself on the ground.’

- b. Çocuk yer-de sür-ün-dü.  
 Child ground-LOC apply-REF-PST.3SG  
 ‘The child dragged herself on the ground.’

The child = AGENT = THEME

Since Key (2025) adopts the u-syncretism account in his analysis of the IL morpheme, the agent-theme relationship of the IL derived verbal structures is consistently accounted for under his approach. However, the Delayed Gratification account, adopted for deriving ground-reflexivity of IN derived verbs, fails to capture the fact that IN derived verbs can also express theme-agent relations. This is so because Key treats the morpheme IN as a realization of an Applicative-head introducing the GROUND role. However, except for a few minimal pairs such as *sürün-* ‘to apply on’, none of the following verbs express an agent-ground relation. A list of the IN derived figure reflexive verbs that we have observed is provided in Table 2<sup>3</sup>.

**Table 2.** A list of IN derived figure reflexive verbs in Turkish

Verbs Stem		Figure Reflexive	
<i>dit-</i>	‘to pick apart’	<i>did-in</i>	‘to wear oneself out’
<i>sürt-</i>	‘to rub’	<i>sürt-ün</i>	‘to rub oneself against’
<i>silk-</i>	‘to shake off’	<i>silk-in</i>	‘to shake oneself off’
<i>ölç-</i>	‘to measure’	<i>ölç-ün</i>	‘to measure one’s height’
<i>sık-</i>	‘to squeeze’	<i>sık-in</i>	‘to squeeze oneself’
<i>yirt-</i>	‘to tear apart’	<i>yirt-in</i>	‘to strive’ (lit: to tear oneself apart)
<i>sak-</i> (bound)	‘hidden’	<i>sak-in</i>	‘to refrain oneself’
<i>çek-</i>	‘to pull’	<i>çek-in</i>	‘to hesitate’ (lit: to hold oneself back’)
<i>kas-</i>	‘to tighten	<i>kas-in</i>	‘to swagger’ (lit: to straighten one’ posture)
<i>kaç-</i>	‘to run away’	<i>kaç-in</i>	‘to avoid’
<i>çarp-</i>	‘to whisk’	<i>çarp-in</i>	‘to flounder’ (lit: to whisk oneself)
<i>döv-</i>	‘to beat up’	<i>döv-ün</i>	‘to beat one’s chest’
<i>yak-</i>	‘to burn’	<i>yak-in</i>	‘to whimper’ (lit: to burn oneself)
<i>ger-</i>	‘to stretch’	<i>ger-in</i>	‘to stretch oneself out’
<i>ov-</i>	‘to scrub’	<i>ov-un</i>	‘to scrub oneself’
<i>sil-</i>	‘to wipe’	<i>sil-in</i> <sup>4</sup>	‘to wipe one’s body’
<i>sür-</i>	‘to apply on’	<i>sür-ün</i>	‘to crawl’ (lit: to apply oneself to the ground)
<i>vur-</i>	‘to hit’	<i>vur-un</i>	‘to hit oneself’

<sup>3</sup> For the verbs list on Table 2, the following studies on Turkish verbal reflexives literature are consulted such as Arslan, 2022; Baturay-Meral & Meral, 2018; Koşaner, 2005; Gülsevin, 2022; Üstünova, 2016 in addition to our own observations.

<sup>4</sup> Since post *-l-* phoneme is an undistinctive environment the underlying form of the suffix could be interpreted as *-ll* which can also result in the passive meaning ‘to get erased’. The reflexive verb *silin-* here is specifically used for ‘getting a shower through wet wipes’ in daily language.

---

<i>tep-</i>	‘to kick’	<i>tep-in</i>	‘to stamp oneself on the ground’
<i>gör-</i>	‘to see’	<i>gör-ün</i>	‘to make oneself visible’
<i>öv-</i>	‘to praise’	<i>öv-ün</i>	‘to praise oneself’
<i>kır-</i>	‘to break’	<i>kır-in</i>	‘to perform a dance’ (lit: to break oneself)

---

Notably, most of these verbs do not even contain any ground arguments, which challenges Key’s claim that IN is an Applicative-head that introduces a ground argument to the structure. Putting that aside, the DP-movement analysis could in principle account for these verbs without any ground arguments. Nevertheless, the DP-movement cannot derive figure reflexives containing a ground argument, as the argument introduced by Applicative-head would cause an intervention in the structure between the agent and the theme arguments. These are verbs like *sürtün-* ‘to rub oneself against’ and *tepin-* ‘to stamp oneself on the ground’ in which a ground argument is licensed. Examples such as (18)-(19) have ground denoting DPs like *duvar* ‘a wall’ or *masa* ‘a desk’; however, crucially they do not encode any agent-ground relation.

- (18) *Kedi duvar-a sürt-ün-dü.*  
 Cat wall-DAT rub-REF-PST.3SG  
 ‘The cat rubbed itself against the wall’

The cat = AGENT = THEME

- (19) *Öğrenci masa-da tep-in-di.*  
 Student desk-LOC kick-REF-PST.3SG  
 ‘The student stamped on the desk.’

The student = AGENT = THEME

Given that the existing analyses fail to account for the fact that IN derived reflexives can express both figure and ground reflexivity, a comprehensive analysis capturing the more complex distribution indicated by the complete set of data is lacking.

### 3.2 IN does not always encode reflexivity

The IN morpheme does not necessarily occur solely within the structures which we conventionally perceive as reflexives (see section 4 for the complete set of data). To illustrate, the example in (20) does not convey the reflexive meaning (neither figure nor ground) even though it appears to be marked with the *-In* suffix on the surface. Since direct objects of verbs are marked with an Accusative Case in Turkish (Kornfilt, 2013; Lewis, 2000), the transitive verb *gez-* ‘to visit’ in (20) expectedly has an accusative-marked internal argument. However, *gez* ‘visit’ → *gez-in* ‘to wander’ clearly de-transitivizes the verb, as it is ungrammatical to express direct objects within the structure. Here, the sentence (21) does not refer to a specific ground on

which the students wandered upon. The data further indicates that the presence of IN correlates with another purpose rather than a reflexivizing function, which needs to be discussed more thoroughly.

- (20) Öğrenci bahçe-yi gez-di.  
 Student garden-ACC wander-PST.3SG  
 ‘The student visited the garden.’

- (21) Öğrenci (\*bahçe-yi) gez-in-di.  
 Student garden-ACC wander-In-PST.3SG  
 ‘The student wandered (*intended*: in the garden).’

Two inferences can be drawn from this. First, the morpheme IN seems to be altering the argument structure of the verb, implying that internal argument is no longer syntactically expressed. It is also important to notice that this is a common property it shares with the IN forms that are genuinely reflexive. Second, the data provides strong evidence that the function of the morpheme IN and the reflexivizing function must be handled separately from one another. In section 4, we present an analysis that accommodates both inferences.

#### 4. Proposal: Deriving IN Verbal Structures in Turkish

In this section we provide a novel analysis that accounts for the distribution of the IN morpheme as well as its functions that previous analyses fail to capture. This section is structured as follows. First, we provide the structure we assume for canonical transitive verbs in Turkish. Second, we show the derivation of the IN derived reflexives. Next, we provide an analysis of non-reflexive IN verbs in Turkish, which we will call IN unergatives. Some predictions of the proposal are discussed in Section 5.

##### 4.1 IN figure reflexives

For our analysis, adopting the Neo-Davidsonian framework (Davidson, 1967), we assume all verbs to denote predicates of events regardless of how they are classified conventionally in terms of their transitivity (22).

- (22) a.  $\llbracket \text{ÖV} \rrbracket = \lambda e. \text{praise}(e)$   
 b.  $\llbracket \text{GİY} \rrbracket = \lambda e. \text{wear}(e)$   
 c.  $\llbracket \text{SÜRT} \rrbracket = \lambda e. \text{rub}(e)$

In addition, we assume that all arguments form thematic relations with the event via verbal heads introduced to the structure (Borer, 1994). The AGENT role is introduced by the Voice-head and thematic roles such as THEME or GROUND are by  $v_{\text{theme}}$  and  $v_{\text{appl}}$  heads respectively (23). The denotations of these heads are provided below.

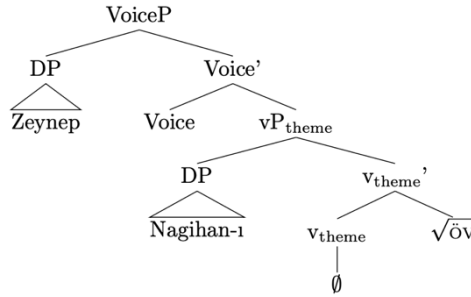
- (23) a.  $\llbracket \text{Voice} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{agent}(e) = x$

- b.  $\llbracket v_{\text{theme}} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{theme}(e) = x$   
 c.  $\llbracket v_{\text{appl}} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{ground}(e) = x$

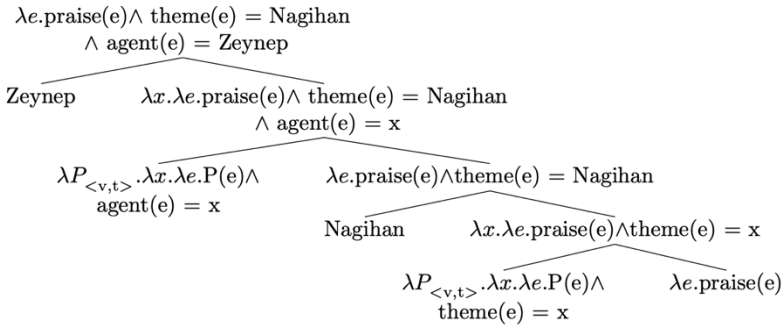
With all these assumptions in place, we go over the syntactic representation (25) and the semantic derivation (26) of the sentence in (24) that features a transitive verb.

- (24) Zeynep Nagihan-ı öv-dü.  
 Zeynep Nagihan-ACC praise-PST.3SG  
 Zeynep praised Nagihan.'

(25)



(26)



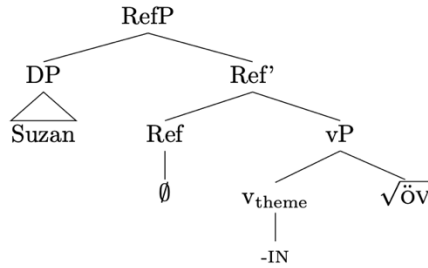
The verbal root *öv*- ‘praise’ combines with the  $v_{\text{theme}}$  head that both equips the verb with the THEME role in semantic derivation and opens a specifier position in syntax for an argument that will acquire that role. This way *Nagihan* is introduced to the structure as an internal argument. The same is true for the external argument *Zeynep*, which saturates the AGENT role that the Voice head introduces. It is important to notice that  $v_{\text{theme}}$  head is null here, thus the verb is not marked with any suffix indicating a change in valence on the surface (27).

- (27) a.  $\llbracket v_{\text{theme}} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{theme}(e) = x$   
 b.  $\llbracket v_{\text{theme}} \rrbracket \leftrightarrow \emptyset$

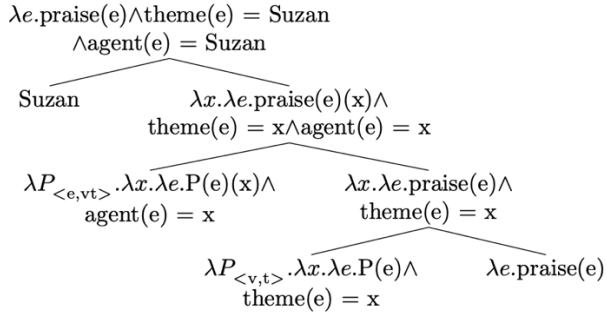
As for IN derived verbal reflexives, we assume their syntactic intransitivity and semantic monadicity, following Akkuş and Papparonas (2024). A sentence containing one of the IN derived figure reflexive verbs we have shown in the previous section is given in (28). Here, the verb *övün-* expresses the event of praising oneself. The syntactic representation (29) and the semantic composition (30) of the sentence are also provided below.

- (28) Suzan öv-ün-dü.  
 Suzan praise-IN-PST.3SG  
 ‘Suzan praised herself.’

(29)



(30)



As in the previous structure, the verb is combined with the head  $v_{\text{theme}}$  and gains the THEME role thanks to it. However, unlike what we saw with the transitive structure, no DP is introduced into  $\text{Spec-}vP_{\text{theme}}$ . We propose that the key piece that establishes the reflexive meaning is what we call the Ref-head, which combines with  $vP_{\text{theme}}$ .

This analysis of IN derived verbs aims to account for the occurrence of the IN morpheme indirectly. In particular, we associate the occurrence of IN morpheme with the presence of a null reflexivizer head in the structure

which we call Ref<sup>5</sup>. The denotation of the Ref-head is given in (31). Notably, the Ref-head is always null.

- (31) a.  $\llbracket \text{Ref} \rrbracket = \lambda P_{\langle e, vt \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{agent}(e) = x$   
 b.  $\llbracket \text{Ref} \rrbracket \leftrightarrow \emptyset$

As the Ref-head combines with an unsaturated  $vP_{\text{theme}}$ , its complement remains specifier-less. Consequently, the THEME role is not, at this point, identified with any argument. This pattern, we argue, results in a contextual allomorphy among  $v$ -heads. When they do not express their argument overtly in the syntax, they are spelled out as IN and when they do, they are realized by a null exponent (32). The separation of the reflexivizing function and the morpheme IN was one of the main points motivating our analysis. The Ref head makes this possible, not only mediating the contextual allomorphy in how the  $v$ -head is realized but also establishing identity between an unsaturated thematic role and an agent of the event.

- (32) a.  $\llbracket v_{\text{theme}} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{theme}(e) = x$   
 b.  $\llbracket v_{\text{theme}} \rrbracket \leftrightarrow \text{-IN/ \_\_\_} \llbracket \text{Ref} \rrbracket$   
 c.  $\llbracket v_{\text{theme}} \rrbracket \leftrightarrow \emptyset$  (elsewhere)

A key property of the Ref-head we propose is that it introduces the AGENT role. In particular, the Ref-head takes a function from individuals to predicates of events and asserts that the argument position to be filled by the sole argument of the verb is also the AGENT of that event. Thus, it makes the external argument to fill a position on which it is associated with both AGENT and THEME roles at the same time. For example, the [Spec, RefP] is filled by *Suzan* in (30) and the whole structure is interpreted as follows: *there is a praising event whose theme is Suzan and whose agent is Suzan*. These are the correct truth-conditions, capturing the agent-figure reflexivity. It is also important to notice that our analysis, incorporating the Ref head, assumes the viability of agentive structures without a VoiceP layer on top.

In the next part of this section, we discuss the properties of the ground reflexives which are also marked through the same IN morpheme.

#### 4.2 Turkish ground reflexives

We have shown how Turkish can derive IN derived figure reflexives in the previous section. However, the ground reflexivity is what previous studies have observed when it comes to the IN derived verbs that allow reflexive reading. Recall that Key (2021, 2025) argues that IN realizes an Applicative-head. While acknowledging his observation regarding the relation between IN morpheme and ground reflexivity, we argue that our observations necessitate a more comprehensive approach to the verbal heads in Turkish.

---

<sup>5</sup> We will later extend the Ref feature to the analysis of the IN unergatives, arguing for a variation in its meaning.

We argue the IN morpheme found on ground reflexive verbs to be projection of another  $v$ -head, the  $v_{\text{appl}}$  head to be specific (as suggested by Key), that renders the expression of the applied argument in the structure possible. The denotation for the  $v_{\text{appl}}$  is given in (33a). This head, too, is spelled out as IN in the context of the Ref-head. Recall that the context in which the Ref is licensed are also the contexts where we have spec-less  $v$ Ps. This is simply another environment where this situation arises.

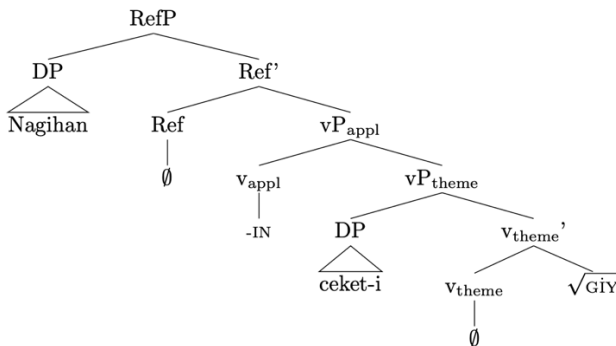
- (33) a.  $\llbracket v_{\text{appl}} \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda x. \lambda e. P(x)(e) \wedge \text{ground}(e) = x$   
 b.  $[v_{\text{appl}}] \leftrightarrow \text{-IN/} \_\_\_ [\text{Ref}]$

The ground reflexive meaning expressed in sentence (34) is derived in a similar manner. The verb *giyin-* ‘to dress oneself’ expresses ground reflexivity, which means the sole argument in this structure bears the AGENT and GROUND roles. This sentence additionally contains a THEME argument. As it can be observed from the semantic derivation in (36), the verb *giy-* ‘to dress up’ respectively gains the THEME role introduced by the  $v_{\text{theme}}$ -head which the internal argument *ceket* ‘the jacket’ saturates.

- (34) Nagihan ceket-in-i giy-in-di.  
 Nagihan jacket-POSS-ACC wear-IN-PST.3SG  
 ‘Nagihan dressed herself with her jacket.’

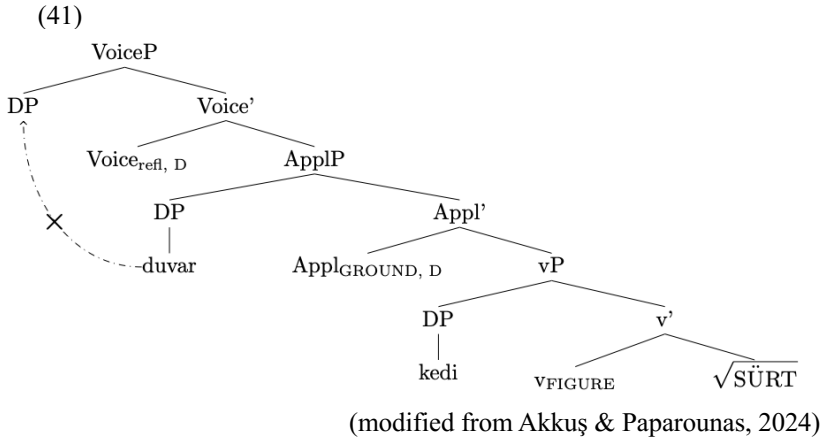
Next, the  $vP_{\text{theme}}$  is attached to  $v_{\text{appl}}$  introducing the GROUND role. Since the Ref-head is present, the specifier-less  $v_{\text{appl}}$  head is realized as IN here, as well. Lastly, the Ref-head attaches to the structure, and it re-defines the argument position to bear the roles AGENT and GROUND. At the end of the derivation, ground reflexivity is interpretable in the structure (36) as follows: *There is an event of wearing whose theme is the jacket and whose agent and ground is Nagihan.*

(35)









### 4.3. The IN unergatives

The two previous parts of this section discussed the syntactic structure and derivation of reflexive verbs marked with IN morpheme. The present study aims to include an analysis of IN derived verbs that are not reflexive that we reviewed in Section 3. Recall that there are a certain set of verbs marked with IN in Turkish, that are not expressing any reflexive meaning in the sense we described above.

- (42) a. Suzan bahçe-yi gez-di.  
 Suzan garden-ACC visit-PST.3SG  
 ‘Suzan student visited the garden.’
- b. Suzan gez-in-di.  
 Suzan visit-IN-PST.3SG  
 ‘Suzan wandered.’

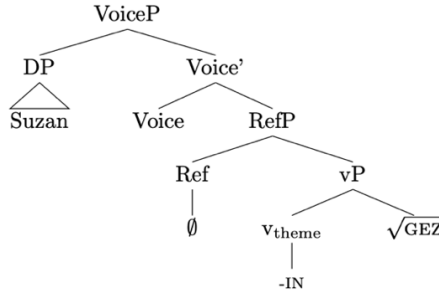
Our analysis for these structures will extend the function of the Ref-head and argue for root-sensitive contextual allosemy in the interpretation of the Ref-head. A complete list of these verbs is given in Table 3 below. In these structures, the Ref does not hold the reflexivizer function but an (anti)passive-like existential semantics. Hence, the Ref-head will have an alternative semantic denotation in the context of a certain class of roots, as shown in (43).

- (43)  $\llbracket \text{Ref} \rrbracket = \lambda P_{\langle e, vt \rangle}. \exists x. \lambda e. P(x)(e) / \_ \{ \text{BAK, GEZ, TAP, DEÇ, EŞ, SÖYLE, BAĞIR} \}$

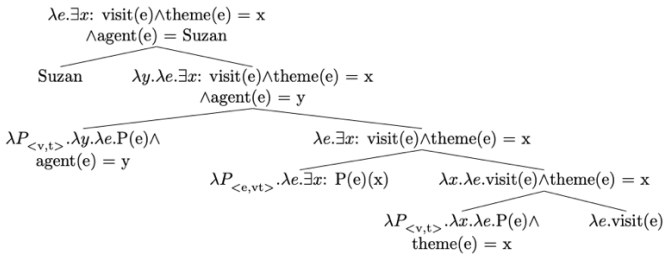
We previously argued for the emergence of IN morpheme in the environment of the Ref-head and these examples do not constitute counterexamples. The  $v_{\text{theme}}$  head does not project the argument within the structures that contain the Ref head and is therefore spelled out as IN, as it can be more clearly observed in the syntactic representation of the sentence (42b).

Like its role in reflexives, the Ref-head introduces an argument into the structure when deriving the IN unergatives in (45). However, instead of assigning the AGENT role, Ref-head existentially binds the argument, preventing it from projecting as a full DP. This mechanism resembles what we observe in passive and anti-passive structures, in which an argument role is semantically present but does not correspond to a DP that saturates that role. Consequently, speakers perceive the internal argument to be more generalized or abstract, which existential saturation captures.

(44)



(45)



**Table 3.** A list of IN unergative verbs

Verbs Stem		IN Unergatives	
<i>bak-</i>	‘to look at’	<i>bak-in</i>	‘to seek’
<i>tap-</i>	‘to adore’	<i>tap-in</i>	‘to worship a deity’
<i>değ<sup>6</sup>-</i>	‘to touch’	<i>değ-in</i>	‘to mention’
<i>bağır-</i>	‘to shout at’	<i>bağır-in</i>	‘to scream’
<i>eş-</i>	‘to dig up’	<i>eş-in</i>	‘to scratch’
<i>gez-</i>	‘to travel’	<i>gez-in</i>	‘to wander’
<i>söyle-</i>	‘to tell’	<i>söyle-n</i>	‘to complain’ (lit: to tell something without an audience)

<sup>6</sup> The verb *değ-* ‘to touch upon something’ could be both used as physically or abstractly in terms of its meaning.

To summarize, in this section, we provided an analysis of the syntactic structures and semantic derivations of IN derived verbs in Turkish. We introduced a head which we called Ref, to exhaustively generate reflexive meanings in these verbs. We also associated the overt spelling of the IN morpheme not directly with the Ref but with its presence in the structure. More generally, our analysis therefore takes IN to be the realization of spec-less  $\nu$ -heads (which can arise in the context of the proposed Ref-head). We also extended our analysis to what we called IN unergatives, arguing that they arise from a contextually available alternative existential/non-reflexive interpretation of the Ref-head.

Our analysis, while comprehensively accounting for our current data set, also makes some predictions, which we discuss in some detail in the next section.

## 5. Predictions & Discussion

Section 4 presented our analysis of IN derived verbs. The present section discusses the empirical predictions following from our analysis and examines how the new set of data is accounted for within the proposed framework. Based on the data, we have sufficient evidence to suggest that reflexive verbs in Turkish exhibit distinct syntactic structures depending on the morpheme with which they are derived. In this section we discuss our current data set more closely and illustrate their properties accordingly with the predictions made by our analysis.

### 5.1 The IN figure reflexives

In our analysis the morpheme IN realizes ‘expletive’ verbalizer heads, which do not introduce an argument into the structure<sup>7</sup>. We have also shown that this same  $\nu_{[-D]}$ -head may exhibit an allosemantic variation, introducing either a THEME or a GROUND role depending on its context. In the context of the verb roots that are of the un-reflexivizable type, the Ref head functions to suppress their internal argument by existentially saturating it. In the presence of this version of the Ref-head which does not introduce the AGENT role, we expect the derivation to include an active VoiceP layer that introduces an external argument bearing the AGENT role. If a verb root is of the reflexivizable type, the Ref-head in its interpretation introduces the AGENT role to the relevant DP argument it introduces to the structure in its spec. In both cases, the resulting IN derived verbs are predicted to behave as intransitive verbs and to exhibit unergative properties, as no internal argument introduced by the  $\nu$ -head is in the structure.

So far, we have assumed that Turkish verbal reflexives are single-argument verbs, as clearly demonstrated by Akkuş and Paparounas (2024) and this is not a property that depends on the morpheme that derived them. What

---

<sup>7</sup> The term ‘expletive’ here is defined as a syntactic head that does not project an argument to its Spec position. This does not apply to the semantic properties of the verbal heads mentioned here as both the  $\nu_{\text{theme}}$  and  $\nu_{\text{appl}}$  opens an argument slot in the semantic derivation.

remains to be determined is the nature of the single argument of the IN derived verbs and the position of this sole argument within argument structure. Following the methods adopted in previous literature (Sezer, 1991; Nakipoğlu 1998, 2001; Acartürk & Zeyrek 2010; Özkaragöz, 2011; Baturay-Meral & Meral, 2018; Kornfilt, 2009; Dikmen et al., 2022), we can apply several tests to examine whether these verbs display unergative or unaccusative behavior.

Examining an asymmetry in the distribution of genitive subjects in nominalizations provides a way to test the presence of an external argument in Turkish verbal structure (Kornfilt, 2009; Dikmen et al., 2022). Under this test, nonspecific subjects of embedded (nominalized) unaccusative verbs can remain caseless (or get genitive marking). However, with unergative verbs, subjects are ungrammatical in their caseless forms and must bear the genitive case as in (46).

Sentences formed with an unaccusative verb such as *boğul-* ‘to drown’ allows both bare noun subjects and genitive marked subjects in the embedded clause. In contrast, the IN-figure reflexives display another pattern: while the genitive marked embedded subjects are grammatical (46c), bare noun subjects render the sentence ungrammatical (46d). This pattern provides evidence that IN derived verbs all need to include an argument that bears the AGENT role, namely either an active VoiceP layer, or a RefP layer that maps an argument to the AGENT role, as also proposed in the current analysis.

(46) Geçen ay bu havuz-da,  
Last month this pool-LOC  
‘Last month in this pool,’

a. bir yüzücü boğul-duğ-un-u duy-dum.  
a swimmer drown-NMLZ-POSS-ACC hear-PST.3SG  
‘I heard a swimmer drowned.’

b. bir yüzücü-nün boğul-duğ-u-nu duy-dum.  
a swimmer-GEN drown-NMLZ-POSS-ACC hear-PST.3SG  
‘I heard a swimmer drowned.’

c. \*bir yüzücü çırp-ın-dığ-ı-nı duy-dum.  
a swimmer whisk-IN-NMLZ-POSS-ACC hear-PST.3SG  
‘I heard a swimmer floundering.’

d. bir yüzücü-nün çırp-ın-dığ-ı-nı duy-dum.  
a swimmer-GEN whisk-IN-NMLZ-POSS-ACC hear-PST.3SG  
‘I heard a swimmer floundering.’

When talking about reflexivization more generally, we observe that all verbal reflexives in Turkish are encoding agency semantics, regardless of the morpheme they are derived with. Consequently, both types can successfully pass the diagnostics used for agency semantics. However, only IN derived reflexives seem to have an external argument in their syntactic

structure. Reflexive verbs derived with the non-active Voice morpheme IL, by contrast, lack such a projection.

One way to demonstrate this difference is through observing their behavior under causativization, as verbs with a non-active Voice layer cannot be further causativized. This restriction is consistent with the fact that the non-active Voice morpheme, also found with passives, impersonal passives and anticausatives, also projecting a non-active Voice layer, blocks additional causativization in the structure. The IL derived reflexives are no exception to this pattern (Key, 2025). As predicted, they cannot undergo causativization because the external argument is not present in the argument structure and thus cannot further function as a causee (47)-(48).

(47) a. Piriç toprak-tan (Zeynep tarafından) ayr-ıl-dı.  
Rice ground-ABL Zeynep by separate-II-PST.3SG  
'The rice was separated (by Zeynep) from the ground.'  
[passive]

b. \*Asemin pirinc-i toprak-tan (Zeynep tarafından) ayr-ıl-dır-dı.  
Asemin rice-ACC ground-from Zeynep by separate-II-  
CAUS-PST.3SG  
'Asemin made the rice be separated from the ground by  
Zeynep.'  
[causativized passive]

(48) a. Turistler otel-den ayr-ıl-dı.  
Tourists hotel-ABL separate-II-PST.3SG  
'The tourists left (separated themselves) from the hotel.'  
[reflexive]

b. \*Otel sahibi turistler-i otel-den ayr-ıl-dır-dı.  
Hotel owner tourists-ACC hotel-ABL separate-II-CAUS-  
PST.3SG  
Intended: 'The hotel owner made the tourists leave the hotel'  
[causativized reflexive]

In contrast, we observed the IN derived figure and ground reflexives lack an overt or a specific internal argument in their structure. These verbs may appear de-transitivized on the surface. However, this does not indicate the presence of a non-active Voice head or a demoted external argument. In fact, IN verbs retain their external argument and associated projections and therefore can undergo causativization without restriction. Their apparent intransitivity results from *v*-head layers within the verbal domain, which prevents the introduction of a *v*P-internal argument. Accordingly, it is entirely expected that these verbs surface as intransitive while remaining causativizable, as illustrated in (49).

- (49) Satıcı müşteri-yi alışveriş-ten çek-in-dir-di.  
Seller customer-ACC shopping-ABL pull-IN-CAUS-PST.3SG  
'The seller made the customer hesitate (hold oneself back) from shopping'

In the next section, we turn to non-reflexive IN derived verbs in Turkish and argue that they pattern with unergatives, as predicted under our analysis.

## 5.2 The IN unergatives

The verbs in the examples (50) and (51) pointed to another type of IN derived verb in which reflexive meaning is not conveyed. These structures, just like the IN figure and ground reflexives, have a *v*-head that does not project a DP argument. However, we hypothesized that the Ref-head has a distinct meaning in this case.

- (50) Öğrenci bahçe-yi gez-di.  
Student garden-ACC wander-PST.3SG  
'The student visited the garden.'
- (51) Öğrenci (\*bahçe-yi) gez-in-di.  
Student garden-ACC wander-IN-PST.3SG  
'The student wandered in the garden.'

In sentence (50), the verb *gez-* 'to visit' expresses an event performed on a specific ground. However, its derived intransitive counterpart *gezin-* 'to wander' is ungrammatical with the accusative case marked argument, that is the direct object. This indicates that the ground on which the action is performed cannot be specified within the argument structure. Like other figure and ground reflexives derived with IN, these verbs have intransitive syntactic structures and exhibit agentive semantics when tested.

- (52) \*Dün bu park-ta bir öğrenci gez-in-diğ-i-ni  
Yesterday this park-LOC a student visit-In-NMLZ-POSS-ACC  
duy-dum.  
hear-PST.3SG  
'I heard that a student was wandering at this park yesterday.'
- (53) Öğretmen öğrenciler-i bahçe-de gez-in-dir-di.  
Teacher students-ACC garden-LOC visit-In-CAUS-PST.3SG  
'The teacher made the students wander in the garden.'

As mentioned earlier, the allosemantic variant of the Ref-head does not introduce an AGENT role or an additional argument into the verbal structures; it simply existentially binds the internal argument. Thus, it is convenient to argue for a VoiceP layer within this structure, unlike reflexives. The results from the embedded nominalization test support this prediction (52): like IN reflexives, IN derived unergatives require their subjects to bear the Genitive

Case in the embedded environments. Furthermore, these verbs can be causativized as shown in (53), just like other figure and ground reflexives and unlike the IL derived verbs. This finding reinforces the claim that IN verbs have agentive semantics and patterns both syntactically and semantically with unergatives.

### 5.3 The base root transitivity

Our current analysis on IN morpheme makes another key prediction. Regarding the IN derived figure reflexives, all the verb roots discussed so far have been conventionally considered as transitive. However, strictly speaking, IN morpheme should not function as a de-transitivizer, as we have previously stated. Within the theoretical framework adopted in this study, we assume that verb roots are not lexically encoded as requiring a specific argument structure. Therefore, as shown in Table 4 below, we predict that it is possible to derive IN figure reflexives from verb roots that would normally be considered intransitives, as predicted under our current analysis.

**Table 4.** A list of figure reflexive verbs derived from unaccusative verb stems

Verb Stem		Figure Reflexive	
<i>kuru-</i>	'to dry'	<i>kuru-n</i>	'to dry oneself'
<i>şiş-</i>	'to swell out'	<i>şiş-in</i>	'to boast oneself' (lit :to make oneself swell out)
<i>uza-</i>	'to extend'	<i>uza-n</i>	'to reach forth'
<i>sığ-</i>	'to fit in'	<i>sığ-in</i>	'to take shelter in' (to make oneself fit in)
<i>çöz-</i>	'to solve'	<i>çöz-ün</i>	'to dissolve'
<i>boz-</i>	'to ruin'	<i>boz-un</i>	'to decay'
<i>geç-</i>	'to pass by'	<i>geç-in</i>	'to make living' (lit: to make oneself pass from one day to the other)
<i>kalk-</i>	'to get up'	<i>kalk-in</i>	'to develop, to progress' (lit: to get oneself up)

To discuss some concrete examples, the verb roots *kuru-* 'to dry', *şiş-* 'to swell out' and *uza-* 'to extend' are unaccusatives in Turkish, all denoting a change-of-state and having their sole argument bearing the THEME role. Therefore, in transitive versions of these verbs, such as example (54), the causative morpheme introduced by the Voice head can be observed in the structure (55).

- (54) Suzan çekirdekleri kuru-**t**-tu.  
 Suzan seeds.ACC dry-CAUS-PST.3SG  
 'Suzan dried the seeds.'

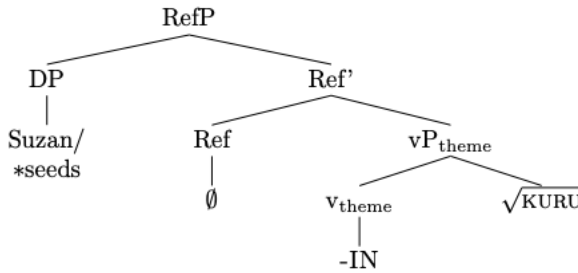


*seeds* cannot, since the Ref-head associates the sole argument with the AGENT role, as well.

- (58) a. Suzan güneş-te kuru-n-du.  
 Suzan sun-DAT dry-In-PST.3SG  
 ‘Suzan dried herself under the sun.’

- b. \*Çekirdekler güneş-te kuru-n-du.  
 Seeds sun-DAT dry-PST.3S  
 ‘The seeds dried themselves under the sun.’

(59)



The discussion here shows that there is no requirement for the base root to be transitive to build a figure reflexivity. As a matter of fact, this type of requirement would have been incompatible with the framework adopted in this study. Most importantly, IN morpheme which indirectly signals the presence of the Ref head in the structure directly precludes the presence of the regular Voice in the structure, as confirmed by the lack of the causative suffix {-t} in the figure reflexive form.

## 6. Conclusion

There are two ways to express reflexive meaning in Turkish: pronominal reflexives and verbal reflexivity. Verbal reflexives have been observed to be derived from two different morphemes such as IL and IN. Previous studies have observed that IL reflexives, which produce figure reflexives, tend to view them as unified with other verb types derived from non-active Voice. On the other hand, the analyses of IN morphemes have seen them limited to their ability to derive ground reflexivity and considered this morpheme to be realization of an Applicative-head. However, these analyses were insufficient to analyze other verbal structures where the IN morpheme can appear.

The contribution of this study is to provide counter-example data indicating that IN derived verbs can be IN figure reflexives or non-reflexive unergatives. We also proposed an analysis that can derive all observed IN derived verbs. Our proposal has two main assumptions. First, we propose that the IN morpheme, rather than being a reflexivizer or a de-transitivizer head, is the realization of a spec-less *v*-head. Second, we have shown that such spec-

less *v*-heads are licensed in the context of a Ref-head that we claim to derive agent-ground and agent-figure reflexivity as well as non-reflexive existential saturation (limited to a certain class of roots).

Finally, all these things being said, our analysis has not presented any proposal regarding IL derived verbs, more specifically IL derived reflexives. However, we observe that there are almost no reflexives that are derived with both morphemes, with the exception of a few minimal pairs. This result strongly indicates that the two morphemes are almost in a complementary distribution and that their productivity is limited in a way that suggests root-sensitive distribution. At this point, it seems reasonable that the system derives reflexive meanings via the IL morpheme in contexts where a reflexive derivation via the IN morpheme is not available. We believe that a comprehensive analysis along these lines can be developed for the derivation of Turkish verbal reflexives in a way that is fully consistent with our current proposal for IN derived verbs. However, fleshing out this idea is left for a future study.

## References

- Acartürk, C., & Zeyrek, D. (2010). Unaccusative/unergative distinction in Turkish: A connectionist approach. In *Proceedings of the Eighth Workshop on Asian Language Resources* (pp. 111–119).
- Alexiadou, A., & Schäfer, F. (2013). Non-canonical passives. In A. Alexiadou & F. Schäfer (Eds.), *Non-canonical passives* (pp. 1–20). John Benjamins Publishing Company.
- Akkuş, F., & Paparounas, L. (2024). *The argument structure of Turkish verbal reflexives* (Unpublished manuscript).
- Arslan, A. (2022). Türkiye Türkçesinde dönüşlü çatının oluşum yöntemleri. *Uluslararası Beşeri Bilimler ve Eğitim Dergisi*, 8(17), 226–240.
- Baturay-Meral, S., & Meral, H. M. (2018). On single argument verbs in Turkish. *Bilig*, (86), 115–136.
- Borer, H. (1994). *The projection of arguments*. University of Massachusetts Occasional Papers in Linguistics (Vol. 20).
- Burzio, L. (1981). *Intransitive verbs and Italian auxiliaries* (Doctoral dissertation). Massachusetts Institute of Technology.
- Davidson, D. (1967). Truth and meaning. In J. Hintikka & P. Suppes (Eds.), *Philosophy, language, and artificial intelligence: Resources for processing natural language* (pp. 93–111). Springer.
- Dikmen, F., Demirok, Ö., & Öztürk, B. (2022). How can a language have double passives but lack antipassives? *Glossa: A Journal of General Linguistics*, 7(1).
- Embick, D. (2004). Unaccusative syntax and verbal alternations. In A. Alexiadou, E. Anagnostopoulou, & M. Everaert (Eds.), *The unaccusativity puzzle: Explorations of the syntax–lexicon interface* (pp. 137–158). Oxford University Press.

- Göksel, A. (1993). *Levels of representation and argument structure in Turkish*. University of London, School of Oriental and African Studies (United Kingdom)
- Gülsevin, S. (2022). Üst üste kullanılan *-In-Il-* ekleri üzerine. *Turkish Studies – Language*, 17(3), 857–867.
- Gündoğdu, S. (2017). *(I)l / (I)n morphology in Turkish: Implications for u-syncretism*. In *Proceedings of the 4th Patras International Conference for Graduate Students in Linguistics (PICGL-4)* (pp. 85–105).
- Heim, I., & Kratzer, A. (1998). *Semantics in generative grammar*. Blackwell.
- Key, G. (2021). Figure and ground reflexives in Turkish. In *Proceedings of the Workshop on Turkic and Languages in Contact with Turkic* (Vol. 6, pp. 50–64).
- Key, G. (2025). Voice in Turkish: Re-thinking u-syncretism. *Natural Language & Linguistic Theory*, 43(1), 331–384.
- Kornfilt, J. (2013). *Turkish*. Routledge.
- Kornfilt, J., & von Stechow, K. (2009). Specificity and partitivity in some Altaic languages. *MIT Working Papers in Linguistics*, 58, 19–40.
- Koşaner, Ö. (2005). *Türkçede dönüşlü yapıların biçim-sözdizimsel özellikleri* (Master's thesis). Dokuz Eylül Üniversitesi.
- Lewis, G. (2000). *Turkish grammar*. Oxford University Press.
- Nakipoğlu, M. H. (1998). *Split intransitivity and the syntax–semantics interface in Turkish* (Doctoral dissertation). University of Minnesota.
- Özkaragöz, İ. (2011). Monoclausal double passives in Turkish. In S. Ay, Ö. Aydın, İ. Ergenç, S. Gökmen, S. İşsever, & D. Peçenek (Eds.), *Studies in Turkish linguistics* (pp. 77–92). John Benjamins Publishing Company.
- Özsoy, A. S. (2010). Argument structure, animacy, syntax and semantics of passivization in Turkish: A corpus-based approach. In A. Okrent & J. Boyd (Eds.), *Corpus analysis and variation in linguistics* (pp. 259–279). John Benjamins Publishing Company.
- Perlmutter, D. M. (1978). Impersonal passives and the unaccusative hypothesis. In *Proceedings of the Annual Meeting of the Berkeley Linguistics Society* (pp. 157–190).
- Sezer, E. (1979). Eylemlerin Çoğul Özne Uyumunda Anlamsal Özelliklerin Rolü. *Dilbilim Seçmeleri. Ankara Üniversitesi Yayınları*.
- Sezer, F. E. (1991). *Issues in Turkish syntax* (Doctoral dissertation). Harvard University.
- Spathas, G., Alexiadou, A., & Schäfer, F. (2015). Middle voice and reflexive interpretations: Afto-prefixation in Greek. *Natural Language & Linguistic Theory*, 33, 1293–1350.
- Talmy, L. (1978). Figure and ground in complex sentences. In J. H. Greenberg (Ed.), *Universals of human language* (Vol. 4, pp. 625–649). Stanford University Press.
- Taneri, M. (1993). *The morpheme -Il/(I)n: The syntax of personal passives, impersonal passives and middles in Turkish* (Doctoral dissertation). University of Kansas.

- Wood, J. (2023). *Icelandic nominalizations and allosemy* (Vol. 84). Oxford University Press.
- Zeyrek, D. (2006). Anticausatives in Turkish: The role of the suffix *(I)l/(I)n*. In É. Á. Csató, B. Karakoç, & A. Menz (Eds.), *The Uppsala meeting: 13th International Conference on Turkish Linguistics*. Harrassowitz Verlag.