

The Pluractional Marker in Turkish

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1 Introduction

A suffix of the form $-(I)\textit{s}$ marks hundreds of verbs in Turkish, among them dozens of verbal reciprocals, yet it has received comparatively little attention in the generative literature. As a case in point, Göksel (1993) devotes a full chapter each to affixal causatives, passives, and reflexives, but mentions the reciprocal suffix only in passing. This may be because $-(I)\textit{s}$ is a poor fit for generative models of argument structure alternations. In addition to reciprocals, $-(I)\textit{s}$ derives a large number of inchoative verbs, yet unlike detransitivizing morphology in other languages, it does not derive verbal reflexives, which bear a different suffix in Turkish, $-(I)n$ or $-ll$. It does, however, derive collaborative and collective(-looking) motion verbs. Hence any attempt to analyze it within established approaches to valency reduction is like trying to force a square peg into a round hole.

- (1) Reciprocal: *bak-ıŝ-* ‘look at each other’; *yaz-ıŝ-* ‘write to each other’
Inchoative: *bur-uŝ-* ‘crumple’; *gel-iŝ-* ‘develop’
Reflexive: **giy-iŝ-*, *giy-in-* ‘dress’, **soy-uŝ-*, *soy-un-* ‘undress’
- (2) Collaborative: *ađla-ŝ-* ‘cry together’; *göl-üş-* ‘laugh together’
Motion: *koŝ-uŝ-* ‘run helter-skelter’; *uç-uŝ-* ‘fly helter-skelter’

Numerous languages use the same verbal morphology to mark various categories that have reduced valency with respect to a *prima facie* basic verb, including passive, inchoative, reflexive, and reciprocal; some work refers to this as u-syncretism (short for “unaccusative syncretism”—Embick 2004). This syncretism has long informed generative models of verb formation and argument structure (Grimshaw 1982; Chierchia 1989/2004; Embick 1997, 2004; Reinhart 2003; Reinhart and Sioni 2005; Koontz-Garboden 2009; Schäfer 2008, 2017; Alexiadou et al. 2015; *inter alia*). The identity of the reflexive and inchoative marker figures especially prominently in this work. In light of this, the absence of reflexives among $-(I)\textit{s}$ is mysterious. It is obviously incompatible with approaches such as Chierchia (1989/2004) and Koontz-Garboden (2009), which hold that marked inchoatives (anticausatives) are in fact verbal reflexives. Neither does the distribution of $-(I)\textit{s}$ submit to Embick’s (2004) proposal that the morphology common to passives, reflexives, and anticausatives marks nonactive Voice (Kratzer 1996), which does not project a specifier and thereby

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precludes the merge of an external argument DP. The nonactive Voice head may semantically entail an agent, which is disjoint from the internal argument in the case of the passive and coreferential with it in the reflexive, or it may be semantically inert in the case of the anticausative. This idea is further developed in Schäfer (2008, 2017), Alexiadou et al. (2015) and Spathas et al. (2015), among others. In this body of work, all differences between the u-syncretic verbal types are handled on the LF branch, which explains why PF spellout is identical. However, this does not predict and cannot explain the distribution of $-(I)\mathfrak{s}$, which marks the reciprocal and anticausative but skips the reflexive and the passive. A further wrinkle is that Turkish does have morphology that answers to the description of nonactive Voice, the suffix $-Il$ (Balakbabalar 2015, Gündoğdu 2017, Key accepted). This derives passives, anticausatives, and reflexives.¹

- (3) Passive: *tart-ül-* ‘be weighed’; *yaz-ül-* ‘be written’
 Anticausative: *aç-ül-* ‘open (int.)’; *kir-ül-* ‘break (int.)’
 Reflexive: *tart-ül-* ‘weigh oneself’; *kat-ül-* ‘join (lit. ‘add oneself)’

Thus Turkish does have nonactive Voice, but the reciprocal and inchoative marker $-(I)\mathfrak{s}$ is not of this category.

In the most extensive treatment of $-(I)\mathfrak{s}$ to date, Gandon (2013) observes that reciprocal, sociative, and iterative/intensive verbs all involve a plurality of events and/or participants. She further points out that a cognate suffix in other Turkic languages is found in these and in other plural contexts, such as assistive, comitative, competitive, and 3rd-person plural agreement, and proposes that the etymon of $-(I)\mathfrak{s}$ was an ancient marker of collective plurality. But she also notes that there is no obvious connection between these plural verb types and the anticausative (“*décausitif*”). She proposes that this situation is the result of a diachronic process whereby the suffix was reanalyzed and subsequently extended to anticausatives (see section [spellout and syncretism] for details).

Treating $-(I)\mathfrak{s}$ as a detransitivizer not only fails to provide a synchronic explanation for its syncretism pattern, but also faces numerous exceptions where a basic verb is either nonexistent or has an argument structure and/or semantics inconsistent with valency reduction. These may be dismissed as “lexicalizations” but, as we will see, such “lexicalizations” greatly outnumber the supposed “regular” formations. That being the case, there is little justification for applying this model to the Turkish reciprocal suffix, other than commitment to time-honored theoretical assumptions. Instead, we make the radical claim that $-(I)\mathfrak{s}$ is not a detransitivizer. It does derive intransitive verbs (mostly) but it does not do so by reducing the valency of a supposed transitive base. This frees us to re-evaluate the data and discover a more accurate generalization.

We concur with Gandon that event plurality underlies reciprocal, collaborative, and collective(looking) motion verbs in Turkish. We propose to account for the syncretism of these categories by identifying $-(I)\mathfrak{s}$ as the exponent of a syntactic pluractional head. We further propose that inchoatives with this marking also involve event plurality: they are iterative verbs, specifically degree achievements (Dowty 1979), whose meaning involves an iteration of subevents that correlate with movement along a property scale (Kearns 2007). By treating $-(I)\mathfrak{s}$ as an expression of pluractionality, we provide a synchronic account of all of the major verbal types where it appears.

The term pluractionality refers to a large group of verbal expressions that can only be truthfully used in plural event contexts (for formal approaches see Lasersohn 1995, Garrett 2001, E. J. Wood 2007, Henderson 2012). There are many different types of pluractional constructions, which define event plurality in different ways (Cusic 1981, E. J. Wood 2007, Mattioli 2020). A central question of this paper is how Turkish pluractionals are defined.

¹See Key (2022) for arguments that nonactive Voice is distinct from the verbal reflexive morpheme $-In$.

Pluractionality does not simply require the events in the denotation of the base predicate to be plural. Consider the “collective” or “sociative” sense, which Gandon (following Lichtenberk 1985) defines as a situation where two or more participants with identical roles are jointly involved. This fails to capture a Turkish motion verb such as *uç-uş-* in (4), typically glossed as ‘fly together’: this *-(I)ş-*-marked verbal form does not simply mean that there were many *flying* events such that they were performed by two or more actors. If this were the case, (4) would be felicitous in any context where it is true that *The birds flew*. This is, however, not borne out: (4) is not felicitous if the birds flew in a perfect V formation. As Kornfilt (1997: 178) observes of the example below, “Here, the birds flew every which way, rather than together. However, the actions are simultaneous.” *uç-uş-* is only appropriate if the birds flew at the same time in random directions. We propose to model the latter as a requirement for the flight paths to intersect.

- (4) Kuş-lar uç-uş-tu.
 bird-PL fly-PLRC-PST.3SG
 ‘The birds flew about.’

(Kornfilt 1997: 178 ex. (651))

Thus, the overarching problem with defining pluractionality solely in terms of event plurality does not allow us to account for the different meanings that arise with pluractionals (for a similar argumentation see Lasersohn 1995: 238-265). To be able to account for the relevant meanings that *-(I)ş-*-predicates can construe, we need to consider their temporal and spatial properties.

To be able to do so, we adopt a formalism that considers verbs to denote event properties (Dowty 1991); these events compose with their arguments via secondary predicates, called thematic roles, which denote a relation between individuals and events (Parsons 1990, Carlson 1998, Krifka 1992, Kratzer 1996). Additionally, we also assume temporal and spatial trace functions (τ and σ), which are functions from events to their run time and space, respectively (Krifka 1998). This last point will be especially crucial to the proposed analysis, as we argue that some pluractionals are defined in terms of their temporal properties, and some others in terms of their spatiotemporal properties.

With this theoretical background, we define three main types of pluractionals in Turkish distinguished by (1) how they define the temporal and spatial properties of the plural events, and (2) how they define their subevents’ external arguments. §2, §3 and §4 each discuss a type of pluractional construction: §2 investigates motion verbs with intersecting paths; §3 looks at argument-introducing pluractionals, including collaborative and reciprocal verbs; and §4 examines *-(I)ş-*-marked inchoatives and argues that the property they share is not decreased valency with respect to an unmarked transitive verb, but event plurality, bringing them into the domain of pluractionals and thus solving the syncretism puzzle. Following a section of syncretism in §5, §?? concludes.

2 Motion verbs with intersecting paths

A salient, albeit small, group of *-(I)ş-* verbs in (5) most typically combines with a plural subject. While *koş-uş-* ‘run helter-skelter’ and *uç-uş-* ‘fly helter-skelter’ can take a singular subject (see §2.2), *kaç-ış-* ‘flee helter-skelter’ requires the subject to be in the plural:² in (6), the subject has to be the plural *çocuk-lar* ‘children’; the singular *çocuk* ‘child’ is not acceptable. §2.1 focuses on the purported plural subject requirement, which led Kemmer (1993) to categorize these verbs as “naturally collective verbs.” This is one of more than a dozen middle-marked categories Kemmer

²We use the term “plural” here in a semantic sense. *Kaç-ış-* can combine with a syntactically singular noun phrase that denotes plural entities. *Halk* ‘folk, folks’ is one such example.

identifies, all of which she claims share a low elaboration of events and/or participants. We take issue with this and any other approach that makes a *direct* connection between the contribution of $-(I)\textit{s}$ and plural subjects. Instead, we derive the plural subject requirement (or the lack thereof) from the spatiotemporal properties of $-(I)\textit{s}$.

This section shows that $ko\textit{s}$ - $u\textit{s}$ - and $u\textit{ç}$ - $u\textit{s}$ - construe two slightly different meanings, whereas $ka\textit{ç}$ - $i\textit{s}$ - has just one interpretation. The common denominator in these meanings is that the paths of motion denoted by the events intersect. The plural vs. singular subject property of these verbs falls out from the way the events relate to each other temporally: $ka\textit{ç}$ - $i\textit{s}$ -, which only allows a plural subject, denotes obligatorily simultaneous events, while $ko\textit{s}$ - $u\textit{s}$ - and $u\textit{ç}$ - $u\textit{s}$ - can construe simultaneous *or* temporally consecutive (iterative) events. Because simultaneous events can only be performed by multiple agents, $ka\textit{ç}$ - $i\textit{s}$ - can only combine with plural subjects. In contrast, temporally successive events can be performed by just one agent, hence the possibility for $ko\textit{s}$ - $u\textit{s}$ - and $u\textit{ç}$ - $u\textit{s}$ - to compose with a singular subject.

(5)

Base		$-(I)\textit{s}$ -verb	
$ka\textit{ç}$ -	‘escape, flee’	$ka\textit{ç}$ - $i\textit{s}$ -	‘flee helter-skelter’
$ko\textit{s}$ -	‘run’	$ko\textit{s}$ - $u\textit{s}$ -	‘run helter-skelter’
$u\textit{ç}$ -	‘fly’	$u\textit{ç}$ - $u\textit{s}$ -	‘fly helter-skelter’

(6) a. There was an explosion in a building, and a kid is trying to find a way out. She doesn’t know where the exit is, so she erratically runs in all directions.

*Çocuk $ka\textit{ç}$ - $i\textit{s}$ - t_1 .

child flee-PLRC-PST

Intended: ‘The child fled helter-skelter.’

b. There was an explosion in a building, and children are trying to find a way out. They are fleeing in all directions in a haphazard way.

Çocuk-lar $ka\textit{ç}$ - $i\textit{s}$ - t_1 .

child-PL flee-PLRC-PST

‘The children fled helter-skelter.’

2.1 Contemporaneous motion verbs with intersecting paths

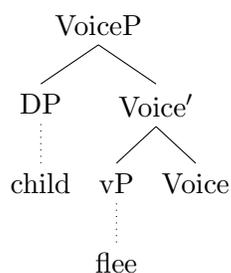
Kemmer (1993: 96-99, 116-124) characterizes verbs such as $u\textit{ç}$ - $u\textit{s}$ - in (5) as “naturally collective verbs.”³ These verbs contrast with “distributive verbs” in the extent to which they distinguish the individual actions of group members (i.e., agents): “naturally collective verbs” express events with low individuation, because the individual actions of the agents are not distinguished, as opposed to “distributive verbs,” which are characterized by higher levels of event individuation. Kemmer stipulates that it is an inherent property of “naturally collective verbs” to compose with plural subjects.

This section lays out a very different interpretation of the pluractional $-(I)\textit{s}$ ’s contribution. In particular, we take issue with two aspects of Kemmer’s approach: 1. that the events denoted by such $-(I)\textit{s}$ verbs are associated with “low individuation,” (see empirical counterarguments in §2.1.1) and 2. that the plural subject requirement is an inherent property of such verbs.

³Kemmer only discusses $u\textit{ç}$ - $u\textit{s}$ - in the ‘fly together’ meaning, but we are assuming that her claims would extend to the other verbs in (5).

The second point fits right in the linguistic discussions on the relationship between predicate and external argument (Kratzer 1996, and subsequent work by many others). The overarching question is how a verb can determine the properties of its external argument, e.g., its number property. Given well-established theories of how verbs combine with their external arguments (Kratzer 1996, Pylkkänen 2008, Harley 2013, Legate 2014, Alexiadou et al. 2015, inter alia), it seems implausible that the verb could *directly* impose such a restriction on its external argument. Kratzer (1996) and subsequent research build on semantic work by Parsons 1990, Dowty 1991 and Krifka 1992, who argue that arguments combine with their event via secondary predicates called thematic roles. Kratzer (1996) establishes that this logical model is extendable to the syntax of verb phrases and their external arguments, which are not introduced by the base predicate itself but by a secondary predicate headed by Voice, as shown in the representation in (7). Thus, given such a theoretical model, it seems unlikely that a verb could directly impose a plurality restriction on its external argument. The answer that we are proposing to this question is that the plurality requirement is not imposed directly by the $-(I)\xi$ -verbs in (5), but rather that they define event plurality in such a way as can only be satisfied by plural subjects. The remainder of this section explores how $-(I)\xi$ -verbs construe event plurality and thereby *indirectly* force their agent to be plural.

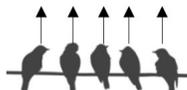
(7)



2.1.1 Properties of contemporaneous motion verbs

In this section, we look at the properties of $-(I)\xi$ motion verbs. The first observation to make is that these verbs are not felicitous in all multiple event contexts. (8) outlines a scenario where there are multiple *flying* events, performed by multiple birds, yet $u\check{c}$ - $u\check{s}$ - is not felicitous. This observation invokes our discussion in the introduction about pluractionality not being reducible to plural events, but that we also need to define how the plural events relate to each other. Furthermore, it challenges Kemmer’s characterization of $-(I)\xi$ -verbs, which is unable to deal with the nuances of the empirical data.

(8) The birds were lined up on a wire. A sudden sound scared them, and they flew off in such a way that they flew straight ahead, without crossing any other bird’s path. I.e., the following way:



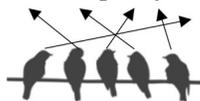
Kuş-lar uç-uş-tu.

bird-PL fly-PLRC-PST.3SG

Intended: ‘The birds flew away helter-skelter.’

The problem with (8) appears to be related to *how* the *flying* events are carried out: in (8) the flight paths are parallel, whereas in (8) their paths intersect. Only (9) is an appropriate context for *uç-uş-*.

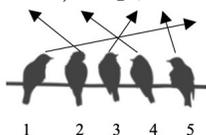
- (9) The birds were lined up on a wire. A sudden sound scared them, and they flew off (at the same time) in a random way, some of them to the right, some of them to the left. E.g., the following way:



Kuş-lar uç-uş-tu.
bird-PL fly-PLRC-PST.3SG
'The birds flew away helter-skelter.'

Additionally, the *flying* events must be performed at the same time. For instance, *uçuş-* cannot be uttered in a context such as (10), where the birds one after the other fly up from the wire in a random way.

- (10) The birds were lined up on a wire. One bird after the other flew up in the air in a random way, some of them to the right, some of them to the left. (They didn't fly away at the same time.) E.g., the following way:



Kuş-lar uç-uş-tu.
bird-PL fly-PLRC-PST.3SG
Intended: 'The birds flew away helter-skelter.'

In addition, there has to be a larger number of *flying* events—a simple plurality of events, e.g., two birds' flying in the specified way, as in (11), is not allowed.

- (11) *Kırmızı kuş-la mavi kuş uç-uş-tu.
red bird-INSTR blue bird fly-PLRC-PST.3SG
Intended: 'The red bird and the blue bird flew about helter-skelter.'

Thus, our first approximation is that the $-(I)\xi$ -verbs in (5) display three important properties: they denote a large number of events (see (11)) that are performed contemporaneously (see (10)) and whose paths must intersect (see (8)).

2.1.2 Lasersohn's model of pluractionality

We capture the contribution of $-(I)\xi$ -verbs by appealing to Lasersohn's (1995) analysis of pluractional verbs,⁴ which is embedded in a wider account of linguistic plurality.

⁴There are other ways to formalize the pluractional contribution, most notably Henderson 2012. Henderson (2012: 55-57) discusses some shortcomings of Lasersohn's account, especially when it comes to modelling event-internal pluractionality. The hallmark of event-internal pluractionals is that the individual events do not satisfy the denotation of the base predicate. As Turkish does not seem to have this type of pluractional, we adopt Lasersohn's model, but we note that our analysis is compatible with other models, such as Henderson's.

The basic formulation of pluractionality is (12), which says that all events denoted by the pluractional predicate are such that they are in the denotation of the base predicate ($V(e)$) and the cardinality of the set of events is greater than n ($CARD(X) \geq n$), where n refers to a lexically or pragmatically set number, e.g., 2 for some pluractionals. That is, according to (12) if the base verb is *fly*, the pluractional would say that there are multiple events and all of them are *flying* events. As mentioned in the introduction, this is not sufficient to describe the pluractional’s contribution.

$$(12) \quad V\text{-PLRC}(X) \Leftrightarrow \forall e \in X[V(e)] \wedge CARD(X) \geq n \quad (\text{Lasersohn 1995: 251})$$

In order to better characterize pluractional meanings, Lasersohn introduces the overlap parameter (\circ), which models how the events relate to each other. This account is formulated within a theoretical framework, introduced in the §1, where events are mapped onto their running time, space, and participants by temporal trace functions, spatial trace functions, and thematic roles, respectively (Parsons 1990, Carlson 1998, Krifka 1992, Kratzer 1996, Krifka 1998). To represent, for instance, an iterative pluractional meaning, i.e., where the events in the denotation of the base predicate are temporally consecutive, Lasersohn proposes (13). (13) says that for all events e and e' in the denotation of the pluractional predicate, e and e' satisfy the base predicate ($V(e)$), and the temporal trace functions (τ) of event e and e' do not overlap ($\neg \tau(e) \circ \tau(e')$), and the cardinality of the denoted set of events is greater than n ($CARD(X) \geq n$). That is, temporally consecutive events can be modelled by requiring the temporal trace functions of the denoted events to *not* overlap.

$$(13) \quad V\text{-PLRC}(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge \neg \tau(e) \circ \tau(e')] \wedge CARD(X) \geq n \quad (\text{Lasersohn 1995: 251})$$

Additionally, he introduces the “between” predicate to capture potential downtime (or the lack thereof) and spatial gaps (or the lack thereof) between events. For instance, (14) models iterative events with downtime between them, i.e., a “separated in time” reading. The bold clause in (14) says that there is a time t between the running time of the events e and e' such that no event e'' in the denotation of V that was performed at time t .

$$(14) \quad V\text{-PLRC}(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge \neg \tau(e) \circ \tau(e') \wedge \exists t[\text{between}(t, \tau(e), \tau(e')) \wedge \neg \exists e'' [V(e'') \wedge t = \tau(e'')]]] \wedge CARD(X) \geq n \quad (\text{Lasersohn 1995: 254})$$

In the following section, we make use of this account to describe the meaning contribution of $-(I)\mathcal{S}$.

2.1.3 Proposal

Our proposal in (15) is that $-(I)\mathcal{S}$ -verbs in (5) denote events, such that they are in the denotation of the base predicate ($V(e)$), and that the events’ temporal (τ) and spatial traces (σ) overlap ($\tau(e) \circ \tau(e') \wedge \sigma(e) \circ \sigma(e')$), and the cardinality of the set of events is greater or equal than n ($CARD(X) \geq n$). The pragmatically/lexically determined value of n must be (much) greater than 2, because this group of $-(I)\mathcal{S}$ -verbs is not preferred with just two events, shown in (11). The “ $\tau(e) \circ \tau(e')$ ” part derives the temporal simultaneity by requiring the events’ temporal traces to overlap; this overlap may be a partial or complete. The intersection of paths requirement can be accounted for by requiring the spatial trace functions to overlap: $\sigma(e) \circ \sigma(e')$. The “ $\sigma(e) \neq \sigma(e')$ ” clause rules out fully identical paths, which are not available with these $-(I)\mathcal{S}$ -verbs. Thus, (15) can account for the

three main properties of the $-(I)\xi$ -verbs in (5): that they denote (1) multiple, (2) contemporaneous, and (3) spatially intersecting events.

$$(15) \quad V-(I)\xi(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge V(e') \wedge \tau(e) \circ \tau(e') \wedge \sigma(e) \circ \sigma(e') \wedge \sigma(e) \neq \sigma(e')] \wedge \text{CARD}(X) \geq n$$

Crucially, the analysis in (15) has nothing to say about plural subjects, but it can still derive the plurality requirement: $-(I)\xi$ predicates that satisfy (15) cannot be performed by a singular external argument, as it is impossible for a single agent to contemporaneously perform the same event multiple times. Thus, the plurality of the subject falls out from this analysis.

2.2 Iterative motion verbs with intersecting paths

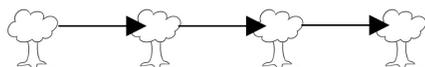
However, §2.1 is not the full story: two motion verbs, $ko\xi-u\xi$ - and $u\xi-u\xi$ -, can also combine with singular subjects, illustrated by (16). If (15) is the final version of our account, it is unclear how the contemporaneity and spatial intersection requirements in (15) can be satisfied by just one agent. This means that our current analysis needs to be amended.

- (16) Kuş uç-uş-tu.
bird fly-PLRC-PST.3SG
'The bird flew helter-skelter.'

2.2.1 Properties of iterative motion verbs

Given the discussion on contemporaneous motion verbs in §2.1.1, it comes as no surprise that (16) is not felicitous in just any context where one bird performs multiple *flying* events. (17a) and (17b) demonstrate that $-(I)\xi$ cannot construe spatially linear and temporally iterative (in (17a)), or frequentative meanings (in (17b)).

- (17) a. A bird flew (linearly) from one tree to another, to another, to another, to another (many times). E.g., the following way:



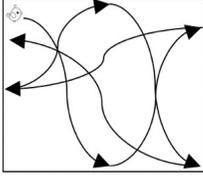
- #Kuş uç-uş-tu.
bird fly-PLRC-PST.3SG
Intended: 'The bird repeatedly flew.'

- b. A bird flew every day.
#Kuş uç-uş-tu.
bird fly-PLRC-PST.3SG
Intended: 'The bird frequently flew.'

A context where (16) can be felicitously used is given in (18). Here, the bird performs temporally consecutive *flying* events in an eclectic, random way.⁵

⁵We thank Deniz Özyıldız for bringing this usage to our attention.

- (18) The following image represents a cage with one bird. The bird frantically flies from one side of the cage to the other. The bird's path is indicated by the arrows:

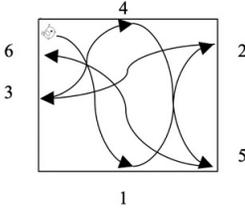


Kuş uç-uş-tu.
 bird fly-PLRC-PST.3SG
 ‘The bird flew helter-skelter.’

This is clearly parallel to observation about the crossing paths in the previous section (see (9) for the relevant example). Just as before, we can model the “eclectic” motion by requiring the events’ spatial traces to overlap but disallow full overlap. The only difference between (9) and (18) is that the *flying* events are simultaneous in (9) but temporally consecutive in (18). The latter temporal distribution can be straightforwardly accounted for in Lasersohn’s formalism by requiring the events’ temporal traces to be non-overlapping.

The last question that remains is the downtime between the iterated events. In the context in (19), there is a one-minute long gap between the individual *flying* events, resulting in the infelicity of *uç-uş-*. This aims at illustrating that such verbs only allow no (or minimal) downtime between repetitions.

- (19) The following image represents a cage with one bird. The bird’s flight is indicated by the arrows. Each arrow signifies one flying event, after which the bird rests for one minute.



Kuş uç-uş-tu.
 bird fly-PLRC-PST.3SG
 ‘The bird flew helter-skelter.’

2.2.2 Proposal

The above data can be captured by a slightly modified version of the denotation offered for the contemporaneous motion verbs. (20) says that this type of pluractional, which we refer to as $-(I)_{\S 2}$ to distinguish it from the contemporaneous pluractional, denotes multiple events ($CARD(X) \geq n$) in the denotation of the base predicate ($V(e) \wedge V(e')$) such that these events’ spatial traces overlap but are not identical ($\sigma(e) \circ \sigma(e') \wedge \sigma(e) \neq \sigma(e')$), their temporal traces do not overlap ($\neg \tau(e) \circ \tau(e')$), and there is no time t between events e and e' such that no event in the denotation of the base predicate was performed at that time t ($\neg \exists t [\text{between}(t, \tau(e), \tau(e')) \wedge \neg \exists e'' [V(e'')] \wedge t = \tau(e'')]$). This last part of the analysis models the lack of downtime between repetitions by not allowing for a time t when the event is not performed.

$$(20) \quad V-(I)\mathfrak{S}_2(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge V(e') \wedge \neg \tau(e) \circ \tau(e') \wedge \sigma(e) \circ \sigma(e') \wedge \sigma(e) \neq \sigma(e') \wedge \neg \exists t[\text{between}(t, \tau(e), \tau(e')) \wedge \neg \exists e''[V(e'') \wedge t = \tau(e'')]]] \wedge \text{CARD}(X) \geq n$$

(20) captures 1. the intersecting paths, 2. temporal succession of events (instead of simultaneity), and 3. the lack of downtime (or minimal downtime) between repetitions. Because the events denoted by this type of $-(I)\mathfrak{S}$ verb are not contemporaneous, they can be performed by a singular agent. Thus, yet again, the number of the external argument falls out from how the pluractional defines event plurality.

2.3 Interim summary

We proposed two slightly different meanings construed by $-(I)\mathfrak{S}$ motion verbs; these are repeated below. (21) and (22) both state that the events' paths must intersect, but they differ in how they characterize the events' temporal relation to each other. With contemporaneous motion verbs, the events' temporal traces overlap, whereas with with iterative motion verbs they do not. The ‘plural subject’ requirement (or lack thereof) can be derived from the events' temporal properties: if a pluractional denotes temporally simultaneous events, the verb phrase must combine with a plural subject, as it is impossible for a single agent to concurrently perform several events of the same type. *Koş-uş-* ‘run helter-skelter’ and *uç-uş-* ‘fly helter-skelter’ can express both of the proposed meanings, and hence they can combine with both plural and singular subjects. *Kaç-uş-* ‘flee helter-skelter’ construes only the first, contemporaneous, meaning, and consequently only allows for plural subjects.⁶

$$(21) \quad \text{Contemporaneous motion verbs with intersecting paths} \\ V-(I)\mathfrak{S}_1(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge V(e') \wedge \tau(e) \circ \tau(e') \wedge \sigma(e) \circ \sigma(e') \wedge \sigma(e) \neq \sigma(e')] \wedge \text{CARD}(X) \geq n$$

$$(22) \quad \text{Iterative motion verbs with intersecting paths} \\ V-(I)\mathfrak{S}_2(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge V(e') \wedge \neg \tau(e) \circ \tau(e') \wedge \sigma(e) \circ \sigma(e') \wedge \sigma(e) \neq \sigma(e') \wedge \neg \exists t[\text{between}(t, \tau(e), \tau(e')) \wedge \neg \exists e''[V(e'') \wedge t = \tau(e'')]]] \wedge \text{CARD}(X) \geq n$$

This section has investigated the purported plural subject requirement observed with a group of $-(I)\mathfrak{S}$ verbs. We have zeroed in on the conflict between the empirical observation on pluractionals requiring plural subjects and the theory on the relation between predicates and external arguments. Within this theoretical framework (Kratzer 1996), predicates do not introduce their external argument, and thus it is unclear how they could impose a plurality requirement on them. The solution we propose is that pluractionals do not *directly* control the properties of external argument. Instead, they define the events in such a way that the predicate can only be felicitously used if it combines with a plural external argument. Thus, the theoretical implication of this approach is

⁶There are some other $-(I)\mathfrak{S}$ verbs that, with some potential modifications, could be analyzed along the lines sketched out here. These are *çök-üş-* ‘(for several things) collapse, fall down’, *üş-üş-* ‘(for several things) flock around, crowd’ and *yoğ-uş-* ‘crowd together, accumulate’. These verbs also combine with plural subjects. However, they are also different from the group of verbs in (5) in that the individual events do not satisfy the denotation of the base predicate. Consider (i), where the event performed by one bird (i.e., “*Kuş üş-tü*”) cannot reasonably satisfy the denotation of *üş-* ‘flock, crowd’, as *üş-* evokes a meaning (‘to flock’) that cannot be performed by a single agent.

(i) Kuş-lar tarla-ya üş-üş-tü.
bird-PL field-DAT flock-PLRC-PST
‘The birds flocked to the field.’

It remains an open question how the pluractional’s contribution modifies the meaning of such base predicates.

that one can maintain the separation of the introduction of external argument from the predicate, but still account for the plural subject requirement.

3 Argument introducing $-(I)\textit{s}$ verbs

In this section, we turn to a group of $-(I)\textit{s}$ verbs which are commonly referred to as “reciprocal verbs,” as their meaning is usually translatable into other languages with the anaphor ‘each other’, e.g., *tanı-s-* ‘get acquainted with each another’, *yaz-ı-s-* ‘write to each other’, etc. These verbs are often, and in our view erroneously, associated with valency reduction (see Siloni 2012, and references therein) because of examples such as (23), where the base verb *bak-* ‘look’ takes a dative argument (see *Semih’e* ‘Semih-DAT’ in (23a)), but the verb in $-(I)\textit{s}$ does not take a dative argument, illustrated by the ill-formed insertion of the dative-marked anaphor *birbirine* ‘each other-DAT’ with *bak-ı-s-* in (23b). Perhaps unsurprisingly, these $-(I)\textit{s}$ verbs also require multiple agents, because one agent cannot perform “an action on each other.”

- (23) a. Figen **Semih’e** bak-tı.
 Figen **Semih-DAT** look-PST
 ‘Figen looked at Semih.’
- b. Figen ve Semih (***birbirin-e**) bak-ı-s-tı.
 Figen and Semih (***each.other-DAT**) look-PLRC-PST
 ‘Figen and Semih looked at each other.’

We do not define this group of verbs based on some impressionistic concept of verb meaning, but based on the availability of the instrumental-marked anaphor, *birbiriyle* ‘each other-INSTR’. As it turns out, this approach clearly demarcates a group of $-(I)\textit{s}$ verbs, some of which do not easily lend themselves to a reciprocal interpretation. To give a sample of our dataset, we offer below the four main groups of verbs that we investigate in this section, along with an illustrative example. What unifies these $-(I)\textit{s}$ verbs is that they all license the anaphor *birbiriyle*.

(24)

	Group of $-(I)\textit{s}$ verb	Base		$-(I)\textit{s}$ -verb	
1	Collaborative verbs	ağla-	‘cry’	ağla-s-	‘cry together’
2	$-lA-s$ reciprocal verbs	*mektupla-		mektupla-s-	‘exchange letters’
3	Transitive reciprocals	kır-	‘break (tr.)’	kır-ı-s-	‘divide up something amongst themselves’
4	(Pseudo)intransitive reciprocals	yaz-	‘write’	yaz-ı-s-	‘write to each other’

Our aim is to come up with a unified analysis that can account for the verbs that combine with the anaphor *birbiriyle*. We cannot offer a comprehensive analysis of all of these verbs (especially when it comes to verbal reciprocals, to which a separate paper is devoted in this volume, see Atlamaz and Öztürk (this volume)). Instead we focus on properties of verbal reciprocals that are relevant for the analysis of other types of pluractionals. In particular, we are interested in how the $-(I)\textit{s}$ verbs in (24) define event plurality and how a compositional analysis could be formulated with the pluractional.

Our approach might be considered a radical departure from existing analyses of verbal reciprocals⁷ in two important respects: 1. §3.1 argues that the pluractional in such verbs introduces an instrumental-marked argument (building on Ótrott-Kovács (submitted)), and 2. we argue that no detransitivization operation takes place in the derivation of reciprocal verbs; instead we make the peculiar-sounding claim that the pluractional takes a *transitive* vP as its complement to construe the reciprocal meaning. We investigate the nature of this *transitive* vP complement in detail: a small group of transitive base verbs take an actual overt DP argument, but the overwhelming majority of them take a definite *implicit* argument. Because the internal argument is generally implicit, it creates the illusion that the reciprocal construction is intransitive.

This section is structured as follows: §3.1 demonstrates that the pluractional can introduce an argument (building on Ótrott-Kovács (submitted)), the instrumental-marked phrase present in collaborative and verbal reciprocal *-(I)ş* verbs; §3.2 presents a closer look at the data; §3.3 contains the analysis: §3.3.1 and §3.3.2 define the pluractional in collaborative and verbal reciprocal verbs, whereas §3.3.3 turns to questions of valency reduction, and argues that the pluractional selects for a transitive complement and there is no detransitivization in Turkish verbal reciprocals.

3.1 Argument introducing pluractionals

The anaphor *birbiriyle*, unlike the genuine adverb *beraber* ‘together’, cannot occur in adjunct position, which we attribute to the anaphor’s licensing requirement. (28a) and (28b) demonstrate that *birbiriyle* is ungrammatical with predicates such as *ağla-* ‘cry’ or *uç-* ‘fly’. In contrast, the adverb *beraber* ‘together’ is perfectly well-formed in these sentences. *Birbiriyle* is unacceptable in these sentences because it is not in an argument position where it could be licensed.

- (25) a. Seyirci-ler beraber / ***birbiri-yle** ağla-dı.
 viewer-PL together / ***each.other-INSTR** cry-PST.3SG
 ‘The viewers cried together/ *with each other.’
- b. Kuş-lar beraber / ***birbiri-yle** uç-tu.
 bird-PL together / ***each.other-INSTR** fly-PST.3SG
 ‘The birds flew together/ *with each other.’

As expected, the motion verbs in (5), such as *uç-uş-* ‘fly helter-skelter’ in (26a) and *kaç-ış-* ‘flee helter-skelter’ in (26b), do not combine with *birbiriyle*. The reason for this ungrammaticality is the same as above: *birbiriyle* cannot be licensed in an adjunct position.

- (26) a. Kuş-lar (***birbiri-yle**) uç-uş-tu.
 bird-PL (***each.other-INSTR**) fly-PLRC-PST.3SG
 ‘The birds flew helter-skelter (*with each other).’
- b. Çocuk-lar (***birbiri-yle**) kaç-ış-tı.
 child-PL (***each.other-INSTR**) flee-PLRC-PST
 ‘The children fled helter-skelter (*with each other).’

⁷Note that Siloni (2012) uses the term “lexical reciprocal” for the same type of verbs that we call “verbal reciprocal.” As we envision an analysis where the reciprocal verb’s contribution can be derived compositionally in the syntax, we refrain from using the term “lexical reciprocal.” “Verbal reciprocal” is used in studies such as Bruening 2006.

Similarly, inchoative $-(I)\textit{s}$ verbs, which are the topic of §4, are also incompatible with the anaphor *birbiri-yle*. This is exemplified below with the $-(I)\textit{s}$ inchoatives *kok-uş-* ‘become smelly, rotten’ in (27a) and *güzel-le-ş-* ‘become beautiful’ in (27b).

- (27) a. Çöp-ler (***birbiri-yle**) kok-uş-tu.
trash-PL (***each.other-INSTR**) smell-PLRC-PST.3
‘The begs of trash got rotten (*with each other).’
- b. Şehir-ler (***birbiri-yle**) güzel-le-ş-ti.
city-PL (***each.other-INSTR**) beautiful-v-PLRC-PST.3
‘The cities beautified (*with each other).’

In contrast, $-(I)\textit{s}$ verbs belonging to the groups defined in (24) can all license *birbiriyle*. As shown below, the collaborative *ağla-ş-* ‘cry together’ (in (28a)),⁸ the $-LA-\textit{s}$ reciprocal *mektup-la-ş-* ‘exchange letters’ (in (28b)), the transitive reciprocal *kır-ış-* ‘divide amongst each other’ (in (28c)) and the intransitive reciprocal *yaz-ış-* ‘write to each other’ (in (28d)) all combine with the anaphor. Thus, verbs in (24) pose an interesting question: how can these predicates combine with *birbiriyle* if *birbiriyle* can only be licensed in argument positions?

- (28) a. Figen ve Semih **birbiri-yle** ağla-ş-tı.
Figen and Semih **each.other-INSTR** cry-PLRC-PST.3
‘Figen and Semih cried with each other.’
- b. Figen ve Semih **birbiri-yle** mektup-la-ş-tı.
Figen and Semih **each.other-INSTR** letter-v-PLRC-PST.3
‘Figen and Semih exchanged letters with each other.’
- c. Figen ve Semih para-yı **birbiri-yle** kır-ış-tı.
Figen and Semih money-ACC **each.other-INSTR** break-PLRC-PST.3
‘Figen and Semih divided the money amongst each other.’
- d. Figen ve Semih **birbiri-yle** yaz-ış-tı.
Figen and Semih **each.other-INSTR** write-PLRC-PST.3
‘Figen and Semih wrote to each other.’

The answer we are proposing to this question is that this type of pluractional can introduce an argument marked with the instrumental case. That is, the pluractional can license the anaphor *birbiri(n)* because it introduces a new argument position.

It is well-known that Turkish verbal reciprocals, similarly to many other languages cross-linguistically (Rákosi 2003, Rákosi 2008, Dimitriadis 2004, Dimitriadis 2008, Yamada 2010: §5, Siloni 2012: 306-313), can compose the so-called “discontinuous reciprocal” construction, see e.g. in (30d). This term refers to a dyadic argument frame that verbal reciprocals may display, whereby one of the agents is expressed by an instrumental-marked phrase. That is, verbal reciprocals are argued to be able to form two different argument frames (see e.g. Rákosi 2003, Dimitriadis 2004, Siloni 2012): a monadic one with obligatorily plural external argument, and a dyadic argument frame with an external argument whose number is not relevant and an instrumental-marked agent argument. An overview of this proposal is given in (29).⁹ In what follows, we argue that this

⁸Note that the base verb *ağla-* does not license *birbiriyle*, as in (28a), but the $-(I)\textit{s}$ derivate *ağla-ş-* does.

⁹This table does not follow Siloni (2012) in every detail, although it is based on it. The most notable difference is that Siloni takes the external argument to bear the bundled thematic role (following Reinhart and Siloni 2005)

type of pluractional can only form the so-called dyadic argument frame, and the monadic frame is derivable from the dyadic one (for a detailed account see Ótrott-Kovács submitted).

- (29) a. **Monadic argument frame:** PL-subject(agent) V-(I)_§
 b. **Dyadic argument frame:** SG/PL-subject(agent) INSTR(agent) V-(I)_§
 (based on Siloni 2012)

The first point to make is that verbal reciprocals are not the only type of verb phrases that can be used in a dyadic argument configuration; all the verbs in (24) are compatible with this argument frame, including collaborative verbs¹⁰ such as *ağla-ş-* ‘cry together’. Consequently, the “discontinuous” construction is not a unique property of verbs with “reciprocal meanings,” but a broader feature of a type of pluractionals.

- (30) a. Figen Semih-**le** ağla-ş-t₁.
 Figen Semih-**INSTR** cry-PLRC-PST.3
 ‘Figen and Semih cried together.’
 b. Figen Semih-**le** mektup-la-ş-t₁.
 Figen Semih-**INSTR** letter-v-PLRC-PST.3
 ‘Figen and Semih exchanged letters.’
 c. Figen Semih-**le** para-y₁ kır-ı-ş-t₁.
 Figen Semih-**INSTR** money-ACC break-PLRC-PST.3
 ‘Figen and Semih divided the money amongst each other.’
 d. Figen Semih-**le** yaz-ı-ş-t₁.
 Figen Semih-**INSTR** write-PLRC-PST.3
 ‘Figen and Semih wrote to each other.’

The second point about (29) concerns the monadic argument frame, which requires the external argument to be plural. This ties in with the broader questions discussed in §2 relating to the plural subject requirement. The previous section argued that, given the theories about the introduction of the external argument (Kratzer 1996, *inter alia*), it is unlikely that a predicate can directly determine the number properties of the external argument. This idea is clearly challenged by the supposed monadic argument frame, as the pluractional (or the reciprocal in the original formulation by Siloni (2012)) calls for a plural subject. However, we argue that the idea proposed in §2 is still maintainable, because we consider the monadic argument frame to be a mere illusion, because the pluractionals in (24) can only construct the dyadic argument frame.

The idea developed in detail in Ótrott-Kovács (submitted) is that certain types of pluractionals can introduce an agent argument. In the case of *-(I)_§* verbs in (24), this agent argument is instrumental-marked, but other Turkic languages (e.g., in Kazakh and Kyrgyz) have another

“Agent+Theme,” and the instrumental phrase to not bear *any* thematic role but being interpreted as “Agent+Theme” because of the “symmetric” property of the verb. We do not follow this approach for several reasons, one being that the external argument is not always a “Theme,” as abundantly evidenced by the examples given in (28). For instance, in (28d) the external argument should be considered “Agent+Goal” and not “Agent+Theme.” Note that within the framework of Reinhart and Siloni (2005), it is impossible to model why the external argument is interpreted as “Agent+Goal,” as the “reflexivization” operation always targets the Theme.

¹⁰*Ağla-ş-* may have a non-collaborative meaning ‘whine.’ We consider this meaning a separate derivation by an iterative pluractional. Non-inchoative iterative pluractionals (such as *ağla-ş-* ‘whine’) are not discussed in this paper any further, but we note that there are a few *-(I)_§* verbs that are derived by this type of pluractional, e.g., *titre-ş-* ‘vibrate’ (*titre-* ‘shiver, vibrate’) and *kırp-ı-ş-* ‘flutter’ (*kırp-* ‘clip, trim; wink (an eye)’).

pluractional construction, the so-called assistive (for descriptive data see also Nedjalkov 2003, Nedjalkov 2006), that introduces a dative-marked agent argument. Thus, the proposal, to be fully developed in §3.3, is that the pluractional introduces as instrumental-marked (agent) argument, which is *Semih’le* ‘Semih-INSTR’ in the examples in (30). Ótrott-Kovács (submitted) shows for Kyrgyz and Kazakh that this instrumental phrase patterns as an argument on standard argumenthood diagnostics, such as the omission test, cross-sentential anaphora licensing and pivots in clefting (based on Gribanova 2013 and Akkuş 2021: 234-236). These claims extend to the Turkish data as well; for cross-linguistic data on the argument status of the instrumental phrase see Rákosi 2003 and Rákosi 2008.

We propose that the instrumental argument is *always* projected, even in *-(I)ş* constructions where it is not overt. Consider (31d) without the overt instrumental phrase, i.e., *Figen ve Semih Ø yazıştı*. This sentence is ambiguous between two readings: 1. ‘Figen and Semih exchanged written texts [with someone else].’ and 2. ‘Figen and Semih exchanged written texts [with each other].’ These interpretations can be disambiguated if we add an overt instrumental phrase, e.g., *Çiğdem’le* ‘Çiğdem-INSTR’ or *birbiriyle* ‘each.other-INSTR’. Notably, an instrumental phrase is always insertable in such constructions. The fact that there the instrumental-marked position is always fillable suggests that it is *always* projected, and that the source of the ambiguity is different interpretations of the implicit instrumental argument. Thus, the alleged monadic frame is the same as the dyadic one but with a covert instrumental argument: subject(agent) [INSTR(agent)] V-(I)ş.

- (31) a. Figen ve Semih (Çiğdem’-le / birbiri-yle) ağla-ş-tı.
 Figen and Semih (Çiğdem-INSTR / each.other-INSTR) cry-PLRC-PST.3
 ‘Figen and Semih cried (with Çiğdem / with each other).’
- b. Figen ve Semih (Çiğdem’-le / birbiri-yle) mektup-la-ş-tı.
 Figen and Semih (Çiğdem-INSTR / each.other-INSTR) letter-v-PLRC-PST.3
 ‘Figen and Semih exchanged letters (with Çiğdem / with each other).’
- c. Figen ve Semih para-yı (Çiğdem’-le / birbiri-yle) kır-ış-tı.
 Figen and Semih money-ACC (Çiğdem-INSTR / each.other-INSTR) break-PLRC-PST.3
 ‘Figen and Semih divided the money (amongst Çiğdem and themselves / amongst each other).’
- d. Figen ve Semih (Çiğdem’-le / birbiri-yle) yaz-ış-tı.
 Figen and Semih (Çiğdem-INSTR / each.other-INSTR) write-PLRC-PST.3
 ‘Figen and Semih exchanged written texts (with Çiğdem / with each other).’

To sum up, the reason why the *-(I)ş* verbs in (24) can license the reciprocal anaphor *birbiri(n)* is that they introduce an instrumental-marked argument that *birbiriyle* can fill. That is, in these constructions *birbiriyle* is not in adjunct position, therefore it can be licensed. Because of this very distinctive property of the verbs in (24), we refer to them as “argument introducing pluractionals.” In contrast, other types of pluractionals (motion verbs and *-(I)ş* inchoatives) do not introduce an instrumental argument, and therefore they cannot combine with *birbiri(n)*, because there is no argument position for the anaphor to occupy.

3.2 A closer look at the data

This section presents the data. We note that this dataset is not exhaustive (especially as regards to *-la-ş* reciprocals and (pseudo)intransitive reciprocals), but is meant to be representative of the different types of verbs (especially when it comes to the argument frames of the potential base

verbs). We used Nakipoğlu and Üntak’s (2008) verb list to compile our dataset. Finer points relating to the data will be discussed in §3.3.

3.2.1 Collaborative verbs

The group of verbs that we dub “collaborative” verbs is given in (32). The question marks with *cıvılda-ş-* and *öt-üş-* indicate that these verbs might not belong to this group (at least for some speakers). One of the native speakers we consulted did not reject *birbiriyle* with *cıvılda-ş-* and *öt-üş-*, but noted that it was “not preferred.” Other consultants accepted *birbiriyle* with all of these verbs.

(32) Collaborative *-(I)ş* verbs

Base		<i>-(I)ş</i> -verb	
ağla-	‘cry’	ağla-ş-	‘cry together’
? cıvılda-	‘chirp’	cıvılda-ş-	‘chirp together’
gül-	‘laugh’	gül-üş-	‘laugh together’
? öt-	‘chirp’	öt-üş-	‘chirp together’

3.2.2 *-LA-ş* reciprocals

In the group of verbs in (33), *-(I)ş* follows *-LA*, which is a well-known verbalizer, i.e., little-*v* head following non-verbal stems and potentially certain roots (Key 2013: 57-58 and passim, Key accepted). Notably, very few verbs in *-LA-ş* have an independently attested counterpart in *-LA*. Additionally, *-LA-ş* verbs that do have such a counterpart display divergent meanings from the corresponding form in *-LA*. For instance, *yüz-le-ş-* ‘meet face to face’ has a very different meaning than the supposedly corresponding *yüz-le-* ‘reproach, accuse openly’; the same goes for other pairs such as *hesap-la-* ‘count; calculate; estimate’ and *hesap-la-ş-* ‘settle old scores or outstanding accounts’, *karşıt-la-* ‘refute (a thesis) by proving the opposite’ and *karşıt-la-ş-* ‘contradict each other’. The only verbs where the meaning of the purported *-LA* stem and *-LA-ş* form are somewhat similar are *çift-le-ş-* ‘(for animals) mate’ and *eş-le-ş-* ‘(for people) become partners, pair off; (for animals) mate’¹¹; we consider these accidental similarities. The emerging picture is that *-LA-ş* verbs cannot be reasonably derived from an independent *-LA* stem. We address this question in §3.3.3.

¹¹Another similar pair, not on Nakipoğlu & Üntak’s list, is *kucak-la-* ‘embrace (tr.)’ and *kucak-la-ş-* ‘embrace (recip.)’

(33) -*la-ş* reciprocals

Base		- (<i>I</i>) <i>ş</i> -verb	
*ant-la-		ant-la-ş-	‘come to a solemn agreement’
*bayram-la-		bayram-la-ş-	‘exchange Bairam greetings’
*bir-le-		bir-le-ş-	‘join with, unite with’
*cebel-le-		cebel-le-ş-	‘struggle, quarrel’
*cenk-le-		cenk-le-ş-	‘fight, quarrel’
çift-le-	‘double; (for animals) mate, pair’	çift-le-ş-	‘(for animals) mate’
*dava-la-		dava-la-ş-	‘take e.o. to court’
*dert-le-		dert-le-ş-	‘have a heart-to-heart talk with e.o.’
eş-le-	‘pair, match’	eş-le-ş-	‘(for people) become partners, pair off; (for animals) mate’
*haber-le-		haber-le-ş-	‘communicate, correspond’
*hal-le-		hal-le-ş-	‘have a heart-to-heart talk with e.o.’
*helal-le-		helal-le-ş-	‘forgive e.o. any hurt done knowingly or unknowingly’
hesap-la-	‘count; calculate; estimate’	hesap-la-ş-	‘settle old scores or outstanding accounts’
*iddia-la-		iddia-la-ş-	‘bet with e.o.’
*kandil-le-		kandil-le-ş-	‘exchange kandil greetings’
karşıt-la-	‘refute by proving the opposite’	karşıt-la-ş-	‘contradict e.o.’
*kavga-la-		kavga-la-ş-	‘quarrel, fight’
*kavil-le-		kavil-le-ş-	‘make an agreement’
*küfür-le-		küfür-le-ş-	‘swear at e.o.’
*mahkeme-le-		mahkeme-le-ş-	‘sue e.o.’
*mektup-la-		mektup-la-ş-	‘exchange letters’
*nöbet-le-		nöbet-le-ş-	‘take turns’
*ortak-la-		ortak-la-ş-	‘enter into partnership with e.o.’
*pas-la-		pas-la-ş-	‘(in football) pass’
*pay-la-		pay-la-ş-	‘share’
*randevu-la-		randevu-la-ş-	‘agree on an appointment with e.o.’
*rest-le-		rest-le-ş-	‘(in gambling) mutually stake all one’s money’
*söz-le-		söz-le-ş-	‘promise e.o.’
*şaka-la-		şaka-la-ş-	‘joke with e.o.’
*toka-la-		toka-la-ş-	‘shake hands, clink glasses’
*uz-la-		uz-la-ş-	‘come to an agreement, reconcile differences’
*veda-la-		veda-la-ş-	‘say farewell to e.o.’
*yardım-la-		yardım-la-ş-	‘help e.o.’
yüz-le-	‘reproach openly’	yüz-le-ş-	‘meet face to face’

3.2.3 Transitive reciprocals with overt direct objects

There is a group of $-(I)\xi$ verbs, shown in (34), that can take an overt accusative-marked direct object. Strikingly, transitive reciprocals are limited to verbs that express dividing or sharing (*böl-üş-* ‘share, divide (smth) amongst e.o.’, *kap-ış-* ‘try to snatch at (something)’, *kır-ış-* ‘divide (smth) amongst e.o.’, *pay-la-ş-* ‘divide amongst e.o.’, *üle-ş-* ‘share (smth) with e.o.’) and verbs of discussing (*danış-* ‘consult with e.o. (about smth)’, *gör-üş-* ‘discuss (a topic) with e.o.’, *kon-uş-* ‘discuss (a topic)’, *tart-ış-* ‘debate (a topic) with e.o.’).

(34) Transitive reciprocals with overt direct objects

Base		$-(I)\xi$ -verb	
böl-	‘divide’	böl-üş-	‘share, divide (smth) amongst e.o.’
kap-	‘snatch’	kap-ış-	‘try to snatch at (something)’
kır-	‘break’	kır-ış-	(slang) ‘divide (smth) amongst e.o.’
*pay-la-		pay-la-ş-	‘divide amongst e.o.’
*üle-		üle-ş-	(formal) ‘share (smth) with e.o.’
*dan(1)-		danış-	‘consult with e.o. (about smth)’
gör-	‘see’	gör-üş-	‘discuss (a topic) with e.o.’
kon-	‘land on, perch, stay the night’	kon-uş-	‘discuss (a topic)’
tart-	‘weigh’	tart-ış-	‘debate (a topic) with e.o.’

3.2.4 (Pseudo)intransitive reciprocals

We call the reciprocal verbs in (35), (36) and (37) “(pseudo)intransitive,” because they are seemingly intransitive verbs, but we argue in §3.3.3 that they are, in fact, transitive.

First of all, not all (pseudo)intransitive reciprocals have an attested base; these verbs are listed in (35). In (36) and (37) verbs are categorized based on the type of argument (accusative (theme) or dative (goal, experiencer)) that their ostensible base-verb takes. We should emphasize that (36) and (37) establish a tentative distinction, because we eventually argue that these base verbs are not independently attested. Thus it is difficult to know if they take dative or accusative internal arguments.

(35) (Pseudo)intransitive reciprocals with no independently attested base

Base	$-(I)\xi$ -verb	
*did(i)-	didiş-	‘pick on e.o., scuffle’
*güre-	güreş-	‘wrestle’
*sarma-	sarmaş-	‘embrace e.o., be intertwined’
*tok(u)-	tokuş-	‘butt e.o., collide’

(36) (Pseudo)intransitive reciprocals with a (potentially) dative assigning vP base verb

Base		-(I)ş-verb	
at-	‘throw’	at-ış-	‘quarrel, try to make up with’
bağır-	‘shout at’	bağır-ış-	‘shout at e.o.’
bak-	‘look’	bak-ış-	‘look at e.o.’
çarp-	‘hit, strike, bump’	çarp-ış-	‘collide, clash, bump against e.o.’
çat-	‘come up against, scold, hit’	çat-ış-	‘clash, fight’
dayan-	‘rely on’	dayan-ış-	‘rely on e. o., support e. o.’
fisıl-da-	‘whisper’	fisıl-da-ş-	‘whisper to e.o.’
söv-	‘curse, swear at’	söv-üş-	‘swear at e.o.’
tak-	‘pick on, single out for harassment’	tak-ış-	‘tease e.o., quarrel’
yaz-	‘write’	yaz-ış-	‘write to e.o, correspond’

(37) (Pseudo)intransitive reciprocals with a (potentially) accusative assigning vP base verb

Base		-(I)ş-verb	
bil-	‘know’	bil-ış-	‘become mutually acquainted’
boğ-	‘choke, strangle’	boğ-uş-	‘be involved in a violent fight’
çek-	‘pull, draw, haul, tow’	çek-ış-	‘bicker’
döv-	‘beat’	döv-üş-	‘fight, struggle, (for armed forces) clash, join battle’
gör-	‘see’	gör-üş-	‘chat, meet for a chat, visit’
it-	‘push, shove’	it-ış-	‘push e.o., tussle, scuffle’
kak-	‘push’	kak-ış-	‘push and shove e.o.’
öp-	‘kiss on the cheeks or lips’	öp-üş-	‘kiss e.o. on the lips’
ört-	‘cover, hide, conceal’	ört-üş-	‘completely overlap with e.o.’
sev-	‘love’	sev-ış-	‘(typically) have sex, love each other’
tanı-	‘recognize, know, be acquainted with’	tanı-ş-	‘get/be acquainted with e.o.’
tart-	‘weigh’	tart-ış-	‘debate, have a discussion, argue’
tep-	‘(for animals) kick, trample’	tep-ış-	‘(for animals) kick each other, (for people) scuffle’
vur-	‘hit, strike’	vur-uş-	‘fight e.o.’

3.3 Towards an analysis

3.3.1 “Connectedness” of events

On the face of it, argument introducing $-(I)ş$ verbs require the denoted events to occur simultaneously, similarly to contemporaneous motion verbs. In (38a), the *looking* events denoted by the

intransitive reciprocal *bak-ış-* are not simultaneous; consequently *bak-ış-* cannot be used felicitously in this context. In contrast, when the events take place at the same time, as in (38b), *bak-ış-* is appropriate to use. Similarly, the *laughing* events denoted by the collaborative *-(I)ş* verb *gül-üş-* must be performed simultaneously, as in (39a); *gül-üş-* cannot be felicitously used in (39b), where the *laughing* events are temporally non-overlapping. This contemporaneity requirement appears to be similar to the one we observed in the case of the *-(I)ş* motion verbs in §2.1.1.

- (38) a. Figen looked at Semih while Semih was looking at a book. A minute later, Semih looked at Figen, but at that point Figen was looking at a book.
 #Figen'-le Semih bak-ış-tı.
 Figen-INSTR Semih look-PLRC-PST.3SG
 Intended: 'Figen and Semih looked at each other.'
- b. Figen and Semih looked at each other at the same time.
 Figen'-le Semih bak-ış-tı.
 Figen-INSTR Semih look-PLRC-PST.3SG
 'Figen and Semih looked at each other.'
- (39) a. In a theater, the viewers laughed at the same time (interacting with each other).
 Seyirci-ler gül-üş-tü.
 viewer-PL laugh-PLRC-PST.3SG
 'The viewers laughed.'
- b. In a theater, one viewer after the other laughed. (They didn't laugh at the same time.)
 #Seyirci-ler gül-üş-tü.
 viewer-PL laugh-PLRC-PST.3SG
 Intended: 'The viewers laughed.'

However, verbs of written communication, such as *haber-le-ş-* 'correspond', *mektup-la-ş-* 'correspond by letter', *mesaj-la-ş-* 'correspond by text message', *yaz-ış-* 'exchange (some form of) written texts', offer a different perspective: *writing* events denoted by *yaz-ış-* do not have to be contemporaneous, illustrated by (40a). (40a) demonstrates that argument introducing *-(I)ş* verbs can be used felicitously without their events being temporally overlapping. But, crucially, this does not mean that these verbs can express just any non-simultaneous events. (40b) describes a context where *Figen* and *Semih* wrote to each other independently, that is, the *writing* events, in some sense, are not connected to each other. The verbal reciprocal cannot be used felicitously in such contexts.

- (40) a. Figen wrote a message to Semih. Semih saw the message, and a minute later he wrote back to Figen.
 Figen'-le Semih yaz-ış-tı.
 Figen-INSTR Semih write-PLRC-PST.3SG
 'Figen and Semih wrote to each other.'
- b. Figen wrote a message to Semih, but Semih didn't notice it. Semih, completely unrelated to Figen messaging him, wrote a message to Figen just a minute after Figen sent him a message.
 #Figen'-le Semih yaz-ış-tı.
 Figen-INSTR Semih write-PLRC-PST.3SG
 Intended: 'Figen and Semih wrote to each other.'

The picture that emerges is that argument introducing $-(I)\xi$ verbs display a superficial resemblance to the temporal overlap requirement observed with contemporaneous motion verbs, but a more accurate generalization can be developed based on verbs of written communication. These verbs highlight that the events denoted by reciprocal $-(I)\xi$ verbs have to be in some sense connected to each other, and that temporal simultaneity observed with other verbal reciprocals might simply be an epiphenomenon of this “connectedness.”

A somewhat similar requirement can be observed with the collaborative $-(I)\xi$ verbs. There is a strong sense that the agents of the individual, for instance, *laughing* or *crying* events have to somehow interact with each other in addition to simultaneously performing these events. For example, (41a) is clearly degraded when compared to (41b), because the viewers in (41a) do not interact with each other.¹² We also note that speakers we consulted had various levels of confidence regarding how much interaction is necessary to felicitously use the verbs in (32),¹³ although they all shared the intuition that the typical scenario that these verbs evoke is where the agents interact with each other. It is difficult to make heads or tails of this “interaction requirement” in linguistic terms, but the observation made about reciprocal verbs in (40) might help us understand this unusual felicity condition. Our tentative suggestion is that the “interaction requirement” could be understood along the lines of “connectedness” as discussed for the reciprocal verbs. That is, collaborative verbs require the individual events to be somehow connected to each other, which materializes itself as a requirement (or preference) to have an interaction between the agents of these events.

- (41) a. Each viewer in a theater has their own box. They are listening to a comedian, and after a particularly funny joke, everyone laughed at the same time.
 #Her seyirci (kendi kabin-in-de) gül-üş-tü.
 every viewer (own box-POSS.3-LOC) laugh-PLRC-PST.3
 ‘Every viewer laughed (in their own boxes).’
- b. The audience is listening to a comedian, and after a particularly funny joke, everyone laughed at the same time exchanging looks with each other, winking at each other, etc. (That is, the viewers interacted with each other.)
 Seyirci-ler gül-üş-tü.
 viewer-PL laugh-PLRC-PST.3SG
 ‘The viewers laughed.’

Our proposal is that the “connectedness” requirement can be derived if we consider the events denoted by the pluractional to be subevents of one eventuality. That is, the pluractional decomposes the event denoted by the base predicate into smaller (sub)events. Given that the subevents are all part of one event, the “connectedness” property can be accounted for: for many

¹²We are grateful to Deniz Özyıldız for suggesting the context and sentences in (41a) and in fn. 13.

¹³Apparently the sentence in (ia) is acceptable even though the agents are physically separated, thus implying a lesser degree of interaction. However, when the interaction is contradicted by some overt linguistic expression such as *kendi kendilerine* ‘on their own’ in (ib) or the universal quantifier *her* in (41a), the sentence is less readily acceptable.

- (i) a. Seyirci-ler kendi kabin-ler-in-de gül-üş-tü.
 viewer-PL own box-PL-POSS.3-LOC laugh-PLRC-PST.3
 ‘The viewers laughed in their own boxes.’
- b. ??Seyirci-ler kendi kendi-ler-in-de gül-üş-tü.
 viewer-PL self self-PL-POSS.3-LOC laugh-PLRC-PST.3
 ‘The viewers laughed on their own.’

predicates, the subevents have to take place simultaneously to be able to construed as parts of one event; for the verbs of written communication, the subevents need to have something like a shared goal (e.g., the participants agree that they are going to stay in touch); and for the collaborative verbs, the participants have to interact for the individual *laughing* or *crying* events to be interpreted as subevents of one main event.

While several other researchers propose analyses that characterize the verbal reciprocal’s contribution by appealing to subevents (see in the lexicalist tradition Dimitriadis 2004, Dimitriadis 2008, Siloni 2012, but see also non-lexicalist analyses such as Faller 2007),¹⁴ our formulation diverges from them in one important aspect: we propose that the pluractional, in addition to define two sets of subevents of the event in the denotation of the main predicate, introduces an argument. This argument is the instrumental-marked phrase. The next section turns to the formal implementation of this idea.

3.3.2 The pluractional’s contribution

The pluractional takes a predicate of events (base vP), an individual y (the instrumental DP), a thematic role θ (supplied by Voice) and another individual x (the external argument), and returns an event e in the denotation of the main predicate ($V(e)$) such that there exist events e' and e'' that are subevents of event e ($e', e'' \leq e$) in the denotation of the base event ($V(e') \wedge V(e'')$), and the thematic role θ (e.g., Agent) of event e' is mapped onto the individual x (external argument) and the same thematic role θ of event e'' is mapped onto the individual y (the instrumental DP).

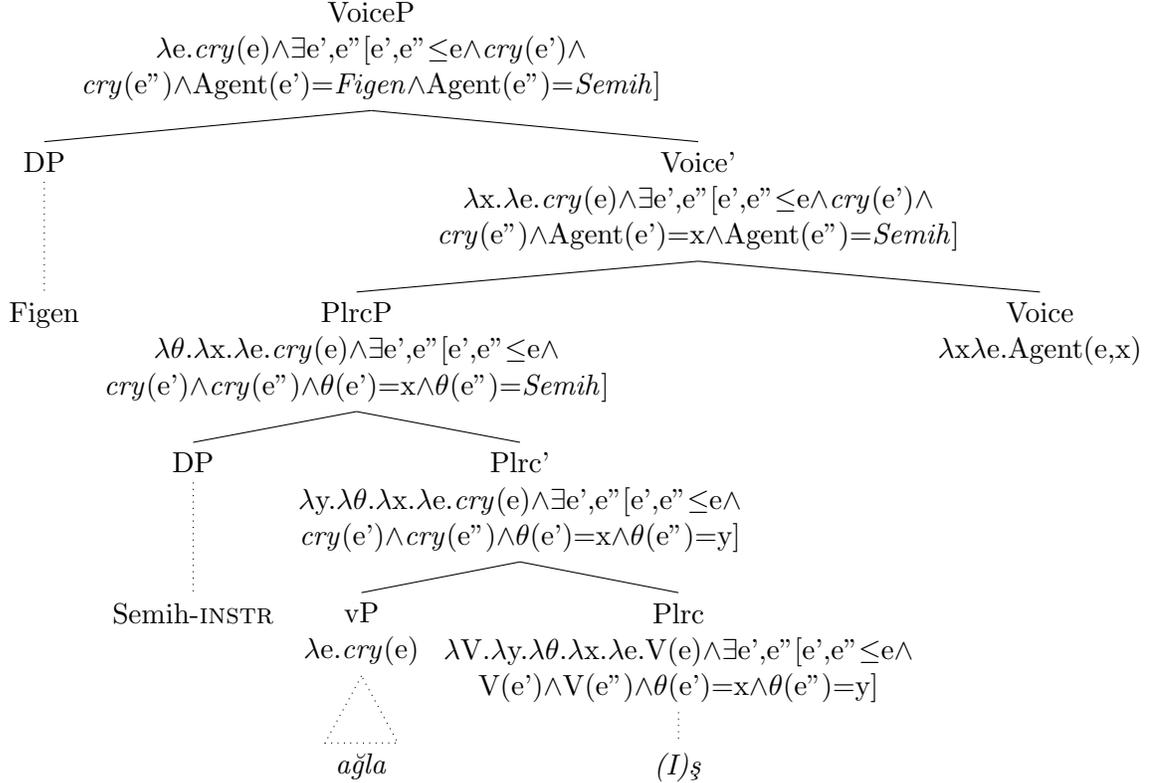
$$(42) \quad \llbracket \text{PLRC}_3 \rrbracket = \lambda V. \lambda y. \lambda \theta. \lambda x. \lambda e. V(e) \wedge \exists e', e'' [e', e'' \leq e \wedge V(e') \wedge V(e'') \wedge \theta(e')=x \wedge \theta(e'')=y]$$

A compositional analysis of the structure of *ağla-ş-* ‘cry together’, repeated in (43), is given in (44). The pluractional-marked predicate *ağla-ş-* denotes a *crying* event e such that there exist *crying* events e' and e'' , which are subevents of a *crying* event e , and the Agent of the *crying* subevent e' is *Figen*, and the Agent of the *crying* subevent e'' is *Semih*.

$$(43) \quad \text{Figen Semih-} \mathbf{le} \quad \text{ağla-ş-t}_1. \\ \text{Figen Semih-} \mathbf{INSTR} \text{ cry-PLRC-PST.3} \\ \text{‘Figen and Semih cried together.’}$$

$$(44) \quad \text{The structure of the verb phrase in (43)}$$

¹⁴I am not aware of any account that connects the verbal reciprocal’s “connectedness” properties to the proposed subevent-based analysis. The referenced literature’s motivation for suggesting a subevent analysis is usually based on adverbials such as *x times*. The adverb *x times* can only modify the “main” event, but not the subevents. For instance, *iki kere yaz-ış-* ‘correspond in writing two times’ cannot mean ‘perform two *writing* events’ (e.g., one by Figen and one by Semih, i.e., just one exchange), rather it expresses that ‘there were two written correspondences’ (e.g., Figen wrote twice to Semih and Semih wrote twice to Figen, i.e., four *writing* (sub)events in total) (see Siloni 2012 for detailed discussion on the *x times* adverbial diagnostics). Based on such data, they conclude that the verbal reciprocal defines event plurality in terms of subevents, and the reason why *x times* cannot target the individual *writing* events performed by Figen and Semih is that these are subevents, and such adverbs cannot modify subevents.



There are a few things to note about this analysis. First of all, the pluractional in (42) is responsible for introducing the argument y (*Semih-INSTR*).¹⁵ That is, this type of pluractional can introduce arguments. We maintain that the reason why this pluractional can introduce an argument is to individuate subevents. Events can be individuated by their temporal or spatial properties or their participants (Carlson 1998). Subevents e' and e'' are individuated by their external arguments. This has major ramifications for theories about argument introduction (e.g., Pylkkänen 2008, J. Wood and Marantz 2017, and many others). We invite the reader to look at Ótrott-Kovács (submitted), where this aspect of the analysis is explored in detail.

The “connectedness” facts presented in §3.3.1 can also be derived from this analysis. We characterize the pluractional’s contribution as defining subevents of a main event. These subevents must be connected somehow to be able to construed as subevents of the same event. For instance, depending on the lexical semantics of the verb, the event denoted by the verb might be expected to be performed in a temporally overlapping way or to have a shared telos. Thus the “connectedness” requirement can be accounted for by the proposed subevent-based analysis.

3.3.3 Reflexive component?

The analysis proposed in (42) straightforwardly explains collaborative verbs. But how about verbs with “reciprocal” semantics, that is, transitive reciprocals, *-la-ş* reciprocals and (pseudo)intransitive reciprocals? For instance, given the semantics in (42), a reciprocal verb such as *yaz-ış-* ‘write to each other’ should denote any kind of *writing* subevents performed by two agents, including non-reciprocal *writing* events (e.g., ‘Figen wrote to *Çiğdem* and Semih wrote to *Melih*.’). However, (45a) demonstrates that Turkish reciprocals cannot be used felicitously in such contexts. The only pos-

¹⁵We consider the instrumental case on this argument a lexical case assigned by the Plrc head.

sible context where such verbs can be uttered is where the participants were involved in reciprocal events, as in (45b).

Additionally, we also want to explain why a verb like *yaz-ış-* has a very specific reciprocal meaning, where a certain argument position seems to be targeted by the “reciprocal.” For instance, *yaz-ış-* is not felicitous in the context in (45c), in which Figen and Semih wrote letters *about* each other.

- (45) a. Figen exchanged letters with Çiğdem, and Semih exchanged letters with Melih.
 #Figen Semih'-le yaz-ış-tı.
 Figen Semih-INSTR write-PLRC-PST.3
 Intended: ‘Figen and Semih wrote [to someone].’
- b. Figen exchanged letters with Semih.
 Figen Semih'-le yaz-ış-tı.
 Figen Semih-INSTR write-PLRC-PST.3
 ‘Figen and Semih wrote to each other.’
- c. Figen wrote letters about Semih, and Semih wrote letters about Figen.
 #Figen Semih'-le yaz-ış-tı.
 Figen Semih-INSTR write-PLRC-PST.3
 Intended: ‘Figen and Semih wrote about each other.’

We start our discussion in §3.3.3.1 with an overview of why researchers posit a reflexive meaning component in *periphrastic* reciprocals, followed by a short discussion in §3.3.3.2 about a similar analysis of Cuzco Quechua verbal reciprocals. In §3.3.3.3 we turn to Turkish verbal reciprocals, and make the claim that if we look at *all* the so-called reciprocal verbs in Turkish (not just at the commonly cited (pseudo)intransitive reciprocals based on “accusative taking stems”), positing a reflexive component might be unnecessary. Instead, we argue that the pluractional always takes a *transitive* vP as its complement and, except for a limited set of verbs (transitive reciprocals), this transitive vP has a definite implicit argument.

3.3.3.1 Compositional analyses of periphrastic reciprocals

There is a significant linguistic tradition that treats periphrastic¹⁶ reciprocals as complex expressions of anaphoricity, event plurality and distinctness of co-arguments (Heim et al. 1991, Sternefeld 1998, Beck 2001, among many others). According to one line of approaches advocated by Beck and Sauerland 2000 and Beck 2001 based on Langendoen 1978, a (periphrastic) reciprocal such as (46) is taken to denote something similar to “Figen and Semih looked at *Figen and Semih* (but Figen did not look at Figen, and Semih did not look at Semih),” shown in (47). *Each other* in the reciprocal establishes anaphoric relation with the binding subject *Figen and Semih*, thus constructing the “Figen and Semih looked at *Figen and Semih*” meaning postulate. To block identity relations between the subjects and objects, “ $x \neq y$ ” and “ $z \neq w$ ” are added to the formula; the source of this requirement to block identity of co-arguments is a debated issue; for different approaches see Heim et al. 1991, Beck 2001, Faller 2007. Importantly for our purposes, the reciprocal in (46)

¹⁶Periphrastic reciprocals contain an over reciprocal anaphor. E.g., The English “Figen and Semih **looked at each other**” is a periphrastic reciprocal. This contrasts with verbal reciprocals, which can express similar, although not identical meanings by means of a verbal functional projection. As shown in Ótrott-Kovács (submitted), periphrastic and verbal reciprocals have different truth conditions.

also denotes a plurality of *looking* events, as, intuitively, there need to be multiple *looking* events if it is the case that *Figen looked at Semih* and *Semih looked at Figen*.¹⁷

- (46) Figen ve Semih birbirin-e bak-t₁.
 Figen and Semih each.other-DAT look-PST.3
 ‘Figen and Semih looked at each other.’

- (47) LF of “Figen and Semih looked at each other.”
 $(\forall x \in \text{Figen and Semih}) (\exists y \in \text{Figen and Semih look}(x)(y)) \wedge \mathbf{x} \neq \mathbf{y} \wedge (\forall w \in \text{Figen and Semih}) (\exists z \in \text{Figen and Semih look}(z)(w)) \wedge \mathbf{z} \neq \mathbf{w}$

(based on Langendoen 1978)

3.3.3.2 A compositional analysis of verbal reciprocals with valency reduction

The question is how this analysis can be extended to verbal reciprocals, which express similar meanings to their periphrastic counterparts.¹⁸ A compelling answer to this question comes from Faller (2007), who analyzes Cuzco Quechua (Quechuan) verbal reciprocals. A notable property of the Cuzco Quechua verbal reciprocal construction in (48) is that it consists of a pluractional (-*na*) and a reflexive morpheme (-*ku*). This motivates a compositional analysis, whereby verbal reciprocals are composed of anaphoricity (defined in terms of reflexivity), event plurality (provided by the pluractional) and distinctness of co-arguments. That is, at least for some languages the verbal reciprocal can be derived compositionally by appealing to pluractionality, reflexivity and distinctness of co-arguments.

- (48) Hayt’a-na-ku-n-ku.
 kick-PLRC-REFL-3-PL
 ‘They kicked each other.’

(CUZCO QUECHUA verbal reciprocal, Faller 2007: 255)

An obvious distinction between the Turkish and Cuzco Quechua verbal reciprocals is that there is no overt reflexive exponent in the Turkish reciprocal construction, despite the fact that Turkish has verbal reflexives. Key (Key 2022, Key accepted) shows that the nonactive Voice exponent -*Il* has reflexive readings, and that Turkish additionally has a distinct reflexive suffix of the form -(*I*)*n*.¹⁹

¹⁷Beck (2001) defines this event plurality using the **-operator. The exact formulation of the **-operator is not to focus of this paper, but for more comprehensive discussion see Ótrott-Kovács submitted, or the referenced literature.

¹⁸See Ótrott-Kovács (submitted) for an overview of other accounts on verbal reciprocals. Notably, many other accounts treat the verbal reciprocal as a “special” verbal category. The argument advanced in this paper is that verbal reciprocity is a complex verbal expression that can be derived compositionally, similarly to periphrastic reciprocals.

¹⁹The nonactive Voice morpheme also appears as -(*I*)*n* in certain phonological contexts, where it is homophonous with the reflexive; Key (Key 2022) controls for environment to demonstrate that that these really are two distinct morphemes. He in fact argues that the so-called “reflexive” is an applicative; here we identify it as “reflexive” in the interest of simplicity.

- (49) a. Tart-ıl-dı-m.
weigh-NACT-PST-1SG
'I weighed myself.'
- b. Giy-in-di-m.
wear-REFL-PST-1SG
'I got dressed.'

Yet the nonactive Voice suffix co-occurs with $-(I)\textit{\text{ş}}$ only on a passive or impersonal reading (see Atlamaz and Öztürk (this volume)): *bak-ı\textit{\text{ş}}-ıl-* 'for looking at each other to be done,' *yaz-ı\textit{\text{ş}}-ıl-* 'for writing to each other to be done.' The reflexive does not co-occur with $-(I)\textit{\text{ş}}$ at all: **bak-ı\textit{\text{ş}}-ın-*, **yaz-ı\textit{\text{ş}}-ın-*. We argue that this is not a coincidence: the Turkish pluractional does not combine with a reflexive, but rather takes a *transitive* verb phrase as its complement. This transitive vP may have two types of arguments: a small group of verbs, denoting sharing or discussion, may take an overt DP (transitive reciprocals), but the overwhelming majority of verbs take a definite implicit argument ($-lA-\textit{\text{ş}}$ reciprocals and (pseudo)intransitive reciprocals). This implicit argument creates the illusion that reciprocal verbs are "intransitive."

3.3.3.3 Proposal: A compositional analysis of verbal reciprocals *without* valency reduction

Unsurprisingly, the first piece of evidence against the valency reduction, or reflexivizing, view of Turkish reciprocals comes from transitive reciprocals. The verbs in (34) can take an overt accusative-marked object, as demonstrated by the verb *kır-ı\textit{\text{ş}}-* 'divide something amongst each other' in (50), which takes a direct object, *para-yı* 'money-ACC'. If the reciprocal contained a reflexivizing component, or alternatively if it combined with phonologically zero reflexive head, it is puzzling why (50), containing an overt direct object, is a grammatical sentence. While one may want to argue that there could be different types of reciprocals, e.g., valency reducing and valency maintaining reciprocals, this is an obvious wrinkle in the reflexivization approach to reciprocals.

- (50) Figen Semih'-le **para-yı** kır-ı\textit{\text{ş}}-tı.
Figen Semih-INSTR **money-ACC** break-PLRC-PST.3
'Figen and Semih divided the money amongst each other.'

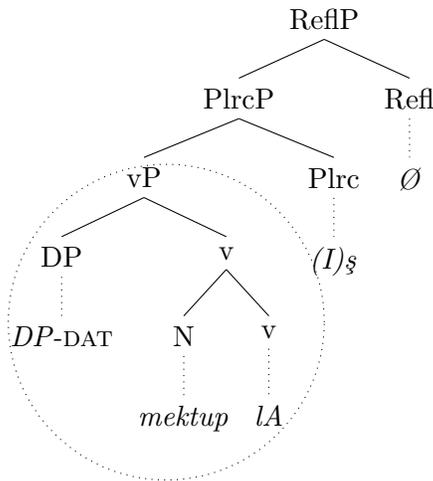
The problems for the valency reduction view only compound once we consider the prima facie intransitive $-lA-\textit{\text{ş}}$ reciprocals. As mentioned in §3.2.2, the $-lA-\textit{\text{ş}}$ verbs in (33) do not have any counterpart in $-lA$. For instance, there is no transitive verb **helal-le-* 'forgive' or a dative argument taking verb **mektup-la-* corresponding to *helal-le-\textit{\text{ş}}-* and *mektup-la-\textit{\text{ş}}-*; (51a) and (52a) are nonsensical.

- (51) a. **Figen Semih'-i helal-le-di.*
Figen Semih-ACC lawful-v-PST.3
Intended: 'Figen forgave Semih.'
- b. Figen Semih'-le helal-le-\textit{\text{ş}}-tı.
Figen Semih-INSTR lawful-v-PLRC-PST.3
'Figen and Semih forgave each other.'

- (52) a. *Figen Semih'-e mektup-la-dı.
 Figen Semih-DAT letter-v-PST.3
 Intended: 'Figen sent letters to Semih.'
- b. Figen Semih'-le mektup-la-ş-tı.
 Figen Semih-INSTR letter-v-PLRC-PST.3
 'Figen and Semih exchanged letters with each other.'

If there is a reflexive component in the reciprocal, one would need to say that *-lA* stems similar to *helal-le-* in (51a) and *mektup-la-* in (52a) do in fact exist, as they are needed to provide accusative or dative targets for the valency reducing reflexivization operation. A possible way to represent this idea is given in (53), where the reciprocal meaning is construed by the *combination* of the pluractional and reflexive projections, similar to what we saw in Cuzco Quechua. In this hypothetical structure, the pluractional takes as its complement a transitive vP, which is a *-lA* verb, such as *helal-le-*, *mektup-la-*, etc.²⁰ However, the dilemma is that at the same time one would also need to maintain that even though the transitive *helal-le-* and dative taking *mektup-la-* exist, they never surface without the pluractional *-(I)ş*. This position seems especially difficult to defend given the large number of *-lA-ş* reciprocals, which, without fail, lack a *-lA* counterpart. That is, any account that argues that there is a valency reduction in *-lA-ş* reciprocals has to explain why the transitive base verbs are *never* independently attested. We consider this a serious problem for a reflexivization approach.

- (53) A possible *-lA-ş* reciprocal structure (to be dismissed)



Our proposal in (55) is that the same pluractional that we defined in (42) takes a *transitive* vP complement. The v head of this projection has strict selectional properties: it only selects for a definite implicit argument, which we notate as ι (in the sense of Bruening 2021).

We follow Bruening (2021) in assuming that verbs do not take optional arguments; rather, they always combine with a syntactic object, regardless of whether their implicit argument²¹ has

²⁰We abstract away from the instrumental argument introduced by the pluractional in this representation. An additional problem with this structure is how to derive reflexivization in the presence of arguments introduced at two different points of the derivation. This structure does not easily lend itself to established analyses on reflexivization, such as “delayed gratification” (Myler 2016). Our proposed analysis circumvents this issue by suggesting that there is *no* reflexivization in the Turkish reciprocal.

²¹For an overview on implicit arguments see Bhatt et al. 2006, Landau 2010, Williams 2015.

an indefinite or definite interpretation (Bruening 2021: 1053-1055). Furthermore, lexical verbs may determine certain properties of their *internal* argument (but not their external argument, as extensively argued in the present paper), such as the type of implicit argument with which they may combine. For instance, lexical verbs can determine whether their implicit internal argument has an “indefinite” or “definite” interpretation (see e.g., Fillmore 1986 for an early version of this idea, also see Bruening 2021, and references therein, esp. Groefsema 1995). For instance, English *eat* takes an indefinite implicit direct object (*She was eating, but I wonder what*), but *find out* takes a definite implicit object (*She found out, #but I wonder what*) (examples based on Fillmore 1986: 96).

The proposal in (55) is that the little-*v* that the pluractional composes with can only take a definite implicit argument ι . A tentative proposal for the meaning of ι is given in (54), following Bruening (2021), with the caveat that this definition most probably needs to be amended in the future. (54) is a simple definition of unique definiteness. But we note that it might be more appropriate to define this implicit argument to denote something like “the other.” We leave the exact definition of this implicit argument to future work.²² This is how it works together with the pluractional: when the pluractional combines with a vP that takes a definite implicit argument, such as in *mektup-la-ş-* in (52b), the pluractional returns an event in the denotation of the base predicate such that it has subevents e' and e'' , which are in the denotation of the base predicate. At the level of VoiceP, the Agent of e' is defined as *Figen*, and the Agent of e'' is *Semih*, shown in (55). The meaning that we end up with is that the e' subevent is a *letter-sending* event whose Goal is the other and its agent is *Figen*, and the e'' subevent is a *letter-sending* event whose Goal is the other and its agent is *Semih*, i.e., something like ‘Figen sent letters to the other and Semih sent letters to the other.’ Because of the syntactic structure of the reciprocal, the referent of the contextually unique person (or “the other”) is always an individual who is the agent of the other subevent(s).²³

Because the internal argument is implicit, it creates the false impression that the reciprocal is intransitive. Similarly to Cuzco Quechua, where the pluractional and the reflexive *together* compose the reciprocal meaning, in Turkish this “special” transitive vP and the pluractional are responsible for construing reciprocity.

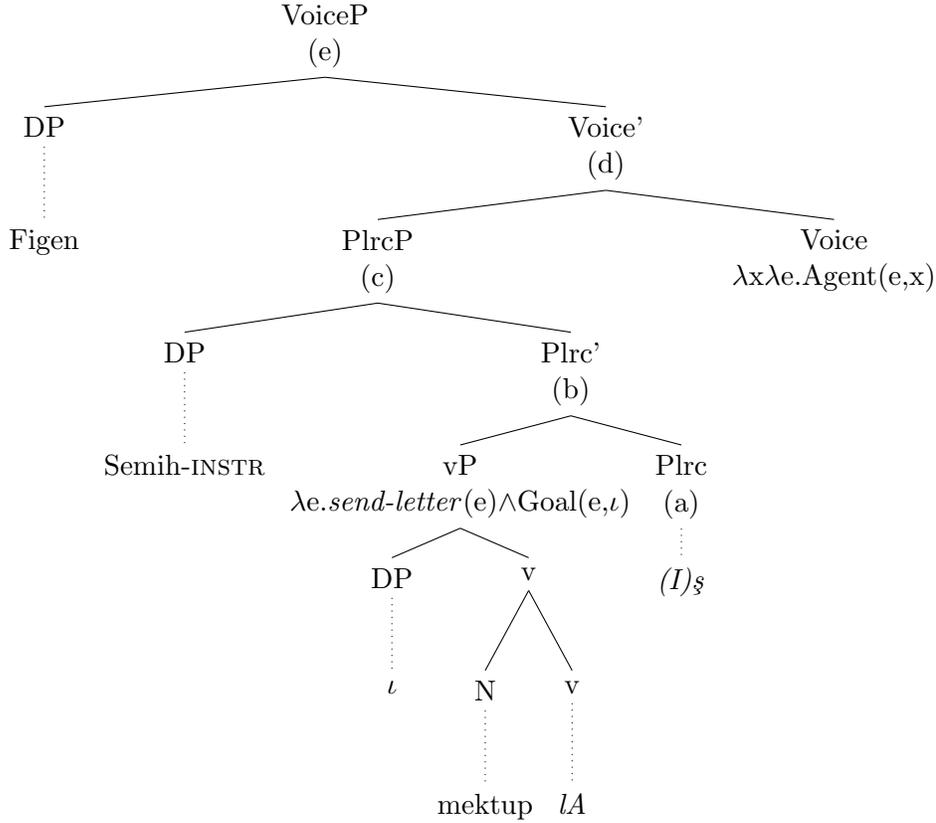
$$(54) \quad \llbracket \iota \rrbracket = \lambda f_{\langle e, st \rangle} . \lambda e . \iota x . f(e, x)$$

(Bruening 2021: 1055)

²²There is a substantial discussion of the semantic contribution of *other* in Heim et al. (1991). At this point, it is unclear to us if this implicit argument can be defined the same way as English *other* in *each other* or *one another*.

²³“Reflexive” interpretations of the definite implicit argument need to be excluded, i.e., we have to rule out the meaning ‘Figen sent letters to a contextually unique individual, which is Figen, and Semih sent letters to a contextually unique individual, which is Semih,’ which the Turkish verbal reciprocal cannot express. If the implicit argument does in fact express something like “the other,” this is unproblematic. But there are other ways to rule out co-reference between the agent and internal argument, see Heim et al. 1991, Beck 2001, Faller 2007.

(55) Proposed structure of *-lA-ş* reciprocals



$$(a) \lambda V.\lambda y.\lambda \theta.\lambda x.\lambda e.V(e) \wedge \exists e',e''[e',e'' \leq e \wedge V(e') \wedge V(e'') \wedge \theta(e')=x \wedge \theta(e'')=y]$$

$$(b) \lambda y.\lambda \theta.\lambda x.\lambda e.send\text{-}letter(e) \wedge Goal(e,\iota) \wedge \exists e',e''[e',e'' \leq e \wedge send\text{-}letter(e') \wedge Goal(e',\iota) \wedge send\text{-}letter(e'') \wedge Goal(e'',\iota) \wedge \theta(e')=x \wedge \theta(e'')=y]$$

$$(c) \lambda \theta.\lambda x.\lambda e.send\text{-}letter(e) \wedge Goal(e,\iota) \wedge \exists e',e''[e',e'' \leq e \wedge send\text{-}letter(e') \wedge Goal(e',\iota) \wedge send\text{-}letter(e'') \wedge Goal(e'',\iota) \wedge \theta(e')=x \wedge \theta(e'')=Semih]$$

$$(d) \lambda x.\lambda e.send\text{-}letter(e) \wedge Goal(e,\iota) \wedge \exists e',e''[e',e'' \leq e \wedge send\text{-}letter(e') \wedge Goal(e',\iota) \wedge send\text{-}letter(e'') \wedge Goal(e'',\iota) \wedge Agent(e')=x \wedge Agent(e'')=Semih]$$

$$(e) \lambda e.send\text{-}letter(e) \wedge Goal(e,\iota) \wedge \exists e',e''[e',e'' \leq e \wedge send\text{-}letter(e') \wedge Goal(e',\iota) \wedge send\text{-}letter(e'') \wedge Goal(e'',\iota) \wedge Agent(e')=Figen \wedge Agent(e'')=Semih]$$

This analysis can successfully account for several puzzling facts pertaining to *-lA-ş* reciprocals. Firstly, in the introduction we set out to account for why *mektup-la-ş* in (52b) means ‘Figen and Semih wrote letters *to* each other’ and not, for example, ‘Figen and Semih wrote letters *about* each other’. (55) can readily explain this, as the implicit argument ι is in a specified relation to v . In this case it is the Goal relation. This point relates to a broader observation about Turkish verbal reciprocals: the targeted position is always the internal argument, and adjuncts are not appropriate targets (e.g., *about each other* would be an adjunct target). This is again predicted under the view that the vP selects for an implicit argument; as the vP could not select for an adjunct, Turkish

reciprocalization cannot target adjunct positions.

Secondly, (55) can explain why the *-lA* stems corresponding to *-lA-ş* verbs never occur independently. This is because the *v* head, realized by *-lA*, selects for an implicit argument with a “special” internal argument, which can only be felicitously used in this specific linguistic context. As this little-*v* does not select for overt DP arguments, overt direct objects with verbs such as *helal-le-* in (51a) and *mektup-la-* in (52a) are banned.

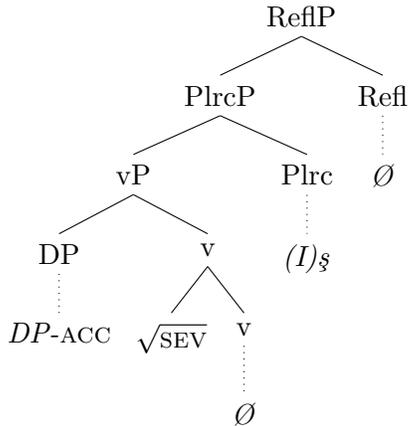
Additionally, (55) also offers a possible explanation for why the agents perform the event on each other, i.e., in a reciprocal fashion. Our account suggests that the agents involved in the event always provide the referent for the implicit argument ι .

Now we turn to (pseudo)intransitive reciprocals, and show how this analysis is extendable to them as well. On the face of it, the group of verbs in (35), (36) and (37) is the poster child for the valency reduction approach: the majority of base verbs seem to take an internal argument, which is systematically missing with the *-(I)ş* verbs. *Sev-* ‘love’ in (56a) takes an accusative object, but an overt accusative object is ungrammatical with *sev-iş-* ‘have sex’ in (56b); *yaz-* ‘write’ may take a dative argument in (57a), but *yaz-iş-* ‘write to each other’ in (57b) cannot.

- (56) a. Figen **Semih’-i** sev-di.
 Figen **Semih-ACC** love-PST.3
 ‘Figen loved Semih.’
- b. Figen Semih’-le (***onu**) sev-iş-ti.
 Figen Semih-INSTR (***s/he.ACC**) love-PLRC-PST.3
 ‘Figen and Semih had sex with each other.’
- (57) a. Figen **Semih’-e** yaz-di.
 Figen **Semih-DAT** write-PST.3
 Intended: ‘Figen wrote to Semih.’
- b. Figen Semih’-le (***ona**) yaz-iş-ti.
 Figen Semih-INSTR (***s/he.DAT**) write-PLRC-PST.3
 ‘Figen and Semih wrote to each other.’

This and similar data seemingly support the reflexivization view, which could be represented as in (58). This approach would maintain that these *-(I)ş* verbs are derived from *existing* transitive vPs, and the reflexive head detransitivizes this base vP.

(58) A possible (pseudo)intransitive reciprocal structure (to be dismissed)



This approach makes two important predictions: 1. the transitive base verb should be an existing verb (as a base is needed for the detransitivization operation), and 2. the lexical meaning of the $-(I)\xi$ verb should be transparently derivable from the base vP’s meaning, as the meaning of the vP should not change in the course of the subsequent deviation (see Levinson 2010, Marantz 2013 and references therein on how “semantic flip-flopping” should be ruled out). None of these predictions are borne out.

Starting with the first prediction, consider the table in (35), which offers a list of (pseudo)-intransitive reciprocals that do not have an attested base. If it is indeed the case that verbal reciprocals are derived from transitive bases, it is a mystery how some of them would lack a transitive stem. The question is how the reflexive knows which argument position to target if there is no attested base predicate. While we could shrug this complication off by assuming that, given the small number of such $-(I)\xi$ verbs, the transitive base probably exists but never surfaces independently, the issue of verb meanings is much more damning. This is what we turn to now.

(36) and (37) list $-(I)\xi$ verbs that ostensibly have a transitive base. If this is in fact right, one would expect that the reciprocal’s meanings can be transparently derived from the base verb’s meaning. As neither the pluractional nor the reflexive projection is root-adjacent in (58), it is not predicted that the $-(I)\xi$ verbs should display idiosyncratic meanings.

However, we have extensive data to the contrary: many of the $-(I)\xi$ verbs’ meanings are not straightforwardly derivable from their supposed base verb’s meaning. (59) offers an overview of the most salient examples. Take *gör-üş-* as an example: *gör-* ‘see’ most typically denotes an actual *seeing* event, whereas *gör-üş-* ‘chat, meet for a chat, visit’ can be used without the agents physically seeing each other (e.g., *Telefonda görüştük*. ‘We had a meeting over the phone’). *Öp-* ‘kiss on the cheeks or lips’ can denote any type of *kissing* event, but *öp-üş-* expresses kissing on the lips only. The agents of *boğ-uş-* ‘be involved in a violent fight’ do not have to literally choke each other, despite the base verb *boğ-* denoting only literal *choking* or *strangling* events. The list goes on.

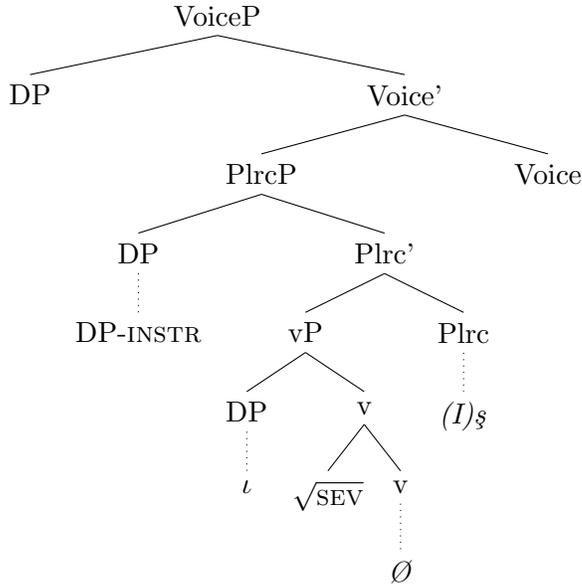
(59)

Base		-(I) <i>ş</i> -verb	
at-	‘throw’	at-ı \check{s} -	‘quarrel, try to make up with’
boğ-	‘choke, strangle’	boğ-u \check{s} -	‘be involved in a violent fight’
çat-	‘come up against, scold, hit’	çat-ı \check{s} -	‘clash, fight’
çek-	‘pull, draw, haul, tow’	çek-ı \check{s} -	‘bicker’
gör-	‘see’	gör-ü \check{s} -	‘chat, meet for a chat, visit’
öp-	‘kiss on the cheeks or lips’	öp-ü \check{s} -	‘kiss e.o. on the lips’
sev-	‘love’	sev-ı \check{s} -	‘(typically) <i>have sex</i> , love each other’
tart-	‘weigh’	tart-ı \check{s} -	‘debate, have a discussion, argue’
tep-	‘(for animals) kick, trample’	tep-ı \check{s} -	‘(for animals) kick each other, (<i>for people</i>) <i>scuffle</i> ’

So far we have established that (pseudo)intransitive reciprocals can be derived from non-existing stems and there is often a significant meaning shift observed between the alleged transitive base verb and the -(I)*ş* verb. These facts are problematic for (58), but can be explained by our proposed structure in (60). The proposal is that (pseudo)intransitives in (35), (36) and (37) are derived the exact same way as -*LA-ş* verbs: the root is embedded by a “special” v, which introduces the implicit internal argument notated as ι . That is, these -(I)*ş* verbs are independently derived from the root: the vP in *sev-* ‘love’ and the vP *sev-* in *sev-ı \check{s} -* ‘have sex’ are derived by a different v head. The former selects for an overt DP argument, whereas the latter selects for the definite implicit argument. The divergent meanings are the result of different derivations: *sev-ı \check{s} -* ‘have sex’ is not derived from the vP *sev-* ‘love’, but from the root \sqrt{sev} embedded by a (different) v. Furthermore, -(I)*ş* verbs without an attested base are no longer a mystery under the proposed analysis, but predicted to occur.²⁴

(60) Proposed structure of (pseudo)intransitive reciprocals

²⁴A potential complication for the proposed analysis involves the case marking of the causee under causativization. The causee of causatives with transitive base verbs is in the dative. Consequently, it is predicted that, if the verbal reciprocals are transitive, then the causee should be dative with causativized verbal reciprocals (e.g., in a construction like “to have Figen exchange written correspondences with Semih”). Yet this is not what we see; the causee is in the accusative. While such data do not support the proposed analysis, they might not refute it either. This problem is reminiscent of the failure of impersonal passives to license accusative case (Legate et al. 2020). The null external argument in impersonal passives should license accusative case on the direct object, but for some reason it cannot. This seems parallel to our problem, as in both instances the implicit argument fails to participate in mechanisms related to case assignment.



In summary, this subsection argued against the valency reducing approach to Turkish verbal reciprocals. Instead, we demonstrated that to compose the reciprocal meaning, Plrc combines with 1. either a small group of transitive vPs, denoting sharing or discussion, that select for an overt DP argument (verbs in (34)), or 2. a vP that selects a definite implicit argument (verbs in (35), (36) and (37)).

3.4 Putting the pieces together (as a summary)

This section has made some radical claims about the group of $-(I)\text{ş}$ verbs presented in §3.2. We first argued that this group of verbs introduces an instrumental argument by demonstrating that all of these verbs combine with the anaphor *birbiriyle* ‘with each other’, which sets them apart from other types of (pluractional) verbs. This claim has wide-ranging implications for the theory of argument introduction, which have been explored in detail in Ötött-Kovács submitted. This type of pluractional comprises the collaborative $-(I)\text{ş}$ verbs and verbal reciprocals (transitive, $-IA\text{-ş}$ and (pseudo)intransitive reciprocals).

Collaborative verbs (*ağla-ş-* ‘cry together’, *gül-üş-* ‘laugh together’, *civilda-ş-* ‘chirp together’, *öt-üş-* ‘chirp together’) are derivable by the proposed pluractional attaching to the independently attested verb stems, *ağla-* ‘cry’, *gül-* ‘laugh’, *civilda-* and *öt-* ‘chirp’.

Reciprocals are different. To derive the reciprocal meaning, the Plrc takes a vP that can only take a definite implicit argument. This analysis can successfully capture several important facts pertaining to Turkish verbal reciprocals: 1. the lack of reflexive (or detransitivizing) morphology; 2. the absence of an overt internal DP (either accusative or dative); 3. that the reciprocalization targets specific internal argument positions; 4. that the base verbs corresponding to the verbal reciprocals either do not occur independently from the pluractional (all $-IA\text{-ş}$ verbs and (pseudo)intransitives without an attested base in (35)) or there is often a significant meaning difference between an independently attested verb and the $-(I)\text{ş}$ reciprocal (shown in (59)).

This section presented a plausible novel way to derive verbal reciprocals. We saw that in languages such as Cuzco Quechua verbal reciprocals are composed of a pluractional and a reflexive element. To the best of our knowledge, it has not been proposed that verbal reciprocals may be derived without a detransitivizing (e.g., reflexive) head. Our account suggests that Turkish construes verbal reciprocals with a pluractional embedding a *transitive* vP with an implicit argument. This

not only contributes to our understanding of verbal reciprocals’ structure but also to the study of implicit arguments.

4 $-(I)\text{ş}$ inchoatives

In addition to pluractional motion verbs and argument introducing pluractionals, $-(I)\text{ş}$ also forms numerous inchoative verbs. We argue that it does not do so through a valency reduction process such as decausativization (Reinhart 2003) or anticausativization (Koontz-Garboden 2009). That is to say, $-(I)\text{ş}$ inchoatives are not derived from a corresponding transitive verb. As shown below, in the overwhelming majority of cases no such transitive verb even exists, and when it does the semantics are often so divergent that it is not a plausible base of derivation for the inchoative. Rather than being the output of detransitivization, $-(I)\text{ş}$ inchoatives are independent derivations from a verbal root or stem. We argue that $-(I)\text{ş}$ inchoatives are also pluractional, which explains why they bear the same marking as reciprocal, collaborative, and $-(I)\text{ş}$ motion verbs. Specifically, they are iterative pluractionals involved in building degree achievements (Dowty 1979), whose denotation involves progress along a property scale comprising an iteration of change-of-state subevents.

This section is structured as follows: §1 examines ostensibly deverbal marked with $-(I)\text{ş}$ and shows that they are not anticausatives derived through valency reduction. §2 presents further evidence for this from deadjectival and denominal verbs. §3 presents our analysis, whereby the iterative pluractional derives the durative component through iteration of achievement subevents with comparative result states.

4.1 Properties of $-(I)\text{ş}$ inchoatives

4.1.1 (Ostensibly) deverbal inchoatives

Although there are apparently deverbal inchoatives bearing the suffix $-(I)\text{ş}$, we claim that none of these are anticausatives in the strict sense of Haspelmath (1993)—that is, they are not morphologically more complex than a corresponding transitive alternant. This claim may be surprising given the existence of transitive/intransitive pairs that appear to exhibit just this pattern. Gandon (2013) has assembled a dozen such pairs (pp. 16-17), provided below for consideration. The simplex stems below are all transitive, and the suffixed forms are intransitive.

(61) Gandon’s (2013) transitive/intransitive $-(I)\text{ş}$ pairs

Transitive		Inchoative	
bur-	‘twist’	bur-uş-	‘crumple’
kır-	‘break’	kır-ış-	‘wrinkle’
sav-	‘ward off’	sav-uş-	‘slip away’
ayır-	‘separate’	ayr-ış-	‘decompose’
bula-	‘smear’	bula-ş-	‘contaminate’
kar-	‘mix’	kar-ış-	‘mix’
sıva-	‘plaster, daub’	sıva-ş-	‘smear’
sok-	‘insert’	sok-uş-	‘enter a tight space’
sürt-	‘rub against’	sürt-üş-	‘rub against each other’
tık-	‘stuff into’	tık-ış-	‘get stuffed into’
ula-	‘join’	ula-ş-	‘reach’
yığ-	‘heap’	yığ-ış-	‘heap on top of one another’

However, the apparent anticausative relation in (61) is an optical illusion. The first thing to notice is that, in most of the pairs, the semantics of most of the $-(I)\mathcal{S}$ forms diverge from the simple forms to some extent. The most striking example is the supposed anticausative of *kır-* ‘break (tr.)’: *kır-ıṣ-* does not have the expected meaning of ‘break (int.)’ but instead means ‘wrinkle (int.)’. The others are less dramatic, but in most cases the $-(I)\mathcal{S}$ -marked verb has a component of meaning that is absent from the simple transitive. This is at odds with one of the defining characteristics of the causative/inchoative alternation, namely that both members share a core event. Most of the above transitives have a true anticausative formed with nonactive Voice ($-Il$ or $-n$), which preserves the core meaning of the transitive; all of the inchoatives have a transitive alternant that stacks the causative suffix $-Dir$, retaining the suffix $-(I)\mathcal{S}$ and its associated meaning. Hence the transitive forms in (61) properly belong to the Anticausative alternation type and the intransitives to the Causative type, shown in (62) (Haspelmath 1993).

(62)

Anticausative coding				Causative coding			
Transitive		Intransitive		Intransitive		Transitive	
bur-	‘twist’	bur-ul-	‘twist’	bur-uṣ-	‘crumple’	bur-uṣ-tur-	‘crumple’
kır-	‘break’	kır-il-	‘break’	kır-iṣ-	‘wrinkle’	kır-iṣ-tır-	‘wrinkle’
sav-	‘ward off’	sav-ul-	‘draw aside’	sav-uṣ-	‘slip away’	sav-uṣ-tur-	‘fend off’
ayır-	‘separate’	ayır-il-	‘separate’	ayır-iṣ-	‘decompose’	ayır-iṣ-tır-	‘decompose’
bula-	‘smear’	bula-n-	‘smear’	bula-ṣ-	‘contaminate’	bula-ṣ-tır-	‘contaminate’
kar-	‘mix’			kar-iṣ-	‘mix’	kar-iṣ-tır-	‘mix’
sıva-	‘daub’	sıva-n-	‘daub’	sıva-ṣ-	‘smear’	sıva-ṣ-tır-	‘smear’
sok-	‘insert’	sok-ul-		sok-uṣ-	‘slip in’	sok-uṣ-tur-	‘slip in’
sürt-	‘rub against’			sürt-üṣ-	‘rub against e.o.’	sürt-üṣ-tür-	‘make rub against e.o.’
tık-	‘stuff into’	tık-il-	‘get stuffed into’	tık-iṣ-	‘cram in (to- gether)’	tık-iṣ-tır-	‘cram into’
ula-	‘join’	ula-n-	‘be joined’	ula-ṣ-	‘reach’	ula-ṣ-tır-	‘transport to’
yığ-	‘heap’	yığ-il-	‘heap up’	yığ-iṣ-	‘heap up’	yığ-iṣ-tır-	‘heap on top of one an- other’

The apparent cases of detransitivization in (61) are in fact based on artificially matched pairs.²⁵ Unlike a detransitivizing suffix, $-(I)\mathcal{S}$ contributes a meaning component that is present on both sides of the alternation. Our claim is that this meaning is related to event plurality. Take the contrast between *kır-il-* ‘break’ and *kır-ıṣ-* ‘wrinkle.’ ‘Break’ is a punctual change of state; accordingly, the anticausative *kır-il-* tests as an achievement. It is odd in the imperfective, requiring a special reading such as slow-motion, delay, or habitual.

²⁵It is also worth noting that not all of Gandon’s supposed anticausatives are inchoative: *sürt-üṣ-* ‘rub against each other’ is reciprocal, and several of the others are verbs of directed motion, including *sav-uṣ-* ‘slip away (from)’ and *ula-ṣ-* ‘reach (someplace)’—see section 5.

- (63) # Vazo kır-ıl-ıyör.²⁷
 vase break-NACT-IMPERF.3
 ‘The vase is breaking.’

In contrast, ‘wrinkle’ is scalar.²⁸ Each individual wrinkle is the result state of a discrete subevent, a tiny ‘break’ as it were. Hence *kır-ış-* ‘wrinkle’ readily allows an unmarked in-progress reading in the imperfective.

- (64) Cild-im kır-ış-ıyör.
 skin-1SG.POSS break-PLRC-IMPERF.3
 ‘My skin is wrinkling.’

There is a difference between the two suffixes in terms of Vendlerian event types; this is not a matter of telicity, but of duration. The nonactive Voice suffix *-Il* derives the full range of inchoative event types: achievements (e.g. *burk-ül-* ‘sprain’), accomplishments (*göm-ül-* ‘be buried’), and activities (*sars-ıl-* ‘shake’). The same is true of unmarked inchoatives, which may be achievements (e.g. *bit-* ‘finish (int.)’), accomplishments (*dol-* ‘fill’), activities (*dön-* ‘turn’) or states (*kok-* ‘(have a) smell’). In contrast, *-(I)ş* cannot derive Vendlerian achievements. All *-(I)ş* inchoatives have duration—that is, they are all processes or accomplishments. They should therefore all have unmarked in-progress readings in the imperfective.

We also find *-(I)ş* inchoatives where the corresponding simplex stem is already intransitive. In these cases it is even more apparent that the suffix is not performing a detransitivization function.

(65)

Simple intransitive		<i>-(I)ş</i> intransitive		<i>-(I)ş-DIr</i> transitive	
ol-	‘become’	ol-uş-	‘form’	ol-uş-tur-	‘form’
gel-	‘come’	gel-iş-	‘develop’	gel-iş-tir-	‘develop’
dön-	‘turn’	dön-üş-	‘metamorphose’	dön-üş-tür-	‘metamorphose’
kok-	‘smell’	kok-uş-	‘smell rotten’	kok-uş-tur-	‘cause to smell rotten’
uyu-	‘sleep’	uyu-ş-	‘go numb’	uyu-ş-tur-	‘numb’
değ-	‘touch (+dat.)’	değ-iş-	‘change’	değ-iş-tir-	‘change’
kız-	‘get angry’	kız-iş-	‘get heated/inflamed’	kız-iş-tır-	‘heat/inflame’
yat-	‘lie down’	yat-iş-	‘calm down’	yat-iş-tır-	‘calm down’
yet-	‘suffice’	yet-iş-	‘grow (crops, livestock)’ ²⁹	yet-iş-tir-	‘grow, raise’

The *-(I)ş* inchoatives contrast with the simple intransitives in a way similar to what we have already seen: *ol-* ‘become’ may be instantaneous and *gel-* ‘come’ is always an achievement, but

²⁷Acceptable if you are describing a slow-motion video, for example.

²⁸Or, in the terms of Rappaport Hovav (2014), it has a multipoint scale, whereas punctual change-of-state verbs have a two-valued scale. Since advancement on a two-valued scale does not involve iteration, we predict that *-(I)ş* should not occur with this verb type.

²⁹There is another verb *yet-iş-* meaning ‘reach on time.’ This and the handful of other punctual directed motion predicates make up the only class of verbs found with *-(I)ş* that cannot be analyzed as pluractionals; see §5.

ol-uş- ‘form’ and *gel-iş-* ‘develop’ are scalar changes of state that necessarily play out over time. In addition to the activity reading, *dön-* can also mean ‘turn into.’ Both *dön-* and *dön-üş-* take a dative complement, but only the latter is appropriate to describe the durative process of metamorphosis.

- (66) Tırtıl kelebeğ-e *dön-üyor /dön-üş-üyor.
 caterpillar butterfly-DAT turn-IMPERF /turn-PLRC-IMPERF.3
 ‘The caterpillar is turning into a butterfly.’

Similarly, *kok-* ‘smell’ can be an achievement or a state. Perfect aspect brings out the achievement reading. The *-(I)ş-* marked form *kok-uş* appears to be nearly interchangeable with it, with the subtle difference that it indicates a more intensely bad smell and a greater degree of putrefaction. We suggest that the difference in intensity is due to the fact that *kok-* is an achievement while *kok-uş* is an accomplishment whose durativity comprises a series of rotting subevents.

- (67) a. Çöp kok-muş.
 trash smell-PRF.EVID.3
 ‘The trash has gotten smelly.’
 b. Çöp kok-uş-muş.
 trash smell-PLRC-PRF.EVID.3
 ‘The trash has gone rotten.’

That *kok-uş* is scalar and *kok-* is not can be seen in the imperfective. The achievement reading of *kok-* is unavailable, so the interpretation is stative. In contrast, we can see that *kok-uş* is a process.

- (68) a. Çöp kok-uyor.
 trash smell-IMPERF.3
 ‘The trash smells.’ (state)
 b. Çöp kok-uş-uyor.
 trash smell-PLRC-IMPERF.3
 ‘The trash is going rotten.’ (process)

The properties of *-(I)ş* inchoatives suggest that they are degree achievements (Dowty 1979), a subset of causative/inchoative alternating verbs that are always durative but can be either telic (accomplishments) or atelic (processes).

- (69) Cild-im beş sene boyunca /içinde kır-ış-tı.
 skin-1SG.POSS year for in break-PLRC-NACT-IMPERF.3
 ‘My skin wrinkled for five years/in five years.’

4.1.2 Deadjectival and denominal inchoatives

There are relatively few *-(I)ş* inchoatives derived directly from verbal stems. Far more numerous are those derived from nonverbal stems with the verbalizer *-IA* plus *-(I)ş*, resulting in the sequence *-IA-ş*: e.g., *güzel-le-ş-* ‘beautify (int.)’ from *güzel* ‘beautiful.’ It has been pointed out that degree achievements are most commonly, though not exclusively, based on gradable adjectives (Hay et al. 1999, Kearns 2007). This is consistent with the derivational distribution of *-(I)ş* inchoatives in

Turkish. Gandon’s (2013) dataset contains 124 $-(I)\xi$ inchoatives, 12 of which are deverbal (the so-called anticausatives in (61)), 12 denominal, and 100 deadjectival. Nakipoğlu and Üntak (2008) treat $-(I)\xi$ and $-lA\xi$ as distinct suffixes. The discrepancy between denominal and deadjectival verbs in their dataset is less dramatic but still significant: Out of 568 change-of-state verbs with $-lA\xi$, 212 are based on nouns and 354 on adjectives.³⁰ They give only four deverbal $-(I)\xi$ inchoatives “2.5. Verb + $-I\xi$ ($-I\xi$ verbs denoting change of state)” (p. 263).³¹

Deadjectival and denominal inchoatives present a larger body of evidence that $-(I)\xi$ does not derive inchoatives through detransitivization. For the majority of verbs in $-lA-\xi$ there is no corresponding form in $-lA$. Below is a small sample. Note that the transitive is formed by stacking $-DIr$ on top of $-lA-\xi$.

(70)

³⁰The remaining two are listed under “Adverb + $-lA\xi$ verbs”: *fazlalaş* ‘increase in number’ and *sahileş-* ‘become real.’ The bases of these have independent uses as adjectives as well as adverbs: *fazla* ‘excessive(ly)’ and *sahi* ‘real(ly),’ calling into question the category adverb as a base of derivation for $-lA\xi$. These two should probably be included under “Adjective + $-lA\xi$ verbs,” which would increase the number to 356.

³¹All four correspond to intransitive simple verbs, and are included in Table X above: *değiş-*, *dönüş-*, *geliş-*, *oluş-*.

base	*- <i>LA</i>	- <i>LA-ş</i> intransitive	- <i>LA-ş-DIr</i> transitive
acı 'bitter'	*acı-la-	acı-la-ş- 'become bitter'	acı-la-ş-tır- 'make bitter'
alçak 'low; base'	*alçak-la-	alçak-la-ş- 'become low'	alçak-la-ş-tır- 'make low'
başka 'other'	*başka-la-	başka-la-ş- 'become other'	başka-la-ş-tır- 'otherize'
batılı 'western'	*batılı-la-	batılı-la-ş- 'westernize'	batılı-la-ş-tır- 'westernize'
buhar 'vapor'	*buhar-la-	buhar-la-ş- 'vaporize'	buhar-la-ş-tır- 'vaporize'
çirkin 'ugly'	*çirkin-le-	çirkin-le-ş- 'become ugly'	çirkin-le-ş-tır- 'make ugly'
çöl 'desert'	*çöl-le-	çöl-le-ş- 'desertify'	çöl-le-ş-tır- 'desertify'
dar 'narrow'	*dar-la-	dar-la-ş- 'narrow'	dar-la-ş-tır- 'narrow'
etkin 'active'	*etkin-le-	etkin-le-ş- 'activate'	etkin-le-ş-tır- 'activate'
ılık 'warm'	*ılık-la-	ılık-la-ş- 'warm up'	ılık-la-ş-tır- 'warm up'
iyi 'good'	*iyi-le-	iyi-le-ş- 'improve'	iyi-le-ş-tır- 'improve'
kalm 'thick'	*kalm-la-	kalın-la-ş- 'thicken'	kalın-la-ş-tır- 'thicken'
radikal 'radical'	*radikal-le-	radikal-le-ş- 'radicalize'	radikal-le-ş-tır- 'radicalize'
tabu 'taboo'	*tabu-la-	tabu-la-ş- 'become taboo'	tabu-la-ş-tır- 'make taboo'
uzak 'far'	*uzak-la-	uzak-la-ş- 'go away from'	uzak-la-ş-tır- 'send away'
yoğun 'dense'	*yoğun-la-	yoğun-la-ş- 'become dense'	yoğun-la-ş-tır- 'make dense'

The absence of a basic form in *-LA* is overwhelmingly the majority pattern; by our count, of the 568 *-LA-ş* inchoatives in Nakipoğlu and Üntak (2008), there is a corresponding verb with *-LA* in only 73 cases. Even these do not support a detransitivizing approach. First, 12 of the *-LA* forms are themselves intransitive; as always, the transitive stacks *-DIr*, retaining *-(I)ş*.

(71)

base	<i>-LA</i> intransitive	<i>-LA-ş</i> intransitive	<i>-LA-ş-DIr</i> transitive
afal 'astonished'	afal-la- 'be astonished'	afal-la-ş- 'be astonished'	afal-la-ş-tır- 'astonish'
hafif 'light'	hafif-le- 'lighten'	hafif-le-ş- 'get light/silly'	hafif-le-ş-tır- 'lighten'
sakin 'calm'	sakin-le- 'calm down'	sakin-le-ş- 'become calm'	sakin-le-ş-tır- 'make calm'
sersem 'dazed'	sersem-le- 'become dazed'	sersem-le-ş- 'become dazed'	sersem-le-ş-tır- 'daze'
sıcak 'hot'	sıcak-la- 'feel hot'	sıcak-la-ş- 'become warm'	sıcak-la-ş-tır- 'make warm'

Of the 61 cases where there is a transitive *-LA* verb corresponding to a *-LA-ş* inchoative, the meanings are typically quite divergent. Many of the simple transitives require agent subjects (*ağır-la-* 'provide with accommodations', *kötü-le-* 'denigrate'), including cases where the base names the instrument of an agentive activity (*eter-le-* 'anesthetize with ether,' *lif-le-* 'scrub with a loofah'). In contrast, the *LA-ş* forms are straightforward change-of-state verbs where the base names the state (*ağır-la-ş-* 'get heavy', *kötü-le-ş-* 'become bad', *eter-le-* 'become ether', *lif-le-ş-* 'become fibrous'); the corresponding transitive change-of-state verb stacks the causative suffix on top of *LA-ş*.

(72)

base	<i>-LA</i> transitive	<i>-LA-ş</i> intransitive	<i>-LA-ş-DIr</i> transitive
ağır 'heavy'	ağır-la- 'provide with accommodations'	ağır-la-ş- 'become heavy'	ağır-la-ş-tır- 'make heavy'
ak 'white'	ak-la- 'acquit'	ak-la-ş- 'turn white'	ak-la-ş-tır- 'make white'
bütün 'whole'	bütün-le- 'complete, complement'	bütün-le-ş- 'become whole'	bütün-le-ş-tır- 'make whole'
eter 'ether'	eter-le- 'anesthetize with ether'	eter-le-ş- 'become ether'	eter-le-ş-tır- 'etherify'
genel 'general'	genel-le- '(over)generalize'	genel-le-ş- 'become widespread'	genel-le-ş-tır- 'make widespread'
kök 'root'	kök-le- 'uproot'	kök-le-ş- 'take root'	kök-le-ş-tır- 'cause to take root'
kötü 'bad'	kötü-le- 'denigrate'	kötü-le-ş- 'worsen'	kötü-le-ş-tır- 'worsen'
köz 'live charcoal'	köz-le- 'grill over charcoal'	köz-le-ş- 'become charcoal'	köz-le-ş-tır- 'turn to charcoal'
lif 'fiber; loofah'	lif-le- 'scrub with a loofah'	lif-le-ş- 'become fibrous'	lif-le-ş-tır- 'make fibrous'
zor 'force; difficult'	zor-la- 'force'	zor-la-ş- 'get difficult'	zor-la-ş-tır- 'make difficult'

By our assessment, of the 61 transitives in *-lA* in Nakipoğlu and Üntak (2008) that correspond to *-lA-ş* inchoatives, only 14 are plausible as a base of derivation for the inchoative. Yet even in these cases, there is a transitive form in *-lA-ş-DIr*.³² These are perhaps the most surprising of all from a traditional standpoint, as the simple transitives do not block the formation of complex transitives that ostensibly have the same meaning.

(73)

base	-lA transitive	-lA-ş intransitive	-lA-ş-DIr transitive
denk 'equivalent'	denk-le- 'even up'	denk-le-ş- 'come into equilibrium'	denk-le-ş-tir- 'bring into equilibrium'
düz 'smooth'	düz-le- 'smooth'	düz-le-ş- 'become flat'	düz-le-ş-tir- 'flatten'
güncel 'up-to-date'	güncel-le- 'update'	güncel-le-ş- 'update'	güncel-le-ş-tir- 'update'
taze 'fresh'	taze-le- 'freshen'	taze-le-ş- 'become fresh'	taze-le-ş-tir- 'freshen'
ozon 'ozone'	ozon-la- 'ozone'	ozon-la-ş- 'become ozone'	ozon-la-ş-tir- 'ozone'
üç 'three'	üç-le- 'make three'	üç-le-ş- 'become three'	üç-le-ş-tir- 'make three'

To recap, out of 568 denominal and deadjectival *-(I)ş* inchoatives in Nakipoğlu and Üntak (2008), there exists a corresponding verb without *-(I)ş* exists for only 73. Of those, a mere 14 are transitive verbs with semantics that would make them viable as a base of detransitivization. One imaginable approach to these facts is to analyze the *-lAş* as an atomic suffix, as Nakipoğlu and Üntak have done. However, there are compelling reasons not to take this approach. Both *-lA* and *-(I)ş* are abundantly attested in Turkish; Nakipoğlu and Üntak list 953 verbs derived with *-lA* alone and 147 with *-(I)ş* alone. Furthermore, in the *-lA-ş* inchoatives the two suffixes are behaving exactly as they do independently elsewhere: *-lA* attaches to a noun or adjective to derive a verb, and *-(I)ş* forms a durative change-of-state verb that may be telic or atelic.

- (74) a. Şehir beş sene boyunca güzel-le-ş-ti.
city five year for beautiful-v-PLRC-PST.3
'The city beautified for five years.' (process)
- b. Şehir beş sene içinde güzel-le-ş-ti.
city five year in beautiful-v-PLRC-PST.3
'The city beautified in five years.' (accomplishment)

The forms and contributions of the individual suffixes are transparent, and so the sequence *-lA-ş* is easily segmentable by Turkish speakers. The absence of a plausible transitive base is in fact further evidence for this segmentation; as shown in the previous subsection, inchoatives formed with *-(I)ş* alone are likewise not derived from a basic transitive verb.

³²Not all causative-stacking forms appear in Nakipoğlu and Üntak (2008), whose dataset consists of all verbal entry headings in the 1998 edition of the Turkish Language Association Dictionary (TDK). The online edition of that dictionary has since added several causative forms missing from Nakipoğlu and Üntak; some forms still not included in the TDK can be found elsewhere, e.g. Püsküllüoğlu (2008). It appears that every *-(I)ş* verb has a corresponding transitive that stacks *-DIr*, though some may be of rather infrequent occurrence. Gaps in dictionaries thus reflect the failure of lexicography to represent a fully productive derivational process.

On the other hand, the stacking of $-(I)_S$ next to a verbalizer indicates that $-(I)_S$ does derive inchoatives from a verbal stem. This raises the question of why this verbal stem never surfaces independently. Our proposal accounts for this.

4.2 Proposal

The foregoing has presented evidence that inchoatives marked with $-(I)_S$ are degree achievements. We now propose that the role of the pluractional in this derivation is to denote progress along a multi-point property scale through an iteration of subevents. This explains why deadjectival verbs with $-(I)_S$ are uniformly change-of-state predicates.

Kearns (2007) argues that change-of-state predicates with duration, such as *x cooled*, are interpreted as movement along a property scale, where the theme has different degrees (d, d') of coolness at different times (t, t') such that an increase in time is correlated with an increase in degree.

- (75) x bears the property of coolness to degree d at time t
 x bears the property of coolness to degree d' at t'
 t < t' & d < d'

(Kearns 2007:28)

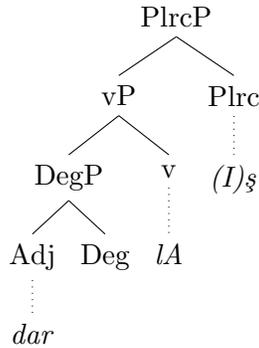
The transitions to comparative result states are non-unique and hence repeatable. Kearns argues that these transitions are an iteration of achievements. The iterative pluractional is therefore a natural fit for deriving the process component. The iterativity of inchoatives differs from that of the iterative verbs discussed in §2.2 in significant ways. Downtime between iterations is not relevant here, nor do we need to ensure intersection by constraining the spatial traces of subevents. We can therefore take the most basic version of Lasersohn's (1995) iterative pluractional semantics (repeated below) as our starting point.

- (76) $V\text{-PLRC}(X) \Leftrightarrow \forall e, e' \in X[V(e) \wedge \neg \tau(e) \circ \tau(e')] \wedge \text{CARD}(X) \geq n$
 (based on Lasersohn 1995: 251)

According to (76), all events of the pluractional predicate are in the denotation of the base predicate V, and the cardinality of the set of events is greater than or equal to n, where n is some plural number; the precise value of n is indeterminate, but will necessarily be quite large in the case of a durative change of state. The denotation of the base predicate is what will ensure that the iteration marks progress along a scale. According to Kearns, a deadjectival verb involves a series of iterated achievements, each of which means 'become A-er,' where 'A' is the property determined by the adjective. We propose that the structure in (77).³³

³³The tree abstracts away from the position of the internal argument. A compositionally straightforward option would be to locate it in the specifier of a stative vP-BE (Cuervo 2003) projected between DegP and the dynamic vP.

(77)

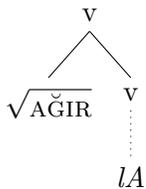


Following Vivanco (2021), we formalize the scale with DegP projected above the adjective; the denotation of DegP is a multi-point scale of the property specified by the adjective. This is the “stative scalar attribute which serves as the semantic core of the verb” (Rappaport Hovav 2014: 261).³⁴ Deg introduces an ordered set of points (degrees): d, d', d'' , etc.; it is a function that takes a property as its argument and returns a property scale. If, for example, the adjective is *dar* ‘narrow,’ then DegP is a scale whose property is narrowness. In the case of denominal verb, the base noun is also interpreted as a gradable property, e.g., *çöl* ‘desert’, the base of *çöl-le-ş* ‘desertify,’ is related to a property scale along the dimension of desert-ness.

Little-*v* introduces an achievement, a punctual event with a result state. When it is applied to a property scale, the result state is identified as an increased degree of the property: $dn \rightarrow dn+1$. Thus the denotation of the vP node is ‘become A-er.’ The pluractional then takes the denotation of vP as the base predicate V, which it iterates, finally deriving scalar change as characterized by Kearns (2007).

Without iteration, the predicate would denote a single transition between two adjacent points on the scale. The base vP of *[dar-la]-ş*, for example, would mean ‘punctually narrow by a single degree.’ No such meaning ever surfaces. While we do sometimes see examples of the string Adj-*lA*, it almost always has a distinct, non-scalar meaning, and so represents a different underlying structure. For example, while *ağır-la-ş-* ‘get heavy’ has the same structure as *dar-la-ş-* shown in (77), *ağır-la-* ‘provide with accommodations’ is derived directly from the root with no DegP.

(78)



The strongest version of this proposal is that the ‘become A-er’ achievement cannot be iterated without the pluractional, and it predicts that we would never find degree achievements of the form Adj-*lA*. However, this is not borne out. There are rare examples of such verbs, e.g., *geniş-le-* ‘broaden’ (*geniş* ‘broad’). We must therefore adopt a weaker version of the proposal, whereby it is possible for a vP to denote an unspecified number of transitions between degrees.³⁵ While

³⁴In this we depart from Vivanco, for whom DegP forms not only the scale itself but also the dynamic durative component of the change of state.

³⁵The weaker version of the proposal is in fact desirable, since, as noted in §4.1.1, anticausatives with nonactive Voice and simplex inchoatives can also be change of state verbs with duration.

geniş-le- could in principle mean ‘increase in broadness punctually by a single degree,’ this is not a meaningful way to describe observable phenomena, so for pragmatic reasons it can never be accessed.

This means that pluractional inchoatives are in some sense redundant. Yet the pluractional construction has the advantage of being completely unambiguous: The only possible interpretation of the sequence Adj-*LA-ş* is a degree achievement.³⁶ In contrast, the sequence Adj-*LA* could be virtually any type of verb: *bayat-la-* ‘go stale’ (*bayat* ‘stale’) is intransitive, but *taze-le-* ‘freshen’ (*taze* ‘fresh’) is transitive; *topal-la-* ‘walk with a limp’ (*topal* ‘lame’) is unergative while *ağır-la-* ‘provide with a accommodations’ is an agentive transitive verb. Novel formations of the form Adj-*LA* would therefore be unpredictable, and this may be why there are in fact no novel formations. Gandon (2013: 30) observes that all inchoatives based on recently borrowed adjectives are of the form Adj-*LA-ş*. There are no new Adj-*LA* inchoatives, which is striking given the overall quite high productivity of -*LA*.

Nakipoğlu and Üntak (2008) list 354 verbs of this description, and every single one is an intransitive change of state.³⁷ In contrast, they list only 71 verbs of the form Adj-*LA*, and these are of various types. Forty-six are transitive.³⁸ They list only 25 intransitive Adj-*LA* verbs,³⁹ the entirety of which are given in the table below; we have provided the corresponding -*LA-ş* form where one exists. Note that *bengi-le-* does not appear in the online version of the TDK, and Püsküllüoğlu identifies it as transitive; thus it may not belong here.

(79)

³⁶Noun-*LA-ş* is a bit more flexible, as it may be a verbal reciprocal or a degree achievement.

³⁷“27.2. Adjective + -*LAş* verbs (change of state verbs)” (Nakipoğlu and Üntak 2008: 254-257)

³⁸“25.2.i. Adjective + -*LA* verbs (transitive)” (Nakipoğlu and Üntak 2008: 247)

³⁹“25.2.ii. Adjective + -*LA* verbs (intransitive)” (Nakipoğlu and Üntak 2008: 247)

Base		- <i>LA</i> intransitive		- <i>LA-ş</i> intransitive	
afal	‘astonished’	afal-la-	‘be astonished’	afal-la-ş-	‘be astonished’
aykırı	‘crosswise; impolitic’	aykırı-la-	‘take a short- cut’	aykırı-la-ş-	‘become in- congruous, perverse’
bayat	‘stale’	bayat-la-	‘go stale’	–	
bengi	‘eternal’	bengi-le-	‘eternalize’	bengi-le-ş-	‘become eternal’
ferah	‘spacious; relief’	ferah-la-	‘feel relieved’	–	
geniş	‘broad’	geniş-le-	‘broaden’	–	
geri	‘backward’	geri-le-	‘deteriorate’	–	
hafif	‘light’	hafif-le-	‘lighten’	hafif-le-ş-	‘get light/silly’
ham	‘soft’	ham-la-	‘get soft from lack of work’	ham-la-ş-	‘get soft from lack of work’
ihtiyar	‘old’	ihtiyar-la-	‘grow old’	–	
pepe	‘stammering’	pepe-le-	‘stammer’	–	
pis	‘filthy’	pis-le-	‘befoul’	–	
rahat	‘comfortable’	rahat-la-	‘feel at ease’	–	
sakin	‘calm’	sakin-le-	‘calm down’	sakin-le-ş-	‘become calm’
semiz	‘fat’	semiz-le-	‘grow fat’	semiz-le-ş-	‘become fat, fleshy’
serbest	‘free’	serbest-le-	‘breathe easily’	–	
serin	‘cool’	serin-le-	‘get cool’	serin-le-ş-	‘become cool/chilly’
sersem	‘dazed’	sersem-le-	‘become dazed’	sersem-le-ş-	‘become dazed’
sıcak	‘hot’	sıcak-la-	‘feel hot’	sıcak-la-ş-	‘become warm’
şişman	‘fat’	şişman-la-	‘get fat’	–	
tırl	‘destitute’	tırl-la-	–	–	
topal	‘lame’	topal-la-	‘walk with a limp’	–	
ucuz	‘cheap’	ucuz-la-	‘cheapen’	–	
yavaş	‘slow’	yavaş-la-	‘slow down’	–	
zayıf	‘thin’	zayıf-la-	‘get thin’	–	

Four of the intransitive Adj-*LA* verbs are non-change-of-state activities: *aykırı-la-* ‘take a short cut,’ *pepe-le-* ‘stammer,’ *pis-le-* ‘befoul’ (which takes a dative complement) and *topal-la-* ‘walk with a limp.’ This leaves us with only 20 inchoatives (after *bengi-le-* is eliminated), and nearly half of these have synonyms or near synonyms in Adj-*LA-ş*.⁴⁰ Hence there are hundreds of deadjectival inchoatives of the form Adj-*LA-ş*, and their numbers are growing, while there are only 20 of the form Adj-*LA*. Turkish has a clear preference for formalizing the iteration of subevents with the pluractional.

Now we turn to inchoatives based on verbal roots. Here Deg construes the root semantics as a gradable property, which may induce substantial allosemy depending on the root. For instance, the semantics of $\sqrt{\text{KIR}}$ lend themselves most readily to non-gradable properties (*kır-ık* ‘broken’) and punctual events (*kır-* ‘break’). Deg coerces a gradable reading, in this case the property of

⁴⁰More than half in fact. The online TDK has since added *serbest-le-ş-* ‘become free’ and *şişman-la-ş-* ‘get fat.’

wrinkledness. The base predicate whose denotation the pluractional iterates would denote the punctual acquisition of a single wrinkle; unsurprisingly, no such verb is attested. With some roots, the semantics of the simple verb are scarcely recognizable, e.g. *gel-iş* ‘develop’ vs. *gel-* ‘come’ and *değ-iş* ‘change’ vs. *değ-* ‘touch’. In these cases, the semantics of the iterated event are bleached down to an abstract achievement denoting arrival at a state. Note that the basic form *gel-* ‘come’ has a change-of-state usage in the construction *X haline gel-* ‘come to the state of (being) X.’ It is telic, as indicated by its incompatibility with ‘for X time.’ *gel-iş* ‘develop,’ then, is an iteration of abstract achievements with result states, which are interpreted as degrees on a property scale. Similarly, the root underlying *değ-* ‘touch’ in the pluractional structure gives rise to a vP denoting the achievement of a point on a scale of unspecified property: *değ-iş-* simply means ‘change.’

- (80) Ova (*beş sene boyunca) çöl hal-in-e gel-di.
 meadow (*five year for) desert state-3SG.POSS-DAT come-PST.3
 ‘The meadow turned into a desert (for five years).’

- (81) Şehir beş sene boyunca gel-iş-ti.
 city five year for come-PLRC-PST.3
 ‘The city developed for five years.’

With verbs such as *gel-iş-* ‘develop,’ *değ-iş-* ‘change,’ *ol-uş-* ‘form’ and *yet-iş-* ‘grow,’ there is a scale but no clearly defined property. This is expected. With deadjectival scalar verbs, the adjective specifies the scale but, as Rappaport Hovav (2014) observes, “scales associated with verbs do not have to be fully specified” (266); her examples include *grow*, *develop* and *evolve*.

5 Spellout and syncretism

One of the mysteries we set out to address in this paper is why the same morphological marker $-(I)\textit{\textcircled{S}}$ appears on reciprocals and inchoatives but not on reflexives. As Gandon (2013: 62) comments, there is no obvious semantic connection between these two verb types. Gandon proposes that this puzzling situation is the result of a diachronic process of reanalysis and extension. She points out that, of the twelve $-(I)\textit{\textcircled{S}}$ -marked verbs in Turkish (given in (82)) that she has identified as anticausatives, the majority have a ditransitive base whose internal arguments are in a spatial relation to one another. For four of these (a), this relation is symmetric. That is, they have a reading where the internal arguments are mutually in motion towards (or away from) each other, e.g., *kar-* ‘mix (something) with (something).’ For the other five ditransitives (b), the internal arguments are in a spatial relation though not a symmetric one; the direct object is construed as in motion towards the indirect object, but not the other way around, e.g., *sok-* ‘insert (something) into (something).’ The remaining three bases are monotransitive (c).

(82)

	Transitive		Inchoative	
a.	ayır-	‘separate’	ayır-ış-	‘decompose’
	kar-	‘mix’	kar-ış-	‘mix’
	sürt-	‘rub against’	sürt-üş-	‘rub against each other’
	ula-	‘join’	ula-ş-	‘reach’
b.	bula-	‘smear’	bula-ş-	‘contaminate’
	sıva-	‘plaster, daub’	sıva-ş-	‘smear’
	sok-	‘insert’	sok-uş-	‘enter a tight space’
	tık-	‘stuff into’	tık-ış-	‘get stuffed into’
	yığ-	‘heap’	yığ-ış-	‘heap on top of one another’
c.	bur-	‘twist’	bur-uş-	‘crumple’
	kır-	‘break’	kır-ış-	‘wrinkle’
	sav-	‘ward off’	sav-uş-	‘slip away’

Gandon suggests that $-(I)\text{ş}$ inchoatives have their origin in the reciprocalization of symmetric ditransitives, building on an idea put forth in Nedjalkov et al. (2007) of a mutual attraction between the lexical reciprocity of the internal arguments of the base predicate and the grammatical reciprocity of the suffix. Unlike canonical reciprocalization of a monotransitive, which results in a plural subject that is both agent and theme, this attraction led to reciprocalization of the internal arguments, which became the subject in the reciprocal derivation. As a result of the loss of the original subject and its associated agent role, these agentless derivatives were semantically similar to anticausatives, and so, Gandon proposes, over time they were reanalyzed as such (presumably with an intermediate stage where asymmetric ditransitives were reciprocalized). After reanalysis as an anticausative marker (homophonous with the reciprocal), the suffix was subsequently extended to derive anticausatives with no reciprocal meaning component.

We have shown that the intransitives in (61) are not in fact anticausatives, though some of them are inchoative. We have proposed that $-(I)\text{ş}$ is the spellout of the plural feature $[-\text{singular}]$ in the context of verbs.

(83) $[-\text{singular}] \leftrightarrow /(\text{I})\text{ş}/ \mid [+V]-$

This proposal provides a synchronic link between the appearance of $-(I)\text{ş}$ on verbal reciprocals and degree achievements, as well as contemporaneous motion, iterative motion, and collaborative verbs, all of which we have argued involve event plurality. This is a desirable result, as it unifies hundreds of $-(I)\text{ş}$ -marked verbs (including almost 600 inchoatives) without appeal to diachrony. This raises the question of whether *all* verbs with this marking submit to the same analysis. The answer is probably negative.

Many of the marked forms in (82) are verbs of directed motion. In principle, verbs of this class might submit to the same analysis as degree achievements. Rappaport Hovav (2014) has argued that verbs of directed motion are derived the same way as verbs of scalar change, the salient difference being that the scale is a path rather than a property. This approach looks promising for a verb such as *kar-ış-* ‘mix into something (dative)’: Intuitively, mixing is a scalar process, with varying degrees of mixed-ness being possible. The same is true of certain other verbs not on this list, such as *uzak-la-ş-* ‘grow distant’ and *yak-la-ş-* ‘approach,’ which involve multi-point scales. However, a verb such as *ula-ş-* ‘reach, arrive at’ presents a problem: Verbs of the ‘arrive’ type are built from two-valued scales, and are therefore aligned with change-of-state achievements such as ‘break.’ Traversal of a two-point scale does not involve iteration, and is therefore not derivable by

an iterative pluractional; we have already shown that $-(I)\xi$ does not derive punctual change-of-state verbs of the ‘break’ type. Punctual verbs of motion therefore remain anomalous. However, there are very few such verbs, perhaps only those in `gandontable2` above and *yet-iş-* in the sense ‘reach on time.’⁴¹ Their explanation may indeed lie in diachrony. Note that these are quite few in number, in contrast to the many hundreds of $-(I)\xi$ verbs that submit to a pluractional analysis.

6 Conclusion

This paper challenges long-standing assumptions about derivational morphology in verbs. Verbal reciprocals are commonly believed to be derived from a basic verb through a valency reducing operation, and some literature holds that inchoatives too are the output of such an operation (Reinhart 2003, Reinhart and Siloni 2005, Koontz-Garboden 2009). The suffix $-(I)\xi$ derives both verbal types in Turkish, yet treating it as a detransitivizer requires that we dismiss the majority of verbs bearing this suffix as idiosyncratic exceptions. In the most rigorous and thorough analysis of $-(I)\xi$ to date, Gandon (2013) follows this common assumption. Verbs where no corresponding base is attested in the language, or where an apparent base has no clear semantic link, obviously do not fit this model, so she categorizes them as “lexicalized.” Of 124 verbs in her dataset that consist of a simple stem plus $-(I)\xi$, 59 have a corresponding base and 65 are “lexicalized.” For denominal and deadjectival verbs bearing the sequence $-lA-\xi$ the contrast is starker: of 151 such forms, only 11 have corresponding bases. Thus, out of 275 $-(I)\xi$ verbs in total, there are 70 “regular” formations and 205 “lexicalizations.” This calls into question the very basis for defining regularity in the first place. One can do damage control by treating $-lA-\xi$ as a fusional suffix $-lA\xi$, but even among the remaining verbs the “lexicalizations” outnumber the “detransitivized” formations; hence the only issue is whether the exceptions form a simple majority or a crushing majority. Furthermore, the fusional approach to $-lA-\xi$ is dubious given the transparent decomposition of the sequence into two high-frequency suffixes.

Another problem faced by detransitivization is syncretism, as we mentioned at the beginning of this paper. The absence of $-(I)\xi$ -marked reflexives is an unexpected gap. Additionally, the suffix is found on verbs denoting contemporaneous and iterative motion, as well as collaborative verbs, categories that cannot even superficially be regarded as cases of detransitivization. For all of these reasons, the traditional model is a poor fit for $-(I)\xi$.

If valency reduction is the round hole to $-(I)\xi$ ’s square peg, we propose that the square hole is pluractionality. The paper discussed the three most commonly encountered $-(I)\xi$ verb types in §2, §3 and §4, and established that all three of these usages can be characterized in terms of event plurality. Within a theoretical framework where events are characterized by their participants, run time and space, we proposed that the pluractional defines event plurality by manipulating at least one of these properties. The event plurality denoted by the $-(I)\xi$ motion verbs (e.g., *uç-uş-* ‘fly helter-skelter’, *kaç-ış-* ‘flee helter-skelter’) can be defined in terms of spatiotemporal properties: here the pluractional denotes that the spatial path of the denoted events must intersect, while the run time can be either identical or consecutive. Argument introducing pluractionals (such as *ağla-ş-* ‘cry together’, *mektup-la-ş-* ‘exchange letter’, *yaz-ış-* ‘exchange written correspondences’) define subevents of the base event by introducing an argument, which is most commonly interpreted as the agent of some of these subevents, while the agent of the remaining events is introduced by a higher functional projection. Finally, in inchoative $-(I)\xi$ verbs (*güzel-le-ş-* ‘beautify’, *gel-iş-* ‘develop’) the pluractional simply denotes temporal iteration of events, which here are achievements with

⁴¹There is another verb *yet-iş-* that mean ‘grow, develop (of crops, livestock, etc.)’; this is a degree achievement similar to *gel-iş-* ‘develop.’

comparative result states.

The pluractional analysis has its exceptions as well, but only a small number, at most four or five verbs, all of which denote punctual directed motion. In contrast, an analysis based on valency reduction must contend with dozens or even hundreds of exceptions (depending on whether *-lA-š* verbs are included). The handful of exceptions to pluractionality cannot therefore be adduced as evidence in favor of more traditional approaches. Treating *-(I)š* as a marker of event plurality captures the data far more successfully than detransitivization.

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